







# A HANDBOOK OF EMPLOYMENTS



# A HANDBOOK OF EMPLOYMENTS

*SPECIALLY PREPARED FOR THE USE OF  
BOYS AND GIRLS ON ENTERING THE  
TRADES, INDUSTRIES, AND PROFESSIONS*

BY

MRS. OGILVIE GORDON

D.Sc. (Lond.), Ph.D. (Munich)

Fellow of the Linnean Society of London

Hon. Corr. Secretary of the International Council of Women  
Vice-President of the National Union of Women Workers, etc.

Aberdeen  
THE ROSEMOUNT PRESS

---

1908





HF  
5381  
G65rh

## CONTENTS.

---

### INTRODUCTORY—

I.—Present Conditions Affecting Boy and Girl  
Labour - - - - - I

II.—Educational Information and Employment  
Bureaux for the Use of Young Workers - 9

### TABLES OF OCCUPATIONS—

Occupations Requiring Short Periods of Training 24

Occupations Requiring Apprenticeship or some  
Long Period of Training - - - - 29

PART I.—Industrial Occupations with Short Periods  
of Training - - - - - 35

PART II.—Apprenticeship Trades and Occupations  
Requiring Long Periods of Training - - 137

PART III.—Professional Callings - - - - 383

ALPHABETICAL INDEX - - - - - 438

with material, to tend the machine, to assist in the transport of material from one machine to another—this work demands little personal skill or attainment, and the factory operative can have little interest in doing it beyond earning the day's wage.

To this loss of interest in the work for the work's sake may be attributed much of the demoralisation of discipline and order that has been undermining our working-classes. The hopelessness of the struggle in the face of machinery again and again has exerted a paralysing effect on large sections of our working-men, and encouraged feelings of fatalism or rebellion, which have been spreading into all ranks.

A very large number of employers complain of the lack of interest shown by the men and lads in their work, and say that football and sports absorb any intelligent attention they have to give. This complaint is by no means confined to the employers of unskilled labour, but is made also by master plumbers, builders, sawyers, plasterers, and others.

If one glances through the list of so-called "unskilled" occupations on pp. 24 to 28, probably better termed "occupations requiring short periods of training," and turns to some of the descriptions regarding these, it will be clear that, with the exception of domestic service, dressmaking, farm-work, and one or two others that pass upward into highly skilled labour, the work expected from the employee is not in itself such as could arouse much interest. It is essentially work of factory type, where a little extra quickness may bring an increased wage at piece-work rates, but where the same movements of the body and controlling care of the brain are called for day after day. In the natural rebound from the strain of monotonous labour, the human body and mind demand freedom, variety, excitement. Thus, while fully allowing that the love of

sport is at present running to excess and is associated with grave dangers, one must bear in recollection that at no time in the world's history has so large a proportion of the working-classes been occupied in factory labour of a dull and often hard, grinding, and downbearing type.

The result of one or two generations of conditions of factory labour and keen trade competition is seen in cities like Glasgow and Dundee, where the general tendency among working-class parents is to look upon the child in the light of a wage-earner, and place him or her wherever the highest wage is to be obtained and at the earliest possible opportunity. Under the more normal conditions which prevail in towns with few factories, the inquiry into the supply and demand for boys in the various occupations shows that most boys like a trade where they can use their hands and become skilled workmen. Joinery and engineering are two of the most popular trades: usually far more boys apply for such work than can be accommodated. In short, the average boy would not desire to go to factory work: his natural bent would be to take work in which more scope is allowed for his own skill. If by force of circumstances and environment, the boy's bent cannot be encouraged, then the next best thing to be done is to see that the hours of labour are not too long, and that methods of interesting and developing his mental and moral faculties are provided, together with a due measure of open-air recreation.

This can only be done if the industrial and educational authorities in any one place, and in the country generally, will combine with one another in considering the good of the individual worker. The local industrial authorities are *the employers*, and it is to them that the municipal and educational authorities must turn for assistance in this matter. It may be true, from the

employer's point of view, that evening-class work or an hour or two of physical recreation will not enable a young operative to attend the machine one whit better; but if it bring fuller interests into a lad's mind, encourage him to live more intelligently, and make him stronger and happier, that is something done towards the making of a good and steady citizen. Moreover, it is only by means of a little spare time, and continuance of education in some form, that the poorer lads who have capacity can hope to lift themselves into higher-class work. It has long been the pride of Scotland that so many lads born in humble circumstances have been able to attain good positions in the commercial world and in the professions.

A little money may have to be foregone on the part of employers, and money may have to be spent by the municipal and educational authorities, but if in the end the working power of our young people can be properly organised and applied, the country may look for reduced expenditure on distress committees, poor law relief, and the prisons.

In connection with the more skilled occupations (see pp. 29 to 33), one of the most notable features of the present time is the decay of apprenticeship. Obviously the main cause is the use of machinery, although it operates in various ways. Many of the newer applications of machinery have increased the rate of production to such a degree that in certain trades the total number of skilled workmen required is fewer (stone-dressing, tinware goods, printing, bootmaking, brushmaking, etc.).

Slack seasons are prolonged owing to the rapidity of production, and the risks of unemployment among journeymen are proportionately greater. The older and more experienced journeymen may be kept on, while younger men and average or poor workers must wait their turn of work, or perhaps be out until the next busy

season. The keenness of the struggle for existence among journeymen is such that many get discouraged, and drop into any berth that offers. If they give up the higher grades of work in their trade, they find themselves competing with "handymen," a class of workmen who, after drawing big wages for several years as "boy labourers" at one or another kind of work, may be promoted by an employer and put in charge of a machine. As this becomes clear to the rising generation, they see little use of serving a long period of apprenticeship with low wages, and they shirk its restraints and the continuity of work it demands.

But, putting aside the question of indifference on the boy's part, the use of machinery in a trade tends to reduce the number of journeymen that can be supported by that trade at the full wage demanded by the men's union, and, more especially in times of trade depression, only a limited number of men can hope to be employed at full standard wage. Hence the trade unions make careful calculations from time to time in order to regulate the number of apprentices entering the various trades, and so to prevent a trade from being overstocked with journeymen.

The proportion of apprentices to journeymen, as defined by the trade unions, may differ in the different localities. Each union, or local branch of a union or association of workmen, makes its own agreement with the leading employers in the district. To take a few examples from Scottish conditions: plumbers allow one apprentice to the first four men, and one for each three men thereafter, the number of men in a particular shop to be reckoned on a three years' average; slaters allow one apprentice to three journeymen; building masons, one apprentice to two journeymen; bakers, two apprentices for the first five men, and one for each additional five; lithographers, one apprentice to five journeymen;

tailors, one apprentice to fifteen journeymen; carpet-weavers, one apprentice to twenty journeymen.

So far as the employers are concerned, those who agree to the trade union regulations feel themselves compelled, when a rush of work comes, to employ a large number of boy labourers at high wages, but with no security of work. One may find as many as ten boy labourers for one apprentice in workshops belonging to what is regarded as an "apprenticeship trade." The glass and pottery trades, sawmilling, wire-weaving, carpet-weaving, are some of those in which boy labour is in demand, and is known to lead, in many cases, to unhappy results. The fluctuation in this form of employment encourages the spirit of idling in slack intervals and spendthrift habits when wages are being drawn. Physical strength is almost a necessary condition of casual boy labour, hence a floating class of hardy youths grows up in our cities with habits of a hand-to-mouth existence that are not likely to be eradicated in after life.

Within the last few years, one or two of the men's unions (*e.g.*, plasterers) have realised that over-limitation of the number of apprentices only brings them into competition with less skilled labour, and have removed or reduced the restriction.

Another manner in which the use of machinery reacts upon apprentices is that it tends to limit and specialise the character of their training. It is only in the smaller workshops, where less machinery is used, and there is less pressure of production, that apprentices now secure a general training in their trade. And, largely for that reason, the young men that go South from the smaller workshops in a town like Aberdeen have usually little difficulty in obtaining good positions.

To take sawmilling work as an example, the best of the boy labourers in a workshop are selected to be trained—nominally as apprentices—at some of the closely



specialised machines, and become "machinememen," who can earn good wages when trade is brisk, but are particularly liable to unemployment in slack times, as they have neither the training nor the dexterity of the typical journeymen of twenty or thirty years ago. In joinery, cabinetmaking, plumbing, the same tendency holds; in many workshops the apprentices do not see all the details of their work, but only assist in putting parts together that have been prepared by machinery there or elsewhere. The number of really first-class journeymen correspondingly decreases, and there is a general conviction that the long periods of training do not always carry sufficient benefit to the apprentices.

The indenture bond between employer and apprentice is retained in comparatively few trades; pottery and some departments of the glass trade have a signed indenture. In some of the building trades and in plumbing, indentures are drawn up by certain employers after a few months' trial of an apprentice. In engineering, shipbuilding, and the metal and woodwork trades generally, the apprentice that does not serve out his time gets no "lines" from his employer, and stands little chance of becoming a recognised journeyman. In most trades an oral agreement is made for the length of period and the conditions of apprenticeship, but it is too often the case in cities like Glasgow and Dundee that apprentices tire of serving their time, and are tempted by the higher wages in some factory to enter there as boy labourers; or they hear of another shop in the same line as their employer's, but where the weekly wage is sixpence or a shilling more, and they only wait their chance of an opening. These are the difficulties the employer has to contend with, and they naturally tend to diminish his personal interest in apprentices.

Each locality has its own combination of conditions and circumstances, but from one cause or another it is undoubtedly the case that a large and increasing pro-

portion of boys never pass through that period of apprenticeship discipline which has been in the past of the utmost value to the physical and moral welfare of the artisan classes. And it is imperative in the interest of our race and country that measures be adopted to replace, so far as possible, the salutary effects of a system that is weakening and changing with the times.

Again, the girl who at 14 enters factory work, or undertakes unskilled or skilled work of any kind, and gives no further thought to home and domestic duties, becomes a positive menace to the community. For, no matter how steady and capable a workman may be, if the woman he marries cannot buy economically, cook, sew, and keep a house and the children clean, his wages will not provide the necessary comfort and sustenance. One hears of a workman earning from 30s. to £2 a week, yet, after being two weeks out of work, his household is in beggary. If thrift be not inborn and bred, it must be taught and insisted upon in the girls and young women, and, even then, a woman's thrift will only be effective if a fair proportion of the man's wages be allowed for the housekeeping and the savings or insurance fund.

The prolonged depression of recent years in certain trades has shown conclusively that there are widespread weaknesses of use and wont among the industrial classes, which remain untouched by our existing Poor Laws and voluntary agencies. Constructive measures on a broad basis are called for, first, in regard to the care of infants and children; second—and, as I think, no less urgently—for the guidance of our boys and girls in the early stages of their industrial career. Only when our country shall have devised a connected series of measures, and set them working in such perfection that no link overlaps the other more than is necessary to give strength to the chain, will a truly statesmanlike system be attained—constructive, preventive, and remedial in effect.

## II.—Educational and Employment Bureaux for the Use of Young Workers.

Just as the first few years of childhood are the most critical years for the physical well-being of the individual, the first few years after leaving school are the most critical for the moral and mental well-being of our working population. If these years can be spent industriously and to good purpose, the parents and the public may have confidence in the future of the boy or girl.

There is urgent need for all who enter upon skilled occupations to take every possible opportunity of attending evening continuation classes. On this point the employers of skilled work speak with one voice, strongly recommending the continuation of school work during the period of workshop training. Some suggest part work for boys from 14 to 16—say, six hours a day, with compulsory attendance at afternoon or evening classes, the further period of apprenticeship to be determined with due recognition of this “probation” period.

In addition to the ordinary English subjects, the most useful equipment for a boy who means to enter a skilled trade is good arithmetic—with rapidity and exactitude in figuring and calculation—a sound knowledge of elementary mathematics, and, if possible, geometrical and freehand drawing and measuring to scale. Freehand drawing, for example, is recommended by employers as a desirable qualification, not only in the woodwork and building trades and engineering, but also for flour confectioners, stonecutters, tailors, furriers, tinsmiths, and several others.

Systematic training in these subjects or in others of a more special character may with advantage be continued by all lads who leave school at 14. Many who take unskilled work at first, may intend afterwards to join a trade, and, whether or not, it is of great importance to

keep the mind active, and make some progress if possible. In many trades, apprentices are not accepted until they are 15 or 16 years of age, and the manner in which that short interval is spent goes far to determine the success or failure of a whole lifetime. Certainly, a good beginning is not everything; but if an organisation were planned by which that might so far be secured, it would not be difficult, with the help of the associations of voluntary, social, and philanthropic workers in all cities, to provide a certain amount of after-care in cases which seemed to demand it.

Local education authorities and school boards have been doing their utmost to render continuation school work more attractive and directly useful to our young industrial workers. Both in the elementary schools and in the continuation classes and higher grade schools, strong efforts are being made to bring the tuition, for which the country pays, more and more closely up to the pitch required for intelligent work in the trades and industries. Too long the employers have seemed a class apart. The feeling is spreading that, if Great Britain is to hold her own in industrial competition, the schools and the workshops must deal with one another more directly, and must together stimulate the inert and careless worker to a stronger sense of the obligation and benefit of work. Let the schools but ask the employer to help, and much of the ineffectiveness of education will be solved.

One cannot say that there is at present any veritable middleman between the school and the workshop—any alert individual going from one to the other, knowing the methods of both, noting the needs of the workshop, and influencing the schools to turn out the scholars that are wanted. Woodwork and handicraft, for example, are taught in many schools, but the practical carpenter says he would rather a lad had none of it, as the schools

teach one way and the workshops another. The particular use of giving a schoolboy an opportunity of handling tools seems to me to be that it allows him, and still more his master, to form some opinion of the personal bent of the lad and the class of work likely to be congenial to him. But, clearly, the school test ought to be upon workshop lines. The builder, again, says that, before a lad is old enough to come to him as an apprentice, he seems to have forgotten the use of figures. On every side tradesmen complain that only one lad in twenty can sum up accurately, or has any idea of applying arithmetic to the work in hand.

We have an able and full inspectorate, but it is essentially a professional body. What is still wanted is frank and helpful criticism on the part of commercial and industrial experts and others in the trades. And, given the best possible system of continuation work and technical teaching in the schools and colleges, it cannot be brought within reach of the great majority of workers *unless the employers make it possible*. The whole question of the proportion of time in each trade or industry which may with advantage be devoted to classes, is one for careful discussion between the local educational authority, the employers, and the trade unions. Nor can the question be discussed in lump. Each important trade or industry has its own conditions, and deserves to be treated on its own merits. To mention one example—the trades and industries where the older lads work on night shift have to be specially considered when syllabuses are drawn up. Again, each locality is dominated by some particular trade or trades, so that each local educational authority or school board has to meet its own local group of employers and trade unions, and to work out for itself the details of its own educational system.

A practical beginning in bringing together the dif-



ferent interests might, I think, be made if the Education Committees in England, and the School Boards in Scotland, were to conduct Employment Bureaux for the use of their outgoing scholars, and the employers were to apply to these bureaux for suitable employees. There the employer and the educational authority would meet on a recognised common plane of interest, and the freer intercourse and interchange of views between them could not but result in benefit both to the schools and the workshops.

The many practical advantages of associating such bureaux with the school organisation would soon come home to all classes in the industrial world. At the same time, the bureaux would necessarily keep in touch with the town councils, the trades councils, and chambers of commerce, and with the Board of Trade, and would fill a decided want in the present system of our public administrative boards.

In March, 1904, in a lecture I gave in Glasgow, I suggested that the local education authorities and school boards in the larger cities should establish bureaux for the purpose of guiding boys and girls to suitable occupations on leaving school, or keeping them in sight until they are of age to begin the work for which each seems best adapted. In many cases of poverty, it is urgently necessary that the outgoing scholars of 14 years of age should earn a good wage and help the resources of the small home, but the temptation to look for the highest wage is often acted upon by the parents and by the boys and girls themselves where it is not really necessary. Work is undertaken in a haphazard way, without considering whether it can only be temporary, and, if so, at what age the boy or girl ought to leave, and enter some more permanent form of livelihood. It is not unskilled labour, but casual labour that we have to try to avoid. There are quite good opportunities in many



forms of labour that are called unskilled. The special problem for educational authorities in dealing with these is to prevent the strength of lads and girls from being sapped in their first youth, and, further, to provide some classes, interesting and not too arduous, and encourage possibilities of healthful recreation.

Once in touch with the actualities of existence, there are moments when most lads think seriously of the future, and much might be gained if they knew that there was an employment bureau under the management of the local educational authority, and a clerk or director in charge ready and glad to be consulted, and well able to give advice. It is neither desirable nor practicable that every lad should select an apprenticeship trade, but what is desirable is that *every lad should have his fair chance in life*, and when he perhaps begins as a message-boy or in a factory, he should have clearly impressed upon his mind the possibilities that remain open to him if he can give regular attendance at evening school, and does not allow himself to be diverted into street-hawking or other channels that too often lead to casual labour and unemployment, if not worse.

The existence of a well-organised local bureau would help, also, to systematise the efforts made on behalf of our young workers by clergymen, teachers, district visitors, and others. There is no doubt that in the matter of personal influence, willing aid would be rendered by those philanthropic associations whose members visit the homes and have frequent opportunities of talking with the parents and the young people. In order to prevent overlapping, I suggested that the school board should invite the town council and other public bodies, as well as social and industrial organisations, to send representatives to a general committee of management of the bureau.

From the first pronouncement of my scheme in 1904, I have used the term "employment" in speaking of that

part of the work, selecting it as wider than, and including, "apprenticeship." I have avoided the term "apprenticeship," because I have no wish to unduly force the number of apprentices. In Scotland, there are very few trades which suffer from a dearth of apprentices. One or two employers, such as plasterers, slaters, plumbers, complain of this, but, on the other hand, several popular trades are congested with skilled workmen. Taking the skilled trades all over, it has been calculated in one of the chief Scottish centres that 10 per cent. of skilled workmen cannot find work at their own trade. It has to be remembered that it takes a capable lad to make a good journeyman, and that there are innumerable failures among those who enter apprenticeship, a fairly large proportion constantly drifting to less skilled work. Some of these failures might be avoided by guidance at the outset; others by a little after-care during apprenticeship; others represent the inevitable weeding-out that takes place in the operation of the universal law of "survival of the fittest."

For the good of the nation, we wish, both by well-planned education and congenial employment, to bring as favourable influences as possible to bear upon our up-growing youths and girls. In working towards that end, a dispassionate view must be taken of the various industrial interests. None must be allowed to come into undue prominence and usurp attention and sympathy.

Employers complain of careless and fickle apprentices; apprentices complain of selfish employers, working their apprentices without teaching them, and trying to keep them on after training, at an "improver's" wage. On the neutral ground of an educational and employment bureau, with a representative committee of management, all these grievances would be familiar knowledge. But there are good and noble-minded men in all sections of the community, and we may have faith that these would

come forward to help in finding a solution to one difficulty and another, and that, as the better minds led, others feebler and less willing would follow, under the influence of a well-informed public opinion.

The proposed bureaux would have several functions—one of which would be to give information about the technical and commercial continuation classes having relation to particular trades and industries; another to prepare simple tables for the schools, showing clearly the maintenance grants, bursaries, and scholarships open to scholars, and to give detailed information regarding these at the office; still another, to supply accurate information with regard to the qualifications most required in the various occupations, the remuneration offered, the local prospects of employment, and of promotion or advancement at a later period. The clerk or director in charge of a bureau would keep for his own private consultation a full and reliable statement of the trades and industries pursued in the district, the local demand in them for boys and girls, the local rates of wages, and the prospects farther afield. While the statistics of the Labour Department of the Board of Trade and of the local labour exchanges would provide a certain amount of reference material, what would make the bureau of special value would be the personal knowledge constantly being acquired by the clerk or director, and tabulated by him in such a way as to be of most use to the bureau.

At the same time, the director of the bureau would, by nature of his position under the local education authority, be intimately acquainted with the schools, and well able to assist or advise in connection with the continuation classes, as desired by the education authority or board; he would also be able to count upon a certain amount of co-operation from the teachers. He would send to the head teachers of the

schools printed forms, in which they would enter the particular standard of education arrived at by each pupil before leaving school, and these filled-in forms would be returned to the bureau—a duplicate being given to the scholar. Thus, when the director in charge interviewed these outgoing scholars, he would be aware of their school record, and, from his expert knowledge of local industrial conditions, would be in a position to advise them, and consult with their parents regarding them. Consultation with older pupils about continuation class work and various matters would be arranged at set office hours, and would naturally be grouped at special seasons. The bureau would soon come to be regarded in each locality as the distributing centre of educational and industrial information.

As a matter of fact, no local education authority can properly construct their scheme of commercial education and graded courses for older pupils and apprentices without gathering together full particulars about the actual outlook of trade in their locality and the existing demand for workers. Thus, if a local education authority is fulfilling its function in this respect, it is already in possession of most of the information requisite for starting a bureau. The only additional question is, whether there is a general desire on the part of the public that the information possessed should be made practically useful to every parent, and applied to the case of each individual outgoing scholar.

Apart altogether from the benefit to the young workers, at the present time when so much of the school rates are expended on the continuation and higher grade schools, there is little doubt that it would be an economic advantage to have an official attached to the educational authorities in all large cities, who should devote himself to constant and careful consideration of the requirements and local demands for young workers in the various

trades and industries, the facilities for them to continue attendance at school, the practical character of the continuation courses offered, the methods followed in the workshops, the due equipment of the schools with reference to the particular industries of the locality, and many similar points. Several of the local education committees in England have delegated work of this kind to one of their officials, and I understand the Edinburgh School Board has found it necessary. Any business man will agree that it is one man's work to get to know local conditions in trade, watch their fluctuations, and render himself an expert whose opinion would be of value to the youth of the district.

I have already approached the Board of Education in England and the Scotch Education Department, and the School Boards of Glasgow, Edinburgh, Dundee, and Aberdeen, and have placed in their hands a draft scheme for the working of the proposed bureaux. The annual cost to an education committee or school board would, of course, vary with the size of the district to be served.

## **DRAFT of "Education Committee" or "School Board"**

### **Management of an Educational Information and Employment Bureau.**

#### **THE BUREAU COMMITTEE.**

Joint Committee to be formed (1) of members of their own body, appointed by the Education Committee or School Board; (2) co-opted representatives from the Town Council (in the case of Scottish centres) and other Public Boards, the Chamber of Commerce, Trades Council, Associations of social workers, etc., as felt to be desirable in the interests of the Bureau. The larger Committee might be called at stated times, say quarterly, while a small Office Committee might conduct necessary business in the intervals.

The formation of a fairly representative Executive Committee will help to prevent any overlapping of the work, and will enable the Committee to turn for support and co-operation to different local agencies. One result of the Bureau should be to give shape and definiteness to much of the work undertaken by local voluntary Associations.



## MAIN OBJECTS OF THE BUREAU COMMITTEE.

(1) To lead all boys and girls who are physically fit towards some employment likely to bring them a livelihood, and to prove congenial to them.

(2) To foster a fuller co-operation between the schools and the workshops.

## OFFICE.

To be placed in the premises of the Education Committee or School Board, and recognised as a department of the local educational authority, carrying on a public function as an immediate aid to effective working of the Day Schools and Evening Continuation and Technical Classes.

Employers, on payment of a suitable fee, would be at liberty to apply to the office for the names of out-going scholars able and willing to undertake the class of work offered. This fee might be paid on single applications, or, if preferred, in the form of an annual subscription.

## STAFF.

For a small area, probably only some very slight addition to the Office Staff would be necessary. The following suggestions, as for a Staff in a Bureau to serve a town of say 200,000 to 400,000 inhabitants, will suffice to indicate the nature of the duties for which provision has to be made. For the larger cities, branches might have to be located in or near the schools of different industrial districts. Where there is already an official Director of Education, or of the Continuation and Technical Classes, the Bureau work would come under his department, some additional assistance being given.

I.—*Director of Bureau*—Salary ; would recommend that it be much the same as that of a Headmaster in one of the Public Elementary Schools in the same locality.

The Director of Bureau is to be supplied by the Head Teachers of Schools with a filled-in printed form referring to each out-going scholar, stating the particular standard of education attained by the pupil before leaving school, and the habits of punctuality and attendance.

*Duties.*—(1) To interview and advise the boys and girls and their parents or guardians if possible, both with regard to further educational courses for the boys and girls and the most suitable occupations ; the regulation interviews to be given during the last three months of the boys' or girls' compulsory attendance at school ; subsequent interviews at set office hours.

(2) To prepare any leaflets, pamphlets, or tabulated and simply arranged matter giving information to the scholars about maintenance grants and other facilities for continuation work.

(3) To keep in touch with the general requirements of employers in the city and district, and revise from time to time the statistics about employment as used for reference material by the Bureau.



- (4) To give assistance in the preparation of the Syllabus for the Evening Schools, more especially in planning the courses of instruction in Technical and Commercial subjects; and to render all possible service towards the effective working of the Continuation and Technical Classes.
- (5) To endeavour to formulate definite systems in the various trades whereby employers render it more possible for their employees to attend evening classes, allowing, say, two evenings a week, of two hours each, for such attendance, in so far as they undertake not to demand "overtime" work from apprentices on class evenings; or possibly arranging for afternoon classes.
- (6) To send reports to employers when desired, as to the progress and attendance of the employees at classes.
- (7) To keep a record of a lad or girl during the period of apprenticeship, or up to the age of, say, 19 years.
- (8) To refer individual youths or girls to the care of voluntary helpers or Committees, and to report persistent cases of idleness and non-employment to municipal, social, or other organisations.
- (9) To draw up an Annual Confidential Report for the Committee.

II.—*Correspondence Clerk and Treasurer for Employment Department*—Salary, say, between £80 and £140, according to the amount of work involved and experience desired.

*Printing Expenses for the Bureau and any Travelling Expenses of Director*—Say £70 to £100.

No office rent is here calculated, as it is assumed that in almost all cases room could be arranged within the Education Committee or School Board premises.

Dr. Struthers, Secretary of the Scotch Education Department, has from the first expressed approval of the proposed bureaux, and his encouragement has been of inestimable assistance.

In order to take tangible steps towards the formation of such bureaux in Scotland, I instituted an inquiry among the employers in our chief cities, with regard to the positions open to young workers in their employment, the periods of training required, the rates of wages, and prospects after training. Dr. Struthers kindly furnished me with a letter supporting my request for information, and, with only one or two exceptions, even the busiest employers have found time to reply to a series of questions. The work of inquiry was commenced in

November, 1906, and has been in progress up to the moment of publication of its results.

A number of voluntary workers in all four cities have generously helped in this inquiry, and the outlays connected with the inquiry have been defrayed by a large employer, whose works are in Glasgow, and who has for many years interested himself in organising a closer co-operation between the universities and the workshops.

The inquiry in Glasgow was supervised by Mr. R. H. Tawney, B.A., an assistant in the Economics Department of the Glasgow University. Mr. Tawney, a well-known expert in social questions, turned his special attention to the investigation of these industries where a far larger proportion of boys were employed than could be continued as full-paid workmen.

In Edinburgh, Miss Chrystal Macmillan, M.A., undertook the inquiry, and carried it out upon broad lines with marked success for Edinburgh and Leith. Both in Glasgow and Edinburgh, inquiry was made only in respect of openings for boys, as the Scottish Council for Women's Trades had already published pamphlets dealing with the occupations for girls and women in these cities. In making up the full results, however, I have incorporated known facts and any further information I could obtain regarding the share of work allotted to girls and women.

Mrs. Carlaw Martin conducted the inquiry in Dundee both for boys' and girls' occupations. Mrs. Carlaw Martin's experience as a member of the Dundee School Board convinced her of the value of the proposed bureaux, and in many ways she has rendered valuable support.

In Aberdeen, Miss Elliot Ogston Clark carried out almost the whole inquiry, both for boys and girls, visiting all employers personally, and eliciting from many of them a free expression of their views and opinions regarding the best way of training the young

employees and improving the social and economic conditions.

The work of comparing all the information obtained, extending the inquiries, and consulting further authorities when necessary, and preparing the results for publication, has been done by myself. The printed schedules with employers' answers have been held in strictest confidence, although, should the school boards in these cities establish bureaux, the schedules can now be handed over as a nucleus of information to be retained in the bureaux for private reference.

Clearly an inquiry of this wide nature could not be treated exhaustively by voluntary workers, but, in order to give some indication of the numbers occupied in the particular trades and industries in each of these cities, I have extracted the 1901 census returns of male and female employees, and entered them throughout this volume. In the case of Edinburgh and Leith, the census number of employees in Edinburgh is given first and the number in Leith alongside, the two numbers being united by a *plus* sign. In the case of Glasgow, the census numbers given are those for the "Burgh" of Glasgow, and do not include the contiguous burghs of Govan, Partick, and Kinning Park.

Several of the local education committees in England are taking steps to establish employment bureaux for their scholars, and to these committees I have supplied sample schedules as used in my inquiry, my pamphlets explaining the aims of such bureaux, and a copy of my draft scheme for the working of the bureaux. The inquiry schedules have also been supplied, by request, to the Labour Department of the Board of Trade, to the Royal Commission on the Poor Laws for the use of their inquirer in industrial centres in England, and to a number of educationists and educational associations abroad.

I desire to record my appreciation and thanks to the employers who have supplied the information for this work. The ready response given by most employers may be taken as an earnest of their willingness to support any systematic effort for the good of young workers.

# TABLES OF OCCUPATIONS

UNSKILLED AND SKILLED

GROUPED RESPECTIVELY UNDER

SHORT PERIODS OF TRAINING

AND

LONG PERIODS OF TRAINING.

## Occupations requiring Short Periods of Training.

	Age of Entry.	Beginners' Weekly Wage.	Full Average Wage per Week.
Aerated Water Manufacture	Boys 15 to 16 Girls 18	6/- rising to 8/- 8/-	20/- to 24/- 10/- to 12/-
Bag-making (Canvas)	Mostly Girls 14 Men	4/6 -	11/- to 15/- 19/- to 26/-
Bedding and Wire Mattress-making	Boys 14 Mostly Girls 14	3/- to 6/- 4/6 or 5/6	25/- 13/- to 16/-
Biscuit-making	Boys 14 to 16	7/- or 8/-	Machinemen 30/-
Bleachfield Work	Boys 14 Girls 14	5/- or 6/- 4/6 or 5/-	17/- to 25/- 9/- to 12/-
Bobbin-turning	Boys 15 or 16 Girls 16	6/- 6/-	23/- to 26/- 10/- to 12/-
Box-making (Fancy)	Girls 14	3/6 to 4/6	10/- to 12/-
Brewhouse Labour	Boys 14 to 17	5/- to 10/-	20/- to 25/-
Brush-making	Girls 14	4/-	11/- to 15/-
Builders' Labourers	-	-	5½d. an hour
Cabdrivers	Youths 18	-	18/- to 22/-
Carpet	Girls 14 or 15 Boys 14 to 16	7/- 7/- or 9/- (most leave)	15/-
	Loom-boys 14 Men	5/- to 6/- ( " ) -	25/- (in charge)
Carting and Van-driving	Boys 13 to 16	4/- to 7/- (many leave)	18/- to 25/-
Chemical Works	Boys 14	6/-	21/- upwards
Chemists (Manufacturing)	Girls 14	6/- rising to 9/-	12/- to 15/-
Chimney Sweeps	Youths 18	10/- to 18/-	20/- upwards
Coal-heavers	-	-	21/-
Coal-carters	-	-	23/- to 25/-
Comb-making	Girls 14 Boys 14	4/- 4/-	10/- to 12/- 20/-
Cork-cutting	Boys 14	4/- or 5/-	25/-
Curtain and Blouse-cloth Making	Girls 14 Boys 14 or 15	4/- 4/- or 5/-	14/- Most leave

	Age of Entry.	Beginners' Weekly Wage.	Full Average Wage per Week.
Dairywork -	Boys 14 -	5/- to 6/- (many leave)	22/-
Die-stamping -	Girls 14 or 15 -	5/- - -	14/- or 15/-
Distillers' Labourers	Boys 16 -	5/- - -	18/- to 25/-
	Girls 16 -	8/6 - -	10/- to 14/-
Domestic Service	Girls 15 or 16 -	4/- and board -	£16 upwards a year, all found
	Boys 14 -	3/6, with board and uniform; rising to 8/- or 10/-	£25 upwards a year, with board
Dressmakers -	Girls 14 or 15 -	No wages at first, then 2/6 to 3/-, rising by 1/- a week each year	10/- to 15/- 30/- upwards (forewomen)
Farm-work -	Boys 14 or 15 -	£5 for 1st 6 months and board, rising to £7, £9, £13, in the successive half-years -	£36 a year upwards, with board
Firelighter-making	Boys 14 or 15 -	6/- rising to 8/-	Labourers, 20/- to 22/-
Firewood-making	Youths 18 and over	10/- (at machines)	
Fishermen -	Boys 16 -	5/- - -	Variable (largely by profits)
Fishmonger	Boys 14 -	5/- rising to 10/-	20/- upwards
Fish Hook Dressing	Girls 14 -	2/6 to 3/6 -	13/- to 17/-
Flour-milling -	Youths 18 -	- - -	16/- to 30/-
Furriers	Girls 15 -	2/6 or 3/6 -	12/- to 18/-
Glass Manufacture	Boys 14 -	6/- (many leave)	15/- to 22/-
	Youths 18 -	- - -	
Golf Bagmaking	Youths 18 -	- - -	14/- upwards
Golf Ballmaking	Girls 14 -	5/- - -	11/- or 12/-
Hat Manufacture	Girls 14 or 15 -	3/6 or 4/6 -	12/- to 16/-
Hosiery -	Boys 14 or 15 -	4/- or 5/- (many leave)	20/- to 35/-
	Girls 14 or 15 -	4/- or 5/- -	15/- to 18/-



	Age of Entry.	Beginners' Weekly Wage.	Full Average Wage per Week.
Jute Mills -	Boys 14 (preparing)	6/-, rising to 9/- or 10/-	11/- to 14/-
	Girls 14 "	6/- - - -	9/6
	Girls and Women (spinning)	6/- - - -	10/6 and 11/- single frame
	" (weaving)	6/- to 8/- - -	13/- to 15/- double frame
	Youths 16 to 18 "	8/- to 12/-	12/- to 14/-
Laundrywork -	Men - - -	- - - -	20/- to 25/-
Linen and Cotton Mills	Girls 14	5/- - - -	10/- to 14/-
	(preparing, spinning, and reeling)	5/- to 6/- - -	10/- to 12/-
	Boys 14 "	7/- or 8/- (most leave)	12/- upwards for spinners
	Youths 18 "	- - - -	15/-
	Men "	- - - -	20/- upwards
	Girls 14 (weaving)	5/- to 7/- or 8/-	12/- or 13/- upwards
	Men (beamers)	- - - -	30/- upwards
Linoleum Factory	Men - - -	- - - -	18/- to 20/-
Net-weaving -	Girls 16 and over	6/- - - -	10/- to 12/-
Newspaper Messengers	Boys 14, full time	3/6 to 11/-	
	Girls 14 "	3/6 rising to 7/-	
Paint and Colour Manufacture	Girls 14 or 15 -	4/6 - - -	11/- or 12/-
	Youths 17 or 18 -	- - - -	14/-
	Men - - -	- - - -	20/- to 25/-
Paper-Making Mills	Boys 14 - - -	5/- to 7/- (many leave)	
	Men - - -	- - - -	23/- or 24/-
	Girls 14 - - -	4/6 - - -	10/- or 12/-
Picture Postcard & View-mounting	Girls 14 or 15 -	5/- - - -	11/- to 13/-
Pipe-top (Tin) Making	Boys 14 to 17 -	5/- to 8/- (most leave)	

	Age of Entry.	Beginners' Weekly Wage.	Full Average Wage per Week.
Plasterers' Labourers	- - - -	- - - -	5½d. to 7d. an hour
Postmen	- - - -	- - - -	19/- to 30/- (city offices) 17/- to 24/- (sub-offices)
Pottery Works	Girls 14 and over	5/6 - - -	10/- to 15/-
Provision Works	Men - - -	- - - -	18/- to 20/-
	Youths 18 and over	9/- to 12/- - -	20/- to 25/-
	Girls 15 and over	5/- - - -	12/- upwards
Quarry-work	Boys 14 and over	6/- rising to 12/-	4½d. to 6d. an hour
Rag and Waste Picking	Girls 16 - -	6/- - - -	10/-
	Men - - -	- - - -	20/- to 23/-
Railway Work	Boys 14 and over	5/- to 10/-	
	Men - - -	- - - -	24/- upwards
Rope and Sail-making	Boys 14 and over	6/- to 8/- - -	20/- to 24/-
Rubber Goods	Boys 15 - -	5/- (most leave)	
	Girls 15 to 18	6/- - - -	12/- upwards
	Youths 17 or 18	8/- to 18/- - -	24/- to 30/-
Saddlery	Girls 15 - -	5/- or 6/- - -	10/-
Saw-milling	Boys 14 to 16	7/- to 10/- (most leave)	
	Youths - -	14/- to 16/- (most leave)	
	Labourers - -	- - - -	18/- to 24/-
Scavengers (town)	Boys 15 - -	8/- to 15/- - -	20/- to 24/-
Shipbuilding Labour	Boys 14 to 17	10/- to 15/- (many leave)	
	Labourers - -	- - - -	17/- to 30/-
Shore Labour	Youths - -	3d. an hour	
	Labourers - -	- - - -	6d. an hour
	Stevedores - -	- - - -	9d. „
Soap and Candle-making	Boys 14 to 16	6/6 to 10/- (most leave)	
	Labourers - -	- - - -	17/- to 20/- upwards
Stewards on Ships	Boys 15 or 16	10/- and food	
	Men - - -	- - - -	25/- and food

	Age of Entry.	Beginners' Weekly Wage.	Full Average Wage per Week.
Sweetmeat and Jam-making	Girls 14 to 16	- 5/- or 6/- - -	11/- to 14/-
Tailoring & Cloth- ing Factories	Girls 15 to 16	- 6/- - - -	15/- upwards
Tanners	(Unskilled Men)	- - - - -	15/- to 25/-
Telegraph Messengers	Boys 14 to 16	- 8/- (indoors) 10/- 7/- (outdoors) 13/-	
Telegraph Operators	Girls 15 to 17	- 6/- to 12/- or 13/-	14/- to 19/-
Tin Goods Factories	Boys 14	6/- to 8/- (many leave)	18/- to 22/-
	Girls 14 or 15	- 6/- - - -	12/- to 16/-
Tobacco Manufacture	Girls 14 or 15	- 4/6 - - -	10/- to 15/-
Tramway Service	Boys 14 to 16	- 5/- to 7/6 (many leave)	22/- to 28/-
Upholstery	Girls 14 or 15	- 3/- - - -	10/-
Wire Weaving	Girls 14 to 16	- 8/- (at machine) -	10/- to 15/-
	Boys 14 to 16	- 7/- (most leave) -	18/-

## Occupations requiring Apprenticeship or some Long Period of Training.

	Period of Boy's Apprenticeship.	Usual age when begun.	First Year and Last Year Wages during Apprenticeship.	Full Average Time Wage (not foremen).
Accountants	5 years -	Before 17 -	£5 a yr. to £30	
	4 „ -	After University		
Architects -	4 to 7 yrs.	16 or 17	£10 a year to £25	34/- a week
Auctioneers -	4 years -	15 or 16 -		
Bakers -	5 „ -	16 or 17 -	7/- a wk. upwards	34/- a week
Bankers -	3 „ -	15 or 16 -	£10 a year to £20 or £30	
Basket Makers -	5 „ -	14 -	5/- wk.; 10/- or 11/-	30/- to £2 a wk.
Bell and Blind Hangers	5 or 6 yrs.	14 -	3/6 to 5/- a week; 10/- to 12/-	25/- a week up.
Blacksmiths -	4 or 5 „	16 -	3/- to 5/- a week; 10/- to 13/-	20/- to 38/- a wk.
Book-binders -	7 years -	14 -	4/- a week; 14/-	32/- a week
	Girls 3 yrs.	14 -	3/6 „ 6/6 -	10/- to 14/- a wk.
Booksellers and Stationers	4 to 7 yrs.	15 or 16 -	4/- „ 10/-	18/- to 30/- a wk.
Boot and Shoe Making	4 or 5 „	14 -	4/- to 6/- a week; 10/- to 14/-	28/- to 30/- a wk.
		Girls 14 -	4/- or 5/- a week -	10/- to 13/- a wk.
Box and Packing Case Making	4 or 5 yrs. training	15 -	5/- a week -	26/- to 32/- a wk.
Brass Workers -	5 or 6 yrs.	14 to 16 -	3/- or 4/- a week; 10/- to 14/-	30/- to 35/- a wk.
Brewers and Maltsters	7 years -	16 or 17	4/- a week; 12/-	34/- to 40/1½ a week
Bricklayers -	6 „ -	16 -		
Brushmakers -	6 „ -	14 -	6/- „ piece-work	27/- a week up.
		Girls 14 -	4/- „ -	11/- to 15/- a wk.
Builders -	5 „ -	15 or 16 -	5/- „ 12/-	8½d. an hour (masons)
				9d. an hour (builders)
Butchers -	3 or 4 yrs. training	15 -	5/- „ 10/-	28/- a week up.

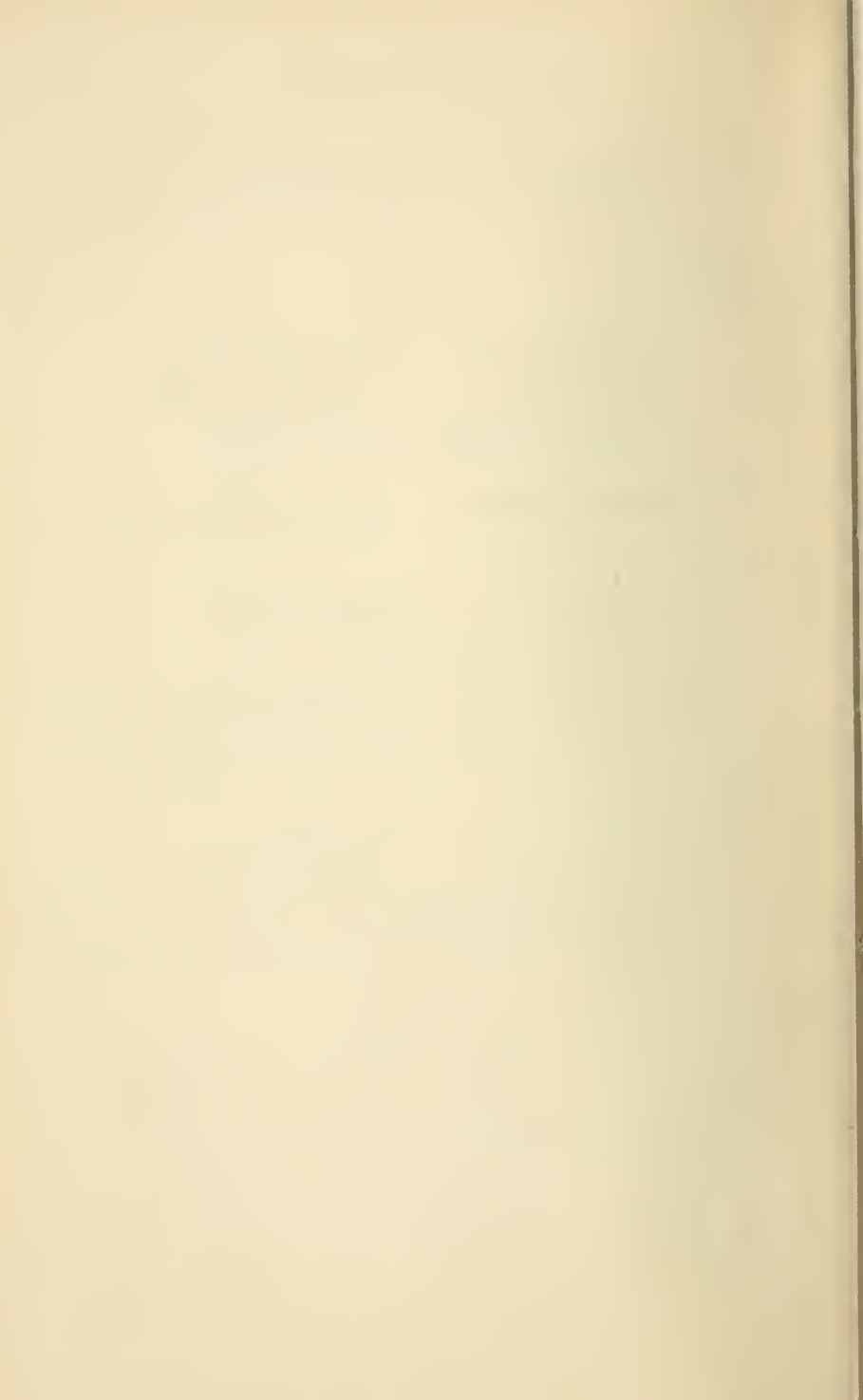
	Period of Boy's Apprenticeship.	Usual age when begun.	First Year and Last Year Wages during Apprenticeship.	Full Average Time Wage (not foremen).
Cabinetmakers -	5 years -	14 -	3/- to 5/- a week; 11/- to 14/-	7½d. to 9½d. an hr.
Carpenters -	5 „ -	15 or 16 -	4/- wk.; 10/- to 15/-	8d. to 9½d. an hr.
Carpet Weavers -	3 „ -	18 -	10/- a week	34/- a week
„ Designers	3 or 4 yrs. training	15 -	5/- „ 10/-	20/- to 30/- a wk.
Carvers & Gilders	5 or 6 yrs.	14 -	4/- „ 9/- or 10/-	25/- to 30/- a wk.
Chemists (Manufacturing)	4 years -	14 -	4/- „ 7/- or 8/-	£50 a yr. upwards
		Girls 14 -	6/- „ -	9/- to 12/- a wk.
Chemists (Phar.)	3 to 5 yrs.	16 or 17 -	4/- „ 8/- or 9/-	£60 to £150 a yr.
Clerks -	4 years -	15 or 16 -	£10 a year; £25	£40 to £100 a yr.
Clock and Watch Makers	6 or 7 yrs. training	14 -	3/6 to 5/- a week; 12/- or 13/-	35/- a week
Coach and Motor Car Builders	5 or 6 yrs.	15 or 16 -	5/- wk.; 10/- to 14/-	30/- a week
Compositors -	7 years -	14 -	4/- „ 10/- or 11/-	30/- a week up.
Coopers -	4 or 5 yrs.	15 or 16 -	4/- to 5/- wk.; 10/-	20/- to 30/- a week upwards
Coppersmiths -	6 years -	14 or 15 -	4/- „ 12/-	8d. or 8½d. an hr.
Curriers -	6 „ -	14 -	4/- to 5/- „ 10/-	8d. an hour
Cutlers -	5 „ -	15 -	4/6 „ 10/-	27/- to 30/- a wk.
Cycle Makers -	5 „ -	15 -	4/- „ 15/-	7d. an hour
Dental Mechanics	5 „ -	15 or 16 -	2/6 „ 6/6	30/- a week up.
Die and Stamp Cutters	6 or 7 yrs.	14 or 15 -	3/6 „ 10/6	22/- to 30/- a wk.
Drapers' Assistants	4 years -	15 or 16 -	4/- wk.; 6/- to 10/-	£50 to £80 a year upwards
Dyers and French Cleaners	5 „ -	14 -	2/6 „ 10/-	26/- a week
Electro-plate Workers	3½ to 5 yrs.	16 -	4/- „ 7/-	25/- to 28/- a wk.
Engineers (Town Electri- city Works) -	3 years -	15 to 18 -	6/- „ 12/6	24/- to 38/3 a wk.
Engineers (Electrical)	5 „ -	16 -	3/- to 5/- wk.; 10/-	25/- to 35/- a wk.
	3 „ -	17 or 18 -	Premium-paying	

	Period of Boy's Apprenticeship.	Usual age when begun.	First Year and Last Year Wages during Apprenticeship.	Full Average Time Wage (not foremen).
Engineers (Mechanical)	5 years	14 to 16	3/- to 6/- a week; 10/- to 14/-	28/- to 36/- a wk.
Fishing Tackle Makers	3½ "	14 or 15	4/- a week; 8/-	25/- a week
Fishing Rod Makers	5 or 6 yrs.	14 or 15	4/- " 10/-	27/- to 30/- a wk.
Furriers -	5 years	14 -	5/- " 15/-	25/- to 30/- a wk.
Gardeners -	3 or 4 yrs.	16 -	4/- " 7/- to 10/-	20/- to 27/- a wk.
Gas Fitters -	5 or 6 "	15 or 16	5/- to 7/6 a week; 10/- to 18/-	26/- to 32/- a wk.
Gas Meter Makers	5 years	14 -	3/- a week; 12/-	33/- a week
Glass Bottle Makers	5 or 6 yrs.	16 or 17	8/- " 14/-	34/- to 42/- a wk.
Glass Manufacturers	5 to 7 "	14 or 15	4/- to 7/- a week; 9/- to 11/-	30/- to 35/- a wk.
Glaziers -	5 years	14 -	4/- a week; 10/-	8½d. or 9d. an hr.
Golf Club Makers	5 "	14 or 15	4/6 " 10/-	30/- a week
Golf Bag Makers	5 "	15 -	4/- " 10/-	26/- a week
Grocers -	4 or 5 yrs. training	15 -	5/- to 7/- a week; 10/- or 12/-	25/- to 30/- a wk.
Gunmakers -	6 or 7 yrs.	14 -	3/- or 3/6 a week; 9/- or 10/-	28/- a week up.
Hairdressers -	3 to 5 "	15 -	3/- or 3/6 a week; 8/- to 10/-	18/- to 30/- a wk.
Hat and Cap Makers	4 years	14 or 15 Girls 14	5/- a week; 8/- 3/6 or 4/6 a week; 6/- or 7/-	30/- a week 12/- to 16/- a wk.
Iron Founders— Moulders	7 "	14 to 16	5/- wk.; 16/- to 20/-	33/- to 40/- a wk.
Dressers	5 "	14 to 16	3/- to 5/- a week; 10/- to 16/-	30/- a week up.
Ironmongers -	4 or 5 yrs.	15 or 16	4/- a week; 12/6	25/- to 35/- a wk.
Japanners -	6 years	14 or 15	5/- " 10/-	25/- a week up.
Jewellers -	5 to 7 yrs.	14 or 15	3/- or 4/- a week; 10/- to 12/-	35/- a week
Lathsplitters -	5 years	16 or 17	4/- a week; 20/-	9d. an hour
Library Assistants	5 "	14 to 17	6/- " 10/-	30/- to £3 a wk.
Lithographers -	7 "	14 to 16	3/6 " 10/6	33/- or 34/- a wk.
Millwrights -	5 "	15 or 16	4/- " 9/-	24/- to 30/- a wk.

	Period of Boy's Apprenticeship.	Usual age when begun.	First Year and Last Year Wages during Apprenticeship.	Full Average Time Wage (not foremen).
Music Sellers -	6 years -	14 or 15 -	4/- a week; 9/-	30/- a week up.
Painters and Decorators	5 or 6 yrs.	14 -	4/- " 12/-	8½d. an hour
Photographers -	5 years -	14 or 15 -	3/- to 5/- a week; 7/- to 9/-	20/- to 30/- a wk.
	4 or 5 yrs.	16 -	(Premium-paying)	
Piano Tuner -	5 years -	14 or 15 -	4/- a week; 10/6-	30/- a week up.
Plasterers -	3 " -	14 to 17 -	4/- to 5/- a week; 9/- to 11/-	9d. or 9½d. an hr.
Plumbers -	7 " -	14 -	3/6 to 5/- a week; 9/6 to 11/-	7d. to 9d. an hr.
Post Office (boys)	3 yrs. and over -	14½ to 16 -	6/- a wk.; 10/- up.	18/- to £2 a wk.
" (girls)	3 yrs. and over -	15 to 18 -	5/- " 10/- "	15/- to 28/- a wk.
Pottery Workers	7 years -	15andover	9/- " 18/-	30/- to 40/- a wk.
Printers -	7 " -	14 -	3/6 " 18/- or 20/-	32/- to 36/- a wk.
Railway Clerks -	3 to 5 yrs.	14 to 16 -	5/- " 12/-	£50 to £80 a yr.
Reporters -	Several yrs. experience	16andover	2/6 " 15/-	30/- a week up.
Rubber Goods Makers	2 or 3 yrs. training	14 to 16 -	6/- " -	28/- a week up.
Saddlers -	5 years -	15 -	4/- or 5/- a week; 10/- upwards -	28/- a week up.
Sawyers -	3 to 5 yrs.	16andover	8/- a week; 16/-	28/- a week up.
Shipbuilding— Platers, Rivet- ters, Caulkers	5 years -	16 to 19 -	8/- " 15/- up.	£2 a week up.
Boilermakers -	5 " -	16 to 19 -	8/- " 15/- up.	£2 a week; 8¾d. to 9¼d an hr.
Ship Carpenters	5 " -	16andover	6/- " 10/-	37/- a week; 8¼d. an hour
Ship Painters -	5 " -	16 "	6/- " 10/-	8d. an hour
Draughtsmen -	5 " -	16 "	6/- " 12/-	30/- or £2 a wk.
Girl Tracers -	4 " -	16 "	5/- or 6/- a week; 11/- or 12/-	14/- to 16/- a wk.
Shop Assistants (Men)	4 " -	15 or 16 -	4/- wk.; 7/- to 10/-	25/- a week up.
(Women)	4 " -	15 or 16 -	6/- " -	12/6 and 15/- a week upwards



	Period of Boy's Apprenticeship.	Usual age when begun.	First Year and Last Year Wages during Apprenticeship.	Full Average Time Wage (not foremen).
Shorthand Writers and Typists (Women Corr. Clerks) -	2 or 3 yrs. training	16 to 18 -	8/- to 10/- a week; 12/6 to 15/-	£60 a year up.
Sick Nurses -	3 years training	23 and over	£10 to £20 a year (board & uniform)	
Slaters and Tile-fixers	5 years -	16 to 18 -	5/- to 7/- a week; 12/- to 18/-	8d. & 8½d. an hr.
Surgical Instrument Makers and Opticians	6 „ -	14 -	4/- or 5/- a week; 10/6 to 15/-	25/- to 35/- a wk.
Sweetmeat and Jam-makers	5 „ -	14 to 16 -	4/- or 5/- a week; 8/- to 12/-	30/- to 35/- a wk.
Stone-dressers -	4 or 5 yrs.	16 or 17 -	6/- wk.; 12/- to 14/-	6d. to 8d. an hr.
Tailors -	4 or 5 „	14 or 15 -	3/- „ 7/- to 14/-	30/- a week up.
Tanners and Skinners	5 to 7 „	14 or 15 -	4/6 „ 14/-	25/- to 30/- a wk.
Telephone Clerks	4 years training	15 -	5/-; rises 2/- or 3/- a week each yr.	20/- a week up.
„ Electricians	5 years -	16 and over	4/- a week; 12/-	25/- to 35/- a wk.
Tinsmiths -	5 or 6 yrs.	15 or 16 -	4/- „ 12/-	27/- to 30/- a wk.
Upholsterers -	5 or 6 „	14 to 16 -	3/- or 4/- a week; 7/- to 9/-	30/- to 35/- a wk.
Weights and Measures Inspectors -	4 years -	16 to 18 -	£15 a year; £30	£100 to £300 a year
Wire-weavers and Dressers	7 „ -	16 or 17 -	8/- a week; 16/-	34/- or 35/- a wk.



## PART I.

# INDUSTRIAL OCCUPATIONS

WITH

## SHORT PERIODS OF TRAINING.

---

### AERATED WATER MANUFACTURE.

Glasgow,	M. 324.	F. 109.	Edinburgh and Leith,	M. 152 + 23.	F. 25 + 21.
Dundee,	59.	3.	Aberdeen,	59.	71.

The labour is unskilled, and is carried on by men and women, according to local conditions. In Glasgow, for example, girls are largely employed in this manufacture, but in Dundee, where the jute factories offer more inducement to girls, the aerated water manufacture employs mostly youths. These are often previously engaged at the mills for some years, and change to the aerated water factory when they are at a good age for attending to the machinery. In Aberdeen and Edinburgh a fair proportion of youths and girls are employed; there the youths have mostly been vanboys and message-boys.

Lads may enter about 15 or 16 years of age, and receive about 6s. a week to begin with, rising to 7s. and 8s. during their training. When fully trained, the wages are 20s. to 22s. a week, occasionally 24s. a week. The highest-paid employees are the bottlers,

who get from 25s. to 35s. a week; this is probably owing to a certain risk associated with the bottling. Men and women are supplied with guards to protect their faces and hands, and the machines are surrounded with wire-netting to prevent the glass flying about.

For ordinary workers there is always the chance of promotion as foreman. Sometimes two or three foremen are required, and they earn from 30s. upwards. Wages are said to have rather advanced of late in this form of factory work.

#### LABOURERS.

A good number of labourers are employed, and they receive from 16s. to 18s. a week.

The hours of work are 6 a.m. to 6 p.m. in summer, with breakfast and dinner hours; it is very often the case that the factory closes on Saturday. In winter, when trade is dull, the employers reduce the working hours and payment, but all try to keep on the workers.

A number of carters and vanboys are attached to the factories, and these are paid at the ordinary rate for such work.

#### WOMEN AND GIRLS.

Girls come at 18 years of age, and begin with 8s. a week. They are employed chiefly in washing and labelling bottles, and make from 10s. to 12s. a week. A few strong women in some places are employed in bottling, but their wages never advance to more than about half the wages of men bottlers.

---

#### SCHOOL BAG MAKING; MARKET AND NET BAGS.

Machines have largely replaced hand labour in the manufacture of bags. One of the Dundee factories sends

an interesting statement regarding the variety of bags demanded.

“Many different kinds of bags are made, to suit the individual and national tastes. The Irish peasant boy indulges in a gaily coloured school bag made of jute, which he can buy at one penny, and this after passing through the hands of the manufacturer and the middle man. The London housewife likes a quiet, brown canvas bag for marketing. The Lancashire woman enjoys one of gaily coloured jute. The South African markets demand large bright haversacks. The Scotch school-boy must have a strongly bound leather bag with pockets, or a waterproof canvas one. All tastes have to be suited. This means that under one roof there may be a textile department with looms and weavers subject to the conditions of the textile factory, and there may be a leather department, necessitating the preparing, dressing, and cutting of skins, to be used in binding, in the making of straps, or of entire bags. Within recent years, the net bag with leather handles has been in vogue. It was first introduced in France and Germany, and is made on machines bought in Germany.”

“Most of the work done by the women and girls consists in machining, binding the parts with leather, sewing on pockets, straps, or handles. They are very expert at the work. Sewing machines, for the most part, are wrought by steam power. Certain portions of the work demand a trained eye, such as the accurate placing of handles. The work is not too heavy, although it may be monotonous.”

## MEN AND BOYS.

Apprentices are taken at 14 or a little older, without premium or indenture, and are specially trained for two or three years for the machine work under the supervision of a foreman or an experienced journeyman.

The wages given are 4s. 6d. for six or eight weeks; then they increase gradually, and may reach 15s. or 16s.

The working hours are 8 to 1 and 2 to 6, with Saturday afternoon off.

Expert journeymen receive 26s. a week; they are chiefly employed in the leather department as curriers, cutters, and dressers. The less skilled workmen in this department receive 19s. or 20s. a week.

A few skilled mechanics are required for the machinery, and are paid at the rate for journeymen mechanics.

### WOMEN AND GIRLS.

The girls begin by preparing the work for the sewing machinists. They cut the jute, stamp out the smaller pieces, and turn over corners. They are generally paid by time-work at  $2\frac{1}{2}$ d. to 3d. an hour, according to their ability.

Most of them become machinists, others are employed in packing goods. The machinists are paid on piece-work, and the wages run from 11s. to 15s. a week.

The busiest season is in August and September, but steady employment is given all the year, as stock has constantly to be provided.

---

### BEDDING AND MATTRESS MANUFACTURE.

This is a very small trade in Scotland, so far as it is carried on independently, and girls are now being employed more than boys. Bedding, and hair and wool mattress work, is largely undertaken by upholsterers.

The factory work consists in attending to machines which weave the wire for mattresses, and in making up both wire and wool mattresses.

There is no apprenticeship. A smart boy may become proficient in wire-weaving in a few months. Wages begin at 3s. and rise to 6s. The finishing of the mattresses is done by more experienced men, who receive about 6d. per hour. The average wage is 25s. per week, but a foreman or specially skilled worker may get as much as 30s. per week.

The work is fairly regular—50 hours being worked all the year round; one hour for dinner is given daily.

### BLEACHING WORKS.

	M.	F.			M.	F.
Glasgow,	128.	238.	Aberdeen,	.	35.	14.
Dundee,	167.	7.				

Any boy or girl going to the bleachfield work requires to be robust and able to do steady hard work: those actually engaged in the work are hardy-looking, and seem to like the employment.

The bleachfields associated with the textile industries have usually the advantage over the mills of being surrounded by open spaces and fields, and although some of the work is done amidst hot steam, the environment of the work renders it healthy. One or two employers mention that if a girl tends to be rheumatic, and steam affects her, she is transferred to the drying department.

The yarns—flax, jute, and tow—are dark in colour when they are received, but they are boiled sometimes six times, and go through several processes with chemicals (vitriol and chloride of lime), and are pressed through heavy rollers. Men attend to the first of these processes, but lads and girls pull them through the rollers. The yarn is bleached and then dried on the greens, hanging from wooden supports, till it becomes



the colour required—cream or white—then women treat it by shaking it and pulling it from a roller, and it is put on a machine to soften it, between rollers with deep ribs. It is then tied into hanks, twisted, and made into bundles by women “bundlers.” It sometimes takes three or four weeks to complete the process of turning this hard brown yarn into soft white yarn ready for manufacture; for some purposes it is kept dark. The process of waterproofing the yarn for strong canvas is done mostly by men.

Bleachfield workers are classed as unskilled labourers; as a rule the number of male and female workers is about equal. Girls in the Dundee and Aberdeen bleachfields are apt to leave during the herring-fishing season and return in the winter.

*Boys* of 14 or over start with 5s. to 6s. wages; *girls* of the same age start with 4s. 6d. to 5s. Full wages are seldom given before 18 years of age, and the rate of increase between 14 and 18 depends on the ability of the individual. The actual percentage of boys and girls employed varies in different bleachfields: in Aberdeen it is never more than 15 per cent. of the total number employed. These younger workers assist in one department and another, and are given definite work as openings occur. The hours are 55 per week—usually from 6 to 6, with two meal-hours off, and 6 to 12 on Saturdays, with one meal-hour.

Men who are paid on piece-work make about 30s. to 32s. Unskilled youths and men on time-work make from 17s. to 25s.; but the more skilled men who treat the yarn with chemicals are paid 25s. on time-work.

Men who rise to be foremen do not receive more money than expert piece-workers, but the position is better.

Women are paid about 9s. to 10s. on time-wage, and on piece-work they may make 12s. to 15s.

**BOBBIN TURNING.**

No apprenticeship is required. Boys may start work about 15 or 16 years of age, and learn the trade by assisting the men. The wages begin at about 6s., and rise according to ability. When thoroughly trained and of man's age, the wages range from 23s. to 26s. per week. The hours of duty are 51 per week. It is healthy and light work, and gives steady employment all the year.

Girls are employed in painting and oiling the bobbins. The work is light, and the wages average 10s. to 12s. a week.

**BOX MAKING (FANCY).**

	M.	F.		M.	F.
Glasgow, 156.	1,334.		Edinburgh and Leith, 13 + 3.	457 + 142.	
Dundee, 3.	48.		Aberdeen, . . .	6.	261.

Most of the work in this trade is done by girls, but a few men are employed as cutters. The only requirement is the ability to measure accurately, so as to plan out how best to cut the cardboard. It is clean, healthy work, well fitted for girls, and those employed in it are of a good class.

Girls are deft, excellent workers, and are employed by all firms. They enter about 14 years of age, and start as gluers at 3s. 6d. to 4s. 6d. a week. Wages are gradually increased, and in two or three years they are put on piece-work, where they can make anything from 8s. to 17s. a week. The average wage of a good worker would be about 12s. a week.

The making of cardboard boxes is carried on in many of the paper mills, and the girls there make on an average 10s. to 12s. a week.

## CAB-DRIVING.

Glasgow, .	<sup>M.</sup> 2,133.	Edinburgh and Leith, .	<sup>M.</sup> 1,635 + 153.
Dundee, .	247.	Aberdeen, .	347.

Boys who wish to become cabdrivers are recommended to go at 14 as page or in some form of domestic service at good clubs or hotels. There they have an opportunity of coming in contact with coachmen in private service, and possibly of securing a situation.

The training along this direction is considered preferable to the vanboy's training, although many vanboys afterwards turn to cabdriving. A number of lads leave the trades or other occupations they have started for cabdriving.

At any age, usually over 18 years, steady men who are competent drivers and know the streets of the city and rules of the traffic are eligible for a magistrate's licence as a cabdriver. The applicant has to pay for the licence himself each year, even if he is employed by cabhirers. A common price for the licence is 1s. 6d.

The wages given by cabhirers to their drivers vary greatly. In the Scotch towns, from 18s. to 20s. per week is a fair average; the tips given are, of course, personal, and may sometimes represent a considerable sum. Out of this cabmen have to give tips to the stablemen and cab-washers who attend to their horses and cabs. The hours are from 84 to 91 a week; every second Sunday is generally free. The working hours are, however, extremely fluctuating, and have to be adapted to the demand of the season.

Experienced cabdrivers may get charge of four-in-hand coaches in the summer, and receive 30s. a week. Their hours are 56 to 70 per week (Sunday included).

Private coachmen get higher wages than cabmen, and as many people prefer to get coachmen who have been already tested as cabdrivers, the younger men

engaged with cabhirers look forward to being recommended as coachmen in private houses.

The occupation is very healthy, and is to be strongly recommended to steady men. There are no compulsory holidays, as in most trades, and a man may drive his cab as long as he is able. He is not dismissed or held responsible for damages sustained in accidents, if he acts up to the regulations of his employers in such emergencies.

The numbers given above represent the men employed in cabdriving when the census of 1901 was taken, but there has been since then an appreciable reduction in the number of cabmen, owing to the increase of all forms of motor conveyance.

#### STABLEMEN.

Men employed as stablemen look after the horses, and receive 18s. to 22s. per week, but make more in tips. Their hours are much the same as cabdrivers' hours.

#### CAB-WASHERS.

Cab-washers receive from 22s. to 25s. and tips. Their hours are usually at night, from about 7 p.m. to 6 a.m., though some are employed by day.

Employment is regular for all, and there is no lack of men willing to do this work.

---

### CARPET MANUFACTURE.

	M.	F.		M.	F.
Glasgow, .	563.	1,182.	Edinburgh and Leith, .	12	9.
Dundee, .	367.	377.	Aberdeen, .	23	13.

Scotch manufacturers have held a prominent position in this branch of textile industries. In Edinburgh, Mr. Whytock's patent for tapestry carpets in 1832, and, in

Glasgow, Mr. Templeton's patent in 1893 for Axminster carpets, marked important advances in carpet manufacture. More recently, in Dundee, an export trade has sprung up in jute carpets.

### **Tapestry Carpet Manufacture.**

A Paisley firm of tapestry carpet manufacturers and one or two others employ women and girls for the fine detail work of winding the threads on cylinders or drums, and printing the various colours upon them; then uncoiling the threads, fixing the dyes in a hot chamber, and arranging the finishing yarn in setting-frames ready for the weaver's loom. These processes have to be carried out with strictest accuracy, according to scaled designs of colour and pattern supplied to the workers.

### **STARCHING AND PREPARING DEPARTMENT.**

Men and boys are employed in attending the machines for starching and stiffening the yarn. One man is in charge of each machine, and has about three boys to help him and to keep up the ranks of bobbins which supply the yarn to the machine. The boys come at 14 years of age, and stay a few months, a year, or two years, as there are no further openings for them in this direction of work. They receive 9s. a week wages at the beginning, as they will not come for less, and there is little or no increase. The working hours are 56 per week.

### **PRINTING DEPARTMENT.**

Girls are taken from 14 to 16 years to begin in the colour-printing department by tending the colour box, and carrying to, and assisting, the older workers. Then they are allowed to wind the thread on the drums, and, if they are clever, they learn to guide the process according to the design-paper. The wages range from

9s. a week in the period of training to 18s. a week for a fully trained and responsible worker.

#### SETTING DEPARTMENT.

In setting the yarn for the loom, two girls are employed at each machine, doing the same work from the two sides of the machine. They copy to scale from a printed design. The wages may go up to 20s. a week.

#### WEAVING DEPARTMENT.

At one time the weaving was entirely in the hands of men, but when they refused to work a new machine, women were taken on, and now men and women are engaged indiscriminately. The weaving of tapestry carpets can scarcely be considered skilled, as weaving of the type required can be learned in a short time. Wages are given to men and women at the same piece-work rates. Rapid and experienced workers can earn 36s. a week.

Probably not more than 25 per cent. of the men actually engaged in the weaving department of some factories have been trained there; it is usually found that many have come from other trades, or have served as soldiers. Sometimes a lad from the starching department gets an opening in the weaving department, but he has to depend upon the goodwill of one of the older men to give him the initial guidance. An arrangement may be made whereby a boy pays a man £4 to be taught, in weekly instalments of 5s.

#### Axminster Carpet Weaving.

The characteristic feature in the manufacture of Axminster carpets is the necessity for two weaving operations. The yarn is dyed, not printed, and the various processes preliminary to the weaving include winding, dyeing, cleaning, and finishing the yarn, and



arranging it on the weaver's beam. The tenter then gives the beam and the yarns to the weaver, along with an accurately laid out carpet scheme, and the weaver uses the coloured yarns for his web, as shown in the design. The first weaving is cut into strips, whose long cut threads rise up as pile, and these strips of pile have then to be woven together. Thus, the chief care and skill in the making of this type of carpet is demanded in the weaving department. Men are employed as weavers, and in the heavier parts of the work in other departments. Probably, taking all the departments together, there would be an almost equal number of men and women operatives, and 25 per cent. of the total number employed would be lads.

In addition to the loom-boys employed in the weaving department, the younger workers are engaged in various ways—*e.g.*, in scouring the yarn before it is dyed, in assisting the men who beam the warp threads, and in the transport of material from one process to another. The wage of these boys begins at 7s. a week, and in the second year the wage is usually 9s. a week.

#### Loom-Boys.

Each weaver working a power-loom may have a boy to assist him, or a boy may have to attend two looms and keep up the supply of yarn. These boys come at 14, and rarely stay beyond the age of 16. Some remain on until they are 18, in the hope of being then selected for overtime work or the night shift. It is quite an exceptional chance that enables a loom-boy to become an apprentice weaver, as the few apprentices are mainly selected from among the sons of the weavers.

The loom-boy essentially comes for the temporary wages. He receives 5s. to start with, and increases to 6s. as he becomes more useful. He also shares the benefit of any extra work done by the weaver, receiving



1s. to 1s. 6d. a week on that account. The working hours are ten each day, from 6 a.m. to 6 p.m., with two meal hours off and half-day on Saturday. There is no attempt on the part of such lads to attend evening classes, and after ten hours work they could hardly be asked.

#### “STAFF-BOYS.”

The loom-boys who remain after they are 18 are often called staff-boys. These lads get 10s. a week, but may increase their wages to 15s. by taking night-shift. They are hard-wrought, as, without cessation of their daily work, they undertake two nights a week as extra work. If they fail to get a loom and become a weaver, they give up this work, and most of them become unskilled labourers or machinists of limited knowledge.

#### APPRENTICE WEAVERS.

The number of apprentices allowed by trade union regulation is very small—about 1 apprentice to 20 weavers. Apprenticeship begins at 18 years of age, and lasts three or four years. The wages usually begin at 10s. a week, and rise to full wages at piece-work rates, less 25 per cent. in the third and fourth years, or the 25 per cent. of the full piece-work wage for the last year of training may be handed over at its close. These apprentices hardly ever attend evening classes, as they work the full 56-hours week.

#### WEAVERS.

Fully trained weavers are paid on piece-work, and earn on an average 34s. a week, but the best men in responsible posts make £2 or £2 2s. a week at Axminster carpet weaving. When times are very busy, extra weavers can be got from Dundee, Paisley, Kidderminster, and one or two other places, and these men have lately

taken to crossing to Canada to new carpet works started there. The trade unions calculate that about 10 per cent. carpet weavers are unemployed except at busy times.

### CARPET DESIGNING.

In all the larger carpet factories there is a staff of designers constantly at work in the designing room. Boys are taken at 15 years of age as learners, but not as recognised apprentices. They must have shown some predisposition or talent for drawing and colouring.

Boys begin by doing copying work, then learn to draw out the designs to scale, and should go on increasing in usefulness for several years. The wages start at 5s. per week, and a yearly addition is given according to the lad's ability. The working hours are 8½ per day, usually from 8 or 8.30 to 5.30 or 6, with an hour off in the middle of the day for dinner. The young designers are encouraged to attend art classes for drawing and design.

In this department there is every prospect of a good worker being retained and having a sure future. The wages of good draughtsmen are always at the rate of highly skilled work.

### Scotch or Kidderminster Carpets.

This type, which used to be manufactured in many parts of Scotland, has now almost entirely given place to newer varieties. In the Scotch or Kidderminster type, two distinct webs are woven together at one operation. Both warps are arranged on one beam, the two warp threads being threaded together through the eyes of the harness, and thence through the reed.

The older Kilmarnock carpets were excellent carpets, where three webs were woven together on much the same principle as the Kidderminster carpet, and pro-

duced the pattern on both sides. But, partly on account of the expense of production, this three-web carpet proved unable to compete with the newer varieties, and now art carpets are those which are chiefly woven in Kilmarnock, and they are sometimes called Scotch carpets.

### Art Carpet Manufacture.

In the manufacture of art carpets, some firms confine themselves to the departments associated with weaving, while others begin with the spinning of the weft or filling yarns from the raw wool. The warp yarns are not usually produced in the same factory, but are procured from outside sources.

In the case of the more comprehensive scheme, the first process in the preparation of the yarn is

### BLENDING AND TEASING.

This is usually in charge of one man, whose wages are about 25s. per week, and he has the assistance of girls, whose wages may be from 10s. to 12s. Wages vary according to the locality and the demand which may exist for female labour. The wool having been blended and put through a coarse teasing machine, is ready for the

### CARDING MACHINE.

In the carding machine the fibres are all straightened out and prepared for spinning into yarn. The older system was to have a young woman to each machine, whose duty it was to carefully weigh out a certain quantity of wool and spread it on a travelling table supplying the carding machine with a regular feed. This plan is still followed in many mills where the number of machines is limited. In large mills, however, automatic feeding-machines are much used, and

one woman can keep a number of machines supplied with wool.

There is always a man in charge, called the "carder," who is responsible for the correct setting of the machines. This is one of the most important duties in wool-spinning, as, if this work is not well done, the production of good yarn is impossible. A good carder can always command a good wage—not less than 35s. per week in a small mill, and a capable man in a large mill will get up to £4 or £5 per week.

In addition to the female attendants, the carder has the assistance of men called "fettlers," whose duty it is to clean the rollers of the carding machines with hard steel combs. The wages of the fettlers may average 23s. to 25s. These men have the opportunity of qualifying for carders.

The wool having been carded, goes to the

## SPINNING MULE.

This department is in charge of a male "spinner," whose wage may run from 25s. to 30s. per week. He may have two or three young men assisting, and these have the opportunity of learning a spinner's duties. It is not usual to serve a prolonged apprenticeship, and therefore the wage is not so high as in many trades. A number of girls are employed to "piece" or join the broken threads in the process of spinning. Other girls are employed to attend doubling machines, where it is desired to twist two hanks together; and whether the yarn is single or double, other girls again are required to reel the yarn into hanks. The wages of these girls are from 10s. to 12s. A piece-work system is often adopted, and by this means it is possible for the girls to make 1s. or 2s. per week additional. The yarn in hank is ready to go to the

## DYEHOUSE.

It is first passed through a scouring-machine, to free it from the oil which has previously been sprinkled on the wool to make it soft. The dyer must be a man of considerable skill in order that he may match the various shades without spoiling the yarn or wasting the colouring material. His wage may be from £2 to £4 per week. He may have an assistant dyer and a number of labourers under him.

The next department is the

## WEAVING SHED.

The yarn is first wound into cops, which are placed in the shuttles. The girls who make the cops are called "winders," and are paid by piece-work rates, making up to 12s. a week.

The carpets are now all woven in power-looms. Sometimes young women are employed as weavers, and earn up to 20s. per week on piece-work rates. The looms are constructed to weave the carpets from 3 feet wide to 12 feet wide. Where female weavers are employed there must also be some men whose duty it is to ascend the looms to the jacquard machines and attach the cards which raise the pattern in the fabric, and generally assist the weavers where necessary. These "card-changers," as they are called, are paid a weekly wage of about 24s.

The looms being mostly wide, and being liable to much vibration, require careful oversight by a mechanic, whose wages may be from £2 to £3.

When the carpets leave the loom they are taken to the "finishing room," and all loose ends and knots are clipped off and broken threads darned in. The girls who do this work are paid on piece-work rates, and earn 15s. to 16s. per week.

The goods are now ready for despatch, and pass

through the hands of the packer. This man sorts out and arranges the various orders, and, as carefulness is necessary, he is paid a fair average wage, and has the opportunity of qualifying for a more important post, such as that of general foreman, arranging the work to be given out, etc., when his wage may rise to £2 or so per week.

### DESIGNING OFFICE.

In the preparation of the patterns, the large firms maintain their own staff of designers. The head designer, who is also the colourist, may be paid £4 per week, and has male or female assistants earning from 15s. to 30s. per week. Smaller firms usually buy their designs from public designers. In a factory where a number of processes are carried through, there is always room for an able man to make himself indispensable, and there are usually one or two such who command promotion.

### CARTING AND VAN-DRIVING.

	M.	F.		M.	F.
Glasgow, 10,747.	11.		Edinburgh and Leith, 3,090	+ 1,384.	1 + 2.
Dundee, 1,787.	...		Aberdeen, . . .	1,810.	...

The outdoor life and the attraction of working with horses make it easy to get any number of boys willing to accompany carters and vanmen on their rounds of delivery. In most cases the engagement is only by the day, and the general experience is that the boys tend to acquire irregular and shifty habits. The most regular work is under the carters in railway companies or large contracting firms.

### CARTER-BOYS OR VANBOYS.

Carter-boys or vanboys are engaged and paid by the



lorryman, who receives money for the purpose—4s. weekly for a whole-day worker, 2s. weekly if deliveries are made only in the afternoon. Boys are employed in this way from about 13 to 15 or 16 years of age. Their business is to watch the goods on the van while the lorryman is delivering. The half-day boys, who spend their mornings in school, are generally the sons, relatives, or neighbours of the carters, but the carter need not employ the same boy throughout the week. In some of the larger companies, where vanboys work from 9 a.m. to 7 or 8 p.m., they receive up to 7s. a week.

#### TRACE-BOYS.

Only a very small proportion of lorry-boys can hope to be taken on as "trace-boys" by some big company. A trace-boy has to harness and unharness horses, lead them up and down, and take them where they are wanted. A boy earns from 10s. to 12s. a week, paid by the firm.

#### VANDRIVERS.

When about 18 years of age, trace-boys very often are promoted to driving a van, and do practically the same work as a vanman, except that the luggage carried is lighter. Their wages are from 12s. to 16s. a week. The wages of vanmen employed in connection with various shops and industries run from 18s. to 30s. a week.

#### CARTERS.

A large proportion of the men employed as carters are country-bred, and have come to town as young men. The railway carting service is the best of its kind; the employment is regular, and the carts and horses are all in by 5.45 or 6 p.m. At least 50 per cent. of the carters employed by the railway company have been trace-boys and vanboys in the service. They are steady, reliable



men, otherwise they would be dismissed. The average wage of a carter is 25s. weekly, but this is often increased by tips.

### CHEMICAL WORKS.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male:	Oilcake Makers and				
	Oil Millers, .	275	32 + 75	20	62
	Chemical Manure				
	Manufacturers, .	21	3 + 37	1	19
	Total, .	<u>294</u>	<u>35 + 112</u>	<u>21</u>	<u>81</u>
.					
Female:	Oilcake Makers and				
	Oil Millers, .	3	... + 8	2	1
	Chemical Manure				
	Manufacturers, .	4	... + 8	...	...
	Total, .	<u>7</u>	<u>... + 16</u>	<u>2</u>	<u>1</u>

There are a few large chemical works in Glasgow, Aberdeen, and other Scottish towns for the manufacture of coal tar products, manures, and sulphuric and other acids on a large scale. The alkalis are chiefly manufactured in the English works.

Trained chemists, very often college-bred, have responsible posts in these works.

### UNSKILLED WORK.

The labour is, for the most part, unskilled, and is carried on by men and boys. It proves steady employment, and is quite healthy, but there is a certain amount of dust which might be harmful to a lad with weak lungs.

The qualifications chiefly desired are strength, good education, common sense, and temperate habits. The employees ought to be able to read and write well, and

be smart at arithmetic. A common experience with these firms, when a lad applies for work, is that in the few years that have elapsed since he left school he appears to have all but forgotten whatever reading and writing he had known.

A well-developed boy that has passed his sixth standard on leaving school can begin work at once. He is usually put to some simple work to begin with, such as sewing bags, assisting the men, or learning to mix ingredients. His wages start at about 6s. a week, and rise from year to year until he is 21 years of age, and can do a man's work. Then he receives a minimum wage of 21s. for a week of 56 hours. Overtime is paid at the rate of one and a quarter hours.

If he is sufficiently intelligent and is steady, he may be trained for some special department of the work, such as "stillman," or given charge of the machinery under one of the skilled mechanics. In this way the more reliable workmen may increase their wages to 25s. or 30s. a week. Special men are put on a 12 hours' shift, which means that they take their meals beside their work, and are paid for the 12 hours.

#### SKILLED WORK.

The proportion of skilled men employed in chemical works is not more than 5 to 10 per cent. There are one or two engineering mechanics who have to take charge of the machinery, and there are always a few joiners, plumbers, masons, bricklayers, coopers, and painters who come to the works as fully trained men, and are paid according to the standard rates.

#### OILCAKE MANUFACTURE AND ARTIFICIAL MANURE.

The preparation of oilcake, Indian corn, beans, and other food stuffs, and the compounding of manures are increasing industries at the present moment. They are

carried on by various companies in Aberdeen, and by oil-cake manufacturers in Dundee and in the South. About 85 to 90 per cent. of the employees are men, 10 to 15 per cent. boys or girls.

In the manure-making department the work is mostly done by men; a few lads are employed in filling sacks and packing. The men attend the machines, and receive an average wage of 20s. to 22s. a week; 25s. is earned by the more experienced men; by time, the rate is 6d. or 7d. an hour. The machines are kept working day and night, and the men are grouped in three shifts of eight hours each.

Lads are specially trained in the oilcake department. The training begins about 16 years of age, and lasts five years. A lad requires to be strong and active, and has to learn to mix the food stuffs and tend machines. He receives about 12s. to 16s. a week during training; but, later on, he has charge of calculating quantities and mixing the preparations and food stuffs, and receives from 27s. a week upwards.

Girls are employed in another department to weigh and pack the oilcakes. This is heavy work, and is paid at 12s. a week.

In the busy season, from January until the beginning of summer, extra hands are engaged, and paid as unskilled labourers at 6d. or 7d. an hour.

---

## CHIMNEY SWEEPS.

	M		M.
Glasgow,	103.	Edinburgh and Leith,	70 + 9.
Dundee,	28.	Aberdeen, . . .	26.

Physical strength is the only requirement. No boys under 16 are employed on account of the early hours. Master sweeps do not care to engage boys under 18

Beginners learn by going out with the other sweeps; the wages at first are generally 10s., and in three or four weeks an ordinary wage of 20s. upwards can be made. An experienced man who goes outside on the roofs sometimes earns as much as 28s. a week. Men on a weekly wage work from 4 a.m., or even earlier, till 1 p.m., and must be prepared to work in the afternoon when the need arises. It is better to be employed at a weekly wage, because it is steady all the year. In some places there is a system of payment called "thirds," when the men receive in wages one-third of the price paid for each chimney swept. This payment is very irregular, because at the busy season men may make as much as 35s. or, in exceptional cases, 40s. a week, but at slack times they make nothing at all.

A chimney sweep must take out a special licence. This costs 2s. 6d. at first, and 6d. yearly thereafter. To obtain this licence, a man must be recommended by two householders and two professional sweeps.

Work is generally slack in summer, and there is a very busy time in spring.

The supply of men greatly exceeds the demand.

---

## COAL CARTERS AND COAL HEAVERS.

Men are employed in loading and driving carts and delivering coals. As the work requires physical strength, it cannot be done by lads under 18 years of age. A few strong boys of 15 or 16 are employed about the shore in the unloading of coal-boats. They are called "lifters," and earn 15s. a week. For labourers helping to load the carts, called "fillers," an ordinary wage is 21s.; the "carters" or "carriers" receive 23s. to 25s. a week: a few may get as much as

30s. when in charge of two horses. A man with a good general education may rise to be foreman, with wage of £2 per week.

The working hours are 54 per week, two hours each day being given for meals. Summer is a slack season, and many men are paid off. A large number of extra men are employed by the day in the busy winter season. The wages given to such men are about 3s. 8d. per day. The supply very much exceeds the demand. Often men in other trades take work as coalmen in winter if work is slack in their own trade.

## COAL MINING.

### Work at the Pit Head.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Coal and Shale				
	Mine—Hewers, .	1,692	152 + 17	16	2
	Others below Ground, .	178	53 + ...	2	...
	Coal and Shale—				
	Workers above				
	Ground, . . .	143	1 + ...	2	2
	Total, . . .	<u>2,013</u>	<u>206 + 17</u>	<u>20</u>	<u>4</u>
	Coal, Coke—Merchants				
	and Dealers, . . .	811	248 + 78	220	98
	Coal—Hewers, Porters,				
	and Labourers, . . .	464	284 + 94	68	78
Female :	Coal and Shale—				
	Workers above				
	Ground, . . .	2	.	...	...
	Coal and Coke—Merch-				
	ants and Dealers, . . .	19	13 + 3	...	1

### (a) PICKING-TABLES.

The lightest work in coal-mining is at the picking-tables at the pithead. The tabletops consist of a number

of plates linked together to form an endless chain, and as they revolve, the coal from the hutches is put on at the one end and is thrown off at the other.

The plates move slowly along the table, and the "pickers" stand in a row by the sides, picking the stones from the plates as they pass. This work is generally done by girls, but boys of 14 often spend some time at it before beginning work at the hutches or in the mine. Payment for this is 1s. 6d. to 2s. for an eight-hours day.

#### (b) PUSHING HUTCHES.

Strong lads push the hutches with the coal from the pit-mouth to the picking-tables. They receive 3s. per day and upwards.

### Underground Work.

#### LEARNERS.

A boy is generally taken down the pit by his father or some friend, and works under their instructions. At first he only fills the hutches; when bigger and stronger, he pushes them from the coal-face to the main road, where the ponies catch them on. Next he learns to "hawk" the coal from the coal-face. His payment during the time he is a learner depends upon the man whom he assists, and who gives the boy a certain proportion of what he makes himself.

#### MINERS.

The maximum output of each miner per day is limited to a certain quantity known as the "darg." Miners are paid at so much per ton, and the number of tons which go to make a "darg" varies according to the working arrangements of the respective collieries and the relative ease or difficulty of mining the particular seam. The number of tons which constitute a



“darg” varies in different collieries: from 2 to  $4\frac{1}{2}$  tons are common quantities. Each colliery determines the rate of payment given to the miner. A “darg” of 3 tons would bring at present in some collieries 7s. 6d., a “darg” of 2 tons in another colliery would give as much.

When a man has a boy working along with him, he is allowed a half “darg” or three-quarter “darg” extra, according to the age of the boy; but the boy is not able to do his full share, and the man must work all the harder: so he receives the pay, and gives the boy what proportion he chooses.

A miner who wishes to rise in his trade may get a post as “roadsman” or “fireman.”

#### ROADSMAN.

A roadsman's duty is to see that the rails are kept properly railed down and the roads clear for the passing of the men and hutches.

#### FIREMEN.

The firemen go round the mines looking out for signs of fire. These men and the roadsman attend technical classes to acquire a knowledge of drawing, pumping, ventilation, haulage, and methods of working mines. Having gained this knowledge, they may be made “oversmen.”

#### OVERSMEN.

An oversman has full charge of the pit output, and keeps the colliery below ground moving and in good working order; for this the wages run from £2 10s. to £3. After some experience in this position, during which time he pursues his technical studies, he may stand for examination for the “colliery manager's” certificate. A man who holds this certificate is eligible to take a post as manager, and, having got that, has reached the top of the tree in his calling.



## BRUSHERS.

Unskilled labourers, called “brushers,” work at night, opening up the seam and preparing the way for the miners next day.

Formerly miners suffered frequently from asthma, but are less liable to this since ventilation in the mines has improved so much.

## COMBMAKING.

	M.	F.		M.	F.
Glasgow, 9.	1.		Edinburgh and Leith, 22 + 1.	40 + ...	
Dundee, 1.	...		Aberdeen, . . . 52.	55.	

The combmaking trade has been virtually under the control of large manufacturers since the introduction in 1828 of Lyne's machine for cutting or parting a plate of horn or tortoiseshell in two pieces. The saving of material, in addition to the saving of labour, gave a new impulse to the combmaking industry.

The manufacture of horn and hoof, tortoiseshell and vulcanite into combs is conducted on a large scale in Aberdeen. In Edinburgh there was for a time a factory for the vulcanite and xylonite combs, but their inflammable character lost them their popularity, and the Edinburgh factory was given up.

The chief departments in a comb factory are:—

- (1) Section-cutting through the material.
- (2) Slitting open the plates of material.
- (3) Assorting into sizes for different purposes.
- (4) Cutting out the teeth by means of circular saws worked by automatic machinery.
- (5) Pointing the teeth.
- (6) Stripping.

- (7) "Grailing" or filing the individual teeth.
- (8) Scoring.
- (9) Straightening.
- (10) Buffing or polishing.
- (11) Finishing.

Men have the heavier work in the section-cutting, slitting or parting, tooth-cutting, thinning and pointing, buffing or polishing, and finishing departments. Women and girls are employed in the assorting and packing departments, and in the lighter processes of most departments. As an example of the enormous productive power of the machines, it may be mentioned that by means of the "twinning machine" a man and a boy can cut out more than 2,000 combs a day, while an old-fashioned combmaker, working with his hand-saw, can only cut from two to three dozen combs daily.

#### Boys.

Lads are taken as learners for periods which vary from three to seven years, according to the individual capacity for training. The wages begin at 4s. a week, and are gradually increased to 20s. a week as a lad approaches 21 years of age. The working hours average 57 per week.

The wages of men depend entirely upon the nature of the work they are able to do; the less skilled workers get from 22s. to 25s. a week, and more skilled workers from 25s. upward.

#### GIRLS.

The wages to begin with are 1d. an hour, at which rate a clever worker may make 5s. a week. In some of the departments the wages are by piece-work, and in others by time-work. The maximum wage which a girl can earn by time-work is 12s. 9d. a week, but rapid workers can make more by piece-work.

**CORK CUTTING.**

	M.	F.		M.	F.
Glasgow,	134.	53.	Edinburgh and Leith,	30 + 31.	17 + 34.
Dundee,	11.	...	Aberdeen, . . .	15.	3.

Owing to the introduction of patent glass stoppers, cork-cutting is no longer the flourishing industry it was in former years. The firms that still remain exist in one place and another in virtue of having adapted themselves to the special local conditions. Some firms devote themselves mainly to fine work and specialities. These, as a rule, have no apprentices, but employ a fair number of lads, whose scale of wages is increased every year much in the manner of apprentices. Other firms, again, work along the old lines, and employ apprentices during a period of seven years. The greater part of the work is done by machinery, and is essentially light and healthy in character.

The apprentices or learners generally begin work at 14 years of age, and start with 4s. or 5s. wages, rising according to ability.

Men of over 21 years of age are paid at the rate of 25s. a week, and may, if they prove themselves very efficient, rise to 40s. per week. The slack season is in February and March, but employers can generally keep their men on. When unemployment occurs, the employers are of opinion it is probably due to irregularity on the part of the workmen, caused by sickness, or, far more likely, by too much football playing and inattention to work.

Employers regret that the younger lads so seldom attend evening schools or a technical college.

**CURTAIN AND BLOUSE CLOTH MAKING.**

	M.	F.		M.	F.
Glasgow,	148.	596.	Edinburgh and Leith,	3 + ...	25 + 22.
Dundee,	1.	7.	Aberdeen, . . .	2.	34.

There are a few factories in the Glasgow district that devote themselves to special lines of goods, such as

curtains and blouse materials. These employ men for the more responsible work, but the majority of operatives are women; the ordinary percentages in a factory employing six or seven hundred operatives might be 80 per cent. women and girls, 15 per cent. men, 5 per cent. boys. The working hours are 55 per week, 6 a.m. to 6 p.m., with two meal hours off, and 6 to 12 on Saturday, with breakfast hour off.

#### APPRENTICE MECHANICS.

There are always one or two serving their time as apprentice mechanics with the intention of remaining in the factory or going to other works as trained mechanics. They begin apprenticeship at 14 years of age, and receive 4s. or 5s. a week at first; the wage increases each year, and is from 10s. to 15s. a week in the fourth or fifth year of training.

#### BOY LABOURERS.

These are the boys who come at 14 or 15 years of age for temporary employment in most cases. The greater number help the men at the machines in the clip shop, and a few help in the preparing, beaming, and finishing departments. They receive 4s. or 5s. a week to begin with, and as there is little increase and no prospect of continuance of work, the boy helpers have to leave at about 16 years of age.

#### TENTERS.

While the weaving is done by women and girls, each of whom attends to two looms, the work for the loom is prepared by the tenters, who are the highest practical men in the factory, and rank like mechanics. They earn, in the Glasgow district, £2 10s. to £3 a week. They naturally wish to reserve this branch of work for fully trained men, and have resisted a proposal on the part of the masters to train boys in the factory both as

mechanics and tenters, so that they might afterwards serve the double purpose at wages for highly skilled work. At the most, however, only a very limited number of the boys who come to the factory at 14 could be trained in this way.

### WOMEN AND GIRLS.

The looms are light, and can be worked by women, but there is, in some localities, difficulty in getting girls to apply themselves sufficiently for the more difficult class of weaving. The girls begin as young as possible, and work for a short time under a teacher. They receive 4s. a week until such time as they can earn this amount by piece-work. On piece-work rates, and after several years of practice, an average wage might be 14s. a week. The highest wage paid on piece-work for the most difficult kind of cloth seems to be 20s.

---

### DAIRY WORK.

	M.	F.		M.	F.
Glasgow, 536.	1,310.	Edinburgh and Leith, 443 + 111.	655 + 138.		
Dundee, 120.	136.	Aberdeen, . . . 82.	115.		

### MESSAGE BOYS.

Boys of 10 and over are employed in delivering milk morning and evening, before and after school hours. The local Education Authority regulates the time at which the morning hours commence, usually 6 a.m. The wages vary from 1s. 6d. to 3s. 6d. per week. The hours are one or one and a half both morning and evening, and, in some cases, boys are kept in the shops all Saturday for general messages. There are always plenty of boys willing to do this work. Boys generally do this work till they leave school, and then go off to apprenticeship in the trade they choose.

## TOWN DAIRYMEN.

On leaving school, lads may be engaged as regular message-boys, mostly on van work, and get wages of 5s. to 6s. a week in Aberdeen and Dundee, 6s. to 8s. in Edinburgh and Glasgow. In many shops these lads are free after 4 p.m., and could well attend continuation classes. A number of them go to other employments at 15 or 16 years of age.

From 16 to 18 years of age lads assist with the vans and milk-carts, and do some inside work, such as can-washing and the care of boiler. The wages are 10s. to 12s. in the north, and from 12s. upward in the larger cities.

From 18 years of age they may be employed as carters or vanmen, or on inside work at the separator and cans, or as book-keepers. The wages begin at about 15s., and increase to 24s. or up to 28s. a week. Under-managers, who have the care of branch dairies, with separator and churner, receive from 28s. to 35s.

A manager, who has charge of accounts and all work in connection with the business, receives from £2 upwards a week.

The working hours vary in the different towns. In Dundee, for example, they are 6 to 5 on week days and Saturdays, and 6 to 12 on Sundays—altogether, with meal hours off, 59 hours per week.

## DAIRYMEN.

Boys are trained on dairy farms, where they begin with a wage of £6 half-yearly and food, and rise £2 yearly till £12 is reached. They are advised to attend evening classes at the Agricultural College.

Dairymen receive 15s. weekly with food, or 22s. without food. They have to cut grass, pull turnips, feed the cows, milk, and do general farm work, and to



be able to handle horses. They very often have the door-to-door delivery of milk with the vans.

It is difficult to get boys willing to take up this occupation. Managers and dairy farmers say that a much better class of men and boys would be obtained for dairy occupations if it were not for the Sunday work. Though the vanmen and boys, by making one round serve instead of two, are finished at noon on Sundays, there is dairy work till evening. One employer suggests that milk should be furnished to customers in sealed vessels. The present system of sending out milk in bulk leaves too much to the honesty of the men and boys, and also milk measured in the open air cannot be kept quite free from dust. Another suggestion is that boys might wear a smart uniform, not the soiled garments which belong to them, and that personal cleanliness should be more insisted upon. The Town Councils might exercise the power they possess, and enforce the regulations regarding the sale of milk. It should not be sold in grocery and vegetable shops, etc., as sometimes milk returned from such has been found to be tainted with the smell of onions.

#### GIRLS AND WOMEN.

Girls at school are employed on the same terms as boys for morning and afternoon delivery of milk. After they leave school, girls begin dairywork as messengers and can-washers. They are paid 4s. to 6s. to begin with, and increase as they gain experience.

At 18 years of age smart girls may be taken as shop assistants, and receive 9s. or 10s. a week to start with, rising to 15s. and 16s. as they become more capable. The wages to young women at can-washing and general work are from 11s. to 13s. per week. The town shops are open from 7 a.m. to 6 or 7 in the evening, and from 8 to 10 or 9 to 10 on Sunday mornings.



## DAIRYMAIDS.

Dairymaids are employed in churning butter and sterilizing milk; in the summer months, when most customers are on holiday, they make a large quantity of cheese. In some towns they accompany the men on delivery rounds.

## DISTILLERS AND SPIRIT MERCHANTS.

	M.	F.		M.	F.
Glasgow,	259.	3.	Edinburgh and Leith,	116 + 9.	2 + 3.
Dundee,	3.	2.	Aberdeen, . . .	32.	1.

The very large Scotch distilleries are scattered throughout the country, on Speyside, in Argyleshire, and other parts. In Glasgow there are only three distilleries. The work to be done in the towns in connection with spirituous liquors is chiefly at the *bonded stores* or *duty free warehouses*, where the casks are stored for long periods, and in the *duty paid warehouses*, to which the spirit is taken when it is ready to be sent to the retail trade. The wholesale spirit merchants have always the two warehouses.

## Duty Free Warehouses.

## UNSKILLED WORKERS: BOTTLING AND VATTING.

There is no apprenticeship, but lads enter the warehouse at about 16 years of age, and if they do well and remain steady, they are retained as men. The hours worked are 56 per week, and the wages begin at 5s. a week and increase gradually; the rate of increase is higher in the South than in the North. At 21 years of age a young man might receive 18s. to 21s. in the North, and 20s. to 25s. in the South.

A lad begins in a "bonded store" by doing messages about the warehouse, and helping to turn out the casks.

each day in the vatting department. The stronger lads are put to this department, as the work is heavy. Written instructions are given every day, stating the casks to be selected for "starting"; the bungs are removed, and the spirits from different casks blended, and the casks returned again to the store.

The work in the bottling department is not quite so heavy, and very often girls are set to help the trained bottlers in place of lads.

A foreman is in charge of each of these departments, and may receive, according to experience and work, from 30s. a week to £3 or £4.

Other unskilled workers are employed in the portorage work and in nailing casks and helping the vanmen.

*Vanmen* are paid at the ordinary rate for heavy van work.

### SKILLED WORKERS.

A number of coopers are steadily employed in such warehouses; and in the large Glasgow firms, casemaking by automatic machinery is done on the premises under the supervision of trained machinememen.

### GIRLS AND WOMEN.

In the large warehouses, 150 to 200 girls are employed in labelling. There are sometimes 10 to 14 tables, with 15 girls at each table; and even small warehouses employ a few girls at labelling.

Others are employed in washing bottles and helping the bottlers.

The range of wages in the North is from 8s. 6d. as a starting wage to 10s. and 12s. for older workers; in the South they earn 12s. to 15s. The work is steady: there is no seasonal slackness.

**Duty Paid Warehouses.**

The work here is chiefly that of filling casks and jars, and helping the vanmen to load and unload. The wages are 18s. to 22s. a week.

**DOMESTIC SERVICE.****Indoor Men-Servants in Hotels, Clubs, Restaurants, Institutions, and Private Houses.**

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Domestic Coachmen				
	and Grooms, .	219	460 + 59	60	52
	" Gardeners, .	72	120 + 51	61	72
	" Gamekeepers, .	8	16 + 2	3	8
	Indoor Servants in				
	Hotels, etc., .	235	145 + 19	49	58
	Other Indoor Servants,	119	343 + 19	30	12
	College, Club, Institu-				
	tion Attendants				
	and Caretakers, .	724	497 + 39	119	175
	Total,	<u>1,377</u>	<u>1,581 + 189</u>	<u>304</u>	<u>395</u>
Female :					
	Domestic Indoor				
	Servants, .	16,241	17,847 + 2,160	1,938	4,107
	" in Hotels, Lodg-				
	ing Houses, etc.,	577	410 + 26	98	137
	" in College, Club,				
	Hospital, and				
	Institution,	450	398 + 23	100	174
	Charwomen, .	2,960	2,156 + 210	239	496
	Caretakers, .	176	299 + 21	34	78
	Cooks, .	148	113 + 18	10	24
	Others, .	46	14 + 1	3	6
	Total,	<u>17,638</u>	<u>19,081 + 2,249</u>	<u>2,183</u>	<u>4,526</u>

**(a) IN HOTELS AND OTHER PLACES OF RESORT.**

*Page boys* are preferred fresh from school about 14 years of age. They must be smart, polite, and of

pleasant address. They open the door and help generally. In hotels they get 2s. 6d. a week, but may make 10s. to £1 in tips. In private houses they get 3s. 6d. to 5s. a week. In both cases uniform and board are included. A good page boy may be promoted to be elevator attendant, with 8s. or 10s. a week. He may also be put into the office, with 6s., and, if smart, may rise to 25s.

In addition to his duties at the door, a page has, in many hotels, to wait on the servants during meals, and a boy that shows smartness and aptitude may be promoted to be waiter.

*Waiters* in hotels get 10s. to 25s., all found, and tips. In restaurants they get 10s. and food, but have to sleep out. For a day's engagement 7s. 6d. to 10s. is given, and 30s. to 40s. for a week's engagement. The demand is greatest during the tourist and shooting seasons.

*Boots* get 10s. to 12s. and tips, sometimes as much as £1.

*Billiard markers* in clubs and hotels receive 10s. a week with food, lodgings, and tips.

*Chefs* have to serve a five years' apprenticeship. Wages begin at 2s. 6d. or 3s. 6d. Some hotels take premium-paying apprentices, and give them a training of three years. A chef may receive anything from 30s. a week to many hundreds a year. It seems regrettable that so few Scotchmen train themselves for this work.

In hotels, food and lodgings are provided for all. It is usual also to give one night a week and a half-day on Sunday taken in turn, but the hours are very long, and the higher the position the longer become the hours. Some hotels give a fortnight's holiday with wages to their regular hands. The busy time is summer, when it is often difficult to get sufficient extra hands, and when all may expect to increase their wages considerably by tips.

In addition to hotel appointments, there are many good openings for cooks on board the large liners, smaller trading vessels, and trains. On board ship, men are also employed in laundry work.

*Scullerymen* have to attend to the kitchen fires, and clean the pots and coppers. The wage is generally 20s. a week, all found.

(b) ASYLUM ATTENDANTS.

A usual wage is 10s. a week, with clothes and board. If good men, they may get posts in other asylums. The conditions in one of the large asylums of Scotland are as follows:—

Men begin at £30, with board and lodging, and rise £1 a year till they have £45. They require to be very steady, reliable men, and must be teetotallers. They work  $13\frac{1}{2}$  hours a day, with  $3\frac{1}{2}$  hours off for meals, and occasionally have night duty. They are allowed a fortnight's holiday in the year.

(c) IN PRIVATE HOUSES.

*Footmen* begin as page boys with £10 a year, uniform, and lodging; their wages increase to £20 or £30.

*Butlers* begin with £30, and rise to £100, with board and lodging; £60 to £100, with house, coal, and gas.

**Outdoor Men-Servants.**

*Grooms* get about 10s. a week and all found; or 18s., and have to find their own food and lodging. They often get one suit of clothes a year.

*Coachmen* get from 20s. to 30s. a week; £60 to £70, with house, coal, and gas, and one suit a year is a usual wage. They ought to be smart and steady men.

*Chauffeurs* are paid much as grooms and coachmen. It is not necessary for them to be trained engineers. A

handy man who has spent a year or so in a repair shop or in a shop which builds motor bodies is very often able to acquire sufficient knowledge to drive a car. Then his success depends on his steadiness and ability to keep his car in good working order.

*Gardeners (domestic).*—An ordinary wage for a gardener in domestic service is 30s. a week, with house, coal, and light. A head gardener, with several men under him, may get considerably more, and there are a few openings as head gardeners in towns where good salaries are given.

An assistant gardener gets about 18s. a week, with house, coal, and light. (For training, etc., see also “Nurserymen,” p. 219.)

### Women-Servants.

The outstanding advantage of domestic service over most industrial occupations that are open to girls on leaving school is that it is the best means of training a girl to the various kinds of work she may one day be called upon to do in a home of her own. A girl who has spent a few years as a servant in normal middle-class homes is much more likely to make a capable wife to a working man than a girl who has spent these years in factory work. In reckoning the actual money value of domestic service, one has not only to add a definite equivalent for the board and lodging that is provided, but has also to keep in view that the work is healthy, natural work, calculated to develop the body in the most favourable way, and expertness in such work can be turned to account throughout a woman's whole future.

Any well brought up, tidy girl of 14 will have little difficulty in finding a light place where she has to assist with housework and the children, and will receive a wage of from 10s. to 12s. a month. In a year



or two she may pass into more responsible situations. If possible, a girl of 14, in engaging herself, should ask to be allowed sufficient time on two evenings a week for attendance at evening classes for domestic work of various kinds, and she would probably be allowed to have, in addition, a little time off on Sundays. Where technical colleges have been established, there usually are arrangements for afternoon classes, so that option of attendance at afternoon or evening classes is then possible. Any girl who thinks of entering domestic service ought first to acquaint herself with the facilities offered in the locality for systematic training in domestic economy, and should carefully consider whether she could arrange to take courses of work previously to entering service, or how she could best combine service and special classes.

The wages given to well-qualified domestic servants are rather higher in Glasgow and Edinburgh than in Dundee and Aberdeen, and there is a wide range in all cases, according to the efficiency and experience of the individual worker. The general range in the towns may be indicated here:—

General Servants . . .	£16 to £24 a year.
Kitchen or Scullerymaids . . .	£12 to £16 „
Laundrymaids . . .	£14 to £22 „
Housemaids and Tablemaids . . .	£14 to £28 „
Nurses . . .	£12 to £24 „
Nursemaids, with “ Kindergarten ” knowledge . . .	£20 to £30 „
Cooks . . .	£16 to £30 „
Ladies’ maids . . .	£20 to £30 „
Housekeepers (private houses)	£20 to £40 and upwards.

The wages given in country houses are generally higher than in the towns. Professional cooks or tablemaids, who take engagements by the day or the week,



receive higher sums for their services, from 5s. or 7s. 6d. per day upwards, with board.

*Caretakers*, of the class of women who have been in service in younger days, are put in charge of offices, shops, lodges, etc., and receive remuneration that varies from 8s. to 12s. a week, or the equivalent.

*Charwomen*, washerwomen, and ironers, as occasional workers, have been included in the census numbers given above. They are paid from 2s. to 3s. per day, with food and car money.

## FARM WORK.

### Farm Workers in Scotland (excerpt from Census of Scotland, 1901).

		M.	F.
Labourers	Farm Grieves, Foremen, . . .	4,650	5
	Cattlemen, . . . . .	11,617	4,956
	Horsemen, . . . . .	34,352	4
	Not otherwise distinguished, .	27,825	14,836
	Farmers, Graziers, . . . .	45,573	7,822
	Sons and daughters or other relatives assisting in the work of the farm, . . .	17,550	12,402
Total, . . .		<u>142,567</u>	<u>38,025</u>

The numbers given in the last census of Scotland show that the proportion of farmers and farm workers to the total number of occupied males in Scotland is 9·5 per cent., and the proportion of farmers' daughters and women farm servants to the total number of occupied females is 6·4 per cent. If one compares the number of men engaged in the fishing industry, their proportion to the total number of occupied males in Scotland is only 3·6 per cent.

It not infrequently happens that towns' lads take a fancy to go to farm labour, and offer themselves at the

“feeing market,” which is held in market towns every six months, in May and November. If engaged by a farmer, a lad of 14 or 15 will probably be promised his board and a wage of £5 for the first six months,\* and he will be expected to help about the farm, sometimes with an experienced cattleman or horseman, sometimes in dairy work. In the dairy farms within a six or seven-mile radius of the large towns, active lads often help in milking, as it is becoming steadily more difficult to secure women servants who will undertake the early morning work in the byres.

If a lad does well in the first six months, the farmer will probably re-engage him at a slightly higher wage for the next six months—say, about £7 for the half-year. The same kind of work is continued; the lad may, however, in a little time be given full charge of the “orra beast,” or odd horse in some farm where two or three pairs of horse and an odd one are kept. With this extra horse the lad is set to such jobs as driving turnips to the farm-sheds, where they are stored for the use of cattle in winter, driving the stacks to the threshing mill, the dung away from the byres, or, possibly, the milk-cart to and from the town.

In summer-time he helps in the fields, “singling” the turnips, and hoeing and cleaning them; and, during harvest, “lifting” and tying the corn into sheaves. “Lifters,” as they are called, are only required on small farms where a back or manual delivery machine is still used; the machine almost universally used in larger farms is a “binder,” which carries out the whole process of cutting, lifting, and binding the sheaves. The building of the sheaves into “stooks” or “stacks” is always work for an experienced man, as much depends on successful setting of the sheaves.

---

\* The wages in the following statement are based upon Aberdeenshire conditions; wages are, as a rule, higher in the South.

A lad of 16 years of age, who has had a year's good experience on a farm, and is strong and capable, will find himself in considerable demand for farm work; he can readily command from £7 to £9 in the half-year, all found. He then usually turns either towards the direction of horseman or cattleman. If he wishes to be a cattleman, he may have 8 or 10 cattle put under his charge, and have to feed and tend them, under the supervision of the head cattleman. In addition, he helps in farm work as it comes. If he prefers the work among the horses, he may, in a short time, be given a pair of horses under his care, and at 17 or 18 arrives at the status of "third horseman," with about £13 or £14 in the half-year. From that he rises to "second horseman," when he may be receiving £15 in the half-year.

The farm-servants have a sleeping chamber in some of the outside buildings, but they usually have their food in the farm kitchen. In the rarer cases where they prepare their food in a bothy, they are given meal and milk.

### SPECIAL CLASSES.

It is seldom that lads engaged on farm work can arrange to attend any evening classes, although these are now fairly well distributed among country parishes. The best means of increasing their general knowledge of agriculture would be by adopting something like the seasonal system in Denmark of alternating the practical work of the farm and the teaching of the schools.

A system of occasional teaching has been started in connection with the leading Agricultural Colleges. Local men are employed by a college to go through the parishes of a district and hold a class for eight or ten nights on their special subject. The "itinerant teacher" of *agriculture*, for example, in this way brings to the young farm-servants some knowledge of testing

of seeds, surveying, the use of the theodolite, etc. The farmers find good results from this occasional teaching, and the Education Department is encouraging it. By this means, also, such teachers are brought in contact with the lads, and, when they see any lad specially capable, are in a position to guide him as to the possibilities of getting a bursary, and being enabled to take the two years' complete course in an Agricultural College in agriculture, agricultural chemistry, veterinary hygiene, and botany.

For a young man who gains the diploma of a college, there are wider prospects, as he may apply for various posts, such as land steward, manager, or working grieve in the service of landed proprietors.

An industrious and steady farm-servant may also make a way for himself, and may quite possibly become a first horseman or foreman, with £18 in the half-year and his board, by the time he is 20 years of age. If he marries, he is then given a cottar's house. Farmers prefer their first horsemen to be married, as they are less inclined to shift from place to place. The most deserving of these men on large farms may look forward to being made a working grieve or foreman, with £30 to £40 a year, and house, garden, meal, and milk. Naturally, the sons of such men, who grow up in the midst of farm life, have the advantage of towns' lads in beginning as farm-servants at 14 years of age, but farmers say many of their best servants have been town-bred lads who have had a distinct natural bent for farm work.

## WOMEN.

The demand for women as servants at a farm is much greater than can be met. Girls of 14 are often taken to assist in the housework and with the children; as they grow older, they learn the kitchen work, and milk the

cows, feed the poultry, make the butter, and render other farm services.

A young woman of 20 who undertakes this work is given about £9 a half-year, all found, in Aberdeenshire.

---

### FIRELIGHTER MAKING.

The making of firelighters and boxes for packing them is a small industry that employs unskilled labour of boys and girls. The wages are 6s. a week to begin with, and they rise to 8s. after a little experience. But there is no prospect of advancement. Only one or two journeymen are required for the responsible part of the work; these receive 25s., and are the more permanent employees, while the boys and girls come and go.

---

### FIREWOOD MAKING.

In Dundee, lads from the mills over 16 years of age are sometimes employed in this work, and earn from 10s. to 16s. tending the machines. Men who bunch the sticks receive up to 20s. a week. In Aberdeen, young men over 18 are employed, and on piece rates a good worker may earn up to 22s. and 24s. a week.

In Edinburgh, no boys are employed in this trade, the work for ordinary dealers being done by men who are not physically fit for other and harder trades. The wages vary from 7s. to 18s., according to the work done. Both men and women bind the sticks, and are paid by piece-work— $4\frac{1}{2}$ d. per 120 bundles of sticks. Most of the men simply cart the wood or make up the bundles, a smart and better-paid man being taught to look after the chopping machines and saws.

The hours are 51 per week, but in summer the working hours are reduced, and some men paid off. Two meal hours are given.

Firewood-making is, however, in all large towns, carried on to a great extent under the parish councils, distress committees, and voluntary and charitable associations.

### FISHING INDUSTRY.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Fish Curers,	. 115	13 + 3	1	285
	Fishmongers,				
	Game Dealers,	484	223 + 47	106	196
	Total,	. 599	236 + 50	107	481
	Fishermen,	. 14	13 + 267	19	976
<hr/>					
Female :	Fish Curers.	. 43	20 + 6	...	913
	Fishmongers,				
	Game Dealers,	319	63 + 84	54	98
	Total,	. 362	83 + 90	54	1,011

Aberdeen is the chief centre of the fishing industry in Scotland. There is an important inshore bank of fishing that begins 25 miles south-east of Aberdeen and stretches northward. Trawl-fishing is done almost entirely from Aberdeen and Newhaven, and the building of trawl vessels forms the large part of the work in the shipbuilding yards of Aberdeen and Leith.

#### Trawl Fishing.

The trawling vessels or "trawlers" have each a captain, a mate or first fisherman, a second fisherman, one deck hand, or two if the vessel is over 97 feet long,



a cook, an engineer, second engineer, and fireman or "trimmer." In Aberdeen the number of vessels at present is about 210; in Granton and Newhaven, not more than 50, and as these are all inshore boats, the wages are lower than in Aberdeen. The following statements are based upon the trade conditions in Aberdeen.

The vessels are owned by a number of companies, whose directors appoint the captains and first engineers. The salary of a captain is usually fixed at a certain proportion of the net profits of the fish brought by his vessel; when in port the captain and the first engineer of an Aberdeen trawler receive 6s. per day.

The crew of the vessel is engaged by the captain, and the engineer engages the second engineer and fireman. There is a fixed scale for the proportion of the profits to be given to each man.

All members of the crew except the cook pay for their share of the mess. When in port the mate and second engineer receive 5s. per day, the second fisherman 4s. 6d., and the others 4s. each per day.

There is no apprenticeship in this industry. A lad of 15 or 16 years of age is taken as cook or as deck hand. If as deck hand, he is given 5s. a day, out of which he has to pay his share of mess, amounting to 1s. or 1s. 2d. a day. If he undertakes the cooking, as is very common, he gets 3s. 6d. a day, his food, and any perquisites, such as discount on purchases made and tips from the captain and crew. Deck hands and cooks receive a bonus on the result of each trip.

A steady lad may soon be able to be second fisherman, with a daily wage of 5s., and an allowance of 4d. per £ on the net balance of profits, if the vessel is 97 feet long and under; if the vessel is over 97 feet long, the allowance is 3d. per £ on the net balance. The fireman receives 5s. a day and a bonus on the result of the trip.



The engineers have fixed wages; chief engineer, 8s. 4d. a day; second engineer, 6s. 6d. a day. The captain and mate are paid by results. The net profits of the boat are divided into 14 shares, of which  $1\frac{3}{8}$  are given to the captain, and  $1\frac{1}{8}$  to the mate.

The working hours are quite indefinite—all that can be said is that about 50 inshore trawlers work two trips a week, and are always in port on Sunday. The others stay out as they wish—7, 10, 14, 18 days, and so on.

The prospects for a steady, hard-working lad are excellent in the trawling industry. The temptation to intemperance is the chief stumbling-block in the way of advancement. A reliable lad that knows his work and pays attention to it, and adds to his practical knowledge by study at a navigation college, can, in a very short time, pass the necessary examination for mate and master, and be a captain, earning £400 a year.

Various certificates of competency are issued to fishermen under Part IV. of the Merchant Shipping Act, 1894.

- (1) Certificates for skippers and mates available for all fishing boats specified on the certificate.
- (2) Certificates for skippers and mates available only for steam fishing boats of the class specified on the certificate.
- (3) Certificates marked "Limited Examinations," for men whose practical experience is limited to the neighbourhood of their own port. This examination is entirely oral; it does not include reading, writing, or arithmetic.
- (4) Extra certificates signifying higher qualifications attested by farther examinations.

The applicant for examination as mate or "second hand" must not be less than 19 years of age; as skipper,

not less than 21 years of age. These examinations include reading, writing, and arithmetic; colour and form vision tests; practical seamanship, hand lead line, deep-sea lead line, charts, compasses, and civil duties.

All information regarding the places and subjects of examinations can be obtained from the Superintendent of the Mercantile Marine Office at any large port.

### Line Fishing.

Line-fishing goes on actively all round the Moray Firth and from most of the East Coast seaports. Aberdeen is one of the principal centres; about 40 or 50 steam liners go out from Aberdeen and carry on the line-fishing all the year round. In addition, there are about 30 yawls or sailing-boats for line-fishing, manned usually by five fishermen, who own the boat, and are on an equal footing. There are many weeks when a large haul may be made, others when nothing is made. There is no trade organisation in the line fishing, hence no certificates are demanded from the fishermen. The liners try to get into port over Sunday.

The general arrangement in regard to payment is that from the gross earnings of the boat all the working expenses are deducted, including coal, oil, harbour dues, commission, and the wages of engineer, fireman, and cook. The net earnings are then divided in two halves, one-half going to the crew in definite proportions and one-half to the boat ownership.

The ship's boy usually starts at 17 or 18 as cook-boy, at about 5s. a day. The wages of the engineers and firemen are much the same as are given on trawlers. There are usually four or five fishermen, including the captain, who, if he has a larger share of the boat, gets the larger profits, but all the fishermen bring their own nets to the boat. Very often a "liner" is owned by several members of the same family.

### Herring-Fishing.

The herring-fishing fleet, which includes a number of the ordinary trawlers and liners, shifts its base from place to place in the course of a year, according to the movements of the herring. The captain of a vessel is very often the owner, and in that case the men he employs receive a percentage on the net earnings of the vessel. A considerable number of the vessels belong to companies, and the custom has been to allow one-third of the net earnings to the crew, one third to the company, and one-third for the upkeep of the nets. Lately, however, the companies have felt it necessary to give a rather smaller share to the men. The wages of the engineers, firemen, and cooks are always deducted before the earnings are divided. Where captains are engaged for herring-fishing vessels, the average payment is £5 or £6 per week.

The herring-boats start from Aberdeen for Stornoway on the 1st January, and fish in the north-western waters until the end of February, when they return to Aberdeen. On 1st May the boats again go to Stornoway and Castle Bay, and fish there until the beginning of June, when they go to Shetland, and move about in different areas in the North until the end of August, when they again return to Aberdeen. Another fleet of 30 to 40 boats go to the herring-fishing off the north and south coasts of Ireland in April and May.

A large fleet of herring-boats is made up in Aberdeen in the end of May or early in June for the East Coast fishing. These boats come from several ports—Inverness, Banff, Kirkcaldy, Methil, and Leith—to Aberdeen as their base for the time. Still larger fleets are also made up at Fraserburgh and Peterhead, and a few boats start from Montrose. The Scottish fishing continues until the end of August or second week of September.

All the steam drifters, and half the sailing boats

belonging to the Scotch herring-fishing fleets, then proceed to Hartlepool and Scarborough, Great Grimsby, and Yarmouth, and fish off the English coast. The fishing off Durham and Yorkshire continues until the first week of October. But many of the vessels remain off Grimsby and Yarmouth until the first week of December, when they return home. The English vessels continue fishing at Yarmouth and Lowestoft until Christmas.

### **Fish Salesmen and Buyers.**

Owing to the bonus system and payment of the crews by results, a strict code of rules has been drawn up by the Aberdeen Conciliation Board to control all outlays connected with the vessels' expenses and dues, and with the sales and despatch of fish when brought on shore in Aberdeen. "All fish (excluding livers and roes, which shall be a perquisite of the deck crews) shall be sold. From the gross price realised there shall be deducted:—

- (1) Salesmen's commission, at the rate of 5 per cent.;
- (2) Fishbuyers' discount, 2d. per £ on said gross price;
- (3) Boxes used for the fish landed, 1d. each box;
- (4) Cost of labour in handling the fish till they are taken over by the buyers;
- (5) All ice and coals required for the trip on which the fish were caught;
- (6) All harbour, market, and water dues;
- (7) The cost of watching, dan outfit, baskets, and stores."

Fish salesmen must have good voices, as they have to conduct their sales in the busy fishmarket. They receive a regular wage in addition to the commission on

the sales. Experienced salesmen are given £4 to £6 a week, and junior salesmen from 28s. to 30s. a week. Many of them soon make money, and buy vessels for themselves.

#### TRAINING OF LADS.

Boys of 16 who wish to be fish salesmen apply to some of the owners of fishing vessels. They are usually put to office work for one or two years at terms of 7s. 6d. a week to start with, and promise of increase if they prove capable. After the period of office work they accompany a salesman to the market, and take charge of the accounts, noting the quantities and prices as the fish are sold. This gives them an opportunity of getting to know the different kinds of fish, their seasons, the qualities looked for by different buyers, and many other practical points. In time they are allowed to sell the fish of inferior quality, and, if they prove successful, they are sure to get plenty of good openings.

Fish buyers for the British and foreign trade have to gain their experience in the daily market. The Aberdeen buyers have a wide connection, and require sometimes a staff of "confidential clerks" to book the prices and conduct correspondence. There is an increasing demand for "girl clerks," as buyers say there is a tendency among lads to leave after a time and take advantage of knowledge gained in the office.

In the herring-fishing season, salesmen and buyers are sent as agents by firms to the station used by the fishing fleet. The sales and purchases are conducted on the spot, and despatch is carried out with the utmost celerity.

#### Fish-Curing.

##### HERRING-CURING.

In herring-curing works girls are employed for

gutting and packing the herrings, and boys go through a regular apprenticeship of four years to do the cooperage work required. All the "gutters," and a number of the coopers, are taken from station to station as the fishing fleet moves on, and do their work on the spot.

#### COOPERAGE.

Apprentices receive 5s. a week to start with, rising to 6s., 7s., 8s. a week in the successive years of training. After training, they are paid by piece-work, and can make 30s. a week. The younger coopers go round to the fishing stations and do cooper work or help with the gutting. The barrels are made chiefly in the home season, when the fishing fleet returns to port.

#### BOYS AND MEN.

Intelligent, active boys are always in request for office and general work, and receive 10s. a week to start with, rising according to efficiency. They then enter various departments as trained men, and, if they are capable, may be selected as foremen of departments or expert buyers, in which case good salaries are given.

A number of trained men are constantly employed in different departments, and earn weekly wages of 30s. upwards, or much more in the busy season. Extra hands have to be employed then, and men come for the sake of the temporary run of good wages from all manner of occupations—joiners, masons, shop assistants. They can usually get work along the line they have been accustomed to. Such men receive from 22s. up to £2 a week. Ordinary labourers are paid at shore-labour wages.

#### WOMEN AND GIRLS.

The girls selected by fishcuring firms are strong, active, and clean-looking. The work is hard, and the



hours are indefinite; there is no restriction of the working hours per day for the women and girls whose work is amongst fresh wet fish. The Factory Acts only place a time restriction in the case of girls working at fish when smoked or dried. The average number of hours worked in the herring-fishing season is said to be 50 per week, with two meal hours each day, one on Saturday; but there is necessarily some uncertainty, as the herring have to be salted and pickled quickly in hot weather.

It is usual for an employer to give a girl a retaining fee on engaging her for a season's work. The fee may be several pounds, and represents advance part-payment of wages.

The best class of girls are those who come from small towns and villages along the coasts. The most of them are between 16 and 21 years of age. When they begin at 16, they receive 6s. a week for about two months; afterwards they are put on time wages— $1\frac{1}{2}$ d. an hour for beginners, rising by  $\frac{1}{2}$ d. an hour as they improve at their work. The maximum rate is 3d. an hour, and is obtained by a capable girl after a year and a half or two years of practice.

During the busy season payment is generally given by piece-work, and an average wage would be 14s. a week. The more expert workers can earn 16s. and up to 20s. a week.

The work done by the girls consists in opening, gutting, and cleaning the fish; or splitting, pickling, smoking, and tentering them, and putting them into kilns; then washing them, and tying them into bundles and packing. A girl usually remains at one type of work season after season. Some firms only engage girls who have learnt the work.

After the close of the fishing seasons, many of the girls are provided with steady employment in the fish-curing and provision works.



### Fishmongers.

There is no definite arrangement for apprenticeship; but it takes a boy about four years to become really expert.

A boy generally begins at 14 years of age, doing messages, and earns about 5s. a week in Aberdeen or Dundee to start with, but rather a higher starting wage is given in Edinburgh and Glasgow. In a year or two he may be put in charge of the van, and earn from 10s. to 16s. a week; or he may be given work in the back shop, skinning and dressing fish, picking poultry, etc. Those who have done the van work for a time may afterwards go to the back shop work. At this work lads start with wages from 15s. to 16s. upwards, and in Aberdeen rise to 20s. and 22s. a week. In the South, expert skimmers and dressers can earn from 30s. to 35s. a week.

Thoroughly trained men, if they are likely to be good at serving customers, are then promoted to the front shop, where the wages depend greatly on the extent of the business.

The hours average 60 per week, but may run to 66; the men take turns of getting away early at nights. One hour is given for dinner, and from half an hour to an hour for tea. In addition to ordinary trade holidays, there is a week's holiday in the year, and, in some cases, full wages are paid during the week.

---

### FLOUR-MILLING.

	M.	F.		M.	F.
Glasgow, 334.	18.		Edinburgh and Leith, 165 + 267.	3 + 4.	
Dundee, 20.	...		Aberdeen, . . . 90.	2.	

The system of milling in England and Scotland is exactly the same. The system is now entirely automatic

throughout—from the time the wheat is emptied from the waggons or lorries at the mill receiving hopper, it is never handled until it has been turned into finished products and filled into bags ready to go out.

In England, there are now many very large mills with extensive machinery, and in these apprentices are employed. Hundreds of small mills (country water mills) have been forced to shut down owing to the competition of these large mills. Yet, although machinery has replaced human hand labour, the increase of flour-milling capacity is such that more men are at present employed in the trade than ever before.

In Scotland, no apprentices have been employed since roller-milling was adopted some twenty years ago. But lads of 16 are sometimes taken for training at a wage of 8s. a week, rising by 2s. a week each year until he is 20 or 21. A skilled mechanic-miller is in charge of all the machinery; a skilled miller is in charge of the grinding. The other attendants are labourers who have shown an aptitude for the work, and have been trained for the machines.

There are plenty of men to be had for the work. A man is engaged to sweep the floor and do odd jobs; then he is employed in carrying up empty bags of wheat, or lifting heavy bags of grain, and so on, and may be promoted to machine work. Country-bred men are preferred, as they are usually stronger. Mill operatives start with wages of about 16s. a week; the wages of roller-men range from 22s. to 30s. for a week of 56 or 57 hours. Some millers employ their men 12 hours a day.

In most of the large mills employing from 70 to 100 men, there are not more than five or six well-paid situations for experienced men. A practical flour-miller may occasionally secure a well-paid post, and earn from £3 to £4 a week. Firemen, engineers, and warehousemen are paid from 22s. to 25s. a week.

There are no technical milling classes in Scotland. There are such classes in some of the large milling centres in England, such as London, Liverpool, Hull, and Gloucester. The well-paid posts in Scotland are so few that flour-milling offers little inducement for an intelligent artisan as compared with some of the skilled trades. The payment of work that is in itself distinctly laborious does not appear to be enough to encourage intelligence on the part of the men in charge of the machinery, and the hours of work are too long to make regular attendance at evening technical classes a practical possibility. One suggestion, given in "The Miller" (4th November, 1907), is that master millers should join together and erect certain mills in different parts of the kingdom (instead of urging so much technical training, which is all very well in its place), and let practical men pass through these mills to take their certificates.

#### UNEMPLOYMENT.

There are two very distinct seasons in the flour-milling trade—a busy season from September to the end of April, and a slack season from May to August, when there is little demand for feeding stuffs. Almost 50 per cent. of the men are then out of employment, and, as they have no special training they can only pick up casual work.

---

#### HACKLE-MAKING.

"Hackle-making" is the most intricate branch of jute, tow, and flax machinery, and may be regarded as a trade in itself. The work is almost entirely done by men and lads. In a typical Dundee hackle-making

factory, 75 men over 21 years are employed, 11 youths between 16 and 21, 14 lads under 16 years of age, and only 3 women. The intricacy of the work demands a long training, and it is said that a man could not be a complete, all-round hackle-maker, fit to be a manager of works, without 20 to 25 years in a hackle-shop. There is active competition on the side of millowners for well-trained hackle-makers; no class of jute workers get better prices for their work.

Boys are taken at 14, and begin at re-filling work; they receive 6s. wages for a week of 51 hours. Gradually they get on to a particular machine, and, as there is a bonus system, they easily advance, if smart, to 9s. 6d. a week in one year.

These young lads are only employed in one department. About 50 per cent. leave the factory when they get old enough to apprentice themselves as engineers, blacksmiths, bakers, etc. A fair proportion join the Army.

Youths from 16 to 20 years of age are placed in various departments, and when they attain a certain degree of proficiency their wages range from 12s. to 19s. a week. The prospects of increasing wages are so secure in hackle-making that these youths nearly all remain in the factory.

After 21 years of age, the wages increase according to ability. For less skilled work the time wage varies from 19s. to 28s. a week; for more skilled workers the time wage ranges from 30s. to 35s., and foremen receive from 40s. upward. One or two wire drawers may be required, and very skilled workmen can earn on piece-work as much as 60s. to 70s. a week.

The work is quite healthy, but demands energy and concentration. The grinding department might be unhealthy if not provided with good ventilation and good fans.

## HOSIERY.

	M.	F.		M.	F.
Glasgow,	37.	519.	Edinburgh and Leith,	17 + 3.	15 + 2.
Dundee,	1.	35.	Aberdeen, . . .	23.	550.

This industry in the larger towns is carried on almost entirely in factories at the present day. In Scotland the bulk of the work is in the hands of women and girls. There is always an ample supply of those, as the work is steady and healthy, and the wages are good. In a few cases, however, boys are employed on the same conditions as girls, and in the washing and dyeing departments some men are engaged. In Edinburgh, the number of men and boys now employed in hosiery manufacture is said to be about 60, and the number of girls over 200.

The various departments in a hosiery factory are:—knitting, winding, finishing, washing, and dyeing.

Knitting employs by far the greatest number of workers, the proportion being about fifteen knitters to one in each of the other branches.

Boys and girls are taken on at 14 years of age, but, as a rule, employers prefer that they should be a year or two older. No apprenticeship is required—a quick and intelligent learner will become proficient in a few weeks. In the knitting department one worker attends three machines.

The work is regular, and the hours are 50 per week, usually from 9 to 6, with a break of one hour daily; Saturdays, 9 to 1 o'clock. In the busy season—August to December—an hour overtime is often required. Wages start at 4s. or 5s. weekly until the learner is sufficiently trained to be put upon piece-work. For the first three or four years a young worker may make up to 10s. a week; afterwards, as an “improver,” wages of 15s. to 18s. may be earned. Expert women are said to be able to make up to 24s. a week on piece-work.

Capable men receive from £1 to 35s. a week, and may obtain very good positions in the large hosiery factories at Hawick, Leicester, Nottingham.

Eighty or ninety years ago, this industry gave employment to two thousand men in Glasgow, which was then its centre. Hawick gradually outrivalled Glasgow, owing largely to the convenience of getting the wool spun in the large mills of that district and other facilities associated with a textile industrial district.

The labour conditions of the trade were entirely revolutionised by the introduction of machine frames twenty years ago, and what now costs 5s. to produce formerly cost 80s. In the English centres of this industry, the men accepted the altered conditions, and turned to the power machines. They work the machines on piece wages, and are said to accomplish twice the amount of work done by women at the same machines. The same rate of wages is paid there to men and women.

In the Scotch centres the men ignored the new machines, with the result that girls were put to work them, and the trade became practically a women's industry in Scotland. At present, only about 5 per cent. of the factory workers are men, but more lads are now said to be entering the south factories. The piece-work rate, as fixed by the Englishmen's union, is taken as the standard for payment in Scotland.

The trade keeps extending. The demand for the goods is so great in Scotland that it has to be met largely from the English market.

The factory girl workers in the Scotch trade have not organised themselves as a union, but Scottish trade unionists would encourage the formation of a women's union, with a view to keeping up the standard of work and wages. It is thought that a union of the employees would also tend to keep employers together, and create a stronger centre of industry in Scotland.



In many of the smaller hosiery warehouses, machine-knitting, both of stockings and underwear, is done on the premises. The working hours are 49 to 51 per week, and payment is on piece rates. The average wage per week is about 12s.; the actual range is from 10s. to 16s. a week, according to the skill of the worker.

### INDIA-RUBBER GOODS MANUFACTURE.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	India-Rubber and Gutta-				
	Percha Makers, .	. 381	1,169 + 45	2	595
	Waterproof Goods				
	Makers, . . .	. 174	94 + 6	...	2
	Total, .	<u>. 555</u>	<u>1,263 + 51</u>	<u>2</u>	<u>597</u>
Female :	India-Rubber and Gutta-				
	Percha Makers, .	. 118	1,199 + 35	2	267
	Waterproof Goods				
	Makers, . . .	. 284	112 + 6	...	...
	Total, .	<u>. 402</u>	<u>1,311 + 41</u>	<u>2</u>	<u>267</u>

Edinburgh is the chief centre of this industry, although it is also actively carried on in Glasgow. It provides steady employment for several thousands of unskilled workers, about 60 per cent. of whom are men and 40 per cent. women; smart workmen are employed in the cutting-out department and as foremen in the making-up departments. A few mechanics, such as joiners, smiths, fitters, are also regularly employed in any large factory.

#### BOY LABOURERS.

Boy labour from the age of 15 to 18 is employed in



several departments. They begin as message-boys at about 5s. a week, and may rise to 8s. a week if any of the lighter portions of the work are assigned to them. The most of these boys leave before they are old enough to become fully paid workmen, but if they are strong, they usually get the opportunity of remaining.

A boy who wishes to be specially trained in any particular department, such as the cutting-out department, may work under the foremen there. He receives 6s. per week to begin with, and this wage is only slowly increased.

Boy labourers or strongly built youths of 17 or 18 who assist in the heavier work of different departments receive a wage of 8s., rising to 16s. or 18s. a week.

The working hours in some Glasgow factories are from 6 a.m. to 6 p.m., with  $1\frac{1}{2}$  hours off for meals; on Saturdays 6 to  $6\frac{1}{2}$  hours are worked—altogether, 56 to 59 hours per week. In others, again, the working day begins at 7 a.m., and sometimes not more than 50 hours are worked. The slack time is from January to April, and time is then reduced in most factories. The busy season is from May to December; but there are frequent fluctuations of trade quite independently of seasonal conditions.

#### MACHINEMEN AND LABOURERS.

After a few weeks or months of training, according to the department, the workmen get from 18s. to 24s. a week. The machinemen are usually selected from the labourers, although they may be taken from outside. Their wages rise to 30s., if they are particularly intelligent, good workers, although some of the machinemen are paid by piece-work. The foremen in most departments have been promoted. They receive from 30s. to 50s. per week.

The largest proportion of skilled men are required in

the cutting-out and coat-making departments. A youth in the coat-making department may begin with 6s. a week, and, after 12 months' training, may be able to make 20s. a week.

Girls are employed in the lighter work of this department. The head cutter must be an experienced tailor, and his wage is from £3 to £3 10s. a week upwards.

#### WAREHOUSEMEN.

A few warehousemen, with wages from 22s. 6d. to 27s. 6d. are required, and they are under the supervision of a foreman, who gets 35s. a week, or a little more.

A smart lad can learn the necessary work in all departments, and can fit himself to be an excellent foreman; he can be sure of work in some of the large factories. This is the chief prospect for capable workers.

#### CLERKS.

A few apprentice clerks are taken; they begin at 15 years of age, or a little more, and serve for three years, during which time they are paid £12 to £15 a year. There are no particular openings for them beyond that of increased responsibility and pay in the clerical department.

#### SALESMEN AND SALESWOMEN.

Salesmen usually go through a four years' apprenticeship, beginning at 15 years of age. The wages are 5s., 7s., 10s., 12s. 6d.; the working hours are 54 per week. Lads of good education are required, and they are recommended to attend evening classes in general English subjects and in book-keeping. Fully trained salesmen receive 25s. to 35s. a week. Saleswomen are engaged

as already trained shop assistants at wages from 15s. to 20s. a week.

#### GIRLS AND WOMEN.

The departments of work vary in different factories. In some departments girls of 15 are taken, and wages begin at 6s.; in others, again, there are no girls under 18 years of age. Some of the chief lines and the respective ranges of payment are:—

- (a) Waterproof garment making; wages, 6s. to 14s. per week.
- (b) Tyre department, where young girls and trained workers are employed in making cycle tubes and covers.
- (c) The making of engine packing is a department where the work-girls are all over 18 years of age; wages, 12s. to 16s. per week, with the chance of higher wages in the busy season.
- (d) In the asbestos department, the girls start at the carding machine, and work their way up to be spinners and weavers; the wages are from 7s. to 17s., and the ages of the workers are from 15 to 24.
- (e) Asbestos joints are made in another department, the girls being from 17 to 24 years of age, and wages 10s. to 14s. per week.
- (f) Girl machinists are employed for seams in certain classes of goods, and their wages are 12s. to 15s. per week.
- (g) The making of golf club cases, footballs, shoes, and other rubber goods is paid at similar rates.

The work is liable to fall off during the slack months, and wages to be correspondingly diminished.

## JUTE AND HEMP MILLS AND FACTORIES.

		Edinburgh and		Dundee.	Aberdeen.
		Glasgow.	Leith.		
Male :	Hemp, Jute				
	Manufacture,	42	1 + 10	9,201	94
	Canvas, Sail-				
	cloth, etc., .	62	39 + 50	81	82
	Total, .	<u>104</u>	<u>40 + 60</u>	<u>9,282</u>	<u>176</u>
Female :	Hemp, Jute				
	Manufacture,	285	6 + 11	23,976	506
	Canvas, Sail-				
	cloth, etc., .	105	14 + 117	774	162
	Total, .	<u>390</u>	<u>20 + 128</u>	<u>24,750</u>	<u>668</u>

Dundee has for the last 60 years been the chief centre of the manufacture of jute fabrics. This industry is also represented in Aberdeen by one factory, where strong canvas sacking is made. The working hours are 55 per week, from 6 a.m. to 6 p.m., with two meal hours off, and on Saturday from 6 to 12, with one meal hour off.

The various departments of work are:—(a) preparing, (b) spinning, (c) reeling and winding, (d) weaving, (e) finishing, (f) sack-sewing.

(a) *Preparing Department*, where the closely-packed jute fibre is opened out and loosened, and large handfuls are separated out by women “batchers,” and fed into a powerful machine for softening and mangling the jute. Further machine processes of carding or teasing-up and mixing the material are gone through, and the broad, continuous “bands” of fibre are then drawn out lengthwise in drawing-frames. Two or more bands are combined in this process, and are together drawn over a series of bars set with steel-pointed gills or “hackles.” Thus combed, straightened, and equalised, the material is more tenacious, and is ready for the “roving” frames, where the attenuated ends are twisted into “rove” and

wound on "rove" bobbins ready for the spinning department.

The drawing-frames are mostly worked by women, and the "roving" is sometimes done by men, sometimes by women.

Boys of 14 or 16 years of age are kept busy taking off the full bobbins of "rove" thread and replacing them by empty bobbins. These are the "shifters"; and boys begin at this work, or at sewing the "bands" or "lifts" in the preparing room, at 6s. a week; but the wage rapidly increases to 9s. or 10s.

Both men and women are employed in the preparing rooms, and there is no fixed limitation of work suitable for the one or the other. Lately, some of the Dundee mills have been employing men instead of women as "batchers"; others are putting women to what was work of men or boys—*e.g.*, rove-carts and rovers.

The wages of women in this department average about 9s. 6d.; men receive 11s. to 14s.

The dust in the preparing department is disagreeable, and is said by the operatives to act as a throat and chest irritant.

(*b*) *Spinning Department*, where the rove is spun into yarn, with a harder twist for the warps and a softer twist for the wefts. The spinning-frames are worked by women, but a few lads are occupied in carrying away the warp and weft yarns.

*Girls* of 14 years of age begin in the spinning rooms with 6s. a week. Spinning requires several years of practice, and must be learnt young. When trained, spinners get 9s. 1d. a week as a starting-wage in Aberdeen, but clever spinners can often make 10s. 6d. to 14s. 6d. by extra work. In Dundee, the wages of spinners vary from 9s. 4d. to 15s. 4d.; about 10s. 6d. or 11s. may be taken as a good average. The actual wage that can be earned varies with the weight of the

yarn spun, those working the heavier qualities receiving rather more. What is still wanted is a standard rate for the different weights. Then, again, a spinner working two frames receives more than a spinner at a single frame. The two-frame spinner may be receiving from 13s. to 15s., and even 16s., when the single-frame spinner in the same mill receives 9s. 9d., 10s. 4d., or 11s. 6d. In Dundee, the common rate is about 11s. 9d. upwards.

(c) *Reeling and Winding Department.*—The warp yarns are sent to the spooling machines, or are reeled into hanks and bundles, and sent to be bleached or dyed. The weft yarns are wound by machinery into “cops,” ready to be placed, one at a time, into the weaver’s shuttle.

This work is done by girls, and is paid on piece rates; the earnings are from 10s. 6d. to 17s. Forewomen are paid from 14s. to 17s. a week.

(d) *Weaving Department.*—The preliminary complex part of the work in this department is the setting up of the warp. Spools of warp yarn are arranged on large frames, and many hundred threads may be drawn through reeds to keep them at equal distances, then through heavy pressing rollers, where they are starched. After a drying process on hot cylinders, the yarn is run on to a yarn beam or roller. Several section-blocks of yarn may have to be bolted together to arrive at the necessary width of web required.

Each pressing machine is, as a rule, attended by one man and an assistant. The men receive about 20s. to 25s. a week, and the youths of 16 to 18 years of age, who assist them, receive about 8s. to 12s. a week.

The web is then drawn out from the beam on a leasing comb to keep the thread in order, and the threads are passed through a complicated system of combs and reeds adjusted according to the closeness of



the material required. The beam is then ready to be fixed in the weaver's loom.

The "tenters," or loom attendants, are responsible men who have charge of a set of looms. They fix the yarn beams into the looms, and hand over to each weaver the adjusted web of warp yarn, and the necessary supply of weft "cops" for the shuttle. The tenters earn from 30s. to 35s. a week.

In the weaver's loom the weft shuttle passes between the threads of the warp, the latter being automatically lifted, or remaining in position, according to the pattern desired and the corresponding pre-arrangement of the threads in the combs and reeds.

The weaving is nearly all done by women. They have to watch the threads and prevent them from getting into disorder, or join them if they break. The pattern of the material has to be kept accurate to a nicety, and no irregularity or stoppage of action of the "cams" must be overlooked. If the shuttle is not self-filling, they have to keep it full, and they have to watch that the threads are driven into position by the loom, and that the cloth passes straight to the loom-roller.

Learners in the weaving department may receive no wages at first, or may be allowed a small sum per week. At the end of six months they generally get a loom of their own, and may be able to make 6s. to 8s. a week; after long practice, they make 12s. to 15s. wages on piece-work. In Dundee, a good average rate is 14s. a week.

(c) *Finishing Department*.<sup>\*</sup>—The web of jute material, when removed from the loom-roller, passes first through the hands of a clerk, who notes the quantity coming from each loom. It is then taken to the finish-

---

<sup>\*</sup>The calenderers and finishers form a special group of workers in connection with the textile industries. The 1901 census for Scotland gives the numbers of calenderers and finishers in Dundee at 861 men, 71 women; in Glasgow—289 men, 355 women; in Edinburgh and Leith—37 men, 10 women; and in Aberdeen—19 men and no women.

ing department, where any rough or loose fibres are attended to, and the material is damped, calendered, and mangled. The prescribed lengths are then measured off, and made up either for the sewing department or for despatch.

The *calender workers* are men and lads. A responsible man in charge might receive 30s. a week, but the average wage is about 20s. a week. The youths who assist the calender workers receive from 12s. 6d. to 18s. a week. "Lappers," who make up the lengths of material, receive about 21s. in Dundee. "Packers," who make up bales, receive about 18s.

(f) *Sack-sewing Department*.—The sewing is almost all machine-sewing, and is done by women and girls. They are paid on piece-work, and the range is wide—from 7s. to 20s. a week, according to skill. A good average wage is about 15s.

#### SKILLED MECHANICS AND APPRENTICE MECHANICS.

Lads who intend to be factory mechanics undergo their apprenticeship in the factory for five years, and receive wages of 4s., 5s., 6s., 7s. 6d., and 9s. a week in the successive years. It is made a rule that they should attend continuation or technical classes in machine construction, applied mechanics, and allied branches. Afterwards, as skilled mechanics, they earn 29s. to 33s. a week.

Hackle-makers, joiners and woodturners, firemen, porters, labourers, warehousemen, watchmen are the other male employees required in a large jute factory.

The term *mill* work comprises the preparing, spinning, and winding departments concerned in the manufacture of the finished yarn; *factory* work refers to the weaving department and the further work connected with the woven material.

From the indication given above of the general

distribution of work and rates of wages in the jute mills and factories, it will be seen that the prospects, even for intelligent boys, are few.

Only a small number of overseers and tenters are required, and otherwise the average wages for unskilled work in the factory are from 16s. to 21s. per week. The wages quoted are rather higher than they were some time ago, as in Dundee there has of recent years been an increase of 1s. 3d. for time workers and 5 per cent. for piece-workers.

The jute and hemp mills and factories in Dundee employed, according to the 1901 census:—

Lads between 10 and 20 years of age . 4,007

Men from 20 years of age upwards . 5,472

Girls between 10 and 20 years of age . 7,410

Women from 20 years upwards . 17,478

As the general opinion is that the proportion of women to men has still further increased in the intervening years, it is probably not far from 3 to 1 at present.

## LAUNDRY WORK.

	M.	F.		M.	F.
Glasgow, 81.	3,496.		Edinburgh and Leith, 64 + 7.	1,586	+ 237.
Dundee, 22.	585.		Aberdeen, . . . 11.	573.	

Girls who wish to take up laundry work should be exceptionally strong, and able to stand the strain of long hours in a moist, heated atmosphere. Otherwise, the work is quite healthy. In the large and more modern steam laundries, the workrooms are well lighted and well ventilated, and the use of machinery and labour-saving appliances reduces to a considerable degree the actual physical strain. In the wash-house, revolving cylinders are used for washing and wringing; in the ironing room, the irons are usually heated by gas, and so adapted that the ironer has simply to guide them.

In private and hand laundries the work is undoubtedly harder, but payment is rather higher. The main sub-divisions of work in a laundry are:—

- (1) Washing, drying, and mangling.
- (2) Starching and ironing.
- (3) Sorting and packing.

#### UNSKILLED WORK.

As a rule, only older women are employed in the wash-house, with a wage of from 2s. to 3s. a day. Girls and women are employed as packers and sorters. The wages at commencement are 4s. or 5s. a week, but they rapidly increase to 10s. or 12s., and responsible workers get up to 18s. a week.

#### SKILLED WORK.

Girls are employed in the starching and ironing department, and have to be thoroughly trained. It often takes four or five years to become an expert worker.

Employers usually prefer to get girls immediately on leaving school, about the age of 14 years. The wages start about 5s. a week, or rather more, according to ability and speed in work. After training, starchers, who are generally paid by time, receive 8s. to 12s. a week. Ironers are usually paid by piece-work, and their earnings range from 10s. to 14s. for work demanding a smaller degree of excellence, and from 14s. to 18s. for more difficult work.

Shirt ironers can often make still higher wages. In some places the rate of wage is 1d. per shirt, and a woman who is expert and quick can earn as much as 20s. to 25s. a week.

There is usually a forewoman in each department, who may have a weekly wage of 22s. and more. In Glasgow and the South the wages are higher than in the North.

The hours of work vary from 56 to 60 per week. The maximum of 62 hours must be specially applied for on occasion.

### MEN AND BOYS.

The few men employed in laundries include:—

- (a) Mechanics, more or less skilled, employed in machine-room.
- (b) Labourers, employed in the wash-house, on account of the heavy lifts.
- (c) Vanmen, for delivery of goods, assisted by vanboys.

### LINEN AND COTTON MANUFACTURE.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male:	Cotton Manufacture,	1,093	3 + 0	2	31
	Linen and Flax				
	Manufacture, .	22	6 + 16	366	
	Woollen and Worsted				
	Manufacture, .	269	71 + 21	61	231
	Silk, . . . .	89	1 ...	...	...
	Textile Printers, .	361	... ..	88	2
	Textile Dyers, .	383	23 + 14	281	43
Female:					
	Cotton Manufacture,	5,828	8 + 10	12	545
	Linen and Flax				
	Manufacture, .	36	19 + 114	1,293	871
	Woollen and Worsted				
	Manufacture, .	945	66 + 35	3	719
	Silk, . . . .	669	3 ...	...	...
	Textile Printers, .	128	... ..	...	1
	Textile Dyers, .	114	6 + 2	25	20

While the cotton industry in Scotland is centralised in the Glasgow district, the flax and linen industry is carried on in a number of eastern counties—Fifeshire, Forfarshire, Kincardineshire, Aberdeenshire, and in Perthshire.

### Linen Manufacture.

As a rule, each mill or factory devotes itself to some special line and class of goods. In Aberdeen, for example, most of the work is done for Government orders; to supply soldiers' kit-bags, canteen-bags, postmen's bags, letter-bags, strong sailcloth covers, etc.

The processes of manufacture, in their general sequence, resemble what has been described in the jute factories. The stems of the flax plants are subjected to successive machine processes, whereby the seeds are shaken out, the resinous matter eliminated, the fibrous portion separated, and then roughly sorted and heckled, emerging as a long line or ribbon ready for the drawing and roving-frames. The short, ravelled portion of flax, called tow, kept back in the heckling process, is carded like jute, and then sent to the drawing-frames.

With the exception of the dust in the preparing department, the work is clean and healthy. A very large proportion of the operatives are women and girls.

I.—In the *Preparing, Spinning, and Reeling Departments*, girls of 14 years receive 5s. to 6s. a week to begin with. This wage rises by gradual increments of 1s. a week, and reaches about 10s. to 12s. a week for a trained worker in the preparing department. *Spinners* take four to six years to become really expert at their work, and then receive from 10s. a week upward, according to ability. The finer yarn has to be spun wet at a temperature of 120 degrees F., and the moist heat is trying for the spinners. The coarser yarns may be spun dry.

*Reelers* have simpler work, and can learn it more rapidly. By the end of a year they ought to be able to make 10s. a week on piece-work, and expert workers can increase their wages to 13s. or 14s. a week.

These three departments are usually grouped together under "Spinning." Forewomen in this group are given



charge of about 150 girls, and receive a steady wage of 12s. a week or rather more.

Boys of 14 years start in the preparing, spinning, and reeling department with 7s. to 8s. a week, and, if they stay on, may receive up to 15s. a week by the time they are 19 or 20 years of age. If they are steady workers and intelligent, they have good prospects of being given charge of a flat, with 20s. to 30s. wages.

II.—In the *Weaving* branch of the manufacture, girls are employed in (a) winding, (b) warping, (c) drawing, (d) weaving.

(a) Winding the small reels of yarn on to a large warper's bobbin is comparatively light work. The "winder" has to attach the ends of thread belonging to the successive reels. It is usual to give a fixed wage of 5s. a week for the first month while a girl is learning, and after that she is put on piece-work. In six months or a year she might bring her wages up to 7s. or 8s. a week, and a competent, fully-trained worker may make from 12s. to 13s. a week.

(b) The work of *warping* or arranging the threads on frames for the weavers' looms demands care and skill. The wages rise from 5s. to 7s. a week in the first three months, and the girl is then put on piece-work. After considerable experience, high wages may be made by a quick, clever worker—from 17s. to 20s.

(c) Small-sized beginners are selected for the particular work of drawing the threads through the frames; the girl sits inside the frames and hands the thread to the warper. The wages begin at 4s., and rise to 7s. and upwards; sometimes 13s. to 14s. can be made by piece-workers.

(d) *Weaving* is the department which employs by far

the greatest number of operatives. It must be regarded as skilled work, since it takes many years of practice before a worker can become expert and earn good wages on piece rates. Girls at single looms, after training, make on an average 10s. a week by piece-work; those on a double loom can earn from 12s. to 20s. a week. The wages greatly depend on the class of work required, and, to a certain extent, on the quality of the material supplied. If the thread is poor, there are frequent delays, as each time a thread breaks a new one has to be inserted. In the weaving departments, there are in some factories "apprenticeship mistresses," whose work it is to teach the learners. They are given a fixed time-wage of 13s. or 14s. weekly. Usually, the less robust girls accept these posts, as, although they have not the piece-worker's chance of high wages, the work is lighter and the wage is steady.

#### MEN AND BOYS.

Skilled men, called "beamers" or "drawers," are usually employed to attach the warp to the system of healds and reeds on the weaver's beam. The threads are arranged according to the pattern wanted, and the beamer then draws the ends of the arranged threads through the loops of the healds or "heddles" by means of a small hook. A boy or girl helps the beamer by catching the ends at the other side. Beamers receive from 30s. to £2, and, where the work is of a more intricate character, from £2 5s. to £2 10s.

Tenters and assistant overseers are employed in the weaving department, and receive from 25s. or 26s. upwards.

Boys do some of the heavier work in the weaving

department, or learn to be weavers. They begin with 7s. a week, and rise in a year or two to 15s. to 17s. a week.

A few skilled mechanics and tradesmen, labourers, and officials are always required about a factory.

III.—*Bleaching and Finishing Work*.—In most cases the woven material is sent away to be bleached and finished in works for this special purpose. In Perth, open-air bleaching is still done to a large extent. In the Glasgow bleaching and finishing works the chemical processes are relied upon, and the larger proportion of the operatives are men and youths. A night shift of workers has to be provided, and youths are largely employed for this purpose. Experienced men have charge of the pressing machines, and each man has a youth to help in watching his machine. Skilled dyers and bleachers are employed at the wages mentioned under that heading (p. 204). Young helpers, both boys and girls, help in the light work of guiding the cloth to the drying machines, and in turning the cloth at the raising machines.

At 14 years of age, when the workers are put to the “drying” machine work, wages are 6s. to 7s. per week. At the “raising” machine the workers are usually over 16, and receive 9s. to 10s. a week, with an increase of 2s. a week each year.

Most of the lads come and go at such work; comparatively few stay to devote themselves to bleaching and finishing. Fully-trained men receive on an average 26s. per week.

IV.—*Sewing*.—In factories where the linen is at once made up, the number of workers employed fluctuates with the demand for the particular goods. The sewing to be done depends essentially upon special orders, and can never be so steady as work in the spinning and weaving departments.

Girls have to be trained for factory sewing and machining. They start with 5s. a week, and in about three months' time should be able to make 7s. or 8s. on piece-work. Expert hands make from 12s. to 15s. a week. When the work is slack at the factory, many of these girls seek posts as machinists in shops. The only outlook of promotion in the factory is to become a forewoman, but the opportunity occurs rarely. Some of the Glasgow factories do a large trade in the sewing and making up of blouses, shirts, etc. The hours are 48 per week, and the girls at 14 begin with 5s. 1d.; when put on machines, they get 10s., and as they become more expert they can earn up to £1 a week on piece-work.

### Cotton Manufacture.

The manufacture of fancy cottons and muslins, which employs so large a number of women in Glasgow, offers, probably, a higher possible range of wages for skilled piece-workers than those mentioned for the linen factories. The winding, warping, and weaving processes absorb the greatest amount of labour in Glasgow; in these departments there are four times as many operatives as in the preparing and spinning departments. And the two main branches of spinning and weaving are usually undertaken by separate firms.

Boys and girls are always in demand at the mills. Most of the boys begin as "piecers," at which they earn 5s. to 6s. and upwards; of those who remain, a certain number become "big piecers," with 15s. and upwards.

Girls begin at much the same rate of wages, and work their way in one department or another.

Good spinners in the Glasgow district earn 12s. to 17s. In the preparing department, where the training required is not more than from six months to a year, the average wages are 10s. 6d. or 11s. weekly, but 12s.

to 14s. may be made at the drawing, slubbing, and roving processes.

In the weaving departments, 12s. to 16s. may be given as the average range of wages, but winders have the lightest work, and receive rather less than the workers in the other departments. Expert workers may make 18s. to 20s. a week on piece-work.

Men are employed in all departments for the most responsible positions; and they usually form the larger proportion of the workers in the preparing and dyeing branches of the cotton industry.

The census numbers given above represent the cotton manufacture as in 1901; but the only cotton mills in Aberdeen had to stop work in the winter of 1903-4, and have not been reopened.

The wages in the Lancashire mills run rather higher than those mentioned. Roughly speaking, boys earn from 7s. to 14s.; boy "piecers" soon make 10s. a week upwards, and "big piecers" receive about 19s. a week. The responsible men, such as "mindors," have 40s. a week. Girls make from 7s. to 10s., and women on an average 15s. to 24s.

---

## WOOLLEN MANUFACTURE.

Woollen manufacture is the most actively conducted branch of the textile industries in Aberdeen, and is also carried on in the Glasgow district, although to a smaller extent than cotton.

In a typical mill and factory, where all the branches of sorting, combing, spinning, and weaving are undertaken, it will be found that about an equal number of male and female operatives are employed. The work is distributed in much the same manner as in other textile industries, and the wages have a similar range.

The majority of lads from 14 to 18 years of age are in the spinning department, where they help to watch the machines and piece the threads together. Girls are similarly employed in assisting the more responsible spinners.

At this work the wages given at the beginning are 4s. 7½d. a week in some factories, 5s. 6d. or 6s. in others. Within a year an intelligent lad or girl may be earning 10s. a week on piece-work. The experienced spinners may earn up to 18s. a week on piece-work. On time-work the maximum wage is about 15s. In weaving, the most expert workers may earn rather higher wages.

---

### LINOLEUM MANUFACTURE.

The Scottish centre of this industry is Kirkcaldy, where 1,819 men are employed. A factory has been recently started in Dundee, and many of the workers have come from the older centres at Kirkcaldy and Lancaster.

The employees are all men; the occupation is steady, and done under cover. It is considered healthy work, although part of the work has to be done where there is steam, and also the boiling of oil is a necessity of the manufacture.

The employees in the Dundee factory sometimes work in one department and sometimes in another, and thereby gain experience in every branch.

The designers of patterns and colourings who are employed in Dundee have received their training elsewhere. No young people are trained for the skilled part of this work in Dundee, but strong, healthy, willing young men from the country are greatly in demand, and are paid at the rate of from 18s. to 20s. a week.



The foremen of squads, and skilled mechanics, earn from 30s. to 40s. a week.

The working hours are 54 per week; two hours are allowed for meals, and a hall for dining is provided.

In Kirkcaldy, the linoleum factory employees are housed in *dwellings*, with one upper and one lower flat only, so that each occupant has the advantage of a small separate house and garden. As the linoleum factory in Dundee is situated some distance from the city, it may, in time, be surrounded by a model village on this plan.

## NEWSPAPER MESSENGERS AND STORESELLERS.

	M.	F.		M.	F.
Glasgow, 211.	177.		Edinburgh and Leith, 101 +	7.	89 + 26.
Dundee, 58.	38.		Aberdeen, . . .	35.	49.

Those occupied in the delivery and sale of newspapers may be classed in four groups:—

- (1) Those employed in delivering morning and evening papers before and after school hours.
- (2) Those attached to shops.
- (3) Those attached to the different newspaper offices.
- (4) The independent street newsvendors.

(1) The first group includes boys and girls of 10 and over, whose home circumstances call for the extra earnings. The wages vary from 1s. 6d. to 3s. 6d. a week. The hours are 1 or  $1\frac{1}{2}$  both morning and evening, and, in some cases, boys are kept in the shop all Saturday for general messages.

(2) *Those attached to shops* are chiefly girls. Their work consists solely in delivering papers, morning and afternoon, to the customers of the shop. The usual wage

is from 3s. 6d. to 5s. 6d. a week, and their hours are from 7 a.m. till 6 p.m., with meal hours off. In cases where they are allowed between their rounds to assist in the shops, the wages may rise to 7s. or 8s. a week, and sometimes girls may be promoted to be regular shop assistants, though by far the greater number join some trade.

(3) *Those attached to the different newspaper offices* are principally men and boys, who await the issue of the papers at the offices, and deliver to retail dealers the particular quantities ordered by each. The hours are from 5 a.m. to 6 p.m., and the wages seldom rise above 11s. a week. The disadvantage of this class of work is its irregularity, and the temptation to hang about the streets in the intervals between rounds, and this disadvantage is still more aggravated in the case of the newsvendors on the street.

(4) *The newsvendors* who sell independently of shop or office go to the offices of the different newspapers at the stated hours of issue and buy as many papers as they think they can sell, or as many as they can afford. The smart, nimble boy knowing his localities soon creates a regular clientèle of purchasers on their way from business, eager to possess the latest news, and depending on some particular lad to have it. Trade rivalry between newsboys is very keen, and the survival of the fittest is the inexorable law of the trade. As these boys buy the penny newspapers at 9d. per dozen, and the half-penny newspapers at 4d. per dozen, they can make more wages than those attached to shops, though their success, depending on their own efforts, as it does, is more risky and fluctuating. The excitement of the life often renders a lad loth to leave it as he gets older, and it is difficult to persuade him to apprentice himself to a trade.

## PAINT AND COLOUR MANUFACTURE.

	M.	F.		M.	F.
Glasgow, 299.	63.		Edinburgh and Leith, 16 + 12.	...	
Dundee, 3.	3.		Aberdeen, . . . 20.	6.	

It is almost entirely unskilled labour that is required in the manufacture of paint and colour. One or two experts with good chemical knowledge carry out the actual mixing of materials.

Youths are engaged for the lighter forms of labour and to grind the paints. Their wage is about 14s. a week to start with. If they are strong, healthy, and steady, they may usually remain as porters and packers, and get a man's wage of 20s. to 25s. a week.

The labelling and filling of tins is done by girls and women. Girls of 14 or 15 are taken at a starting-wage of 4s. 6d. a week, and this is gradually increased. An experienced and capable worker gets 11s. or 12s. a week.

The working hours are from 8 to 6, with one meal hour off.

## PAPER MAKING AND STATIONERY MANUFACTURE.

		Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Male :	Paper Manufacture, 369		142 + 30	15	222
	Stationery " 58		32 + 4	1	3
	Envelope Making, . 15		16 + 3	...	20
Female :	Paper Manufacture, 509		182 + 48	2	609
	Stationery " 275		169 + 13	8	15
	Envelope Making, . 246		358 + 41	1	229

There are about fifty paper-making mills in Scotland, and it is estimated that 90 per cent. of the workers are over 21 years of age. At the same time, the higher wages and posts almost always go to the operatives who have gone through a long training in the practical working of the mills, and many excellent posts abroad

are secured by young men with thoroughly good experience of this industry.

The machinery connected with the making department in paper mills is kept working day and night, except for the half of Sunday (more rarely the whole), when watchmen are on duty. The operatives work by day shifts only, or by day and night shifts in alternate weeks, night work being paid at double rate. The average time for day workers is from 55 to 60 hours per week, but the men and youths in the making department work 70 or 71 hours on an average per week.

The processes in the manufacture are:—

- (1) Sorting the raw material.
- (2) Boiling.
- (3) Breaking and washing.
- (4) Beating.
- (5) Pressing and reeling.
- (6) Tub-sizing.

The principal raw materials used are linen and cotton rags and esparto; wood pulp is used for lower class papers. As a rule, there is a separate department for all the storage, preparation, sorting, dusting, and cutting of rags. After having been sorted, the raw material is boiled with weak caustic soda under steam pressure, then goes through a breaking-up and washing process by machinery, and is bleached.

The cleansed material is then beaten into pulp in the beating engines, and the pulp is mixed with water and passed over sand tables, through strainers and on to an endless wire passing over rollers, through the press rollers, and, finally, over steam-heated cylinders. It is then *reeled* ready for tub-sizing, which is done by hand or machine. This completes the actual manufacture of the paper, but it still has to pass through (*a*) the *glazing*, *rolling*, and *cutting* department, where it is given a

rough or smooth finish as may be required, and cut by machinery to the required sizes; (b) *the overhauling rooms*, where it is gone over by girls sheet by sheet, and all sheets with blemishes or variations of shade are removed. The paper is then counted into quires and reams, and passed to the *stock-room*, or to the *packing-room*, if for immediate distribution. The workers in the glazing, rolling, cutting, and overhauling departments are all day workers, and the greater proportion are women. In terms of the Factory Act, they are not allowed to work more than 10 hours a day, must get two meal hours, and the hours of work must not exceed 57 per week.

The subdivision of work among men and women differs to some extent in the various mills, but in a general way it may be said that the sorting is done by the younger lads and women; in the boiling, breaking and washing, beating, and paper-making departments the machines are attended by men, and boys—often brought from the sorting department—assist them and run the material from one place to another. In the rolling and glazing, both men and women are employed; the men put the paper into the machines, and superintend them, while the women catch the paper and arrange it. The cutting and counting, overhauling and packing departments, and the stock-room employ the largest number of women; only two or three responsible men are in these departments.

The terms “day and night shifts” are used for the operatives connected with the making department. To take an example from a very large mill—the men on day shift work for one week all the day-time, commencing at 6 o’clock in the morning, and get off at 6 o’clock in the evening. They have no meal hours, and must be on constant duty for 12 hours each day. This is carried on for the first five days until Saturday, when the day

shift people, who come at 6 o'clock in the morning, work until 9.30 p.m., making  $15\frac{1}{2}$  hours. Then they go on to the night shift on Monday morning at 1 o'clock a.m., and work till 6 o'clock a.m., when they are relieved by the men who were on the night shift the previous week. During their week of night shift work, the men begin duty from Tuesday to Friday at 6 p.m., and work until 6 a.m.; on Saturday, they begin at 9.30 p.m., and work until 1 p.m. on Sunday, beginning again for their day shift week at 6 a.m. on Monday. Thus the operatives who work on a day and night shift, work an average of 71 hours a week. In terms of the Factory Act, this can only be done by men and youths over 18 years of age.

#### MEN AND BOYS.

In the making department, the boy labourers under 18 are nearly all piece-workers, and earn from 7s. to 9s. per week. They are advanced according to ability and experience; their wages may rise from 12s. to 14s. per week. When they are over 18 years of age, they may earn more if connected with the machinery, as it is usually worked on the tonnage principle—that is to say, after they make a given weight of paper they are paid so much extra according to the quantity made.

The average wage of machinemen in the paper-making department is from 23s. to 24s. In this department, those who wish to advance themselves ought to study paper-making and chemistry. They may rise to be foremen in the works, or clerks in the office and stock-room, receiving then higher wages. Foremen receive from £130 upwards in the year.

The census returns of men employed in paper-making factories include a considerable number of skilled tradesmen and mechanics. In large works there are engineers' and carpenters' workshops, employing, on an average, 100 men; also a brass foundry, in which is cast



practically the whole brass plant used in the manufactory, including the making and cutting of strainer plates.

Apprentices are taken for mechanical work at about 16 years of age, and serve five or six years, receiving about 5s. a week the first year, and rising by 1s. 6d. a week each year. In a six-years apprenticeship it is usual to give about 18s. a week in the last year of training. The skilled tradesmen and mechanics receive from 28s. 6d. upward per week.

#### GIRLS AND WOMEN.

Girls may enter the paper mills as soon as they leave school, or later. It takes them a year or two before they can learn the work; during this time they are kept at the cutting machines until they are able to "sort" and "overhaul" paper. Girls over 14 are paid at about 4s. 6d. a week to start with, and when put on piece-work they can earn from 10s. to 12s. a week, or, more rarely, 15s. to 16s. Time-workers are paid at the rate of 2½d. or 3d. an hour, but nearly all the girls and women are piece-workers.

Women and girls are also largely employed in the subsidiary departments connected with the output of stationery and special types of paper to wholesale dealers. Roughly calculated, 80 per cent. of the employees in the stationery departments are women and girls.

Some of these departments are:—

- (a) Cutting, where notepaper is cut and put up in packets.
- (b) Envelope cutting, where the blanks are prepared by women, and cut by means of dies and heavy pressers.
- (c) Envelope counting and packing, where women are on piece-work, and attain almost lightning-like rapidity.

- (d) Fancy cards, correspondence cards, paper for calendars, papeteries, paper for writing-blocks, etc.
- (e) Gummed paper.
- (f) Black-bordering.
- (g) Art paper, enamelled boards, and fine chromo.
- (h) Embossing.
- (i) Paper-ruling for account books, surveying, etc.

The average wages obtained run from 10s. to 14s. per week, but they may be increased to about 17s., according to the training and skill of the worker, the higher ranges of wages being attained only by piece-workers.

---

### PICTURE POST-CARD AND CHRISTMAS CARD MOUNTING.

A considerable number of boys and girls are employed in connection with this industry. The departments of work are:—

1. Photography.
2. Half-tone blockmaking.
3. Letterpress printing.
4. Three-colour printing.
5. Lithograph printing.
6. Post-card packing.
7. Christmas card die-stamping.

The apprentices and trained assistants engaged in the photographic department work under the same conditions as in photographic studios (see page 291).

In the *Half-tone blockmaking* department the employees are all skilled men, working under a foreman. One or two boys are taken as apprentices at 14 or over, and serve seven years. The starting wage is 5s. per week for the first year, and slowly increases, as in the printing trade generally. Journeymen receive up to £2 10s. per week.

In *Letterpress printing*, the apprenticeship is for seven years, and wages begin at 4s. per week. The minimum wage of a journeyman is 32s. per week.

In *Three-colour printing*, a very limited number of apprentices are taken, sometimes none. The few journeymen required earn wages from £2 2s. to £2 10s.

The *Litho-printing machines* are worked by trained machinemen, and girls assist in feeding the machines. An establishment employing twenty machinemen in this department would probably employ twice as many girls. The trained machinemen receive from 32s. to 45s. per week, according to ability, and the wages of the girls range from 5s. to 10s. per week.

*Post-card packing* is unskilled work, done almost entirely by girls, and is paid on piece rates. The work is light, and wages depend entirely on nimbleness of fingers. The average wage earned is 11s. to 13s. per week. During the present popularity of the picture post-card, the work is fairly steady; it is usually alternated in slack seasons with other work, such as mounting view albums and Christmas cards. For such work, however, a period of training is required before proficiency is attained and a full wage earned.

The *Die-stamping* is also done by girls, and they are regarded as learners or apprentices for two years. The wage of learners is 5s. per week in the first year, and is increased by 1s. or 2s. a week in the second year, according to ability. A trained die-stamper earns 14s. or 15s. per week.

## PROVISION WORKS.

	M.	F.		M.	F.
Glasgow,	301.	166.	Edinburgh and Leith,	25 + 50.	9 + 4.
Dundee,	24.	4.	Aberdeen, . . .	110.	530.

In the larger provision works the employees are over 18 years of age. Both men and women are required, and they have to be personally healthy and tidy, and smart workers with good common sense. A few lads may be taken in the busy summer months.

The work consists of preserving meats and soups, making puddings and sausages, and curing ham. In Aberdeen, Peterhead, and other fishing ports, the three summer months are wholly occupied in preserving herrings, during which time extra hands have to be engaged. The working hours are 57 per week during the summer six months, and 50 per week during the six winter months. In the firms which have provision works in different parts of the country the work is so carefully regulated that the same amount can be made in winter as in summer. Men are engaged in the ham-curing department and as warehousemen and tinsmiths. Women are employed in the other departments. They form about 60 per cent. of the total number of employees in this industry.

## HAM-CURING.

Youths of 18 to 20 years possessing intelligence and strength earn here 20s. to 25s. a week. The work is steady in the winter, but slack for a few months in the summer, and thus workers in this department can be transferred for a time to another.

## WAREHOUSEMEN.

These earn 18s. to 26s. a week. Many come for the busy season, and go as shop assistants when it is over.

## TINSMITHS.

Tinsmiths for soldering and other work are skilled tradesmen, and are paid by piece-work. The average wages are 30s. to 40s., but during July and August the tinsmiths in large works can often make up to £4 a week.

## PACKING DEPARTMENT.

Girls begin in this department filling, boiling, and painting tins, with a weekly wage of 7s., rising in two months' time to the ordinary wage of 8s. to 10s. They are then put on piece-work, and can earn 15s. to 18s. a week.

## FINISHING DEPARTMENT.

The work here is lacquering and labelling tins, and the wages are from 8s. to 18s. a week by piece-work.

## MACHINE DEPARTMENT.

The wages are at time rates, and run from 10s. to 12s. a week.

## PUDDING AND SAUSAGE MAKING.

This requires quick workers from 15 to 20 years old. The wages are 5s. to 12s. a week.

Labourers employed as extra hands in summer-time get 22s. to 25s. a week.

---

 RAG AND WASTE PICKING.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Male: { Rag Gatherers } { and Dealers, }	44	20 + 7	9	7
Female: . . .	144	134 + 77	10	11

The picking and preparing of rags and factory waste for paper-making is an industry which is usually

attached to the large paper-making factories, but it is not infrequently made the special work of small factories. Men, women, and girls are employed in such special factories. There is little difficulty in securing employees, as the work is steady, and although it looks unpleasant and dusty, the workers do not allow that it is unhealthy. Due precautions are always taken under the sanitary authorities against possible risks of infection from the material. The wages are on piece-work, and are from 6s. to 10s. a week for girls and women, and 20s. to 23s. for men. The working hours are 56 per week.

### ROPE, TWINE, AND CORD MAKERS. NET WEAVERS.

	M.	F.		M.	F.
Glasgow,	201.	108.	Edinburgh and Leith,	41 + 109.	2 + 190.
Dundee,	191.	129.	Aberdeen,	169.	32.

Rope and twine-making is now done mostly by machinery, and the men who are employed are unskilled. There are two or three fair-sized factories in Scotland, but a large proportion of the output is hand work from the blind asylums and from a number of ropeworks.

### FACTORY WORK.

In the larger ropeworks, boys and girls are taken as learners at the age of 14, or earlier, should they have an exemption certificate. They commence with 6s. to 8s. weekly, and the pay is increased as they learn, but there is no prospect beyond that of the unskilled worker. Boys are employed preparing fibre and attending to rope-making machines. They leave, as a rule, when they are old enough to begin apprenticeship in other trades.



Men are required for the heavier work, and also in attending the machinery. Their wages are from 20s. to 28s. for a 54 hours' week; the average wage is 23s. a week. It is quite usual to find an almost equal number of men, boys, and girls employed.

### HAND WORK.

So far as smaller firms are concerned, trade is not in a prosperous condition. Hand-spinning is still done by some firms, but it is hard work, and not very healthy. There is an apprenticeship of five years, with wages which begin at 4s. 6d. or 5s., and increase to 11s. 6d. After training, wages never rise very high. An average wage is 20s. to 22s. a week, while 24s. may be regarded as the maximum. Foremen get rather higher wages.

In Aberdeen, the tarring and making up of trawl-nets employs a few men at about 24s. to 26s. wages.

Hand net-weaving is done by strongly-made girls over 16 years of age. They work for 50 hours a week, at a wage of 10s. to 12s.

---

### SEA-FARING OCCUPATIONS.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Seamen,	3,577	... + 1,845	869	1,473
Stevedores,	2,851	321 + 1,728	526	782

### SEAMEN.

Boys must be strong, and have good eyesight. Apprenticeship begins at 14 years of age, and lasts for four years, during which time apprentice seamen receive 10s., 14s., 17s., 21s. They are trained under the chief mate. They must prepare for the various grades of examinations, if they wish to become mates or captains.

After training, youths begin with 30s., but if food is given, they receive rather less. The prospects are good to those who are capable and can pass the qualifying examinations. As *mate*, a man may receive £2 2s. a week and upwards. *Captains* receive £4 a week and upwards.

Twelve hours a day are worked—*i.e.*, four hours on duty followed by four hours off duty, so that all men have to take their turn at night duty.

#### ENGINEERS.

There are no boys in this department. Men are chosen who are experienced, and have served their time on land. The payment given largely depends upon the size of the vessel, smaller wages being given on the smaller vessels—food and accommodation all allowed.

A first engineer might receive from £3 to £3 15s. per week, a second engineer from £2 to £2 10s. per week, and a third engineer from 27s. 6d. to £2 12s. 6d. per week.

A four hours' shift is worked, the same as the seamen.

#### FIREMEN.

No boys are engaged in this work. Men receive 30s. weekly, and work a four hours' shift, the same as the seamen. Men from the gasworks are often taken on in summer when trade is slack at the gasworks.

#### STEWARDS.

Boys are employed to assist the stewards, at a wage of 10s. weekly and food. Stewards receive 25s. weekly and food; they have no specified hours, and work at any time to suit the passengers. Many have to be paid off in the winter.

In several of the shipping companies the work is regular all the year round, but in companies that do

much trade with ports frost-bound in winter, the work is irregular, and many of the employees are paid-off during the slack season.

There is no scarcity of boys taking up these occupations.

#### STEVEDORES.

Stevedores take charge of the loading and unloading of ships, and must be very strong.

The master stevedores and some of the shipping firms have a certain number of stevedores and a certain number of labourers as regular employees, and engage extra hands when they are busy.

The men work 57 hours a week, with two meal hours daily. Some may count on a regular wage of about 25s. The better men may earn 37s. on an average. The standard rate is 9d. an hour, and 1s. 1½d. is paid for overtime.

Summer is the busy season, when extra hands have to be taken on, and full time is worked by all the regular employees.

A large number of labourers are also employed at 6d. an hour, but such labourers cannot count on more than £1 a week on an average.

Boys are paid 3d. an hour, but few are strong enough for this work.

The work is very irregular: sometimes nothing is done, and at other times long hours must be worked.

---

#### SOAP-MAKING.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Soap-Boilers and				
	Makers, . .	77	3 + 3	1	60
	Candle-Grease				
	Manufacture, .	51	14 + 5	...	42
	Total, .	<u>128</u>	<u>17 + 8</u>	<u>1</u>	<u>102</u>

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Female: Soap-Boilers and Makers, . . .	14	1 + 4	...	1
Candle-Grease Manufacture, .	13	3 + 2	...	2
Total, . . .	<u>27</u>	<u>4 + 6</u>		<u>3</u>

The chief departments in soap-works are:—

- (1) Soap-boiling and glycerine.
- (2) Soap-making.
- (3) Soap stamping and wrapping.
- (4) Making up powder packets.
- (5) Packing.

Men are employed in the soap-boiling and making departments; boys in the lighter work of the other departments.

Except the foremen, all the employees are unskilled, and are paid at piece-work rates.

Boys usually enter directly from school at 14 years of age, and are set to simple work, such as filling soap-powder packets and wrapping them. They receive 6s. or 6s. 6d. a week to begin with, and work from 6 a.m. to about 5 or 6 p.m., with two meal-hours off; on Saturdays from 6 a.m. to 1 p.m. They are soon put on piece-work, and in three or four years may earn 10s. to 12s. a week, or, if very good workers, 13s. to 15s. a week. When the employee can do a man's work—usually about the age of 21 years—the wages average from 17s. to 20s. for a 51-hours week.

The *Candle-making* work, which is associated with soap-making, is dull in summer-time, but as soap-making itself continues steady throughout the year, the employees are kept in work.

Owing to the recent extension of the trade in soap-powder, some firms can employ a large number of boys for packing and wrapping work, and cannot employ them as men. The boys at this work usually leave at

16 or 17, although some stay longer. Their work is of such routine character that the boys lose all the training of school in reading, writing, and arithmetic, and one employer said he would like to see evening classes made compulsory in order to prevent the retrograde after effects of such boy labour.

## TOBACCO MANUFACTURE.

### Tobacco Pipe and Pipeclay Manufacture.

		Edinburgh and Glasgow. Leith. Dundee. Aberdeen.			
Male :	Tobacco Manufacturers,	608	50 + 11	14	13
	Tobacconists, . . .	198	123 + 14	28	32
	Tobacco Pipe Manu- facturers, . . .	239	30 + 14	13	20
Female :	Tobacco Manufacturers,	2,000	158 + 71	47	23
	Tobacconists, . . .	280	214 + 82	71	45
	Tobacco Pipe Manu- facturers, . . .	158	10 + 13	3	8

There is no longer any apprenticeship in this trade, as the use of machinery has much reduced the demand for hand labour. Gradually the hand-workers that were trained as apprentices have had to take to machine-work, and the ranks are now being filled with men who have learned only one or two machines and know little about the rest of the factory. There is no trade union, but the older, hand-trained men belong to a union which gives benefits during unemployment. The chief tobacco factories are in Glasgow, and over 80 per cent. of the employees at the present time are girls and women; many are now being given the machines to work that used to be done by men. Of the men, only about half their number have a really skilled knowledge of the work in all its branches, and it is to these that any prospect of advancement of position is limited. The skilled men

receive from 25s. to 32s. a week on piece-work; and as foremen and superintendents good salaries may be obtained.

The hours per week are from 50 to 54—usually 6 a.m. to 6 p.m.; and 6 to 1 on Saturdays. One or two factories do not begin work until 7, 8, or 9 a.m., and work 45 hours a week. The work is quite steady all the year round, and, as it is well paid on the whole, it is sought after by young girls.

The wages for girls of 14 or 15 years of age at starting are 4s. 6d. or 5s. per week, but one or two of the Glasgow factories give 7s. or 8s. to begin with, and there is a gradual increase to 9s. or 10s. per week in the second year. Afterwards, any further increase depends upon the department and the individual worker. Very expert workers may make 16s. to 20s. per week on piece-work, and time-wages of 15s. a week are given to trained workers.

The chief departments are:—

- (1) *Sorting and Cutting department*, where the leaves are prepared, pressed, and cut into shreds; average wages on piece-work, 11s. to 13s. a week.
- (2) *Rolling, Spinning, and Winding department*, from which the spun tobacco passes on to the hydraulic press; average wages on piece-work, 14s. to 18s.
- (3) *Packing and Putting-up department*; average wages, 9s. to 10s. a week.

The packers are all women, but in the other departments the machines are worked sometimes by men, sometimes by women. The spinning-machines are, as a rule, worked by a man with one or two women assistants, and the highest wages can be made in this department.

*Cigarette-making* is carried on in the tobacco fac-



tories, and also as an independent industry. The wages are much the same as in tobacco manufacture.

In the retail trade, girls as shop assistants start with 10s. a week, and receive up to about 20s. a week.

#### TOBACCO PIPE AND PIPECLAY MANUFACTURE.

Glasgow is the chief centre of the pipe-making industry, and the best of the lads trained in other towns go there later on. It is one of those industries in which boy labourers are employed, and there are comparatively few apprentices. The apprenticeship is merely a verbal agreement, and it is entered into by boys of 15 years of age for seven years. They begin by cutting the clay into blocks, and carrying the blocks to the furnace. The work of moulding the clay into pipes by hand machines requires more skill, but in a year or so boys can become quite expert. The wage is 5s. to begin with, and later on, during training, payment is given by piece-work, and an apprentice may make 11s. or 12s. a week.

Fully trained workers make 18s. to 22s., and the wages may rise to 30s. a week at busy times. The hours are generally 50 per week, one hour being given for dinner.

The trade has been much affected by the increased use of cigarettes, and employers have sometimes to pay off workers during a slack season.

#### UMBRELLA MAKING.

	M.	F.		M.	F.
Glasgow,	205.	464.	Edinburgh and Leith.	19 + 5.	32 + 1.
Dundee,	8.	2.	Aberdeen, . . .	13.	4.

Glasgow is the only place in Scotland where umbrella-making can be said to be carried on to any

extent. Great Britain has a considerable home and export trade in umbrellas, but the chief centres are London, Manchester, Birmingham, and Sheffield.

Sheffield foundries are the most famed for the supply of the umbrella ribs or frames. Some firms purchase both frames and handles, and only add the umbrella cover. The making of the handles is mostly done by machinery, attended by men; the covering and finishing is mostly done by hand, and is the work of girls and women.

#### MEN AND BOYS.

Boys over 14, who enter the factories for the making of walking-sticks and umbrella handles, go through a short period of training, and are then put on piece-work. The machines for grooving the handles are in charge of the men, and the average wages for expert men on piece rates are from 25s. to 30s. a week.

The workmen engaged with small dealers in repairing umbrellas receive about the same wages. Both umbrella and stick makers are included in the census numbers given above.

#### GIRLS AND WOMEN.

Those in the umbrella covering trade say that 80 to 90 per cent. of the employees are girls and women, but as payments are all made by piece-work, much of the work is done in their homes. Girls of about 15 years of age may enter the factory, and go through a definite training in machining, covering, and finishing. The duration of the period of training is longer according to the quality of the covers that are being furnished. For the better-class umbrellas, it may take a girl about two years to become expert enough to earn good wages on piece rates. The payment is much the same as in clothing factories, from 9s. to 13s. a week.

**WINDOW-CLEANERS.**

This work requires steady nerves. Painters' labourers often take it up. All painters are able to do window-cleaning, as one of the branches of their trade, but a considerable number of men are employed as window-cleaners only. These serve no apprenticeship, but it takes a man two months or so to become expert. Wages generally begin at 12s., and rise to 19s. Good men can earn from 22s. to 25s.

The hours are 51 per week.

Trades and general holidays are given without pay. There is fairly steady work, but when slack, hours are reduced, and the extra men employed at the busy season are paid-off.

The supply exceeds the demand.

**WOOD-TURNING AND WOOD-MACHINING.**

Glasgow, 502.

Edinburgh and Leith, 72 + 25.

Dundee, 141.

Aberdeen, . . . 75.

The trade of a machineman is a separate trade from that of a joiner, and it has arisen through the application of machinery to woodwork (see Sawmilling, p. 334). The men earn in some places the same rate of wages as joiners, in others they only earn 7d. an hour; but a joiner would not be allowed to work a sawing-machine. Boys and unskilled men are employed to assist machinemen. They stand at the end of the table in which the circular saw is fixed, and carry the wood away as it is sawn. Some of these young assistants become apprentice joiners afterwards; most of them continue in the machine department, and become machinemen. The chances of promotion are not quite so frequent as for joiners. A few good positions are to be found, such as foreman in a woodmill.

Country boys are often preferred by employers, both in machine work and in joinery; the employers say they are, as a rule, stronger-chested, steadier, and their minds are less taken up with football and amusement than in the case of town-bred lads.



## PART II.

# APPRENTICESHIP TRADES

AND

## OCCUPATIONS REQUIRING LONG PERIODS OF TRAINING.

---

### AUCTIONEERS AND VALUATORS.

Glasgow, 209.

Edinburgh and Leith, 68 + 4.

Dundee, 16.

Aberdeen, . . . 42.

### ASSISTANTS AND CLERKS.

Boys may be apprenticed to this trade, and, if so, are taken at 15 or 16. The apprenticeship is for four years, and the salary ranges from £10 the first year to £25 the last year. But there is seldom any definite recognition of apprenticeship, and boys may be taken at busy times to help the clerks, at 6s. or 7s. 6d. a week. Apprentices or learners begin by addressing envelopes, delivering letters, copying catalogues, and may go on to be auction clerks, and attend the sales to take the money and check the articles sold. Very often they are permanently engaged in this capacity, at salaries from £70 to £80 and upwards. It is, however, very common in this business to engage previously trained clerks, as much of the work is responsible and not suited for lads.



## AUCTIONEERS.

Those who wish to become auctioneers must be good writers and arithmeticians, and, above all, quick-witted. An auctioneer must be very patient, and must have a good memory. If a man has sufficient ability to become an auctioneer in an auction warehouse, his salary might be £150 to £250. The hours are about 45 per week, but it is sometimes necessary to come early or stay late. A fortnight's holiday is generally given.

Young men who have a gift of figures and readily gather a comprehensive knowledge of trade and commerce will do well to specialise along the "valuating" line, as excellent fees are obtainable in transactions of sale. For starting business on one's own account as an auctioneer, some capital is required and a good connection.

Those who have an artistic sense will probably sooner or later be directed into the special line of valuing and cataloguing articles of vertu for sale. Any information acquired during holidays in museums, art galleries, and salerooms will assist in developing the professional instinct for the true and the counterfeit in various classes of goods; only a well-informed auctioneer can differentiate between the ordinary trade value of an article and the special value with which the same article may be charged in the eyes of certain connoisseurs.

There are good openings for auctioneers in connection with the cattle-dealing and auction marts. Farmers' sons are preferred, and are frequently employed by auctioneers. Lads are taken at 15 years and older, and are given 10s. a week, if on trial they are found suitable. They must be good at arithmetic and writing, and have good general knowledge as well as some experience among cattle. The most capable and steady of them have excellent prospects as auctioneers in this line.

## BAKING: BREAD, PASTRY, AND BISCUIT.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Male :	Makers, 3,513	1,705 + 397	878	591
	Dealers, 1,004	430 + 110	157	146
	<u>Total, 4,517</u>	<u>2,135 + 507</u>	<u>1,035</u>	<u>737</u>
Female :	Makers, 1,212	888 + 312	205	91
	Dealers, 1,655	649 + 194	556	240
	<u>Total, 2,867</u>	<u>1,537 + 506</u>	<u>761</u>	<u>331</u>

In the various departments of this trade, there is always a steady demand for intelligent boys and girls, but no boy with any chest weakness should choose it. The baking trade is very much under the control of the Bakers' Union, which limits the number of apprentices to two for the first five men, and one apprentice for each additional five. Thus, where an employer has twenty men at work, in conformity with the Union agreement, he cannot employ more than five apprentices. The limitation of apprentices by the Union has effectually prevented the baking trade from falling into the hands of boys.

## APPRENTICES.

According to the Factory Act regulations, no employee under 18 is permitted to work in the bakery before 6 a.m., hence many of the large bakehouses do not accept apprentices under 18 years of age. The minimum age at which the Bakers' Union permits apprentices to begin is 16, but small shops in the city or country often take lads under that age. In factories, the younger lads are often employed in attending to pans and machines and in general cleaning work until they are old enough to be apprenticed. Apprenticeship continues for five years. The wages begin at about 15s. to 18s. per week, and increase to 20s. to 26s. in the last

year of training, according to the age and ability of the lad, and to the general rate of wages in the place. In the smaller shops, however, where younger lads are accepted as apprentices, the wages begin as low as 7s. per week. Apprentices are not indentured, and are free to go at any time, although in town bakeries they rarely do so. They learn by doing the work of the house along with a journeyman, or sometimes a foreman. As the bread is almost entirely machine-made in the larger town bakehouses, there is too great specialisation in the work of an apprentice. This makes it very desirable that apprentices should avail themselves of the opportunity offered them by evening classes in the technical colleges to learn the various processes more thoroughly.

The Union limitation of the number of apprentices in city bakeries would inevitably create a dearth of fully trained men if it were not for the constant influx of lads from the country. In the country shops and smaller shops in the towns, where bread is for the most part hand-made, apprentices get a better general training.

“HALFLINS,” IMPROVERS, JOURNEYMEN, “JOBBER.”

Having served a year or two at an apprentice wage of not more than 7s. 6d. a week, the country lad of 18 or 19 often comes into the town, and, if he is at all competent, he may continue his apprenticeship period there as a “halfin,” at a weekly wage of 18s. to 20s. “Halfins” are much in demand, and are allowed, under trade union regulations, to work for a year as “machinemen” at a wage below standard. When apprenticeship has been completed, some work for a year as “improvers” at 28s. to 30s. a week, after which period the standard journeyman’s wage of 34s. a week is demanded by trade union employees. In some houses the best men can earn as much as 48s. per week.

In bread-making the hours are shorter and the pay higher than in pastry-baking. The hours of work in large establishments are 48 per week, from 4 a.m. to 2 p.m., with two hours off for meals. As lads under 18 are not permitted to work before 6 a.m., many employers take an extra hand for a few hours in the early morning, in order to meet the great demand for fresh bread. These extra hands are called "jobbers," and many of them are employed in the same bakery day after day. A roll of "jobbers" is sometimes kept, and those who get first call can make about 26s. to 30s. a week; for a whole day's work, "jobbers" are paid 6s.; for half a day's work, 3s. 6d. In Glasgow district, the total number of "jobbers" is 667. During the summer season, from June to September, when the city bakeries are less pressed for work, the "jobbers" go to country and coast resorts. The older men in the trade often get a shift as "jobbers," especially on Saturdays, and make about 15s. a week in this way.

### Pastry-Baking.

The baking of pastry and small bread offers more variety of work than plain bread. Deftness of touch and some artistic taste and finish are indispensable for a successful workman. Under trade union regulations, apprentices cannot begin until the age of 18. The apprentices, in most cases, are selected from the message-boys, or sons of employees, or come from biscuit factories. Lads may enter the bakehouse at 14 to 16 years on terms similar to those for message-lads, and are set to cleaning pans and learning to bake pastry, scones, or small bread.

The hours are 50 to 56 per week, and the wages begin at 6s. or 8s., and rise to 12s. or 14s. a week, rarely more. The hours are usually 7 a.m. to 6 p.m., exclusive of meal hours. If apprenticeship as a baker cannot be

promised, or the lads find the heat too trying, they leave. Many of them become unskilled labourers, or casual workers; the better class go to learn some building trade, and a few try to enter the more skilled departments of work in the biscuit factory, or become biscuit packers. It is seldom that a journeyman in a pastry factory can make as much as a fully trained man in bread-making.

A fair number of men over fifty are to be found steadily employed in the baking trade.

### Biscuit-Making.

Biscuit factories can hardly be said to have apprentices in the ordinary sense, as there is little skilled labour, and the young helpers, either girls or boys, come and go very freely. In Glasgow, girls are much more largely employed in biscuit factories than in Edinburgh. The various kinds of work in a factory are:—

- (1) Biscuit-making.
- (2) Biscuit icing and ornamenting.
- (3) Attending the machines and ovens, hoists and lifts.
- (4) Packing the biscuits and labelling.
- (5) Delivering and despatching goods.
- (6) Oatcake-baking is frequently carried on.

The *baking* department is that in which men are chiefly employed, as doughworkers and as machinememen. Girls are frequently employed in attending the machines in the baking process, and require nearly a year's training to become proficient. Boys are employed chiefly in the work subsequent to baking. They place the pans on the oven and remove them, and attend the ovens at the finishing end; as many as six boys may be employed along with one man for each machine.

The *packing* and *labelling* department is almost wholly given over to girls, while men and boys have the

*despatch* and *delivery* departments, and a certain number of boys are required for hoists and lifts. Oatcake-baking is mostly done by girls, and demands physical strength and expert work.

The starting wage for a boy or girl in a biscuit factory is about 7s. or 8s. a week, rising to 13s. or 14s. Boys often enter at 14, and continue a year or two for the sake of the wages, but without intention to remain in the baking trade. It is not until 16 years of age that they are allowed to do oven work, as young boys are not strong enough to stand the heat. A certain number of boys remain continuously in a biscuit factory, but the greater number pass out to other work or go for a time to get more experience in machine work and in general baking. The young men who remain as oven attendants are, as a rule, lacking in interest and intelligence, and are drawn from the dock-labourer class; also, the men employed as biscuit bakers are often those who have not proved fit to keep up with the pace in the bread trade. The doughmen earn about 32s. per week, and the machinememen about 30s. per week.

Girls become very expert in special routine work, such as icing and sandwiching biscuits, pastry-baking, lining tins, packing, and so on. About two years are regarded as years of training, when wages run from 4s. 6d. to 5s. 6d. for a week of 55 to 57 hours. Afterwards rather higher wages are given—up to 12s. a week for a clever packer. The girls employed as oatcake-bakers may, after a year's practice, make as much as 16s. a week. The chief point in favour of a biscuit factory for girls is that it usually provides light, healthy, and steady work. The busy season is in summer and at Christmas time; the early spring and late autumn are comparatively slack, but employees are very rarely turned off. On the other hand, they are frequently called upon to work overtime in busy seasons—possibly 10



hours a day then, as against 7 hours a day in a slack season.

A large number of vanmen and boys are employed in the delivery and the despatch work connected with the baking and biscuit trade. The boys earn about 8s. or 9s. a week, and the wages of the men run from 35s. upwards a week.

---

### BASKET-MAKERS.

	M.	F.		M.	F.
Glasgow,	145.	11.	Edinburgh and Leith,	74 + 15.	1 + 2.
Dundee,	20.	1.	Aberdeen, . . .	40.	1.

Much of the basket work sold here is done on the Continent. Several basket-makers say they cannot get lads to learn the work, and have to employ only adults. The work is all done by hand, and there is a good demand for intelligent, active boys.

### APPRENTICES.

Boys may apprentice themselves at 14 years of age, and serve for five years. The usual wage is 5s. per week to begin with, and an increase of 1s. a week in each successive year. The working hours are 10 hours a day from Monday to Friday, and 6 hours on Saturday. The usual meal hours are 9 to 10 and 1 to 2.

If an apprentice is an apt worker and likely to be a good basket-maker, an employer usually puts him on piece-work before the expiry of his apprenticeship, in order to encourage him.

A fully trained basket-maker can earn from 30s. to £2 a week.

### BLIND WORKERS.

Basket-making and kindred trades are taught in the institutions and asylums for the blind to boys and girls

over 14 years of age, who are either totally or partially blind.

The length of apprenticeship is five years for boys and three years for girls. During the first year of apprenticeship they receive no wages; after that they may earn from 4s. to 6s., 8s., and 10s. a week, according to neatness and ability.

Some of the branches most commonly taught are:— (1) basket-making, (2) mattress-making, (3) rope and twine-spinning, (4) net-making, (5) mat-making, (6) handloom weaving.

After training, the wages vary from 10s. to 20s. a week. There is little chance of promotion, except to become a foreman or instructor, when the payment is from 22s. to 33s. a week.

## BELL AND BLIND HANGERS AND LOCKSMITHS.

Glasgow, 52.

Dundee, 24.

Edinburgh and Leith, 74 + 1.

Aberdeen, . . . 4.

There are far greater possibilities in this trade since the introduction of electric bells and lighting; some of the newer firms fit up electric light in addition to bells and telephones. The tube-work, wire-work, and electric fittings required in ships form quite an industry in the shipbuilding ports.

## APPRENTICES.

The apprenticeship is for five or six years, and may begin at 14. There is no premium or indenture, but, under ordinary circumstances, a certificate is only given if a lad has served his full time. Strength and intelligence are the chief qualifications, together with a good knowledge of arithmetic and some skill in drawing. A limitation is set by the trade union on the number of

apprentices to be employed in proportion to the men; in order to keep the proportion accurate, an average of men employed is taken every two years.

The wages begin at 3s. 6d. to 5s. a week, and advance by 1s. a week each year, but a capable apprentice generally receives a larger increase after the middle of his time, his wages rising to 10s., 12s., and even 15s. in the last year. The working hours are from 45 to 51 per week—usually 51—arranged from 6 to 5 daily, and 6 to 1 on Saturdays,—meal hours from 9 to 10 and 1 to 2; or from 7.30 to 5.30, with one meal hour off.

Apprentices are trained first in the shop making wire-work and learning to place it, then are given outside experience along with journeymen. They are sent to each department of work in turn, and naturally learn best in shops where machinery is not much used. For that reason, it is said that the boys trained in Aberdeen and Dundee get the fullest training. It is advisable that boys should take such subjects as electricity, mechanics, and drawing at a technical college.

## JOURNEYMEN.

After apprenticeship, wages may begin at 18s., and rise in a year or two to 25s. a week. The time wage for journeymen is from 6d. to 9d. an hour, which makes from 25s. 6d. to 38s. 3d. for a 51 hours' week. If working a mile from the shop, journeymen get 6d. a day extra money for car fares. If out of town, 9s. a week extra is given to journeymen, and 7s. to apprentices.

Foremen's wages begin at 4s. to 6s. a week more than a good journeyman's wage, and may run to 54s. a week.

There ought to be very little unemployment in this trade, as men can continue work till they are old. Employers say that a "steady man never wants a job." Winter is usually rather slack, and shorter hours may be worked for a time; the busiest months are May, August,

and October, and overtime work is then frequently required.

---

### BLACKSMITHS.

Glasgow, 4,953.

Edinburgh and Leith, 1,237 + 459.

Dundee, 769.

Aberdeen, . . . 711.

Blacksmiths are employed in a greater variety of works than any other kind of tradesman—viz., in all kinds of ironworks, in shipbuilding yards, and in iron-mongers' shops. For this a boy must be strong, as he has heavy hammers to wield, and he must be able to stand heat, as he works at a forge. Special care has to be taken of the eyes, in case of the hot sparks. All tools are supplied. The hours of work are 51 to 54 per week. Since the Post Office lowered the time for discharging telegraph messengers to 16 years, the supply of lads has been much better.

A store-boy and a message-boy are generally attached to the office in a blacksmith's shop. These boys receive 5s. a week; the store-boy hands goods out to the workmen, and makes a note of the jobs allocated to the workmen. Not infrequently these lads become apprentices.

### APPRENTICES.

In some shops the apprenticeship is four and in others five, and in some even six years. Sometimes boys are taken at 14, but 16 is perhaps a more usual age, as a boy requires to be physically strong and well-developed. Wages begin at 3s., 4s., or occasionally 5s., and rise 1s. or 2s. a year. In most shops a good worker may get 10s. to 13s. during his last year. Boys are easily got, except for high-class work where special ability is wanted. Apprentices, particularly when they

are doing the varied work necessary in an ironmonger's shop, are advised to study such subjects as drawing and mathematics.

#### JOURNEYMEN.

An improver may get 18s.; later the wages vary from 5d. to 9d. per hour or even more—*i.e.*, from about 20s. to 38s. per week. A common wage is 3ls., but this depends entirely on ability. A foreman gets from 36s. to 50s. In ironmongers' shops the work is fairly regular, but in large factories it varies very much with trade. In slack times the regular hands may have their time reduced, and the casual hands are paid off.

#### Cartwrights.

Blacksmith and horse-shoeing business is frequently combined with cartwright work and cart-painting. In such cases the employers say that when their message-boys are offered the choice of going to the woodwork or ironwork side, the woodwork is almost always selected. The wages during apprenticeship usually begin in this business at 4s. or 5s. a week the first year, and there is good scope for individual excellence. Several employers give an extra shilling every six months to the best lads. The months of April, May, and June are a little busier than others, but this line is one that offers very steady work.

Painters may serve their apprenticeship in this special trade, or may be taken on after having served apprenticeship elsewhere.

#### Farriers (Blacksmiths).

The work consists of forging horse-shoes and the shoeing of horses. It is hard work, and requires great physical strength. At many forges only experienced men, who may have been trained in the country, are employed. A number of men find steady employment as "farriers" in the Army service.

Where boys are employed, the length of their apprenticeship depends on their abilities. Wages begin at 8s., and rise 2s. each year. A boy who wishes to rise should take classes in forging at a technical college.

After training, wages rise from 30s. to 34s per week. A foreman receives rather more as a rule. The hours are 51 per week, with two meal-hours off. Overtime must sometimes be worked, and no pay is given for this. Trades and general holidays are given with pay.

The work is healthy and regular, and winter is rather busier than summer.

---

### BOOKBINDING.

M.	F.	M.	F.
Glasgow, 621.	1,837.	Edinburgh and Leith, 590 + 15.	1,184 + 87.
Dundee, 46.	62.	Aberdeen, . . . 56.	136.

Bookbinding is no longer a craft. It has been subdivided to such a degree that a man could be taken into a workshop and taught some particular part of the process in a few months. The largest number of bookbinders, in proportion to the population, are employed in Edinburgh, as printing is one of the principal trades in the city.

There are two main branches of the bookbinding trade—(1) *forwarding* and (2) *finishing*, and a lad may apprentice himself to either. Those who select this trade ought to have mechanical ability, strength, and artistic taste. The trade is one that attracts plenty lads, but it is difficult for some to adapt themselves to it. Girls do by far the largest proportion of the work; probably it would not overstate the case to say that eight to ten times as many girls as lads are now employed.

### BOY APPRENTICES.

Binders (whether forwarders or finishers) serve an apprenticeship of seven years. Apprentices—more par-



ticularly the finishers—ought to take classes in freehand drawing. Wages run usually—4s., 5s., 6s., 8s., 10s., 12s., and 14s. The trade union limits the number of apprentices to one to every three journeymen.

#### JOURNEYMEN.

After training, the weekly wage is 28s., and rises in six months to 32s., which is the trade union rate. A good man may get 38s. Occasionally a man doing fine work may get 50s. or even 60s. per week. A foreman earns from 40s. to 65s. per week. Work is slack in summer and busy in winter. In the busy time a journeyman may make from £2 to £3 per week. The hours of work are 48 to 52½ per week, generally with a break of one hour per day.

#### WOMEN AND GIRLS.

Girls begin to learn bookbinding at all ages. Some idea of the flotsam and jetsam that goes on in the work-rooms of a large firm is given from the fact that in a firm where over 600 women are employed in the binding department, the number actually passing through in a year's time is over 1,000. Many girls try the work for a day or two only, but the girls who stay three or four months usually remain. Intelligent girls coming direct from school are the most satisfactory. They begin at 14 with 3s. 6d. or 4s. 6d. a week, and rise 1s. each year. After about three years, which may be looked upon as an apprenticeship, they are put on piece-work, if they wish it, in one or other of the branches of work. A quick learner can, however, become expert in any of them with two or three months' practice. This is quite usual with girls who have carried their education further. One or two employers remark that their best girls have been trained as pupil-teachers, but have failed in some particular subject, or have been trained for book-keepers but preferred less responsible work.

The average wages made are:—(1) For binding and folding, 10s. to 12s. on time-work, 13s. to 15s. on piece-work; (2) for paging and sewing by hand or machine, 8s. to 12s. on time-work, 10s. to 15s. on piece-work. There are very few forewomen, and their wages would not exceed 21s. a week. The working hours are 50 to 52½ per week, but the piece-workers often reduce the hours to 48.

Piece-work is the ruin of many girls. Being put to work at so much per 1,000, and shifting from shop to shop as work is busy or slack, leads to loose life, and a large proportion of girls, through little fault of their own, cannot get anything like steady employment, and consequently lead a shady life. The better-class girls are forming guilds in London, and are binding books from start to finish. In some classes of publishers' work they are quite competent to do this. In the artistic part (finishing) they also compete with men, but only girls of education and artistic ability are successful.

### Paper-Ruling.

This is a separate branch of the trade, done by men only in most towns. The conditions of labour and pay are the same as for binders. Intelligent girls could easily be employed at five-sixths of the work. In Aberdeen the average wage for girls is about 11s. a week, although some are paid 15s. a week on time-work, and even 20s. Birmingham is an example of a city where paper-ruling is almost entirely done by girls.

### BOOKSELLERS AND PUBLISHERS.

	M.	F.		M.	F.
Glasgow,	319.	125.	Edinburgh and Leith,	502 + 31.	76 + 8.
Dundee,	57.	20.	Aberdeen, . . .	95.	57.

Mental ability, literary interests, and a very good

general education are essential in the bookselling and publishing business. Boys who wish to enter it are recommended also to study modern languages, to get up shorthand, and to read as widely as possible.

It is no longer customary to indenture apprentices, but five years is recognised as the period required to learn the business. Boys are paid at the rate of £10 in the first year, the salary rising by annual increments of £2 10s. to £20 in the fifth year. Junior hands begin by helping in the tying-up of parcels, and gradually become acquainted with the stock by keeping the bookshelves in order; after some time they learn to serve customers.

The experience gained in a bookseller's shop is very valuable for young men who intend to enter a publisher's office. There are good posts open to capable men in such offices.

---

### BOOT AND SHOE MAKING.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Male :				
Makers,	3,373	1,151 + 165	625	519
Dealers,	315	66 + 5	31	41
	<u>Total, 3,688</u>	<u>1,217 + 170</u>	<u>656</u>	<u>560</u>
Female :				
Makers,	769	243 + 50	100	36
Dealers,	606	192 + 52	81	87
	<u>Total, 1,375</u>	<u>435 + 102</u>	<u>181</u>	<u>123</u>

The increased use of machinery, which turns out work very cheaply and quickly, has very much reduced the number of employees in the larger factories. For example, in one warehouse in Glasgow, where, about ten years ago, six men and three boys were employed in the finishing department, the introduction of special

machinery has enabled the same work to be turned out under the care of two men and two boys.

The chief departments in a boot factory are:—

- (1) *Cutting Department*, where the work is done almost entirely by hand. The leathers for the uppers and other parts of the boots or shoes are cut out upon a metal or cardboard pattern.
- (2) *Machine Room*, staffed usually by women and girls; the leathers are seamed or folded, certain parts are pasted together, and a great variety of machines are employed in pairing neatly and trimming the edges, stitching, button-holing, barring and binding, and making eyelets.
- (3) *Soling Department*, largely conducted by machinery, under the supervision of men; the heels are added by machine work.
- (4) *Finishing Department*, also under men, and largely carried on by machinery; the heel is here finished, and the whole boot is coloured and glossed.

#### APPRENTICES.

Boys are received as apprentices without premium and without indenture, but there is sometimes a verbal agreement. The trade union limit is one boy apprentice to three journeymen. Apprenticeship may be entered upon at 14 years of age, and lasts for a term of four or five years. The wages are 4s. or 5s. in the first year, and rise to 10s. upwards in the last; in Glasgow, as much as 14s. or 15s. may be given in the last year of training. The working hours are 6.15 a.m. to 6 p.m. daily, with two hours off for meals; Saturdays, 6.15 to 12.30.

The apprentice works under a journeyman, but must rely upon his own observation for picking up a good

knowledge of the trade, and there is a danger that he may be kept too long at one kind of work.

### JOURNEYMEN.

Boys have a fair chance of being kept on in the business where they have been trained. Some pass on to other warehouses for different experience or more wages. After apprenticeship, the full minimum wage of 28s. or 29s. weekly can be claimed at the age of 20. Very often men are put on piece-work, and can earn from 30s. upward. Work is slightly slacker in winter, but the staff is seldom reduced; as a general rule, all hands are put on shorter time.

Skilful workmen often become cutters, or secure well-paid posts in the larger factories and warehouses in the South. Chance of promotion depends entirely upon skill in workmanship.

Older men are not wanted in the departments where there is danger of injury from machinery, more especially since the passing of the Compensation Act. Otherwise, old age is not a hindrance in the boot manufacturing trade.

Message-boys or packers are employed in the store-rooms at 5s. a week, but they do not remain long, as the pay cannot be increased more than a shilling or two.

### GIRLS.

Girls are never apprenticed, and, as they have not organised themselves as a trade union, there is no standard system of payment. Learners may begin at 14 years of age, when they are paid about 4s. or 5s. a week. Several years are required for the learners to become expert machine workers, and their wages may then be gradually increased to 10s. or as much as 13s. a week. In a few cases, highly skilled workers may earn up to 18s. or 20s. a week. One considerable

advantage is that the trade is one that affords remarkably steady employment.

In the retail trade, saleswomen earn from 15s. to 30s. a week. Salesmen are generally older men who have some experience in shoemaking, and they earn from 29s. upwards, according to capability. In this department, manners and smartness, ability to keep the stock in good order, and success in selling are the essentials.

### **Hand-Made Boots and Shoes.**

The trade in hand-made boots and shoes has declined enormously, owing to the competition with cheaper goods from home and American factories. Some makers, still in the trade, express the opinion that the lowest level has been reached, and that a moderate demand for hand-sewn footwear will continue to exist.

The chief processes are:—

- (1) Clicking—*i.e.*, cutting the leather to a pattern prepared in paper.
- (2) Closing—*i.e.*, joining the various pieces of the upper together.
- (3) Boot-making proper—*i.e.*, attaching the soles to the uppers.

Last-making is a separate branch.

Boys are rarely trained in the cities now; under the present conditions, it does not pay the masters to do so. Young men who have been well taught in the country and come to the towns, easily get work from some of the first-class firms who make a specialty of hand-made goods; there is no surplus of labour in this line. As a rule, such newcomers are only entrusted with children's boots and shoes; after some practice at this, and occasionally some further teaching by more expert workers, a man will get all classes of work. Owing to the high rents, there is generally no workshop attached



to the showrooms, and practical shoemakers do their work either in their own homes or in workshops hired in common by several men. Payment is given by piece-work, and a clever workman can earn £2 a week and upwards. The trade is very little affected by the change of the seasons.

---

### BOX AND PACKING-CASE MAKING.

	M.	F.		M.	F.
Glasgow,	629.	172.	Edinburgh and Leith,	151 + 76.	57 + 5.
Dundee,	92.	2.	Aberdeen,	241.	7.

Packing-case making consists in preparing the wood and in making up boxes of all descriptions. It is distinct from joinery and distinct also from sawmill work.

### APPRENTICES AND BOY LABOURERS.

There is seldom a definite apprenticeship in the packing-case workshops, although employers like to keep lads and train them for the work. The length of time a boy takes to learn depends entirely upon himself; some learn very quickly. They require to be able to measure accurately, and must be strong. In Dundee, a few deaf and dumb lads are employed in this work, and lads about 15 years of age are taken while still in the industrial school.

Boys on entering usually assist the men at the machines, and when apprentices are wanted, the smart boys are chosen to fill the vacant places. The working hours are 52 to 54 per week. For the first four or five years the wages rise from 5s. a week to 16s. or 17s. in the case of a good boy. The wage really depends on ability, and rises gradually until the lad is 21 years of age.

## SKILLED AND UNSKILLED MEN.

The wage given to fully qualified men varies from 6d. to 7½d. per hour, which means a wage of 26s. to 32s. for a 52-hour week. An ordinary wage is 27s. 6d., but a good workman may rise to 34s. a week, and a foreman gets £2 2s. 10d.

The work of preparing the wood for the boxes is usually done on the premises, but the sawyers have nothing to do with the packing-case makers. They receive 7d. and 8d. an hour when experienced.

Unskilled labour is required, such as lifting wood for the saw, and receives a low wage of 10s. to 12s. a week.

In some shops work is regular all the year round, but generally January, February, and March are slack months, when time has to be considerably reduced.

In Glasgow a number of girls are employed in this work, which is of the type where a few permanent skilled workmen are put in charge of a number of temporary and less skilled employees.

## BREWERS AND MALTSTERS.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Male :				
Brewers,	351	822 + 13	38	46
Maltsters,	117	334 + 53	2	4
Total,	<u>468</u>	<u>1,156 + 66</u>	<u>40</u>	<u>50</u>
Female :				
Brewers,	8	... ..	1	4
Maltsters,	3	... ..	...	...
Total,	<u>11</u>		<u>1</u>	<u>4</u>

As appears from these census numbers, brewing is an important industry in Edinburgh. Besides brewers and maltsters proper, a large number of coopers are employed

in the breweries. Boys are apprenticed to this trade in the breweries (see p. 192). A few blacksmiths, joiners, plumbers, and masons are also employed at weekly wages ranging from 20s. to 33s., which are regular all the year round. They work a 56-hour week, with two hours for meals on week-days, and one hour on Saturday. The other employees are unskilled—that is, they can learn what is required of them in a week or two.

#### BREWERS.

A brewer requires to have had a good secondary education, to have served an apprenticeship in a brewery, and to have made a thorough study of brewing and chemistry. The training lasts seven years, and those who are successful in getting a situation may earn £150 to £500 a year.

#### WORKING BREWERS.

A working brewer has charge of the brewing-room, and sees that the brewer's orders are carried out. He must be an intelligent, capable man, and may be chosen from the brewhouse men. There is a working brewer to ten brewhouse men as a rule. His income may be £100 to £150, with a house. It is necessary for him to live on the spot, because he has to visit the brewery at night.

#### BREWHOUSE MEN.

Brewhouse men are labourers. Their wages are usually 20s. to 21s., a few getting as much as 27s. Besides working 56 hours a week, they must take their turns of night duty in the brewing-room.

#### CELLARMEN.

Cellarmen get 20s. to 25s. a week, and no training is necessary. Foremen may get 30s. This work is regular.

**MALTMEN.**

Several hundred maltmen are employed in Edinburgh breweries from October to May. They are not required in summer. They are often countrymen who go to the harvest in summer. They get 25s. to 27s. a week.

**BOTTLERS.**

A considerable number of boys are employed as bottlers. They attend the bottling machine, and the work is easily learnt. They sometimes begin at 5s., and are put on piece-work in a week or two, when they make 7s. 6d. to 10s. if fairly smart. Expert workers make as much as 14s. a week.

This is casual work, boys only being taken on as required, and a great many more are necessary at some times than others. A certain number of men are kept permanently as bottlers, and their wages range from 15s. to 30s. The average wage for these men is 20s. to 25s.

**CLERKS.**

A large number of clerks are employed. Their apprenticeship begins at 16, and lasts four years. The wages are generally £15 to £20, £20 to £25. After apprenticeship, the wages range from £1 to £2 per week. The hours are 42 per week.

---

**BRICKLAYERS.**

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Bricklayers,	1,438	379 + 91	70	379
Bricklayers' Labourers,	746	174 + 21	40	174

The work consists in building partitions, chimneys, furnaces, and boilers, and in bricklaying of all kinds. It is hard work, and requires a fair amount of strength.

## APPRENTICES.

The apprenticeship lasts five or six years; wages begin at 4s. to 6s. a week, and rise to 12s. A smart boy may get more in his last year. The hours are 51 per week. Classes in brickwork and building construction are useful to boys taking up this trade. Bricklayer apprentices are taken by builders and contractors, in foundries and other works, as well as by employers limiting themselves to this trade.

## JOURNEYMEN.

After training, wages vary from 8d. to 9½d. per hour, or about 34s. to £2 a week. Men may receive higher wages when employed in work which entails any risk, such as chimney-stalk building.

Winter is the slack season, when men are sometimes paid off, and it is impossible to work in frost. Age does not handicap a bricklayer.

## LABOURERS.

Labourers are much employed in bricklaying work, and receive 5½d. per hour, or about 23s. a week.

## BRUSHMAKERS.

---

	M.	F.		M.	F.
Glasgow,	277.	491.	Edinburgh and Leith,	74 + 9.	14 + 3.
Dundee,	43.	4.	Aberdeen, . . .	33.	6.

This industry has to contend with keen competition by the English and foreign markets, and it is at present in a fluctuating condition. The rapid advances of machinery threaten soon to displace hand workers. The proportion of skilled workers is diminishing every year, and employers have considerable difficulty in securing lads willing to undergo the six years' apprenticeship to

hand brushmaking. In Glasgow, the employers attribute this to the greater attraction of the shipbuilding yards, but the difficulty is very commonly experienced in trades where skilled and unskilled labour shade imperceptibly the one into the other, and the skilled workers are numerically weak. In Aberdeen, where brushmaking is a dwindling industry, apprenticeship is usually five years, and payment is not so good as in Glasgow.

The chief departments in a brush factory are:—

- (a) Hand brushmaking.
- (b) Preparing and finishing.
- (c) Machine drawing.
- (d) Machine pegging.

The preparation of the material for household and stock brushes (fibres, broom-twigs and broom-corn, mallow, rushes, etc.) and the making up can now be done almost wholly by machinery. For the finer varieties of brushes, some of the processes must still be done by hand. The backs, stocks, or handles have to be socketed or bored, and men are mostly engaged in this work. The setting of the tufts of hair, bristle, or fibre into sockets by the pan-work method, as well as the processes of looping the bristles over wires, and drawing the wires through neatly drilled bores, are now done by machinery, and both men and women are employed in attending the machines. The simpler forms of brushes are, as a rule, made by women, as the machines are lighter. The brushes have to be planed, polished, and finished under skilled workmen.

#### APPRENTICES.

Boys are received without indenture at 14 years, and serve six years. They work 51 hours a week, and, except during the first three months, are paid by piece-work. Usually, the apprentice learns only hand brush-



making, as it brings better wages. He is trained by working alongside one of the journeymen. Payment runs about 6s. a week for the first 12 weeks, then about 50 per cent. of what they earn by piece-work; rising each year, until, in the sixth year of apprenticeship, about 75 per cent. is allowed. A skilled worker may then earn as much as 30s. a week. Apart altogether from the increased use of machinery, there is a tendency for apprentices paid by piece-work to specialise themselves in some particular branch.

#### JOURNEYMEN.

All are paid by piece-work, and the wages are from £1 to £2 weekly. The skill of journeymen, and consequently what they earn, varies greatly. Some men may make about 40s. in the same time that others make 27s.

November and December are slack months in this trade; then the men are put on short time, but are not turned off. In summer, overtime is sometimes required. Old age is not a drawback in this trade—about a third of the men in one factory were found to be over fifty years.

#### WOMEN AND GIRLS.

Girls come to the factory at 14 years of age, and work 51 hours per week, receiving at first about 4s. weekly, rising, in a year or two, to 7s. or 8s. per week. When expert, they can make from 11s. to 15s. per week on piece-work. In the manufacture of artists' brushes, very delicate handling is required to point the brushes properly, and this department is usually assigned to women and young workers.

#### BLIND WORKERS.

*Brushmaking* by hand is taught to the blind in institutions and asylums, and the average wage made

by blind brushmakers is about 14s. per week. The blind workers, who live out, receive a small sum in addition.

### BUILDERS. (Masons and Builders.)

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Masons, . . .	3,164	2,550 + 480	875	1,504
Masons' Labourers,	1,829	1,315 + 119	566	277
Builders, . . .	411	383 + 48	57	67
Builders' Labourers,	55	29 + 5	6	2

Builders employ a variety of tradesmen, and may take apprentices in all departments—(a) masonwork, (b) bricklaying, (c) plastering, and (d) joinery.

This is a very good trade for boys who are strong, healthy, and mentally alert. Much of the work requires skill and delicate handling. Formerly, applications were made by parents who were desirous that their sons should learn this trade, but now firms experience considerable difficulty in securing apprentices, and although they prefer boys from the country, they would take mill-lads if they could get them. In answer to an advertisement for an apprentice to this trade which recently appeared in a Dundee daily paper, there was only one applicant.

### BOY LABOURERS.

As a result both of depressed times and scarcity of apprentices, boy-labour is being exploited to a much greater degree than formerly. Boys are employed, at 6s. a week, as "can-boys" at concrete-making, and in the manufacture of steps, shaped stones, etc. These are given a shilling or two more if they stay a year or two, but they are not being trained as apprentices, and may be doing the same unskilled work all the time.

## APPRENTICES.

The term of apprenticeship is five years, beginning at 15 or 16 years of age; no one over 18 is taken as an apprentice. Employers sometimes take lads for a month on trial, and if during that time they have been found to be careful and diligent workers, they are taken on at 5s. per week, which is increased according to ability to 6s., 8s., 10s., and 12s. per week, and may even rise to 16s. per week. It was formerly the custom, when apprentices had low wages, to give them £10 at the end of their time. They generally ask now, however, to have it spread over their apprenticeship. There are no premiums asked for, and it is only in some places and with some employers that apprentices are formally indentured. In Glasgow it is usual for an apprentice to work for three or six months before being indentured, but the period of probation is allowed to count as part of the apprenticeship if the lad be retained.

There are two departments:—

- (1) Stonecutting and hewing.
- (2) Building.

Apprentices are trained by the foreman, and usually serve three years at *cutting and hewing*, and two years at *building*. If a lad wishes to continue the former only, he may do so, and is paid 1s. per week extra, during further apprenticeship, in consideration of his greater skill.

Working hours on week days are from 6 to 5, and from 6 to 1 on Saturdays. It is now proposed, however, to stop work at noon on Saturday. Meal hours, 9 to 10 and 1 to 2.

## JOURNEYMEN.

Young men generally remain with their employer after they have served their apprenticeship, and may in

time rise to be foremen, clerk of works, builders, or contractors. There are excellent prospects in this trade for capable men who go abroad.

A journeyman may earn £1 18s. 3d. per week when on full time. Time-workers' wages for *hewers* are 8½d. per hour, for *builders* 9d. per hour. Employers would like to have a difference in wages, according to ability, and regret that the trade union rules will not permit them to engage elderly men, even when, as not infrequently happens, these men were former employees of their own, who have started business and been unsuccessful. Older men might still do work at less rates, but the trade union regulation is stringent that all have to be paid at a uniform rate.

#### UNSKILLED LABOURERS.

About one-third of the men employed in the building trade are unskilled labourers, and are paid at the rate of 5½d. per hour. *Handymen* are sometimes put to the stone-cutting and planing machines, at 22s. to 25s. a week.

#### UNEMPLOYMENT.

The working hours are reduced during the winter, which is the slack season in this trade. For six weeks men work only 8 hours a day, and the less efficient workmen are usually discharged. Sometimes, however, an employer accepts a contract at little profit to himself in order to retain his men, as, besides the benefit to them, he might require their services should a better order come in.

The building and masonwork trade is strongly affected by local fluctuations. In Glasgow, for example, the Operative Masons' Association reports that in 1902 there were upwards of four thousand men employed in this trade in Glasgow and district; in 1906 not more than one thousand men were employed. Of the three thousand masons thrown out of work, some have emi-

grated, some have joined the army, some have gone into public works as labourers, some to the railways. Hundreds are still tramping the streets, and are compelled to go three, four, five, and six months idle at a stretch, occasionally securing a short spell of work.

The present depression is a reaction after a boom in the building trade some six or seven years ago. A large number of apprentices were taken on at that time, and now these are becoming journeymen in the midst of this period of depression.

The rapid increase in the use of machinery has largely contributed to the gravity of the present reaction, as it cheapened production, and so forced the rate at which building was undertaken. One machine displaced eight or nine men, and although during the boom these men found employment, the normal demand in the trade is not sufficient to provide work for the number of men displaced. The balance of supply and demand will in course of time right itself so far as the machinery is concerned, as the entry of new hands into the trade will be regulated accordingly. Little training is required to work the machines—they can be manipulated by handy-men—but most employers have put their skilled men to the machines.

Masonwork is now considered a healthy occupation, but some years ago, in Glasgow and Edinburgh especially, men worked a stone from which they inhaled sulphur-dust, and the death-rate was high. Stones are now so far prepared by machinery at the quarries that this danger is to a great extent prevented. Masons tried to stop machines being used in the quarry, when they first came out, but they did not succeed. All hand-work must now be done in the yard, not in the quarry. This trade is not such a hard one as it was in former years, and men are not discharged on account of old age. One man has been in a firm for over thirty-six years.

Compared with former years, the men now employed in this trade are of a higher standard. They are better educated, and as a general rule are sober and good-living. At one time men would be off work one or two days drinking, and they would sometimes ask their wages in advance. This has now been done away with, but employers complain that young men take a greater interest in football than in their work, and they have had to put a stop to their men playing football during meal hours. Employers strongly recommend apprentices to use more of their spare time in study, and thus better equip themselves for their life's work. If a boy wishes to get on, he must work hard. Every encouragement is given to lads to attend evening schools and technical classes, such as elementary courses of mechanical engineering and more advanced classes in building construction and drawing. One boy who attended evening classes in Dundee, and who eventually went to Melbourne, is now a large contractor, and gets Government contracts for big works.

---

### BUTCHERS.

	M.	F.		M.	F.
Glasgow,	2,471.	182.	Edinburgh and Leith,	1,142 + 216.	20 + 4.
Dundee,	473.	18.	Aberdeen,	496.	7.

Boys of 14 generally begin as message-boys with about 5s. to 6s. per week. After a time, they are sometimes promoted to be van-drivers; while thus employed they can also learn something of the work, which consists of slaughtering, poultry-dressing, sausage-making, and general shop work.

The working hours are 60 per week, usually from 8 to 8, and 8 to 10 on Saturdays, with a weekly half-holiday. An hour and a half is the usual time for meals.



## TRAINING.

There is no regular apprenticeship, but it takes three or four years to learn the trade. Wages during that time range from 6s. to 10s., but more may be given to capable lads. To start with, they learn the minor duties of the shop, such as cleaning and clearing bones, making sausage and mince. They are then allowed to serve at the counter, where the great art is to cut a piece of meat to a given weight. To complete their training, they are sometimes sent to the slaughter-house, where they are taught killing and dressing the meat by an experienced man, and learn to buy cattle and judge aright live and dead weight. On slaughter-house work, 2s. per week is given extra.

When qualified, wages vary according to ability. Beginning at 17s. or 18s. per week, they rise to 35s., and, occasionally, to £2 for men in positions of responsibility; 28s. is a good average wage. An allowance of two or three pounds of meat is given weekly in some shops. The work is steady all the year round.

This is one of the trades where so much depends upon individual skill that a pushing man can often start in business for himself at no great outlay.

## CABINETMAKERS.

		Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Male:	Cabinetmakers, .	2,438	783 + 60	311	363
	French Polishers, .	306	219 + 19	132	49
	Upholsterers, .	930	453 + 30	132	187
	Total, .	<u>3,674</u>	<u>1,455 + 109</u>	<u>575</u>	<u>599</u>
	House and Shop				
	Fittings Makers, .	218	105 + 2	10	9
	Furniture Dealers, .	340	156 + 16	33	37
	Wood Carvers and Gilders, . .	671	314 + 12	55	106

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Female: Cabinetmakers, .	13	10 + 1	...	1
French Polishers, .	1,202	47 + 3	10	73
Upholsterers, .	499	288 + 22	35	65
Total, .	<u>1,714</u>	<u>345 + 25</u>	<u>45</u>	<u>139</u>
Furniture Dealers,	131	52 + 8	28	37
Wood Carvers and Gilders, . . .	93	11 + 5	2	4

In cabinet factories the work is specialised, and falls into the following departments:—

- (1) Machine-shop (see p. 134).
- (2) Chair-making.
- (3) Cabinetmaking.
- (4) Furniture design.
- (5) French-polishing department.
- (6) Upholstery.
- (7) Wood-carving.

#### APPRENTICES.

A boy is usually apprenticed to one special department, and spends all his time there. The trade union does not limit the number of apprentices. Sometimes employers have difficulty in getting capable boys to work for the low wages offered in the early stages. Even if the boys themselves would be willing, for the sake of entering the trade, the parents often prefer to send them to mills or any other work where the wages are higher. Boys are received at 14 years of age, and serve five years, according to choice, in the machine, chair, or cabinet departments; or six years in the carving and upholstery departments.

#### CABINET AND CHAIR-MAKING AND MACHINE-SHOP.

The wages of apprentices vary in the first year from 3s. to 5s.; this is increased yearly till the last year, when from 11s. to 14s. is earned.

Boys assist the older workers in various ways,

drawing off the work in the machine-shop, stocking it, and fetching and carrying, until a bench can be got for them; this is generally about the beginning of the second year. They are then trained to their particular branch of the trade under the supervision of a foreman or a journeyman. If efficient, they are kept on as regular workers when their apprenticeship is completed; comparatively few apprentices are paid off by employers at the end of their training.

#### JOURNEYMEN.

The trade union time rate of payment is  $7\frac{1}{2}$ d. to  $9\frac{1}{2}$ d. per hour, which works out at 32s. to 40s. for a week's work of 51 hours. The trade is slacker in the winter months, but the staff does not vary much; shorter time is worked in preference to reducing the staff, and stock is made. Old men are retained as long as they can do the work, and are especially valued in the workshops.

Some cabinetmaking workshops make a specialty of shop and office fittings, but the training is similar to that of the ordinary cabinetmaker.

#### UNSKILLED LABOUR.

Unskilled labourers are employed as assistants in some departments, chiefly in the machine-shops, where they remove the work.

#### WOOD-CARVING.

This is a special branch of the trade, to which only boys showing very decided artistic qualities should be apprenticed. A boy should be able to give some proof of this in his attempts at drawing and carving before he undertakes the long apprenticeship of six years. The wages during training rise from 3s. or 4s. to about 10s. a week. After apprenticeship the standard wages are at the rate of  $8\frac{3}{4}$ d. per hour, but a talented workman may advance from wood-carving to modelling and designing, and attain a very good position. As a rule, wood-carvers

move from one employer to another, according as they are needed.

It is particularly desirable that continuation courses of study should be taken. The special course for apprentices in the more artistic lines is devoted to free-hand drawing, modelling, and designing.

#### FURNITURE DESIGN.

To go into this department of the furniture business, a boy ought to have a good education and artistic taste. It consists in making drawings of furniture according to specifications, and in making new designs and adapting old ones. The drawings made by the designers have to be exactly to scale, and they are used by the cabinet-makers, turners, and wood-carvers, who reproduce the drawings in wood. It is a help to have some knowledge of drawing and measurement before beginning apprenticeship, but in any case classes in these subjects and in design and modelling ought to be taken during apprenticeship.

Apprenticeship begins at 15 or 16, and is for four years, the wages being 6s., 8s., 10s., and 12s., as a rule; the hours are 45 per week. After apprenticeship, the wages depend entirely on the ability of the man. He may be worth nothing to his employer, or he may be worth 50s. a week. This is quite a common wage, but a good man may rise to 80s. or 90s. In this department, there is a chance for a man of capacity rising to a very good position.

#### FRENCH POLISHING.

French polishers are employed in furniture shops and factories, and also by shipbuilders. The work is hard, and requires strength.

*Lads* are apprenticed for five years. The starting wage varies from 3s. to 5s. a week, and in the last year

of training may be 10s. or 12s. After apprenticeship, wages begin at 5d. an hour (about 21s. a week), and rise in a year or two to 8d., which is the standard wage. From 50 to 56 hours per week are worked, one hour per day being allowed for meals.

A large proportion of *girls* and *women* are employed in the French-polishing department. They may enter at 14 years of age, and begin at simple staining work, with wages of 3s. to 4s. weekly. Although not regarded as apprentices, girls have to pass through four or five years' training, with slightly increasing wages. The trained workers then receive wages of 11s. or 12s. to 15s. or 17s. a week. The long hours of standing demand considerable physical strength; and it is never reckoned in the trade that a woman polisher can go through as much work in a day as a man. At the same time, capable girls are always secure of work in this trade, and they form a particularly steady and respectable class of workers. There is usually a slack time of two or three months in winter, when the working-hours are reduced, and then an occasional busy spell, when overtime can be worked and wages may be increased.

#### UPHOLSTERY.

An apprenticeship of five or six years is required to learn this business. The usual age to begin work is from 14 to 16 years. A boy should have a good, plain education, and, if possible, some training in drawing.

The wages during apprenticeship commence at 3s. or 4s. per week, rising at the rate of 1s. per annum. The usual hours of duty are 51 in the summer and 44 in the winter. After apprenticeship, the wages in a good business start at 20s. to 25s., rising from 30s. to 35s. The recognised wage for a good workman is 8½d. an hour.

A boy who takes every opportunity of improving his

general education, and makes himself a good arithmetician and draughtsman, and shows special smartness, may get the chance of becoming a salesman; or, if he has artistic taste, he may get higher wages for skilled work, or rise to be a foreman.

A good workman will have steady work all the year, and, in some firms, extra hands are regularly engaged during the busy seasons—in spring and summer.

*Girls* are employed as sewers in the upholstery department, as mattress-makers, and in other varieties of work. They pass through an apprenticeship of three years, with wages of 3s., 4s., and 5s. a week in the successive years. Afterwards, the average wages given are 7s. to 10s. a week, but they may rise to 13s. or 14s. for forewomen.

---

## CARVERS AND GILDERS.

There is no trade union limitation of the proportion of apprentices to journeymen. Owing to the increasing demand for cheap machine-made frames, very few firms in smaller towns find it possible to train apprentices for themselves, or to keep hand carvers in wood. When employers advertise for an apprentice, there is no lack of applicants. The necessary qualifications are some artistic taste and a deftness of touch; and a knowledge of cabinetmaking is an advantage.

## APPRENTICES.

No premium is required, and boys are not now indentured. In some cases, boys are taken for a month on trial, and if, at the end of that time, they have been found to be careful and industrious workers, they are apprenticed for a period of five or six years, usually beginning about the age of 15, and are paid at the rate



of 3s. or 4s. per week, which is increased by 1s. each year. A little extra payment is given at a Christmas time, if work is very busy.

There are two departments:—

(1) Joiner work.

(2) Gilding.

For both of these a boy should be neat-handed, and have some skill as a draughtsman. He is trained under a foreman in the workshop, and should, in addition, attend one of the industrial courses for freehand drawing and design given at the evening schools.

Working hours on weekdays are from 6 a.m. to 5 p.m., with two hours off for meals; on Saturdays, 6 a.m. to 2 p.m.

#### JOURNEYMEN.

A journeyman may earn from 25s. to 30s. per week. In Glasgow, a foreman or anyone employed in a special department may earn as much as 35s. per week. Time workers are paid at the rate of 7d. an hour, and as this trade does not come under the trade union, the time-wage is often increased, according to ability. It does not require much capital for a man to start on his own account.

Christmas time is the busiest season, as there are so many magazines which have coloured plates, and this makes a demand for frames. As the mouldings are nearly all done by machinery in London and other large towns, it is more particularly in the mounting of pictures that taste is required by local men. March and April form a slack season, but employers seldom discharge their men; they make up stock at this time.

Carving and gilding is a quiet, steady, healthy occupation in which men are not too hard worked, and where elderly men can remain as long as they can do good work.

## MACHINE WORK IN FRAMES.

Machine mouldings are made in Germany, France, England. Scottish towns like Glasgow and Edinburgh do a small business. The mouldings are cut to size, and bored by machines. The joints are then glued and nailed. The mounts are cut by hand, and the gilt mounts by hand or machine. These latter processes require taste and skill, and any workman with previous knowledge as cabinetmaker is better qualified for the work.

---

 CARPENTERS.

Glasgow, 6,685.

Edinburgh and Leith, 3,411 + 733.

Dundee, 1,181.

Aberdeen, . . . 1,464.

The term "carpenter" is sometimes applied in strict sense to a man engaged on outside work, such as making the framework of buildings; and the term "joiner" to one who works mostly in the workshops, preparing the furnishings. This trade is to be strongly recommended to active lads wishing to enter a trade. It is healthy, the men engaged in it are of a respectable class, and old age does not handicap a joiner, as it does some classes of workmen. Parents feel this, and there are always many applicants for a vacant apprenticeship in a good joiner's business. Masters now consider technical classes, particularly drawing, necessary for a lad who wishes to make his way in the trade.

## APPRENTICES.

The trade union does not limit the number of apprentices; no premium is required, and there is no indenture. Intelligent, likely lads are received on trial without any special test, no preference being given to sons of employees. They ought to be 16 or 17 years of age before applying; a few shops take boys at 14, but it

is considered too young. The term of apprenticeship is five years. The working hours are 6 a.m. to 5 p.m., with two breaks—51 per week in summer; in winter, 45 hours weekly. The pay rises from 4s. in the first year to 10s., 12s., or 15s. a week in the last. A clever learner may make 20s. during his last year in some of the Glasgow shops.

The method of training apprentices varies. In some places the first two years are spent inside at shop work, and the last three at outside work with a man: but usually the apprentice attends a journeyman at outside work for the first two years, and then comes to a bench in the shop, still working with a qualified man. Some employers allow the apprentices in their last year to work at a bench alone, or to do simple outside jobs by themselves.

#### JOURNEYMEN.

Apprentices may be retained in the same workshop after training, and may get 6d. an hour for the first year, and 8d. an hour or more later on. But it is the custom of the trade that a lad, when his time is out, goes to another shop for wider experience. The masters encourage this. The young man works as an "improver" for two or three years, during which time he makes £1 a week or more. Then he very frequently returns as a fully paid journeyman to the shop where he learned his trade. His wage is now at the trade union time rate of 8d. to 9½d. per hour; thus, in summer, an expert journeyman may make 40s., and, in the winter, 35s. weekly. There are good chances of promotion as sub-foremen and foremen, with corresponding increase of wages.

#### UNEMPLOYMENT.

In this trade wages have appreciably increased during the past twenty years, and one result has been a

reduction of staff by employers whenever possible. But whether or not there is much unemployment or much overtime depends greatly upon the class of work done by particular firms. An ordinary jobbing joiner has very regular work throughout the year, with a rush for a week or two at term times, especially in May. The firms which have contracts with builders are usually busiest in summer—from April to 28th May in finishing the contracts; from 28th May to July with alterations and repairs. In the winter, the masons and plasterers are often stopped by frost, and the joiners who follow them cannot get to work. But the slack and busy seasons depend more upon the contracts in hand than on the time of year.

Old age is not a hindrance to joiners. A man of 55 *with glasses* will have difficulty in obtaining employment now, owing to the greater risk of injury, and the stringency of the Workmen's Compensation Act. But apart from this, old men are often preferred, especially for indoor work, and in some shops the best and most valued workmen are between 50 and 60 years of age.

The employers have not yet been impressed with any benefit of the manual training given at elementary schools; on the other hand, they highly approve of evening class work taken concurrently with apprenticeship. The carefully graded and specialised courses arranged for the building trades in technical colleges and large evening schools extend over the five years of apprenticeship.

The first year's course includes geometrical and free-hand drawing, mensuration, and arithmetic, and is the same for all apprentices—carpenters, cabinetmakers, wood-carvers. Specialisation begins, as a rule, in the second year's course, when carpenter apprentices enter a definite course in practical geometry, building construction, carpentry and joinery.

The want of an indenture in apprenticeship reacts unfavourably on the trade, in so far as the apprentices sometimes stay for three or four years, and then go off as "halfpennies." In busy times they are taken on as extra hands, and get higher pay, but in the intervals they are unemployed. When lads begin to form this habit during the apprenticeship period, there is little likelihood of their ever becoming competent journeymen, or being steadily employed.

Even if they, in a measure, complete their training at the higher pay of "halfpennies," they have cut themselves off from the stricter rules of the trade, and inevitably have to look more towards casual employment as their means of support.

In Glasgow, which may be regarded as the building centre in Scotland, it is roughly estimated that only about 66 to 70 per cent. of the journeymen in this trade are in steady employment, and 30 to 33 per cent. are casually employed—perhaps work six months in the year. This certainly points to an over-production of journeymen, and, as the country towns employ comparatively few apprentices, the over-production must take place in the larger towns. It seems to be a result of the speculative building that goes on there, and the habit of employers to contract for work considerably beyond the ordinary working power of their normal staff. Each recurrent cycle of speculative building in the towns tempts employers to engage more apprentices than can be supported by the trade, and is consequently followed by a period of emigration and home depression.

---

#### CHEMISTS (MANUFACTURING).

	M.	F.		M.	F.
Glasgow, 886.	129.		Edinburgh and Leith, 64 + 37.	92 + 8.	
Dundee, 7.	...		Aberdeen, . . . 63.	1.	

There is great variety in the class and quantity of

work undertaken by different firms. Some essentially manufacture the goods, and depend for the most part upon the skilled work of specially trained men and apprentices. Others import or purchase large consignments of partially or wholly manufactured goods, and prepare them for redistribution to the trade. Unskilled workers, mostly girls, are employed in large numbers by such firms.

Some part of the materials used in compounding or milling may have to be prepared, and if so, there may be a few expert chemists and one or two apprentices at work in the laboratory.

The usual departments in a factory of this kind are:—

- (a) Chemical laboratory.
- (b) Milling.
- (c) Manufacture of liquid chemicals.
- (d) Bottling.
- (e) Labelling, finishing, and packing.
- (f) Drysaltery making and packing.

The output of such a factory would include bottled cod-liver oil, malt, oxo, black lacquer, polishes and stains of all kinds, jellies, perfumes, ointment, and other items. The work is healthy and, for the most part, light.

#### BOY LABOURERS.

Boys are employed by manufacturing chemists in unskilled work, such as bottling drugs, etc., and receive from 5s. to 12s. per week.

#### APPRENTICES.

Boys enter about 14 years of age, and serve for four years under the supervision of trained men. But it is seldom that they can obtain any intelligent grasp of the chemical processes unless they attend evening classes



and study the subject in a systematic way. It is taken for granted that all apprentices do this. They are paid a total sum of £50 to £60 during the four years' apprenticeship, beginning with an instalment of about £10 for the first year, or 4s. a week.

The hours of work are usually about 50 or 51 per week, beginning at 8 or 8.30 a.m., with one hour for dinner.

The great majority leave the warehouse in which they have served their apprenticeship in order to get insight and experience in some other branches of chemical manufacture. Any lad of good parts, who wishes to be successful, must forge his own path for a time in this way; those who are content to remain in one specialised line of business are not likely to rise to any position of responsibility.

#### EXPERT WORKERS.

Apprentices leaving at the expiry of four years, and with a certificate of good character, can at once earn wages of £50 upward. They can follow out their training further, and qualify through examinations for good positions as analytical chemists or general chemists in various industries, or in connection with public authorities. The salaries of all skilled work in chemical manufactures have been much increased of late years, and, in addition to the home trade, there is a large field for expert work in India and many of the foreign ports with which our firms have trading relations.

#### GIRLS.

In factories where girls are employed for bottling, labelling, and packing, they begin at 14 years of age, and stay until they are 23 or 25 years of age. The wages are small, starting at 6s. a week, and rising to an average of 9s. a week. Only a few women, when

they become very expert, are put on piece-work, and may earn from 12s. to 18s. a week. The work-hours average from 47 to 51 a week—from 8 or 8.30 a.m. to 5.30 or 6 p.m., with one meal hour off; 8 or 8.30 to 2 on Saturdays. The work is in small part done with machinery, in greater part it is routine hand work.

### CHEMISTS (PHARMACEUTICAL).

M.	F.	M.	F.
Glasgow, 734.	236.	Edinburgh and Leith, 706 + 113.	113 + 26.
Dundee, 117.	10.	Aberdeen, . . . 204.	7.

There are many good openings in this trade, and at present there is a scarcity of boys taking it up. It is difficult to assign a reason, unless it be that women are now being employed. The work consists in making up and dispensing medicines. Boys must be smart, orderly, accurate, intelligent, and well educated.

### APPRENTICES.

Before commencing the term of apprenticeship for this business, at the age of 16 or 17, it is better for a boy to have passed the necessary preliminary examination (the full Leaving Examination Certificate, University Local, or First Medical Preliminary is suitable). The Pharmaceutical Society will not register him as an apprentice till he has done so.

There is an apprenticeship of four or five years, though three years is the legal term. Wages vary greatly in different firms; some require a premium, others give wages rising from £5 to £15 per annum during apprenticeship. The total sum paid during apprenticeship is £50 to £75, and it is given by yearly instalments. If weekly payments are made, they begin at about 4s. a week, and rise to 8s. or 9s. a week in the last year of training.

The apprentice usually commences as messenger in the smaller shops, and assists generally in making up parcels and washing bottles; then he gradually learns to compound pills, ointments, and prescriptions, and thus becomes familiar with the stock.

Before becoming a qualified chemist, the Minor Examination of the Pharmaceutical Society must be passed, and this means that classes in Physics, Botany, Chemistry, Pharmaceutics, and Materia Medica ought to be taken concurrently with the period of apprenticeship. There is an entrance fee for the examination of £10, and the cost of the classes is £17 17s. or £18 18s. Candidates for this examination must be over 21 years of age.

In each large educational centre special provision is made for the preparation of young chemists for the Pharmaceutical Society examinations, which are held in Edinburgh and London. There are two Schools of Pharmacy in Edinburgh, and it is reckoned that two years of evening class work, or one year of evening class work and three months of day classes, should suffice for preparation. The examination demands such a high standard that candidates generally allow time for special coaching.

After training, a junior assistant, who has not passed the qualifying examinations, may be given about 18s. to 20s. a week as wages. But apprentices who have served their time are usually anxious to leave in search of new experience.

#### QUALIFIED CHEMISTS.

After having passed the Minor Examination, wages may begin at £60 per annum for junior assistants, and may rise to £100 and £150 per annum. The ordinary trained assistant never rises above the salary of a junior.

There is also a Major Examination, which, however,

is not compulsory, but a man who passes it may rise to higher positions, or become a lecturer. It costs about £10, and covers the same subjects as the Minor, but the standard is much higher.

The hours of duty are, as a rule, 50 to 62 per week, but the week's total may rise to 70 hours, as night duty is often necessary. Two meal hours are allowed, and a fortnight's holiday is usually given.

The work is healthy and regular, and the career is a secure one, but the chances of promotion are comparatively few. A successful young assistant may sometimes be appointed manager of a branch shop, and, in some cases, capable young men, after serving their apprenticeship with an employer, may be allowed by him to continue as assistant while taking the necessary classes in the medical courses at a university.

Qualified chemists are employed in laboratories and in manufacturing works, but promotion is slow, and salaries do not rise very high.

#### GIRL APPRENTICES AND QUALIFIED WOMEN CHEMISTS.

In recent years, girls have come forward as apprentices, and have qualified themselves as pharmaceutical chemists. The success attending the few who have become shop assistants proves that the extra neatness and deftness of hand natural to women is specially useful in dispensing work. A strong constitution is necessary, as the work is of an arduous nature. Qualified women dispensers in shops are offered about 30s. to 40s. a week as a starting salary. Posts, such as dispensers in hospitals and with private physicians, are open to both sexes.

#### GIRL ASSISTANTS IN SHOPS.

Girls are now being engaged in shops for typewriting and shorthand, and to assist by selling patent and other

medicines which have been made up. They are allowed to weigh materials, but cannot make up prescriptions. They start at 4s. weekly, but may rapidly rise, and may get anything up to £1 a week. Such girl assistants in shops are always recommended to attend ambulance classes, as a general knowledge of "first aid" is of use in their position.

### CLOCK AND WATCH MAKERS.

	M.	F.		M.	F.
Glasgow,	523.	15.	Edinburgh and Leith,	359 + 46.	...
Dundee,	103.	1.	Aberdeen, . . .	119.	3.

Clocks and watches are only made to a very limited extent in this country at present; especially as regards watches, foreign competition has very much reduced the trade. When the parts began to be made by machinery, the home makers were lacking in enterprise, and consequently the market was supplied with watches from abroad at such a cheap rate that the home trade has gradually dwindled away.

Watches are not made by the Scottish tradesmen, and watchmakers are, properly speaking, watch repairers. In some places in England the trade is still carried on, Coventry being the centre. Clock-making has not suffered to the same degree, though the separate parts of smaller clocks are chiefly imported.

#### Clocks.

- (1) *Tower Clocks*.—The making of tower clocks forms a large part of the trade; this line is not handicapped by foreign competition. The making and fixing of a tower clock would keep one average workman in steady employment for three months. The orders for these must obviously be limited.
- (2) *Station, Public Works, and Office Clocks* are the staple

department of the industry. All the parts of these clocks are made in the home workshops.

- (3) *House Clocks*.—The separate parts of ordinary house clocks are largely brought from England and Switzerland, the making-up being done by local firms.

There is difficulty in getting boys to take up this trade at present, probably due to the fact that it has declined so greatly in this country in the last thirty years. But it is still a good trade for an intelligent lad to learn if he is apt and neat-handed; for inside workshop practice, physical strength is not necessary, and this makes it possible for lame boys to select it. It requires great perseverance, exactitude, and application, and only boys who are interested and willing workers can hope to make much of it. Progress is slow at first, and lads are apt to go off before trying long enough to see whether or not they are suited for it. Many of the learners prefer to make watch-repairing their specialty. There is no recognised apprenticeship, but the training is understood to take six or seven years.

#### APPRENTICES OR LEARNERS.

Boys are taken as learners at the age of 14 for a period of six years, and work along with a skilled man. It is always recommended that learners should attend technical classes in such branches as clock- and watch-making, drawing, and metal work. The courses are carefully graded to run collaterally with the period of workshop training. In the Glasgow Technical College, practical instruction is given by eminently capable practical men, and lectures by a member of the Institute of Mechanical Engineers. These classes are well attended by journeymen as well as by apprentices. The working hours are 51 per week; Saturday is a half-day, and one hour is allowed in the middle of each day for dinner. Wages start at different rates, sometimes as low as 2s. 6d. a week, generally 3s. 6d. to 5s. The rate



of increase depends upon the boy's ability and usefulness; the average rise is 2s. a week in each successive year, until the lad is 20 or 21. The wages offered immediately at the close of the period of training are in no way fixed; a good average would be 18s. a week.

### JOURNEYMEN.

There is always plenty of work for a good tradesman, and trained clockmakers are greatly in demand in electrical workshops. A skilled journeyman clockmaker can easily earn 35s. or 36s. a week; some men make upwards of 40s., and a foreman in a large workshop may make £3. Wages are paid according to time worked. Age makes no difference to a man's chances of work.

### UNEMPLOYMENT.

Employment in this trade is little affected by seasonal causes, although some employers say spring and summer are their least busy times. Stock is then made up, and hours may be slightly reduced. On the whole, this is one of the steadiest occupations, and employers find it hard to account for the disinclination of lads to learn it. This industry might be much extended if some public-spirited citizen would start a factory in Scotland under proper management. It would open up practically a new field, affording skilled employment to many workers.

---

### COACHBUILDING AND MOTOR CAR BODY-BUILDING.

		Edinburgh and		
	Glasgow.	Leith.	Dundee.	Aberdeen.
Coach and Carriage Makers,	1,090	442 + 25	85	308
Male: Cycle and Motor				
Manufacturers,	350	131 + 20	40	77
Female:        ,,        ,,	26	4 + ...	2	...

The coachbuilding trade includes the making and

repairing of all kinds of carriages and vans, and also the building of the bodies of motor cars.

There are six departments of coachbuilding work, and the training in each of them is quite distinct.

- (1) The *body-building* (woodwork) of motors or carriages is undertaken by "cartwrights." As the "bodies" are made in very hard wood, with smooth rounded surfaces, more skill and physical strength is required than in ordinary carpentry work.
- (2) *Carriage-making* consists in making and fixing the springs.
- (3) *Painting*—(a) ordinary coach painting, (b) crests and fine finishing; the light finish necessary in this part of the work also demands a high degree of skill.
- (4) *Trimming and upholstery work*—for this branch of the work the training given is more elaborate than in ordinary upholstery work.
- (5) *Blacksmith work* is required for the steel and iron frames.
- (6) *Wheelmaking* is done by special wheelwrights, but since the introduction of motors, firms that have adopted motor-building employ relatively fewer carriage-makers, blacksmiths, and wheelwrights than formerly.

#### APPRENTICES.

A boy enters at 14 or 15, and remains in the special department to which he is apprenticed the whole of his time. There is no educational test, but a doctor's certificate is frequently required, as only healthy boys are suitable for this trade. A premium is never demanded, and boys are rarely indentured. The term of apprenticeship is five years—in some cases, six.

Some firms pay very low wages (1s. to 1s. 6d. weekly); the usual rate of payment is 3s. or 3s. 6d. to start with, and a rise of 1s. or 1s. 6d. a week each year. Other firms may pay as much as 10s. to 14s. a week to a good apprentice in the last year of his training. The working hours are 54 per week—6 a.m. to 5.30 p.m., with two meal hours; Saturday, 6 to 1, with half an hour for breakfast. The apprentice works along with a journeyman and to his instructions; he must make himself generally useful. It is difficult to get boys to take up this trade; more especially, bodymakers and upholsterers are very scarce.

Apprentices should attend the School of Art classes in the rudiments of draughting and drawing, and technical courses in mechanics and construction.

#### JOURNEYMEN.

As a rule, apprentices stay on in the shop where they have been trained; a certain number leave after a few years, in order to gain wider experience. The wage immediately after training begins at 21s. to 26s. Payment is made sometimes according to time, sometimes according to piece-work. In the South, bodymakers earn by time, 33s. to 35s. a week; carriage-makers, 32s. to 33s.; painters, 33s. to 36s.; upholsterers, 30s. to 35s.; blacksmiths, 25s. to 35s.; fitters, 26s. to 27s.; wheelers, 30s. to 35s. The chances of promotion are good, for, with the steady increase in the use of motors, this trade is likely to give employment to a large number of people. In Aberdeen, the wages are at rather lower rates than those quoted, and there is a constant migration of the workers to more highly paid appointments in the South. The north-country apprentices have the reputation of receiving a more careful, all-round training.

Employers always prefer that painters and uphol-

sterers who mean to follow out this branch of the trade should have been apprenticed to a coachbuilder. Crest-painting and fine-finishing is a specialty with a few men, and is very well paid. Foremen get a yearly salary, and have ten days or a fortnight's holiday. Other workers have trades and "Fair" holidays.

It is becoming quite common for a young man to work for a year or two with a coachbuilder in order to become acquainted with the mechanism of motor cars, and to qualify himself to become a chauffeur. It is quite possible for a smart lad in any of the departments to pick up a fair working knowledge in a year or so.

There is very little unemployment among coachbuilders; in winter months, when trade is slacker, stock is made, and only a few of the poorer workmen are suspended for a short time. The difference between slack and busy seasons is most felt in the painting department. A good bodymaker is never out of employment. There is now a large demand for clever tradesmen in motor body-building.

The trade is a healthy one; only the painters, if careless, run risk of poisoning.

There is almost no unskilled labour in coachbuilding works, as everything is done by hand.

## COMMERCIAL AND BUSINESS CLERKS.

	M.	F.		M.	F.
Glasgow,	12,850.	4,595.	Edinburgh and Leith,	4,134 + 1,155.	2,829 + 420.
Dundee,	1,751.	542.	Aberdeen, . . .	1,384.	909.

Every business firm employs clerks, and although in the last dozen years the number of girl clerks has increased, there are still a large number of men employed. A good education is indispensable, and it is occasionally necessary to have a knowledge of languages, shorthand, and typewriting.

## APPRENTICE CLERKS.

The term of apprenticeship is generally four years, beginning at 15 or 16 years of age; wages are, as a rule, £10, £15, £20, and £25. The training received in the office of one kind of business generally fits a man for work in any other business. Certain classes of business, however, prefer to have men trained in their particular line—*e.g.*, stockbrokers, bankers, insurance agents, accountants, etc.

## TRAINED ASSISTANTS.

After apprenticeship, the salary varies very much. In some cases a man begins with £30, in another case he might get £70; but, as a rule, he may expect £40 to begin with, and the rise in his salary will depend on his ability. An average man may expect to make ultimately £70 to £100 a year, though there are some responsible posts where the salary may rise to £200 or £300. With influence, and recommendations from former employers, certain higher positions of trust may occasionally be obtained, such as head clerk to public institutions, school boards, and town and county councils.

The hours are usually 9 a.m. to 6 p.m., and Saturdays 9 to 1 p.m.; one hour is allowed for dinner. Holidays extend from a fortnight to a month.

Clerks are employed all the year round; as a rule they have no slack season.

## GIRLS AND WOMEN.

In commercial offices, girls who are good scholars are often taken at 15 years of age and over, and put to office-work on the understanding that they intend to go through a period of four years' training there. They generally receive 5s. a week to begin with, and have their wages raised by 1s. or 2s. a week in each successive year. Such girls attend evening schools, commonly at the

expense of the firm, and are specially encouraged to learn shorthand and typewriting. The working hours are usually 48 to 50 per week. After training, a young woman clerk may not receive more than 12s. a week in many firms, but her pay is increased regularly until it reaches an average wage of 20s. to 25s. a week. Cashiers receive at least that amount, and in many large businesses £90 a year and upwards (*cf.* pp. 203, 233, 346).

### COMMERCIAL TRAVELLERS.

	M.	F.		M.	F.
Glasgow, 3,598.	57.		Edinburgh and Leith, 1,406 + 202.	11 + 2.	
Dundee, 285.	2.		Aberdeen, . . . .	497.	2.

Commercial travellers are required in almost all trades and industries. They are employed by manufacturing firms and wholesale dealers to travel from town to town and shop to shop, and display samples of the goods and secure orders. As a rule, work of this kind is not undertaken until a young man is at least 25 years of age. Good experience in the retail department of his trade is always an advantage.

The first qualification towards success as a commercial traveller is a strong will to resist the temptations that are associated with the life. In addition, a man ought also to have great tact, be an excellent salesman, and have quick insight in reading the dispositions of individual buyers. For a steady man the career is one of good promise, but it is also liable to frequent discouragements and disappointments.

The range of salaries is much the same in the different lines of business. Of more importance than the amount of salary at first is the reputation of the firm with which an engagement is made, and the likelihood of advancement. The minimum commencing salary offered by any established firm is about £100,



and a good commercial traveller may look for £150 to £200 in the lighter lines of wares, and £250 to £300 a year where more valuable goods are dealt with. The salaries given in the best houses to their tried men would be from £250 to £500. Travelling expenses are always allowed; sometimes the arrangement is that the actual outlays are refunded, but more usually a daily allowance of about 20s. or up to 25s. is made.

Comparing the salaries of commercial travellers with those given to buyers in the large business houses, it will be found that the first-rate buyers can command a higher range of salaries, from £500 to £1,000 (see p. 199).

---

### COOPERS.

Glasgow, 855.

Edinburgh and Leith, 693 + 392.

Dundee, 82.

Aberdeen, . . . 304.

Most of the breweries, distilleries, and bonded stores, as well as the large fishcuring firms, have their own staffs of coopers and coopers' apprentices, but there are a few large firms which do cooperage solely. The work is healthy, and demands strength and application. It consists of making new barrels and repairing old barrels, which is the more difficult matter. A good general education and the ability to measure accurately are of great value.

Machinery has largely displaced hand-labour; electric saws, for instance, now do work formerly done by hand. Apprenticeship has been declining in consequence, and employers complain of lads coming and going without serving out their time.

### APPRENTICES.

An apprenticeship of four or five years is usually required for learning this trade. The apprentice works alongside a journeyman, and when there is a sawmill in connection with the cooperage, he is generally started there. The working hours are, as a rule, from 8 a.m.

to 6 p.m., with a mid-day meal hour, and 8 a.m. to 1 p.m. on Saturdays. A lad may start work at about 15 years of age, and receives from 4s. to 5s. a week, rising to 10s. a week in the fourth year of training. Greater proficiency can be obtained if systematic courses in such subjects as mechanics, woodwork, and construction are taken at evening schools. A Dundee employer cited a case of a lad who had done so, and during the South African War was engaged as carpenter's mate on board a transport. He soon was getting £8 a month, and saved £600 in a few years; he then returned to Dundee and started a successful business.

#### JOURNEYMEN.

After apprenticeship, the wages are at first from 20s. to 31s. a week. The standard time-rate wage of a journeyman cooper in Glasgow is £1 13s. 3d. for a 55-hours week; good workmen on piece-work make a maximum of £2 5s. In Edinburgh, payment is not quite so high, 31s. being the average; and in the North, 25s. to 30s. are given. A clever craftsman who can carve and do woodwork may make from 37s. to 40s. a week. Foremen get £2 to £3 per week, but only a small proportion can hope to rise above the position of a working journeymen. There is steady employment all the year round, as, when trade is slack, stock can always be made in advance. Older men usually continue in employment, and attend to the electric saws or undertake the most difficult parts of the work.

---

#### COPPERSMITHS.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Coppersmiths,	533	35 + 43	41	4
Brassfinishers,	1,358	759 + 79	166	87

Coppersmiths do smith work in copper and brass, and also copper and brass founding.

Apprenticeship begins at 14 or 15 years of age, and is for six years; during that time the wages are 4s., 5s., 6s., 8s., 10s., and 12s. The working hours are 51 to 54 per week. Two meal hours are given per day.

After apprenticeship, the wages begin at 6¼d. an hour, and rise to 8d. or 8½d. The slack time varies according to trade, and during a slack season the staff is usually reduced.

### **Brassfinishers and Brassfounders.**

Brassfinishers and brassfounders are employed in all engineering and electrical works, in bellhangers' workshops, and other similar shops. There are plenty of boys taking up this trade. The conditions and pay in both branches of work are alike; the founder casts the brass article which the finisher finishes and fits. Such men do not require to be as strong as blacksmiths or fitters.

The apprenticeship is for five or six years, and wages begin at 3s. or 4s., and rise to 10s. or 14s. the last year. As an improver, a young man gets about 20s., and later is paid at 7½d. or 8½d. per hour. The working hours are 51 per week, but in some firms they are reduced to 45 in winter. In some shops there is only one meal hour, in others two breaks a day are allowed for meals. The wage when full time is worked is from about 31s. 6d. to 36s. Employment is steady, in so far as it varies with trade and not with the season.

### **Typefounders.**

Typefounding is done chiefly in the printing works. There is only one typefoundry now in Edinburgh, the other typefoundry there having been closed in the beginning of 1906. There is no regular apprenticeship, so that most of the men employed are comparatively unskilled. The number of men (325) given in the last census as typefounders in Edinburgh would now be an

over-statement; in Glasgow, the number given was only 17.

### CURRIER OR LEATHER GOODS MAKERS.

	M.	F.		M.	F.
Glasgow, 798.	178.		Edinburgh and Leith, 244 + 14.	70 + 2.	
Dundee, 133.	49.		Aberdeen, . . .	20.	8.

This work includes the making of purses, bags, trunks, etc. The finer and more artistic forms of leather work have not been so fully developed in Scotland as they might be. The competition of cheaper foreign goods sent from Austria and Germany has largely prevented the industry from establishing a place for itself in the country, but in these days of good teaching in design at art schools a fresh impulse may be given at any moment.

### APPRENTICESHIP.

The apprenticeship is for six years, and wages run from 4s. or 5s. the first year to 10s. the last year. The working hours are 53 per week, with two meal hours per day and one on Saturday.

### JOURNEYMEN.

After apprenticeship, a young man may begin with £1 a week. The standard wage is 8d. per hour, so that 35s. 4d. is the standard weekly wage for a journeyman; but expert workers and clever designers make more.

The work is healthy and regular. There is a specially busy time in November and December, preparing articles for the Christmas trade, and wages may then be increased by overtime work.

### CUTLERS.

	M.	F.		M.	F.
Glasgow, 126.	5.		Edinburgh and Leith, 33 + 6.	3 + ...	
Dundee, 4.	...		Aberdeen, . . .	13.	2.

### APPRENTICES.

The apprenticeship is for five years, and a lad

usually begins about 15 years of age, with a wage of 4s. 6d. a week, rising to about 10s. a week. There are very few apprentice cutlers, and they are mostly trained in the larger shops of surgical and other instrument makers.

The working hours vary: in Aberdeen and Dundee they run from 54 to 57 per week—usually from 6 to 6, with two meal hours off, and 6 to 2 on Saturdays.

#### JOURNEYMEN.

The average wage for a journeyman in the North is from 27s. to 30s. a week, but both in Edinburgh and Glasgow the wages given may be half as much again for capable men.

The busy season is in summer, but employment is usually quite steady all the year round.

---

### CYCLE AND MOTOR MANUFACTURERS.

The centre of this trade is in Glasgow and the iron district of Lanarkshire. In most of the firms in other parts of the country, only experienced men are employed, so that there are not many openings for boys.

#### APPRENTICES.

Apprentices generally begin as message-boys, and require to be smart, and to have a good general education. They are trained in all the different departments—*making, fitting, finishing, and enamelling* of cycles and motors. The apprenticeship lasts five years. Wages begin at 4s., and rise to about 15s.

#### JOURNEYMEN.

After training, wages vary from 20s. to 30s. per 51 hours' week. The usual wage for capable men is 7d. per hour (29s. 9d. per week).

Winter is the slack season, when time is often reduced.

### DIE AND STAMP CUTTERS, SEAL ENGRAVERS, AND ENGRAVERS ON BRASS AND SILVER.

	M.	F.		M.	F.
Glasgow, 42.	3.		Edinburgh and Leith, 46 + ...	3 + 1.	
Dundee, 5.	...		Aberdeen, . . . 5.	...	

There are few men employed in this trade. It is necessary to have a taste for drawing, artistic sense, and a correct eye.

The apprenticeship begins at 14 or 15, and is for six or seven years, during which time wages rise from 3s. 6d. to 7s. 6d. or 10s. 6d. The hours are 50 to 52 per week. One hour is allowed daily for meals. The boy works under an experienced workman, but he ought also to take evening classes during the whole of his apprenticeship. All art classes are useful, but especially freehand drawing, designing, and modelling.

After apprenticeship, a boy may begin with 21s., later wages run from 22s. to 30s., according to ability. Very good men may get 45s. to 50s.

### DRAPERS' ASSISTANTS.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Drapers and Mercers,	3,404	913 + 143	317	477
	Other Dealers in				
	Textile Fabrics, .	501	83 + 6	111	37
	Dressmakers, . .	8	2 ...	...	...
	Milliners, . . .	8	... ...	5	...
Female :	Drapers and Mercers,	2,156	984 + 175	373	419
	Other Dealers in				
	Textile Fabrics, .	228	76 + 11	15	34
	Dressmakers, . .	7,867	4,490 + 914	1,211	1,786
	Milliners, . . .	1,203	759 + 147	255	349

The chief departments of work in a large drapery establishment are :—



- (1) Sale counter.
- (2) Cash office.
- (3) Dressmaking.
- (4) Costume and mantle-making.
- (5) Millinery.
- (6) Children's and ladies' outfitting.
- (7) Parcel delivery.

In the drapery retail trade, over 80 per cent. of the employees are women; only about 15 to 20 per cent. are salesmen. Men are generally employed in the dress piece goods, blanket, linen, curtain, silk, and men's hosiery departments.

#### APPRENTICES AT SALE COUNTER.

Apprentices are sometimes advertised for, and come on leaving a higher grade school or commercial department of a school at 15 or 16 years of age. Sometimes smart lads who have been message-boys are given the opportunity of becoming apprentices. The qualifications looked for by an employer are good manners and good educational attainments, quickness at mental arithmetic, and a smart personal appearance. A good physique is desirable, as the lifting of goods is sometimes heavy work. Short-sighted lads are not taken.

The average number of apprentices at a retail drapery establishment is one for each counter, but the apprentice during training passes from one counter to another, and is given a general training. There is no premium and no indenture. The apprenticeship term is for four years, and the wages run from 4s. or 5s. a week—say, £10 the first year, and increase by about £5 each year, or range from £12 to £20. The hours of work vary in different districts of a city—from 9 a.m. to 6 p.m. on five days a week, and 9 to 2 on one day may be taken as a minimum number of hours.

## SALESMEN.

After the term of apprenticeship is out, a good percentage of employees are retained in the houses where they have been trained. Those who leave, generally do so of their own accord, and go to London, the States, or some of the colonies. At first, the salary may not be much more than £30 to £50 a year, but a steady increase is given if good work be done. The salary as salesman depends entirely upon personal capacity. Average salaries are from £60 to £80 a year, and, for first salesmen, up to £150 a year. Commission on sales is often added both to apprentices and salesmen.

A salesman who acquires a thorough knowledge of the value of the goods may be given the chief charge of the department, and may become a buyer. Such men get high salaries in the larger establishments—from £300 to £600 and upwards.

Salesmen over 50 years of age can usually be kept on; some firms transfer the older men to lighter work, and give them a smaller salary.

## MESSAGE BOYS AND PORTERS.

A large number of messengers are employed delivering parcels and going with vans. Considerable difficulty is experienced by employers in securing steady, honest, and reliable message-boys and van-boys. They start at a weekly wage of 4s. 6d. or 5s., which rises gradually, and if they prove satisfactory, they may become packers, at 6s. to 10s. a week, and, ultimately, porters, from 18s. to 22s. or 24s. Porters are on duty, as a rule, from 7 a.m. to 6 p.m., with two hours off for breakfast and dinner. Messengers work later in the evening, and a short afternoon is given one day a week.

## GIRL APPRENTICES AT SALE COUNTER.

The same qualifications are looked for in a girl

apprentice as in a boy, and the terms during apprenticeship are very similar to those offered to boys; and although girls have their employment almost wholly in the haberdashery wares, where goods are light to handle, there is no doubt that the constant alertness and fitness for work that is demanded of them makes it important that only robust young girls should enter the selling department. Employers say that girl apprentices, as a rule, make quicker progress than lads at the counter, and that higher wages are occasionally given them within the period of apprenticeship. This sometimes takes the form of a premium upon sales, which might add a few pounds to the salary in the third or fourth year. The better firms, however, discountenance the premium system.

Some firms allow a three years' apprenticeship if a girl has already been doing good work in some capacity under them before apprenticeship.

Apprentices in the millinery department may sometimes be selected from the workroom girls, but quite as often a girl that shows good taste in some other department may be transferred to the millinery showrooms. Apprenticeship in the showroom is for three years, at wages which run about £10, £12, £15, and £18; the girls keep the boxes tidy, and take out the stock.

Apprenticeship in other shop departments is for four years.

## SALESWOMEN.

An average salary on the completion of apprenticeship is £25, with premium on sales, which may amount to £5 or £6; or £30 upwards is given without premium. An annual increase of £3 to £5 is customary. The clever young saleswomen in the outfitting, haberdashery, and millinery departments may, however, have their salaries rapidly increased from £45 to £60. The saleswomen in the mantle and costume rooms receive a higher

range of salaries, mostly from £50 to £90. Head saleswomen in the more important departments receive from £75 upwards.

#### DRESSMAKING APPRENTICES.

A small premium of 10s. to 21s. is asked by most employers when girls enter for dressmaking. But the premium is dispensed with if the girl has been a message-girl, or has been in the firm's employment for some time.

Girls are apprenticed for a few months or a year; no wages are promised, but a clever sewer will generally be given 2s. 6d. a week from an employer after the first six months.

In the second year, girls are called "improvers." The best sewers are given work on bodices and sleeves, and others are given work on skirts. The wages in the second year are 2s. 6d. a week, and a rise of 1s. a week is given in each succeeding year. The terms may be appreciably better for clever workers. When fully trained in any department, the wages are from 10s. to 15s. a week. More experienced hands may make 17s. 6d., and forewomen who have charge of a work-table receive 30s. a week. The salary of a head dressmaker is extremely elastic, but would scarcely ever be below £100 in a moderately sized establishment, and is sometimes several hundred pounds.

The busy seasons in dressmaking are from 20th March to 20th July, and October to December. At such times, the workroom girls are liable to give overtime work until 7 p.m., without extra payment; beyond that, overtime wages have to be paid.

Employers say nearly all the girls who apprentice themselves have attended "scientific cutting" and "dressmaking" classes, some with good results, others indifferent. They express regret that, since there have been so many openings for girls in commercial offices,

dressmaking has been falling into the hands of an inferior class of girls. The experience of employers is that less efficiency is obtained from girls who come from the lower levels of industrial communities, and that in skilled labour, such as dressmaking, the factors of home circumstances and the general standard of intelligence largely predetermine the chances of success.

### MANTLE-MAKING.

The training and wages in mantle, costume, and skirt making are much the same as in dressmaking. A girl beginning at 14 or 15 starts with a wage of 2s. 6d. to 3s. per week, rising 1s. a week each year. In two or three years, the girl is considered a trained worker, and receives from 10s. upwards. On piece-work, a girl may make this wage earlier. A skilled, capable worker earns 15s. to 20s. a week. Cutters earn from 30s. upwards.

### MILLINERY.

The training in millinery workrooms is under the same conditions as in dressmaking, but a premium is seldom asked. The first year is served for nothing, and then wages usually are about 2s. 6d., 3s., 4s., and 5s. a week for the next four successive years. A fully trained good worker receives from 15s. to 18s. a week, according to ability, and a forewoman receive 21s. to 28s. a week. The recognised working hours are 8.30 a.m. to 6.30 p.m., or 9 a.m. to 7 p.m., with a mid-day hour, and sometimes a short interval for tea. On one day a week the workroom closes at 2 p.m. During the slack season, shorter hours may be worked, and wages reduced; the girls are asked to take their fortnight's holiday then without wages.

Millinery has the unusual attraction of being a business where a capable worker may start on her own

account without a large capital. A stock can be all the more successful if kept limited, and a good business woman that knows how to begin with most advantage is not called upon to lay in a large stock.

Dressmaking, again, demands a much heavier outlay, and carries greater financial risks with it even to good workers.

#### OUTFITTING.

No premium is required on entering outfitting work-rooms. After training, the average wage is about 12s. 6d., and payments never range much higher.

#### CASH OFFICE.

The distribution of clerking work in the office of a fairly large drapery establishment may be briefly noticed.

*Ledger Clerks* from the beginning handle the cash and cheques, keep the daily ledger, and have to be good at typewriting.

*Correspondence Clerks* must be expert shorthand writers and typists, and are expected to be able to read French and German. The chief correspondence clerk may have the responsibility of opening letters and consulting the buyers about replies or immediate purchases to be made.

*Special Clerks* are usually deputed to attend to the goods sent out on *approval*.

*Purchase Clerks* enter everything that is bought for the firm.

Employers usually like clerks to be trained in their office, and give wages similar to those given to other apprentices. Afterwards, the salaries given to women clerks vary from £25 to £75, according to experience and capacity. Men doing the same class of work are paid much higher salaries.

Employers say there is a scarcity of good drapery book-keepers (men).



## UNSKILLED LABOUR.

Message-girls receive a weekly wage of about 3s. 6d. at first, and rise to 4s. and 5s. in successive years. The best of the outside message-girls may be drafted to inside work as messengers attached to the various work-rooms, or as cash-girls in the shop. In drapery shops whose busy time is the end of the week, there is a custom of employing extra message-girls at 1s. for Friday afternoon, and 1s. 6d. for Saturday afternoon and evening.

---

DYEING AND FRENCH-CLEANING.

	M.	F.		M.	F.
Glasgow,	383.	114.	Edinburgh and Leith,	23 + 14.	6 + 2.
Dundee,	281.	25.	Aberdeen, . . .	43.	20.

Perth is the leading centre of this branch of the textile industries in Scotland. The last census returns give 452 men and 162 women employed as dyers in the Burgh of Perth, and 375 men and 860 women employed as calenderers, finishers, etc.

Both in the dyeing and French-cleaning departments apprenticeship begins at 14 years of age, and lasts five years. Boys of fair ability at school are suitable for these occupations, and they would find some knowledge of elementary chemistry of immediate use. Apprentices should be strong and healthy, as the fumes might be injurious to a delicate lad. The usual hours of work are 56 to 60 per week—from 7 a.m. to 6 p.m., with one hour off for dinner, and 7 to 1 on Saturdays. In large works a break of ten minutes is given at 9 o'clock, and half an hour is sometimes allowed for tea, if taken on the premises. Some works in Dundee provide dinner at 3d. a meal. Overtime may be required during the busy seasons—March, April, and May.

## APPRENTICES.

The wages during training vary greatly, being highest in the chief centres of the textile industries. In Aberdeen, where there is little dyeing work done, wages begin at 2s. 6d. a week, and rise to 10s. In Dundee, wages in some firms begin as high as 8s. a week, and rise to 14s. in the last year—a bonus of 50s. being given at the conclusion of the apprenticeship.

## JOURNEYMEN.

Wages after apprenticeship begin at about 26s. a week, and rise according to the ability of the individual and the rate of wages in the locality. Any lad expecting to arrive at a good position must acquire a thorough knowledge of the chemical processes, by attending the theoretical and practical courses at a technical college or institute.

## UNSKILLED WORKERS.

Men who have not passed through an apprenticeship are employed in some of the departments of work at 14s. to 22s. a week.

## GIRLS AND WOMEN.

A large number of girls and women are employed in the ironing, packing, and finishing rooms. Employers like a girl to have passed through the Sixth Standard at school, and to be proficient in writing and arithmetic. As the work-hours are very long, it is highly desirable, for their own health, that girls should not enter this trade until they are about 16 years of age, and have attended a higher grade school, and reached the stage of the Intermediate Certificate, or have taken out special courses in laundry work, dressmaking, and millinery, or in commercial subjects.

As *ironers*, girls begin with 10s. a week for a few

weeks or months by agreement, and are then paid by piece-work. A few practised ironers may earn as much as 18s. a week, but employers do not encourage them to make more than 15s. to 17s. a week, as they are apt to rush work.

As *finishers*, girls require to have some knowledge of dressmaking and millinery, and are paid by piece-work after a short training.

In the packing-room the girls have to be well educated and good writers. The work is light, and the payment much the same as in other departments.

Laundry work is often combined with dyework, and is mostly done by women (see p. 104).

### ELECTRO-PLATE WORKERS.

	M.	F.		M.	F.
Glasgow,	60.	5.	Edinburgh and Leith,	20 + 1.	5 + ...
Dundee,	4.	...	Aberdeen, . . . .	6.	...

Very few are employed in this trade in Scotland. The necessary apparatus is so expensive, and the supply of work so fluctuating, that most dealers find it better to send orders to Sheffield.

The length of apprenticeship is from  $3\frac{1}{2}$  to 5 years, and boys usually begin at 16, with a wage of 4s., and rise to 7s. The average wage for a journeyman is from 25s. to 28s., and a good man may get 38s. per week.

The occupation is healthy. Men usually work 50 hours per week, one hour for breakfast and one for dinner being given. Winter is usually slack.

### ENGINEERS (ELECTRICAL) AND ELECTRICAL APPARATUS MAKERS.

	M.	F.		M.	F.
Glasgow,	1,945.	11.	Edinburgh and Leith,	539 + 169.	4 + 8.
Dundee,	120.	...	Aberdeen, . . . .	166.	...

The arrangements vary in the different shops. The

work is so popular amongst lads that it is difficult to secure an apprenticeship.

#### APPRENTICES.

The recognised term of apprenticeship is for five years, but a three-years apprenticeship is sometimes allowed. Boys who wish to take the *three-years apprenticeship* must pay a premium of £50 or £100, and take the electrical engineering day course at a recognised technical college. The complete course at such a college occupies three winter sessions, and the fees are about £43. An additional £5 to £10 has to be spent on books and instruments. The wages begin sometimes at 3s., sometimes at 5s., the first year, and rise to 10s. the third year, or, in exceptional cases, to 14s. These premium-paying apprentices, both in the large and small shops, are taught all the branches of the trade, spending a certain proportion of their time in each department of the workshop and in the drawing-office.

*Apprentices who pay no premium* must serve five years, and should be 16 years old when they begin work. They are generally on probation for three months. Their wages are in these years 3s., 4s. 6d., 6s., 8s., and 10s., or in exceptional cases 14s., the last year. In the smaller shops the apprentices see all branches of the trade, but in the larger shops they are sometimes apprenticed to one department only. They may be apprenticed as *armature winders*, who wind magnet coils and connect them up; *fitters* and *erectors*, who put the machines together; *patternmakers*, *turners*, *machinemen*, *brassfinishers*, *switchfitters*, or *commulator builders*. The workshop hours are 52 to 54 per week, with two breaks for meals.

#### JOURNEYMEN.

When a man has finished his apprenticeship, his

wage begins at 20s. a week, rising in a year or two to 35s.—the ordinary journeyman's wage. A very expert worker may get 40s. Foremen get £2, and a few as much as £4 10s. a week.

There is no particular slack season; work depends on trade. Winter is the busiest time, and extra hands are then taken on.

*Draughtsmen* work a 39-hour week, and get £1 to £2 per week.

Shops which fit up electric light apparatus and bells employ electricians on much the same terms.

The city electric works employ a considerable number of men at good wages:—*Engineers*, who must have had a college as well as a workshop training, £100 to £200; *switchball attendants*, 20s. to 37s.; *engine-drivers*, 30s. to 35s.; *stokers*, 24s. to 35s.; *fitters*, 32s. to 50s.; *trimmers*, 27s. to 30s.; *cable jointers*, 38s. to 52s. 6d. The last require to have had three or four years' training at their particular branch of work.

There are many openings for capable electricians, especially abroad, in such work as laying down electric light or electric cars, and superintending the necessary works; but no electrical engineer is likely to get a responsible post unless he has taken the systematic course at a technical college or university.

## GIRLS.

Girls are employed by some firms in the armature-winding shops, and receive 13s. or 14s. a week.

## REMARKS.

One of the employers who was consulted on the best way to train lads for the profession of electrical engineering sent the following suggestive remarks:—

“If a boy is at all smart, and shows a tendency towards electrical engineering, he should be allowed to go as far as possible at school, but should *not* be allowed

to give up his classical side. A thorough grounding in the classics is absolutely necessary to the engineering profession.

“After leaving school, he should take measures to have his name placed as soon as possible on the books of some of the large manufacturing firms in Britain or on the Continent. He should not then enter a firm, even if they could give him a place, but should go direct from school to a university college, and take his classes, ending with a science degree.

“Having got his B.Sc. in engineering, he should enter one of the large electrical and mechanical engineering manufacturing works for three years, spending some time in design, erection, construction, testing, research, and operation.

“If he shows any aptitude for the work, combined with a due appreciation of the business and of its commercial side, he will probably be offered a remunerative position even before he is out of his training with the firm. He should make a point of specialising, in the course of his workshop training, in some definite branch of electrical engineering—that is:—

- “ (1) Power generation and distribution for large areas, combined with a thorough knowledge of the applications of electrical power, such as railways, tramways, and industries.
- “ (2) Design of electric machinery, dynamos, motors, transformers—in fact, all the apparatus for the generation and application of the uses of electricity for industrial and domestic purposes.
- “ (3) The engagement and organisation of manufacturing works for electrical machinery—this entailing a long and familiar practice in connection with the manufacture of all sorts of electrical engineering and an inborn organising



power. The last part of the work is by far the most remunerative, because the necessary qualities in training and character are very rare; therefore the salaries paid are, comparatively speaking, very high indeed.

- “(4) Laboratory and research work. This is not at all a remunerative part of the profession, but offers a distinctly honourable and influential position in the profession of electrical engineering to all successful men, the requirements being a distinctive bent, if not brilliancy, towards highly theoretical investigation. Such positions are generally held in connection with the principal educational centres.”

The training thus sketched would no doubt in some cases give admirable results, but there is a loophole of weakness in the fact that the young man might have secured his B.Sc. in engineering before discovering if he had *any aptitude for the work*.

As a comment upon the above suggestions, an excellent proposal may be mentioned, which has lately sprung from one of the large shipbuilding and engineering firms. The firm is to allow the young men who rank as professional pupils and not as trade apprentices, and who wish to take a university degree in engineering, to enter themselves under the firm for a term of five years' training. Within that term the firm will sanction the absence of a pupil for three successive six month sessions, during which the requisite university classes are to be taken and the degree examinations passed. The firm in question is of opinion that if men only come to the workshops *after* they have completed a technical college or university training, they will never become such expert engineers. They wish entry to the workshops at 17 or 18 years of age—whenever a lad has passed the full

Leaving Certificate of the Scotch Education Department or the preliminary examination of a university.

## ENGINEERS (MECHANICAL).

### Fitters, Erectors, Turners, and Machine Tool Makers.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Fitters, Erectors, Turners, .	8,709	1,469 + 617	1,357	522
Metal Machinists, . . .	1,810	30 + ...	129	5
Other Engine and Machine Makers, . . . .	5,656	581 + 277	696	749

Some idea of the great concentration of work in engineering, shipbuilding, machine-making, and iron and steel manufacture in the Clyde area may be got by comparing the census numbers of the men employed in the different counties:—In the burghal group of Lanark County, 90,963 employees; of Renfrew County, 21,494; of Edinburgh County, 11,932; of Forfar County, 8,690; of Aberdeen County, 5,256.

Fitters, erectors, and turners put machines together, and their highly specialised work has displaced the simpler methods of the older “millwrights” (see p. 256). They are employed in all kinds of works wherever machinery is made—*e.g.*, shipyards, coachbuilders, engine-shops, and foundries. The training is, therefore, exceptionally useful, and renders a steady man sure of work. A lad may begin at 14 or 16 years of age; if he is 16 or more he usually receives a higher starting-wage than at 14. The apprenticeship term is for five years, and wages vary very much in the different shops. Some do not give more than 3s., 4s., 5s., 6s., or 7s., while other shops give 3s., 5s., 7s., 8s., 10s., and 14s., and in a few firms 5s. is given in the first year. In most cases a good worker may expect 10s. or 12s. in his last year.

The large works have several departments, and employ skilled and unskilled men, apprenticed and non-apprenticed learners. The employees are usually subdivided into:—

Turners, whose apprenticeship is for five years.

Machinists—Planers, whose apprenticeship is for four years; other machine workers, with or without training.

Fitters and erectors, whose apprenticeship is for five years.

#### BOY LABOURERS.

In addition, the firms that do not go to the expense of installing automatic screw-making machines employ lads from 14 to 16 for tending the ordinary machines. They fit the bolt into the machine, pull the lever, and remove the bolt when finished. The wages are by piece-work, and probably begin at 8s. or 10s. a week, and go up to 15s. A few very good workers may make £1. The lads become very expert at the work, but their skill takes them no further. When they leave, a few may pass into the machineroom, and a few may turn to a trade; the employers say that many of them become labourers or join the army. In some of the workshops the average proportion of boys to men employed was—in fitting, 19 to 20 per cent.; in turning, 25 per cent.; in machining, 7 per cent.

The non-apprenticed learners in the machineroom are given time wages, which start at 6s. to 8s. per week, and increase as the lad deserves it. They learn to work the machines, and are employed in planing, boring, and tapping. Afterwards the most of them become machine-men, and are paid by time, from 23s. to 30s. or 32s. a week.

#### APPRENTICES.

In a few of the works, apprentices are put through

the various departments in rotation. They begin in the storeroom, where they soon learn the names of things, then they attend to an automatic machine under the supervision of a man. Then they go for two years or so to a simple kind of machine demanding a little more responsibility, and to the toolroom. Afterwards they pass into the fitting-room, and, if they are specially capable, continue their training in the machineroom and drawing-office. This general training is mostly given to the better-class apprentices, who pay a premium to enter as pupils. Apprentices of the artisan class usually wish to serve most of their time in one particular department, but sometimes they take two years in the turning, and then pass into the fitting department.

The apprentice turner starts on a small lathe, and goes on from one machine to another, superintended by his foreman. Apprentice fitters work with a journeyman. Apprentices join at 14 or 16 years of age, and in large works receive a starting wage of 4s. or 5s. a week, rising 1s. a week each year, possibly 2s. the last year, if the work is good. The hours are 54 per week—usually 6 a.m. to 9 a.m., 9.45 to 1 p.m., 1.45 to 5.15. On Saturday the work stops at 12 or 1 o'clock.

The apprentice fitter is trained in the great variety of fine fitting of parts that has to be done in engine and machine construction. Unlike blacksmiths, fitters do not work the forge, but they have to acquire a mastery of all ordinary metal work that passes through the fitting-shop.

The apprentice "planer" or machinist begins with higher wages—about 6s. to 8s. a week—and increases 2s. a week each year. All wages for lads have increased within the last ten years, especially in large works in the South. The indenture system was given up some twenty-eight years ago, on account of the lazy spirit it engendered in the apprentices. The employer prefers to

hold the power of dismissing an apprentice if he shows himself continuously neglectful, and if an apprentice is dismissed without "lines," no other employer will take him.

It is an understood thing that apprentices in these branches of mechanical engineering shall attend the specially arranged evening courses in mechanics, engineering, machine construction, and drawing.

#### JOURNEYMEN.

After apprenticeship, a man may work as an "improver" at 20s. to 25s. a week for a time, and then his wages are advanced gradually until the full wages are reached—from 28s. to 36s. a week, or 25s. to 28s. in the smaller workshops. Fitters in large works are paid about 35s. or 36s., but if their work is highly specialised, a bonus may be given.

There are several trade societies. One of the chief is the Amalgamated Society of Engineers, and in the Glasgow district no one earning less than 36s. a week can become a member. Many of the engineers are engaged on machines, and it is often difficult to draw the line between the engineers and the machinememen pure and simple. The latter undoubtedly do work that would otherwise have to be done by members of the society, and in so far reduce the demand for highly skilled work. Up to the present, only one or two employers have entered into an agreement with the men as to the tools to be worked by engineers and those to be worked by "handymen." In practice, all lathes are worked by members of the Amalgamated Society of Engineers, while tools which are doing simple repetition work are worked by labourers.

#### MACHINEMEN OR HANDYMEN.

Labourers are employed to work machines at odd

times, and may receive 20s. to 26s. wages a week. They are largely employed in motor works, cutting screws and wheels, and are often paid on the bonus system.

Many of the labourers employed in machine-tool making and in locomotive works make themselves rapidly expert in attending machines. They can often learn all the repetition work that is required in a few months. Two or three automatic machines may sometimes be attended by one man. Although no long training is given to these men, their value to the employer is something between labourers and tradesmen, and they are paid from 29s. to 36s. a week. In a sense the machinist is largely replacing the all-round mechanic in the foundries and engineering workshops.

The sub-division of labour becomes greater each year, and it is either the highest manual skill that is demanded of the mechanic, or he must be prepared to give the closest attention to a machine or machines.

#### SPECIAL POSITIONS FOR ENGINEERS.

Regarding the higher positions open to efficient and steady workers, these are constantly increasing. The posts of engineer-in-charge have multiplied rapidly during the past dozen years. Steam and electricity are now necessities for heating, lighting, cooking, and washing in all public and private institutions of any size. In public works, special men are now put in charge of all power plants and power distribution.

The salaries for these posts range from 35s. per week to 60s. In cases of some institutions, home accommodation and perquisites are given.

Many men who serve their apprenticeship go to sea, and are paid salaries ranging from £7 per month, with board, to £15 and in some cases £20 per month.

Again, many posts are open in Government and private firms, such as the Indian Government railways



and dockyards, Ceylon and Indian tea plantations, rice mills, and in the river steamers of Burmah and China and the Malay Peninsula. In the East, wages range from 150 to 500 rupees per month. South African mines have also opened up a wide field for engineers.

### GIRLS AND WOMEN.

A number of girls are employed as drawing-office "tracers" in the engineering and shipbuilding works, and there is an increasing demand for the careful tracing work done by girls (see p. 344).

---

### FISHING-TACKLE AND ROD-MAKERS.

	M.	F.		M.	F.
Glasgow, 95.	153.		Edinburgh and Leith, 105 + 12.	36 + 6.	
Dundee, 3.	1.		Aberdeen, . . . 16.	18.	

This is a very small trade, and since there are not many openings for men, it is not always easy to get boys as apprentices. Men are employed in making fishing-rods and tackle, and require to be neat-handed and have a general knowledge of the handling of tools.

### APPRENTICES.

The apprenticeship is six years for rod-making and three and a half years for fishing-tackle; sometimes a five-years' apprenticeship is arranged. The wages begin about 4s., and rise to 10s. in the last year.

### JOURNEYMEN.

After training, the wages vary very much according to ability. A skilled rod-maker can earn about 27s. per week, and a foreman's wage is from 30s. to £2. Less skilled assistants, who have not gone through an apprenticeship, receive about £1 a week. The hours are 51 per week.

Winter is the slack season, but in most cases time is occupied in preparing stock for summer. More work is being done now by machinery, and, consequently, not so much skill is required by the men.

#### FISH-HOOK DRESSING BY WOMEN AND GIRLS.

A number of girls find employment in fly-dressing. The work requires perfect sight and neat fingers, as it is very minute. It is clean and very healthy. A training of three and a half years is required to become an expert worker. When girls begin work, they often do not get any set wages, but a small sum of 2s. 6d. to 3s. 6d. a week may be given to start with, rising to about 13s. by the end of the period of training.

After training, girls are put on piece-work, and may make from 17s. to 18s. a week in Aberdeen, and rather more in the South. The hours of work are 48 per week. The work is steady all the year round, but at present employers have difficulty in getting a sufficiency of girls.

#### FURRIERS AND FUR GARMENT MAKING.

	M.	F.		M.	F.
*Glasgow,	109.	171.	Edinburgh and Leith,	113 + 61.	24 + 2.
Dundee,	20.	10.	Aberdeen, . . .	5.	2.

#### APPRENTICES.

Employers say that they experience some difficulty in securing boys for this trade. The work is healthy, and is suitable for boys with some taste for geometry and drawing. Apprenticeship begins at 14 years of age, and the term is for five years. The usual wage begins about 5s. a week, and rises each year; in the last year of training it might amount to 15s. a week. The hours of work are from 8 a.m. to 6 p.m., with one meal hour, and from 8 a.m. to 1 p.m. on Saturdays. Employers

\* These Census numbers are for Furriers and Skinners.

strongly recommend their apprentices to attend evening classes in geometrical drawing, as skilled work is chiefly wanted for planning and fitting the pieces into garments.

#### JOURNEYMEN.

After apprenticeship, good workers are usually retained by the firm in which they have served. A journeyman's wage is from 25s. to 30s. a week, but a capable workman may earn as much as £3 a week. There is a slack season usually from Christmas to May, when shorter hours may be worked, but employers do not as a rule pay off their men.

#### GIRLS.

Girls may or may not be taken formally as apprentices. In either case, girls who wish permanent work must have two or three years' training in this special line. The weight of fur garments makes it important that girls who enter upon this work should be thoroughly strong. They are engaged chiefly in making-up the various garments. Those who receive the highest wages are the liners and finishers; the fur-sewers are not paid so much.

Girls enter usually about 15 years of age, and receive wages of 2s. 6d. or 3s. 6d. a week. The increase given during training depends entirely upon a girl's ability. In the third year a girl may probably be making 9s. or 10s. a week. Fully trained workers of average ability are able to make 10s. to 12s. in the slack season and 15s. to 18s. in the busy season; the expert finishers and liners may earn from 20s. to 22s. in the busy season.

The slack season is from Christmas to May; the hours are diminished from 51 to 45 per week, and some of the girls try to secure work as extra hands in dressmaking, mantlemaking, or upholstery establishments during that period.

## GARDENERS, SEEDSMEN, AND NURSERYMEN.

	M.	F.		M.	F.
Glasgow, 503.	22.		Edinburgh and Leith, 892 ÷ 47.	131	+ 7.
Dundee, 209.	6.		Aberdeen, . . . 525.	18.	

## APPRENTICE GARDENERS.

This occupation is suitable for intelligent, fairly well-educated, healthy lads. A three- or four-years' training is usually demanded, beginning when the lad is 16 years of age. The wages are from 4s. to 7s. a week for the first year, and rise 1s. a week in the successive years. The hours of work are 6 a.m. to 6 p.m., with two hours off for meals, and with Saturday afternoon off.

The apprentice works under the head gardener or the foreman, and usually at the end of apprenticeship moves on to some other district to get wider experience.

## JOURNEYMEN.

Immediately after apprenticeship, the wages given might be about 15s. a week. The actual sum given largely depends on the class of establishment in which employment is taken. The more varied experience given in large nurseries is considered of great advantage, and smaller wages are taken upon that account. An ordinary journeyman receives 18s. to £1 a week, with bothy or small house; without bothy, 22s. is the average wage. Coals and light are frequently given as perquisites, and in many cases potatoes, vegetables, and milk are added. Engagements are usually made by the year.

Those who take means to gain a wider experience as young workers may afterwards get positions on private estates as foremen, beginning at about £50 a year, or as head gardeners, with a salary of about £70 to £120 a year. The perquisites of such positions render them very desirable, as the house, vegetables, and fruit represent a considerable addition. When men are

allowed to exhibit at flower shows, and gain prizes, the prize-money is theirs.

In large gardens and nurseries where several journeymen are employed, each takes duty in turn on Saturday and Sunday, and special arrangements have to be made to keep up the fires in the greenhouses, unless a stoker is kept.

It is of great advantage to a lad who intends to take up gardening to have some knowledge of botany before he begins, or to take means to acquire it during his years of training. The more intelligent workers in the large towns attend any meetings and classes which deal with flower-culture. The horticultural associations very often have good libraries attached to them, and arrange special courses of instruction for members.

#### **JOBGING GARDENERS.**

Jobbing gardeners are much employed in towns, at a payment of about 6d. per hour. Men over 50 years are not discharged from gardening to the same extent as in other trades. This is more especially true of gardeners engaged on private estates. Many of the jobbing gardeners are men who have found their wages reduced as they became older.

#### **Nurserymen and Seedsmen.**

##### **APPRENTICES.**

To become a "nurseryman and seedsman," a knowledge both of gardening and shopwork is necessary. Two years should be spent in the nursery and two years in the shop. The shop hours are 48 per week, and nursery hours are from 45 in winter to 56 in summer, with 1½ to 2 hours daily for meals.

##### **JOURNEYMEN.**

Fully trained journeymen working in nurseries receive 23s. to 27s. per week in the South, and from 20s.

to 22s. 6d. in the North. As shop assistants, the wages are much the same, but are increased according to capacity and responsibility.

### WOMEN GARDENERS.

Girls who desire to take up this work, and can only have their training given locally, are best to make themselves expert in such special departments as potting, pricking out seedlings, glass work, grafting and budding, pruning, and cultivation of tomatoes. A two-years' training is required for practical gardening, but the practical work ought to be combined with careful study at day or evening classes in botany and horticulture.

For a full training in gardening, girls who can afford it ought to take the complete course in such colleges as the Edinburgh School of Gardening at Corstorphine or the Swanley Horticultural College in Kent. Diplomas in gardening can now be obtained by women students, and posts as head gardeners and under-gardeners and school appointments are open to women.

Many kinds of unskilled work in gardening can be done by women—such as weeding, hoeing, raking, fruit-picking, and general work in nurseries. The wages given are small, but the work cannot be too highly recommended for girls who tend to be anæmic or delicate.

### GLASS BOTTLE MANUFACTURE.

	M.	P.		M.	P.
Glasgow, 456.		18.	Edinburgh and Leith, 277	+ 2.	6 + 3.
Dundee, ...		...	Aberdeen, . . .	...	...

This industry offers certain advantages, being one of the most healthy as well as most highly paid, and yet the supply of workers does not nearly meet the



demand. At present, there is a great deal of intemperance, and consequently irregular work among the men. The employers would very much like to get a better, steadier class, and, in considering the healthy conditions and high wages, it is difficult to see why this should not be obtained. The largest proportion of the English demand is met by the German market. The Germans are better workmen, have more advanced methods, and produce smoother bottles. It thus appears that, in quality as well as quantity, there is room for development in this trade in Scotland. The busiest seasons in this trade are March till July, and September till January, but employment is steady all the year round.

The workers in a bottle factory are divided into the following classes:—

- (a) Bottle-boys.
- (b) Gatherers.
- (c) Blowers.
- (d) Finishers.

The work is done in squads, a squad generally consisting of one finisher, two gatherers and blowers, and two boys. If any member is away, the work of the whole squad is stopped, and, in view of the intemperance referred to above which makes this a frequent occurrence, it is found necessary to have a number of spare men and boys attached to each factory.

The furnaces have to be kept going day and night, and the men work one week by day and one week by night. The hours are either from 6 a.m. to 5 p.m., with two half-hours off daily, or from 6 p.m. to 5 a.m. The boys, irrespective of age, work along with their journeymen, because, under the Factory Act, boys of 14 years of age employed in the glass-bottle-making trade may work on the night shift.

## SPARE BOYS.

The spare boys, who may come to work at 14 years of age, do odd jobs and messages for the men, and are allowed to take the place of bottle-boys who happen to be off. They work 50 or 51 hours per week, and receive in some places only 6s. a week, with no increase; in others, as much as 15s., including overtime. They may leave when they wish, but usually remain from six to twelve months.

## APPRENTICES.

Apprenticeship begins from 15 to 18 years of age, usually about 16, and lasts for five or six years, but may be anything from four to seven years. There is a signed indenture, and a premium of 10s. is often required on signing. A severe penalty of £5 to £25 is imposed for break of indenture. Spare boys frequently become apprentices to this trade. The first year of apprenticeship is spent as bottle-boy, in carrying the bottles to the furnace from the "holes" or moulds, and removing them when baked. In some factories this year is not included in apprenticeship term, but in those cases the number of years required is only five instead of six as in the other cases.

Only a man who has been an indentured apprentice may work at a "hole" as a journeyman. The apprentices are taught the various steps by the journeymen in their squad, and have fifteen minutes' practice just before finish of spell at meal times. The apprentice may become a "gatherer" in the second and third year, but only in the last year of his term may he be a "finisher" or "maker." The standard wages are 8s. or 9s. in the first year, and this increases to 13s. or 14s. in the last, but all classes of workers in the industry greatly increase their wages by overtime work, and a lad frequently makes more than 30s. a week during the later years of his apprenticeship.

## JOURNEYMEN.

As soon as he becomes a journeyman, his pay, between standard wage and overtime work, will run, as finisher, from 50s. to 65s.; as blower, from 44s. to 55s.; or gatherer and blower combined, from 40s. to 50s.; and as gatherer, from 34s. to 42s.

## JOBBER.

Jobbing is a marked feature of this industry, and is not accounted for by any circumstance of production, as in bakery (see p. 141). The jobbers are the spare men who take the places of those who are off for any reason, drunkenness being the most common one. These spare men have, as a rule, no desire for regular employment, but only work a few odd days when they require money. The trade union has lately decided to fine men who are off without a good cause, a decision which, it is to be hoped, will help to mend matters. The trade union regulates the number of apprentices according to the calculation they make of the number of fully paid journeymen which the trade can support. In some places, the number of apprentices allowed is so low that employers refuse to engage trade union journeymen. The mid-summer and mid-winter seasons are slacker than spring and autumn, but there is no unemployment. Old age does not necessarily disqualify for this trade.

## UNSKILLED WORKERS: PACKERS, SORTERS, MACHINISTS.

The spare boys who remain, but do not apprentice themselves in the production departments, find employment in the warehouses as labourers, packers, and sorters. Wages begin about 15s. a week, and they have to work until the day's produce is packed or arranged. Experienced packers receive 22s. weekly, while sorters, fewer in number, are paid at the rate of 32s. In a factory where the blowing is done by machinery, work

is done in night and day shifts, each worker's hours averaging 56 per week. Boy-workers are taught to operate the machines, and receive wages at the rate of 12s. to start with. Intelligent boys soon become efficient, after which they are paid 3s. 7d. per shift when under 20 years, and 4s. when over. In order to get full use of the machines, the work is arranged to be continuous, and stock is made in slack times. Occasionally short time is worked to allow of repairs.

### GLASS MANUFACTURE.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Sheet, Plate-glass				
	Manufacture, .	189	20 + 9	1	2
	Other Workers in				
	Glass Manu-				
	facture, .	482	274 + 9	...	7
Female :	Sheet, Plate-glass				
	Manufacture, .	8	... + ...	...	...
	Other Workers in				
	Glass Manu-				
	facture, .	160	29 + 5	...	...

As the glass-making trade is falling off, the above census numbers are probably an over-statement of present conditions.

In glass-making there are several branches.

### GLASS-BLOWERS.

*Glass-blowers* work at the furnaces, and blow the glass. The apprenticeship begins at 14 or 15, and is for five years; there is no difficulty in getting boys for apprentices. Wages are 7s. in the first year, and rise to 11s. in the last year. As journeymen, an ordinary wage is 30s.; a few men are able to make a wage of £2.

They work on six hours' shifts, either from 7 a.m. to

1 p.m. and 7 p.m. to 1 a.m., or from 1 a.m. to 7 a.m. and 1 p.m. to 7 p.m. They stop work at 1 p.m. or 10 p.m. on Friday, and there is no Saturday work. There are special regulations in the Factory Act allowing boys under 16 to go on night shifts in the glass-making trade.

#### GLASS-CUTTERS, DECORATORS, ENGRAVERS.

In these three departments, the conditions are much alike. The glass-cutters serve five years, beginning at 4s. weekly and rising to 9s. weekly. As journeymen, the ordinary wage is from 30s. to 35s., but a good man may get £2.

The glass decorators and engravers serve seven years, and begin with 5s. weekly, and rise 1s. each year. As journeymen, when on piece-work, an ordinary wage is 30s., but a good man may get £2. Time-work is paid at the rate of 29s. or 30s. weekly.

In these three branches 50 hours weekly are worked, and two meal hours are given daily. A fortnight's holiday is usually given in the summer in all the departments.

#### LABOURERS.

A few labourers are employed at a weekly wage of £1. Some boys are also employed at the rougher work, and receive from 5s. 6d. to 11s. weekly by piece-work.

There is a strong trade union, which fixes the wages and hours to be agreed to by their members. When any additional men are wanted, or before men can be promoted, application must be made to the union.

There is some risk of lead poisoning, but if men use the precautions provided, and are cleanly, there is no danger.

---

#### GLASS (STAINED) MANUFACTURE.

A few men are employed at this work as draughtsmen,

glass stainers, and glaziers. In all departments the apprenticeship is five years, beginning between 14 and 16, and wages run from 4s. to 5s. the first year to £1 the fifth. The working hours are 51 per week, two hours being allowed daily for meals. The work is regular all the year.

#### DRAUGHTSMEN.

Lads fond of drawing will find this a pleasant occupation. During apprenticeship, drawing classes should be attended; after training, a wage of about £1 is given to begin with, and the increase depends on ability. Some men get up to 60s., but 35s. to 40s. is a good wage.

#### GLASS STAINERS.

Glass stainers also ought to be able to draw. They begin at £1 after apprenticeship, and may hope to rise to 8½d. or 10d. an hour. There is not so much work done in this department now.

#### GLAZIERS.

Employers say they experience considerable difficulty in securing really useful lads.

#### APPRENTICES.

The recognised apprenticeship in glazing is five years, but as the lad is in most cases kept for the first six months or a year at messages, the real apprenticeship training cannot be reckoned at more than four years. Indenture is drawn up for four or five years as agreed. The lads come from school at 14 years, or after a year's work somewhere as message-boys.

The wages are 4s. or 5s. a week to begin with, and the increase varies according to the class of business. In Glasgow the wage of a good apprentice is usually increased much more than in smaller cities. A good



apprentice there might receive 15s. to 17s. a week in his last year of training, but 10s. may be taken as the average wage in that town for the last year of training. Working hours are—in summer, from 6 a.m. to 5 p.m., with two hours off; Saturdays 6 to 1 p.m.; in winter, work does not begin until 7.30 or 8 o'clock, and stops at 5 o'clock.

The apprentice is trained under a journeyman. He learns to mix putty, cut glass, fix it in frames, and so on. Comparatively few glazier apprentices seem to attend evening classes or a technical college.

#### JOURNEYMEN.

A good journeyman may earn 34s. a week. Time-work is paid at the rate of 8d. an hour. Some men are always employed at inside work, others are employed outside. In the slack season in winter shorter time is worked, but there is relatively less unemployment than in the painting trade. The trade is one that is steadily developing, as plate glass is more and more in demand.

---

### GOLF MATERIALS.

#### Golf-Club Making and Repairing.

This is a trade that is increasing all over the country, and although much of the work is now done by machinery, there is always plenty of work to be done by hand in the way of repairs.

The apprenticeship is five years. Wages begin at 4s. 6d., and rise to 10s. in the fifth year. The ordinary weekly wage for journeymen is 30s., but a good man may get more. The hours are 49 a week, with one hour daily for dinner. The trade is healthy.

To be successful in this trade, a boy ought to be a good golfer, because the best posts are only open to

those who can act as greenkeeper, clubmaker, and professional golfer to a particular course.

### **Golf-Bag Making.**

In England, part of this work is done by girls. It has been lately started in Dundee, and promises to develop. Both skilled and unskilled work is required.

Apprentices are taken without premiums or indenture, at 15 years of age, for a term of five years, and are paid 4s. a week to start with, rising to about 10s. in the last year of training. Employers like well-educated lads as apprentices, and advise them to attend evening classes during the first two or three years of apprenticeship. The working hours are from 8 a.m. to 8 p.m., with time off for dinner and tea; on Saturdays, 8 to 2.

As journeymen, 26s. wages are given. The unskilled workers at machines are lads of about 18 years of age, receiving 14s. a week.

The last three months of the year are dull, but stock can always be made.

### **Golf-Ball Making.**

This branch of the manufacture of golf materials has developed very rapidly. It is unskilled work, carried on by women and girls in special rubber factories where rubber goods are made up. A few of these in Edinburgh and Glasgow are engaged in golf-ball making. Girls from 14 to 18 years of age attend to the machines in the winding departments, while the work of moulding the balls is carried on by women, as it demands rather more strength. Employees of average strength are usually transferred from the winding to the moulding department when they reach 18 years of age. The wages are paid by piece-work, and a good worker, after training, can make in either department about 11s. or 12s. in a 54-hours week. In favour of this work it may be said

that it is light and regular, but there is practically no possibility of advancement.

## GROCERS.

	M.	F.		M.	F.
Glasgow, 4,318.	776.		Edinburgh and Leith, 2,081	+ 599.	266 + 119.
Dundee, 1,042.	261.		Aberdeen, . . .	970.	346.

Twenty years ago, when the working hours were indefinitely long, the beginners in the grocery trade received the proverbial half-crown a week as wages. Now, when hours are somewhat shortened, beginners seldom receive less than 5s. a week; there seems to be the greatest difficulty among employers in the towns in getting smart, intelligent lads who can write or count in anything like a moderate way, and are willing to apply themselves to business. Matters are rather better in the country, and when country-trained lads come to the towns, the general training they have had stands them in good stead; employers say they prefer them chiefly on the ground that they are less given to cigarette-smoking and sports. In all four cities the same point was emphasised by the employers—that the lads who came at 14 or 15 years of age had no ease and rapidity in simple calculation, and could seldom write and spell respectably.

Apprenticeship is in a transitional condition; there is no premium or indenture, and the verbal arrangement that suffices in most of the trades appears to be of small account in grocery. In Glasgow, a sense of being bound to an employer can hardly be said to exist among the lads in grocery shops; but in Edinburgh, Dundee, and Aberdeen there still seems to be a live spirit of apprenticeship, and lads enter for a period of three, four, or five years' training.

The grocer usually selects the best of his message-boys to be trained for shopwork. From being a message-boy, a likely lad is promoted to cleaning the shop, keeping things in their places, making up parcels, and in a short time he is allowed to serve customers. The wages start at 5s. to 7s. a week, and rise to 10s. or 12s. the last year. The working hours may be very long—a circumstance which is much against the choice of this occupation by town lads. The hours are usually 60 to 65 per week, with an afternoon off once a week. In some of the best shops they are not more than 50, but there still are shops that exact as many as 75 hours. Much depends on the particular locality where the shop is situated. In a few of the main thoroughfares in Glasgow, the grocers' shops are open from 8.30 a.m. till 7 p.m. daily, and on Saturdays from 8.30 to 2 or 4 o'clock; but, as a rule, grocers' shops open at 8 a.m., and they remain open until 10 p.m. on Saturdays. In Dundee, the most common hours are 8 to 8 on five days a week, and 8 to 10 on Saturdays, and employers allow two meal hours each day and a weekly half-holiday. A summer holiday of a week or a fortnight is generally given, with wages.

Juniors who have newly finished their years of training are paid at the rate of 16s. to 20s. a week. Intelligent, bright young men can earn from 25s. to 30s. a week. Later on, as foremen or first-class assistants, they may receive upwards of £2 a week. It is often advisable for a young man of ability to apply for a foreman's post in some other firm than the one in which he has been trained, as there is a difficulty in being put in a superior position among those who were formerly his equals. This does not hold in the case of large establishments.

Under firms having a number of shops, competent assistants have many opportunities of advancing them-

selves. A manager of a good branch can earn from £100 to £200 a year, and there are a few posts, such as general inspector in a large firm with several branches, where £300 to £600 salary is given. It is seldom advisable for men to start in business for themselves, as the risk and responsibility are always great. Occasionally a good opportunity offers in a new and thriving suburb or some seaside resort.

The large warehouses conduct business in distinct departments, such as:—

- (1) Grocery and Italian goods.
- (2) Butter, cheese, and eggs.
- (3) Provisions.
- (4) Tea and coffee.

The assistants in each are confined to their own branch, and are expected to make themselves experts in their branch. It is hardly possible for anyone who works all day long from the time he is 14 years of age, to acquire a scientific understanding of the goods he is handling. Even his knowledge of geography is often inadequate, and he cannot appreciate the associated facts concerned with the products of different countries.

There can be no question of the increased interest it would lend to a young assistant's daily routine of work, and the greater intelligence he would afterwards show in serving customers, if he were allowed a half-day off once a week for some systematic class-work. The moral effect upon the man of added knowledge and confidence would be of value even to the employer, but much more to the man himself as an intelligent and responsible citizen. It is much to be desired that, wherever technical colleges exist, there should be special classes for grocers' assistants, and an organised plan whereby the employers allow time for attendance before assistants are tired out with a long day's work.

## UNEMPLOYMENT.

Unemployment need hardly exist for capable men in the grocery trade. There is very little slack time. In better-class districts, two or three months in summer are less busy, and in working-class districts in Glasgow the only slack time is during the annual seven or ten days of holidays or "Fair." Grocers' assistants in Aberdeen, Dundee, and Edinburgh during summer time frequently take temporary work with provision and fishcuring merchants.

## WOMEN AND GIRLS.

In the ordinary grocers' shops of moderate size, women and girls are only employed as retailers of fruit, sweets, cocoa, etc., at special counters, or in book-keeping and correspondence; but in some of the large establishments, with a number of branches, as many as 20 per cent. of the employees may be women. They are paid at one-half or not more than two-thirds the rate for male assistants. Wholesale grocers engage young girls for packing and making-up goods. These begin at 14 years of age or more, and earn 6s. to 12s., according to ability.

With regard to office-girls, one or two experienced employers write that they prefer girls who come directly from an elementary public school, as their arithmetical knowledge is quite fresh, and they adapt themselves readily to the particular system of book-keeping required in the business. They also seem at that age to accept the discipline and routine of office-work more as a matter of course. The same employers say they recommend their male apprentices and assistants to attend evening classes in commercial subjects, but the obvious difficulty is the great demand upon the physical powers if both classes and business work are to be carried on during a prolonged period of years.



## GUN MAKERS.

Glasgow, 28.

Dundee, 4.

Edinburgh and Leith, 86 + 9.

Aberdeen, . . . 14.

There is a fairly large gunmaking trade in Edinburgh, and steady men are likely to have regular employment.

The apprenticeship begins at 14 years of age or more, and lasts from six to seven years. The wages of apprentices begin at 3s. or 3s. 6d., and rise 1s. every year. Journeymen may make from 28s. to 40s., depending on ability and skill. The hours are 55 per week, with one hour daily for dinner. In Aberdeen, as in many towns, a few skilled men and apprentices are employed in shops where guns are sold. They fit in the stocks, and repair and alter guns. Their wages are much the same as those quoted above. The less skilled men, who do work under experienced journeymen at guns and fishing-tackle, receive about £1 a week.

There is steady employment in this trade, but not much chance of promotion. An apprentice sometimes goes after training to be an armourer in the army or navy.

## HAIRDRESSERS AND BARBERS.

	M.	F.		M.	F.
Glasgow, 1,064.	35.		Edinburgh and Leith, 417 + 88.	26 + 4.	
Dundee, 204.	9.		Aberdeen, . . .	164.	9.

A boy may begin as message-boy in the large shops, but for his training he has to go into the smaller shops, as it is in these that the system of apprenticeship is chiefly kept up. After a three years' apprenticeship in a barber's shop, youths may be taken as "improvers" for other three years in first-class establishments, or they may engage themselves as assistants without further apprenticeship. In the latter case, however, their prospects are more limited. The prices are definitely

graded in each town according to the class of shop. For example, in Aberdeen, in a first-class shop, the charges for men are 6d. for hair-cutting, and 3d. for shaving; in a second-class shop, 4d. for hair-cutting, and 2d. for shaving; in a third-class shop, 3d. for hair-cutting, and 1½d. for shaving.

## APPRENTICES.

A lad who thinks of becoming a hairdresser ought to be clean, neat-handed, and quick, and should have a thoroughly good general education, upon which he may base the special knowledge of electrical and mechanical work that is called for now in connection with this business.

Boys of 15 years apprentice themselves, as a rule, for three years; there is no premium and no indenture. The hours of work may vary from 54 hours in the first-class shops to 66 in third-class shops, where the hours of closing are often late.

Wages begin at 3s. or 3s. 6d. a week, and are increased each year, reaching 8s. 6d. or 9s. a week in the third year. After that, the apprentice becomes an "improver," and often transfers himself to a larger shop, where he may receive a further training. The "improver's" wage begins at 10s., and is raised according to ability. The shop-work at first consists of hair-cutting and shaving, and, later on, some training is given in ladies' hairdressing and the doing up of false hair and wigs. This more advanced department of work can seldom be efficiently taught in the second- and third-class shops, and some of the leading hairdressing establishments are trying to raise the general standard of this branch by arranging that lads of 15 should come direct to them, and go through a complete apprenticeship of six years under them. At the same time, without a signed indenture and a definite payment

for breach of indenture, it is hardly likely that it will prove satisfactory to any first-class hairdresser to take the trouble of personally initiating lads in the finer intricacies of the work as carried out by himself, only to find that either before or immediately after the conclusion of his training the apprentice goes to some rival shop at a higher wage, or, within a very few years, starts a business for himself.

During their training, apprentices ought to attend evening classes in the hair-dressing academy, or the hair-dressing courses which are given in some of the technical colleges. The two conditions of entrance to the classes in the hair-dressing academy in Edinburgh are both intended to support the apprenticeship system:—(1) a boy must be 18 years of age ; (2) he must have served three years with one master. The course of instruction there lasts three years, and costs about 15s. per annum.

#### TRAINED ASSISTANTS.

The wages after training vary according to the particular grade of shop and the class of work which can be undertaken by the individual worker. The range is from 18s. to 21s. a week in third-class shops, 22s. to 24s. in second-class shops, and 25s. to 30s. in first-class establishments, where it is requisite that the assistants should have been well educated, and have a good appearance and manner, in addition to being proficient operators.

As a perquisite, a commission of about 1d. in 1s. is given on sales. One week's holiday a year and all ordinary shop holidays are given with full payment, and very often wages are continued during sickness.

There are a few good chances of promotion, either as manager in some of the larger shops or by starting business on one's own account. Where so much of the success depends on personal skill, a modest beginning

in this way may be made by any capable, well-trained man, and that is precisely the difficulty which faces the employers who do well by their apprentices.

#### THERAPEUTIC BRANCH.

When one remembers the early association of the barber's craft with surgery, and how completely "barbery" and "surgery" have distanced from one another since the days of George II., it is all the more remarkable to observe that certain recent developments in medicine are opening up new possibilities to resourceful hairdressers. For now it is the "perruquier" or hairdresser, not the "barber," that is in the forefront of his craft, and a special branch that he may cultivate is the application of electrical massage to various ailments, more especially those of the nervous system. Several of the best establishments have fitted up the necessary apparatus, as recommended by the medical profession, for relieving lumbago, sciatica, and other nerve affections; for removing comedoes or "blackheads" by the use of an electrical vibrator; for stimulating the hair-glands by electrical brushes and pads; for electrical face massage, and other special types of manipulation. The operators are required to have considerable practical knowledge and skill.

#### HAT AND CAP MAKING.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male:	Straw Hat and Bonnet				
	Manufacturers, . . . 4	3 + ...	...	...	...
	Felt Hat Manufacturers, 17	17 + ...	1	1	1
	Hat and Cap Makers, . . 47	11 + 5	7	...	...
	Total, . . . <u>68</u>	<u>31 + 5</u>	<u>8</u>	<u>1</u>	<u>1</u>
	Hat, Bonnet, and Straw				
	Plait Dealers, . . . 146	66 + 4	17	33	33

## Female: Straw Hat and Bonnet

Manufacturers, . . .	4	5+1	1	1
Felt Hat Manufacturers, . . .	4	2+...	...	1
Hat and Cap Makers, . . .	404	56+1	...	18
Total, . . .	<u>412</u>	<u>63+2</u>	<u>1</u>	<u>20</u>

## Hat, Bonnet, and Straw

Plait Dealers, . . .	112	3+1	11	2
----------------------	-----	-----	----	---

In Scotland, the only departments of the trade taken up are the making of gentlemen's silk hats, the trimming of silk, felt, and straw hats, and cap-making. Very few men are employed at this trade now. In Edinburgh, for example, which used to be the Scottish centre of the silk hat trade, there are not more than a dozen men now employed in making silk hats, although at one time there were about 100. This is partly due to the fact that fewer silk hats are worn and more felt hats and caps, and partly to the fact that the trade union made stringent rules as to limiting the number of apprentices. Moreover, the making of caps and the trimming of silk and felt hats can be quite well done by women, and this is at the present moment the most active branch of the trade in Scotland. Roughly calculated, about 90 per cent. of the employees in special hat and cap business houses are women, but that does not include the cap-making done by tailors.

## APPRENTICES.

Boys of 14 or 15 may be apprenticed, without premium or indenture, for a period of four years, and receive 5s. a week to begin with, rising by one shilling a week in each successive year. Apprentices of some education and intelligence, who continue to develop themselves by evening school work during apprenticeship, are likely to find quite good openings afterwards in the larger business houses.

## TRAINED WORKERS.

Trained workers receive on an average 30s. a week

wages; but the larger houses afford prospects of advancement as foremen and managers. The working hours are usually 8.30 to 7 o'clock, with a half-holiday on Wednesday or Saturday; they vary from 45 to 50 hours a week.

## GIRLS.

Girls begin at 14 or 15 years of age, with 3s. 6d. or 4s. 6d. a week, and in two or three years they become expert in the work. The wage of fully trained workers is generally 12s. a week, but in the larger houses clever workers may make from 16s. to 20s. The trade is steady, and the busiest seasons are in spring and summer. The work in itself is light and pleasant, and well suited for girls.

## IRON AND BRASS FOUNDERS.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Pig Iron Blast				
Furnaces, .	2,818	6 + 2	...	...
Puddling, .	1,116	7 + ...	4	2
Steel Smelting, .	2,372	18 + 7	3	1
	<u>6,306</u>	<u>31 + 9</u>	<u>7</u>	<u>3</u>
Patternmakers, .	1,002	119 + 65	140	89
Iron Founders, .	6,377	644 + 333	1,039	432
Brass Founders, .	749	176 + 22	64	38

A foundry of wide scope may undertake the manufacture of the metals as well as the preparation of castings, and may add engineering workshops. Excluding the work of production, a large iron foundry is often subdivided into several or all of the following departments:—

- (1) Drawing-office.
- (2) Patternmaking.



- (3) Moulding.
- (4) Machining and turning.
- (5) Fitting.
- (6) Forging (smithy).
- (7) Plane-making.
- (8) Grinding and polishing.
- (9) Finishing.
- (10) Store.

The plumbing that is required by most firms is also done on the premises.

The apprenticeship conditions for machinists, turners, and fitters have already been described (pp. 211-216).

#### MOULDING DEPARTMENT.

Apprentices in all foundry and engineering work must be 16 years of age or more at the beginning, but moulders have a long apprenticeship of seven years, and are usually engaged at 14 or 15 years of age. A strong physique is quite necessary, as the work is hard, and at times of pressure throws a great strain both upon men and apprentices. The hours of work are 54 a week—9½ hours a day from Monday to Friday, 6½ on Saturdays.

The patterns of various articles—large and small—which have to be cast in the foundry are carefully prepared in the patternmaking department, from drawings made in the drawing-office. The patterns are mostly made in wood, sometimes in metal. The moulds are built in the foundry with special sand and loam for the purpose, and shaped round the particular pattern. The mould of an article of complex structure is made up of different parts bolted together. The moulds are heated and allowed to cool and harden before the hot metal is run in. The molten iron or brass is poured into a mould, and allowed to cool; afterwards the mould is removed, and the casting in its first rough state is

ready. It has to be smoothed and dressed by sand-papering and other processes, and is afterwards passed on to the machineroom to be further prepared for its special purpose.

The work is very hot and trying, and many men do not work steadily on that account. On the other hand, although the standard wage for fully trained moulders is  $8\frac{1}{2}$ d. or  $8\frac{3}{4}$ d. an hour, experienced men with responsible work may, when fully employed, earn on piece-rates from £2 to £4 a week.

#### APPRENTICES.

(a) *Moulders*.—The apprentice moulder may be paid by piece-work, and in the large foundries in Glasgow an apprentice on piece-work wages earns from 5s. to 10s. a week in his first year, and 20s. during the last year. The lad who works on piece-rates very often gets a man's wage long before he is out of his apprenticeship. If the apprentice is paid by time, his wages are about 4s. or 5s. the first year, and run—5s., 6s., 7s., 8s., 9s., 10s., and 12s. In Edinburgh, apprentices after four years' service are sometimes put on piece-work. The time-wage apprentice gets the most difficult work, and consequently the best training, as the foremen do not like to risk giving important work to lads paid by piece. In spite of the high wages, many firms experience a difficulty in securing apprentice moulders. Many employers try to arrange the work in the moulding and other branches so that apprentices may get off in good time on two or three evenings a week to attend the evening classes in the engineering courses.

(b) *Patternmakers*.—Apprenticeship in the pattern-shop begins at 14 years of age or over, and may last five or six years. The length of apprenticeship, as well as the wage, varies in different localities and with different firms. Wages usually begin at 5s. or 6s. a week in the

first year, and increase to 9s. to 15s. during the last year.

(c) "*Dressers.*"—The first dressing of a casting is generally done by unskilled workers, but a few firms train apprentices for three years to serve as dressers. Very often boys of 14 help for a time at dressing work before they apprentice themselves as moulders. A machine has recently been introduced for automatically smoothing the castings, and this has greatly diminished the number of boy dressers.

#### JOURNEYMEN.

After apprenticeship, if the payment is by time, an improver's wage of 24s. to 29s. a week is given for some months or for a year. Sometimes only 20s. is given to an improver. The trade union minimum time-wage for fully trained tradesmen in the Glasgow foundries is 8 $\frac{3}{4}$ d. an hour; in Aberdeen and Edinburgh, 8 $\frac{1}{2}$ d. is usual. The average wages made on piece-work are, for moulders, finishers, grinders and polishers, and plane-makers, 34s. to 37s. a week; patternmakers, 31s. 6d. to 40s. 6d. a week; forgers, 33s. a week.

Employers say there is a lack of suitable boys to be apprenticed as "finishers." Very good eyesight is required, and a fair amount of skill. It is still more difficult to secure apprentices as grinders. The work is very hard, and especially trying for the hands in cold weather. The "fires" off the buffs also tend to damage the eyes.

#### STOREMEN.

The most careful men in the finishing-shops are selected for the store, and put a finer edge on the finished article, or do any special work on the goods when they are brought to the store from the finishing-shop. The storemen are frequently entrusted with different kinds of responsible work, such as laying out

the quantities, giving out the materials and tools, and checking the work. The wages vary according to the smartness and efficiency of the men and the state of pressure of the work. The set pay for storemen in the South is about 34s. a week.

### UNSKILLED LABOUR.

Sometimes a very large proportion of the men employed in a foundry are labourers who have in a few months learnt to attend to automatic and other machines (see p. 212). Lads are also much in request. In the manufacture of iron and brass lathes, for example, the rapid development of automatic machinery within the last ten years enables one lad now to do the work on which previously two journeymen were employed. Such lads begin at 4s., and go up to 12s. a week. No more than half their number continue in mechanical work; those who leave become general labourers, vanmen or carters, ship-firemen, bricklayers, etc.

In addition to the "dressers" in the foundry, there are boy helpers in most of the engineering departments.

"Forge boys" are required in the smithy. They have to heat the metal in small furnaces, to be ready for the forgers. They get about 6s. a week, but there is no rise of wages, and they stay a very short time. They are, as a rule, rough lads, and only a few enter apprenticeship in the works later on.

"Store-boys" help to keep the store in order, look after the tools, grease the finished work, and so on. They receive about 5s. a week, with no rise; usually they become apprentices in some of the engineering departments.

### Steel Casting Foundry.

The usual departments are:—

- (a) Mechanical engineering.
- (b) Bricklaying.

- (c) Foundry (moulding and dressing).
- (d) Melting-shop.
- (e) Mills.

## APPRENTICES.

A large proportion of apprentices are taken in the engineering and bricklaying departments, and the conditions are the same as have been described above under these headings. The bricklaying apprentices serve six years. The special apprentices in the steel foundry may be regarded as those who go to the moulding and dressing, melting, milling, and smelting departments. Many of these start at 14 years of age as non-apprenticed learners, and assist for a year at the store, and in selecting the charcoal used for the steel furnace.

The *moulders* have a seven-years apprenticeship (see p. 240). They usually begin at the core-bench, and make cores for a couple of years. Then they work for a year or a year and a half beside a journeyman moulder, shovelling in sand, and gradually advance until they are given plain work for themselves. The wages during the training increase from 4s. or 5s. the first year to 18s. or 22s. in the last year.

The term of apprenticeship in the *dressing* department is for five years. Apprentices start by removing the sand from the castings when they come out of the moulds. Then they learn to grind off the rough parts, and next to file the castings. Afterwards they are allowed to use a hammer and chisel, and, finally, they get a bench to themselves in the dressing-shop. The wages during apprenticeship are rather less than for moulders.

Apprentices in the *annealing* department also serve five years, and begin at about 5s. a week the first year, and the wages in the last year of training may go up to 20s. a week. The lads who serve apprenticeship in the

melting department very often pass later into the mills and smelting departments, where the labour is heavy, but not varied.

#### UNSKILLED LABOUR.

There is always a large demand for non-apprenticed learners—*e.g.*, “gan”-boys, winch-boys, stampers, and painters—and for labourers and handymen to help with the machines. The boys are taken at 14 years of age, and receive about 10s. a week the first year. They may continue at simple routine work until they are about 17 or 18, receiving some slight increase of wages, up to 12s. a week; then they often recruit the staff of unskilled labourers in the works.

---

#### IRON FRAME BUILDING MAKERS.

This work is carried on by several firms in Glasgow and Edinburgh. The employment is fairly regular, depending on the state of trade and not on particular seasons, although summer on the whole is the busiest time. In all the workshop departments 50 hours a week are worked, with one break daily for meals.

#### DRAUGHTSMEN.

Draughtsmen must have a good general education. They make scale drawings according to specifications, and ought to be able to draw and to have a good knowledge of geometry before beginning apprenticeship.

Apprentices are taken on at 15 or 16, and their wages generally rise from £10 the first year to £30 the fifth. They are expected to attend technical classes, and it is an advantage if they spend part of their time in the workshop. After apprenticeship, they may begin with £40, a good man perhaps with £60, and their promotion



depends on their capacity. All the higher-paid posts are open to such men.

They work 45 hours a week, and generally get a fortnight's holiday. There is a good supply of boys.

#### TEMPLATE MAKERS.

Template makers get the scale drawings from the draughtsmen. They have to enlarge from the drawings, marking every detail, and then to make patterns or "templates" in wood or metal of the different parts of the framework, full size. They are, therefore, better to have the geometrical instinct, and must be accurate. They ought to take drawing, geometry, and carpentry at evening schools. This department does not require much physical strength.

The apprenticeship is five years, beginning at 14 or 15. The wages are 8s., 10s., 12s., 14s., and 16s. The boys who become proficient are kept on as improvers, beginning at 6d. an hour; this for a 50-hours week is 25s. The man's full wage is 8d. an hour. A very good man may get as much as 10d.—*i.e.*, 33s. 4d. to 41s. 8d. A foreman gets from 50s. upward.

#### PLATERS.

The platers get the various profile moulds and patterns and full-size drawings from the template makers, and have to make their iron plates to match. They require physical strength, as well as ability to understand scale drawing.

The apprenticeship is five years, and boys begin at 14 or 15. The wages run from about 6s. the first year to 14s. the fifth year. When apprenticeship is over, most boys are kept on, and begin with 6d. an hour. The time worked is 50 hours per week, with one hour daily for meals; so that as an improver a man begins with 25s. a week. The wages of journeymen are 8d.

to 10d. an hour on time-work—that is, 33s. 4d. to 41s. 8d. per week. Men may go on piece-work, at which as much as 1s. 2d. or even 1s. 4d. an hour may be earned; foremen get about 50s. upstanding wage. The trade is healthy, but it is too hard for old men. Boys for this department are scarcer than for the template making department.

The shipyards also employ platers, but the conditions there are different.

#### RIVETERS.

This work does not take more than a month or two to learn, so there is no formal apprenticeship. It requires physical strength, and only youths of 18 or 20 are taken. The rate of wages for time-workers is 7d.—*i.e.*, 29s. 2d. for a 50-hour week. Good workers prefer to be on piece rates, when as much as 10d. or even 1s. an hour may be earned.

#### MACHINEMEN.

A large number of men who have not served any definite apprenticeship work at different machines. The less skilled make 5d. to 7d. an hour, working on time-work; but those who go on piece rates make from 8d. to 1s. per hour.

A considerable number of *labourers* are employed, at 4½d. to 5d. per hour.

#### RIVET HEATERS.

A considerable number of boys between 16 and 18 are employed as rivet heaters. A boy begins at 6s. a week. His wages increase more rapidly than if he were apprenticed, but if he remains long at rivet heating he probably will only become a labourer. The smarter boys may become machinemen.

## IRONMONGERS AND HARDWARE DEALERS.

	M.	F.		M.	F.
Glasgow, 932.		510.	Edinburgh and Leith, 432 + 67.		27 + 6.
Dundee, 119.		15.	Aberdeen, . . .	179.	12.

At present the supply of learners for the ironmongery trade is not quite equal to the demand. It employs two distinct classes of workers:—

- (1) Practical tradesmen.
- (2) Shopmen.

### Practical Tradesmen.

The practical tradesmen are of various kinds, the greater number being blacksmiths and tinsmiths. Boys on entering as apprentices select either of these departments. For particulars of their training see those trades (pp. 147 and 371). There is a fast-increasing demand for intelligent men, with knowledge of electrical work, for the fitting of electric bells and lighting apparatus. The work required of blacksmiths and tinsmiths is very varied, and boys who wish to get on are strongly recommended to study drawing and mathematics during their apprenticeship. Employment in an ironmonger's shop is much steadier than in factories for these two classes of tradesmen. They are usually paid by time. Tinsmiths earn an average of 28s., and blacksmiths of 31s. per week.

### APPRENTICES.

For boys who desire to become salesmen in ironmongery warehouses, a good general education and a knowledge of book-keeping are essential. Apprenticeship begins at 15 or 16 years of age, and the term required is generally five years, in some cases only four. The hours of work are from 50 to 60 per week, and the average rate of payment runs from 4s. weekly in the first year to 12s. 6d., and in a few firms to 15s. in the last

year. Apprentices learn by making themselves useful to the salesmen over them. Those who hope for promotion to responsible positions as salesmen ought at the same time to acquire a practical knowledge of chemistry and electricity. The variety of goods dealt with in the trade is so large that good memory and method are invaluable. After apprenticeship is out, an assistant receives 16s. to 20s. weekly; this sum increases after a few years, according to individual ability. A capable salesman may expect from 30s. to 40s. weekly, but some men are never worth more than 25s. One or two weeks' holiday is given, sometimes with payment; and employment is regular throughout the year. The trade is particularly healthy, and men who are up in years are in no way disqualified.

---

#### JAPANNERS AND CYCLE ENAMELLERS.

	M.	F.		M.	F.
Glasgow, 86.	80.		Edinburgh and Leith, 14.	...	
Dundee, 3.	...		Aberdeen, . . . 5.	...	

The number of men employed is not large. The work is light, and consists of enamelling tinware of all descriptions—baths, trunks, cycles, etc. A knowledge of drawing is useful to boys taking up the trade.

There is an apprenticeship of six years. Wages begin at 5s., and rise 1s. each year. The hours are 50 per week. One hour is given for dinner.

After training, wages may begin at 20s., and rise to 25s. and 30s. in the case of capable men. A foreman receives from £2 per week.

The work is fairly regular all the year round—summer being specially busy.

## JEWELLERS, SILVERSMITHS, AND GOLDSMITHS.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Goldsmiths, Silversmiths, and Jewellers, . . .	424	394 + 10	35	72
	Dealers in Precious Metals, Watches, etc.,	75	39 + 4	...	1
	Total, . . .	499	453 + 14	35	73
		<hr/>	<hr/>	<hr/>	<hr/>
Female :	Goldsmiths, Silversmiths, and Jewellers, . . .	99	30 + ...	...	15
	Dealers in Precious Metals, Watches, etc.,	48	7 + 1	3	...
	Total, . . .	147	37 + 1	3	15
		<hr/>	<hr/>	<hr/>	<hr/>

In all these trades good eyesight is required, and there is wide scope for the exercise of artistic taste. They are frequently chosen by boys who are deaf and dumb, but otherwise intelligent and healthy.

*Silversmiths* make silver articles of every description.

*Chasers* engrave these articles.

*Goldsmiths and Jewellers* make gold ornaments and set precious stones.

**Silversmiths.**

There is no large centre for the making of silver goods in Scotland; most of the retail firms buy their stock from English markets, chiefly from Birmingham, and English makers frequently have retail businesses in the Scottish towns. A small home trade is carried on, however, and there is a certain number of openings for apprentices.

**APPRENTICES.**

Boys are received at the age of 14 or 15 without premium or indenture, and serve a term of seven years. There is much to learn, and the work requires great care

and neatness, which makes the long apprenticeship necessary. Boys who have been with firms as messengers for a few months, and show themselves to be reliable, have a good chance of being taken as apprentices when there is an opening. They work under the supervision of a journeyman, and begin by doing small jobs, such as keeping the fires right and soldering. They assist, wherever required, with repairs, gradually learning to do those by themselves, and finally become able to make up goods from the raw material. The working hours are 50 to 53 per week, one hour being allowed for dinner. The wages start at 4s. or 4s. 6d., and rise to 12s. or 14s. in the last year of training.

#### JOURNEYMEN.

Good workmen are kept on as journeymen when their apprenticeship is out, if there is room for them. Payment is made sometimes according to piece-work, sometimes by time. Time-workers' wages run from 35s. to 50s. per week; by piece-work, £3 to £4 is often earned. Foremen in larger businesses get still higher wages.

Work is not affected by the seasons; slack periods, which come occasionally, are due to the general state of trade. Age does not interfere with employment. As long as a man is a good worker, he will be kept by his own firm, or would be taken by any other. The work is healthy, except in the process of gilding, which is injurious to those with delicate lungs.

#### Chasers.

Chasing is at present very fashionable, and good wages may be earned by those who are skilled in this branch of art. £2 weekly is an average wage in Scotland. In London, some firms give as much as £4 to £5 per week.



**Goldsmiths and Jewellers.****APPRENTICES.**

The work of a goldsmith and jeweller is particularly delicate. It requires great patience, taste, and skill, and at present there is difficulty in getting apprentices. Boys are received at the age of 14 or 15, and the apprenticeship term is five to seven years. In each workshop there is an overseer, who instructs and superintends the work of apprentices. The learners begin with simple repairs, such as fixing stems in brooches, and go on gradually to the more difficult work. The usual working hours are nine or ten daily, and six on Saturdays. One hour is given for dinner. The wages begin at 3s. or 4s., and rise to 10s. or 12s. Technical classes in drawing, chemistry, and metal work are much recommended.

**JOURNEYMEN.**

There are many openings for efficient and tasteful working jewellers. Wages usually run from £2 to £3 per week, and overseers in the larger business houses sometimes get more.

Dentists frequently employ goldsmiths for their metal work. For the first year, a man will probably not be paid more than 25s. to 30s. a week, but if he proves skilful, his wages may rise in a year or two to £2, £3, or £5 a week.

---

**LATHSPLITTERS.**

Glasgow, 187.

Dundee, 48.

Edinburgh and Leith, 64 + 8.

Aberdeen, . . .

The work consists in cutting up and preparing wood for laths. It is hard work, and requires physical strength, but it is well paid, and affords regular employment. In Scotland, boys learn the whole trade,

but in England, where more is done by machinery, boys are kept in distinct departments.

#### APPRENTICES.

The apprenticeship lasts five years. Wages begin at 4s., and may rise to as much as £1 in the last year, but this depends on the boy's ability. The hours are 51 per week. Two meal hours daily, and trades and general holidays are given.

#### JOURNEYMEN.

For journeymen the standard wage is 9d. per hour—38s. 3d. per 51-hour week. This a man gets as soon as his apprenticeship is over. Capable men may become foremen, with wage of £2; their work then is more supervising the journeymen than actual practical work. May and June are slack months, but during the winter the work keeps up regularly.

---

#### LITHOGRAPHERS.

M.	F.	M.	F.
Glasgow, 696.	421.	Edinburgh and Leith, 556 + 63.	131 + 31.
Dundee, 42.	20.	Aberdeen, . . . 127.	48.

In lithography the printing is done from stone, and the art of lithography covers the whole process of drawing, preparing, and printing from stone. The lithographic trade is divided into three distinct sections, represented by the artist, the transferrer, and the machineman.

1. *A lithographic artist* gets up designs, and either draws direct on the stone or prepares transfers which are afterwards put down on the stone. He must be able to draw, and ought to have artistic sense, a good eye for colour, and a good general education. This is work

that can be done by a man of intelligence who is not physically strong.

2. A *lithographic transferrer* puts down on the stone the transfers previously drawn by the artist, re-transfers a job from one stone to another, and, generally, hands over the stone to the machineman in the proper condition for printing. A good transferrer may hope to be made, in time, a lithographic foreman.

3. A *lithographic machineman* manages a machine. He ought to have an eye for colour and a fair education. He must also be strong, as he has to deal with heavy stones.

#### APPRENTICES.

The conditions of apprenticeship are the same as in other departments of printing—entry at or after the age of 14, a seven years' apprenticeship, wages increasing from 4s. by 1s. each year, and usually by 2s. the last year of training. The number of apprentices allowed is one to five journeymen. Apprentice lithographers are indentured in many firms.

#### JOURNEYMEN.

After apprenticeship, wages vary entirely with ability, from 30s. to £3 being given. A common wage in Aberdeen is 33s. a week, in Edinburgh and Glasgow 34s. a week. Wages have been rising for the last fifteen years, but it is difficult to say whether this rise will continue. If a man has the power of illustrating or designing, he may get a very good position—£200 a year or more.

#### UNSKILLED WORKERS.

Women are employed in feeding the machines. Few are taken under 18 years of age.

Stone-polishers are also employed in lithography.

The work is unskilled, and requires physical strength. The wages are 18s. to 25s. a week.

#### REMARKS.

For illustration purposes, the work produced by zincotype process blocks can never equal in sharpness of definition and delicacy the work produced by the lithographic method. Hence there is still a good field in pictorial lithography.

Comparatively few Scotch lithographers cultivate the art of drawing scientific specimens and natural history objects on stone for illustrative plates. The chances are that girls with education and artistic taste will gradually take up special lines in lithography, and that lithographic firms will find themselves in a position to undertake a greater variety of work. Under present conditions, lads may be taught the actual mechanical part of the drawing and printing in the workshop, but the training of the intelligence would have to be carried on quite as rigorously during apprenticeship, if the eye is to be a sufficient and accurate guide to the hand.

When a lad sits nine hours a day at his drawing-desk, it is out of the question that mental training commensurate with the manual can be secured. Thus all the young apprentices suffer alike—both these that would have the capacity to assimilate further teaching and turn it to account, and those that have limited capacity and, for want of use, even lose much of the general intelligence and knowledge with which they start apprenticeship.

#### PROCESS WORKERS.

The greatest advances of recent times in the printing trade have taken place in the printing of illustrations, and have been achieved through the use of photographic methods in preparing surfaces for reproduction purposes.

The half-tone and three-colour printing processes have given an immense impulse to the publishing and printing trades, and have brought well-illustrated books and magazines within the reach of everyone—in the home and in the public libraries and reading-rooms.

The photographers, hand engravers, and chemical and mechanical experts employed in process work receive excellent remuneration, and in Edinburgh, where publishing firms require much of this work, there are the best prospects for lads who have a natural bent towards it.

### MILLWRIGHTS.

Glasgow, 135.

Dundee, 21.

Edinburgh and Leith, 45 + 14.

Aberdeen, . . . 52.

Millwright work is required in the making of many varieties of tools and implements, agricultural and mechanical.

### APPRENTICES.

The apprenticeship begins at 15 or 16, and is for five years. Country lads are usually preferred. The wages start at 4s., rising to 9s. the last year of training. The hours are 54 per week. A boy ought to have special aptitude and neatness. He begins by learning to plane and prepare wood, then to set the frames of different machines—*e.g.*, sowing and threshing machines. Afterwards he assists journeymen to fit in shafts and brushes into machines.

Apprentice engineers who specialise in the branch of tool and implement making have the same period of apprenticeship and rate of wages as in other engineering branches. They learn to turn shafts, bore pulleys, and to fit and make implements, receiving a good general training in fitting and turning.

## JOURNEYMEN.

The "millwright" journeyman was, so to speak, the original engineer who worked in iron and wood, and made tools of every description. But with the introduction of the steam-engine and the rapid advances of machine-tools during the latter half of the nineteenth century, work became highly specialised in large engineering workshops, and many of the millwrights turned to patternmaking or other departments. A limited number of millwrights are still employed in the engineering workshops for machine-tool and implement making, and in workshops preparing tea and coffee machinery and other types of machinery for export trade.

A "millwright" in the older sense continues to be required in rural districts for making, fitting, and repairing threshing-mills and mills of various kinds in agricultural work. The country millwrights receive a general training in wood and iron work from the local "wrights," and the wages of a fully trained journeyman run from 24s. to 30s. per week.

---

### MONUMENTAL SCULPTURE AND MARBLE CUTTING.

This is a suitable trade for a boy with some artistic taste who wishes an outdoor occupation. There is a growing demand for marble work at present, not only for monuments, but for chimney-pieces, floors, and decorative purposes. The trade is akin to mason work, and apprentices who have little taste sometimes leave and go to the building yards.

## APPRENTICES.

Boys are apprenticed, without premium, or indenture,



at 15 years of age for five years. The wages are 5s. a week to begin with, and rise 1s. a week or a little more each year of training. The hours of work are 6 a.m. to 5 p.m., with two meal hours off, and 6 to 1 on Saturdays. An apprentice starts by working in the yard and dressing the stones, and it takes about a year and a half before he can do that well. At the same time, he has to take evening classes in freehand, model, and geometrical drawing, and in clay modelling. If he shows any aptitude for design, he is allowed to do the simpler parts of the carving in the workshop, and may work his way to become a carver. Employers say that apprentices with an interest in the work usually spend a holiday in some place where they may see good workmanship, and develop their taste.

#### JOURNEYMEN.

The trade is not under a union, and there are no wage restrictions. Apprentices do not receive the wages of a journeyman immediately after their training, but are paid according to their ability. A journeyman usually earns a time-wage of 8d. an hour, or from 34s. to 36s. a week; but a capable man will be given £2 a week and upwards. Carving is paid at a time-wage of 1s. to 1s. 6d. an hour.

#### MARBLE POLISHERS.

There is little training required for polishing work, which is paid at the average wage for unskilled work—about 20s. to 21s. a week.

---

### MOTOR-CAR CHASSIS CONSTRUCTION.

Glasgow is the main centre of the automobile trade in Scotland. The whole industry of motor-car con-

struction has sprung forward by leaps and bounds within the last decade. No census numbers of those employed in it can be given, but on a rough calculation it is estimated that about 600 or 700 men are employed in garage and depôt work in Glasgow, and probably about 70 or 80 in Aberdeen, taken as the type of a smaller city. The rush of lads desiring to enter the automobile workshops is phenomenal, and a premium of £100 is usually required from those who are taken as apprentices.

A new combination of manufacturers, tradesmen, and dealers has been formed around the motor-car:—

1. The manufacturer of the chassis and the manufacturer of the coach or car (see p. 187).
2. The engineering tradesmen—including the electrical engineer, the mechanical engineer, the founder, the moulder, the turner, the fitter, the erector, the patternmaker, the skilled draughtsman.
3. The expert mechanic who tests the chassis.
4. The agent who acts as the middleman between the manufacturer and the depôt proprietor.
5. The staff of a large depôt—mechanics, clerks, salesmen, works manager, general manager
6. The chauffeur, or driver of the finished article.

The success of the motor-car has vitalised the engineering trades, called together scientific minds and skilled mechanics from one direction and another, and infused their work with fresh interest and purpose. It is at such times that the prize is open to him who can, and is open, above all, to the earnest-minded apprentice who has health and strength for the workshop, and at the same time secures a thorough grasp of the complete course in electrical engineering given at a technical college.

## APPRENTICES IN THE WORKS.

The premium-paying apprentice who comes at 16, or, preferably, 17 years of age, from a good secondary school usually arranges for a five years' apprenticeship. The working-class apprentice begins at 16 years of age. The starting wage is 3s. a week in the longer period of training, 4s. a week in the five years' period. In both cases, the wage increases year by year, and reaches a maximum of about 12s. a week in the last year of training. The working hours are 51 per week.

An apprentice first enters the *store*, and learns to know the materials used and the names of the various parts. After three to six months passed in the store, he has a year in the *machine-shop*. There the parts of the engine that have been cast in the foundry and have rough surfaces are put in the turning-lathe machines, and "turned" or filed with steel tools down to the required size. A beautifully fine finish and dressing is given to all the parts—the cylinders, pistons, connecting-rods, brackets, crankshaft, pinions, gear-wheels, axles, and the differential pinions for the back axle or gear-box. Repairs of all kinds are also undertaken in the machine-shop.

The apprentice then passes to the *fitting-shop*, where he stays for six months. More intricate work is done here than in the machine-shop, but upon the same parts.

A further period of six months is spent in the *erecting-shop*, where all the parts of an engine are assembled for the first time and "fitted." The *frame* is bolted together, the engine is erected, and frame and engine together build up the "chassis." But this is only a preliminary process, as the chassis is again taken down, and the engine is sent to the testing department.

The *testing department* represents the most specialised and advanced part of the works, and the apprentice has several further stages to pass through before he is admitted into it.

From the erecting-shop he enters the *drawing office*, and is made acquainted with the detail work of engines and frames, with specifications and all calculations relative to testing the results of engines. He has also to prepare drawings for the foremen of the various works departments. If an apprentice proves capable in the drawing office, he may be kept a year there, and is a marked man in the eyes of his employer. If he has not any special capacity, a shorter period is thought sufficient to give him a general insight.

A few months are then devoted to woodwork, making up patterns in the pattern-shop for use in the foundry; the apprentice then passes into the foundry itself, where, under some skilled moulder, he helps with the making of castings.

The *testing-room* is finally reached. The engines are usually tested by the electrical principles. An engine is coupled to a dynamo, and run at different speeds, to show the different horse-powers it is capable of producing, and to determine its maximum. For the "testing on the road," the whole chassis is fitted complete; a rough box or body is set on, and weights are added. After having been tested, the engine is sent back to the erecting-shop, where all the parts are reassembled, and the finishing touches given, before the final building up of the finished article.

An apprentice of special promise as a tester may be selected for permanent work in that department. And, if so, he is given additional training in the drawing office before being permanently placed in the testing department. Testing is the most highly paid department, and offers the best prospects. A capable man may become a chief tester, or may be drafted into the main office, and be appointed manager.

#### JOURNEYMEN.

The ordinary journeyman's wage differs according

to experience and the requirements of the department. Throughout the workshop it ranges from 6d. to 9d. an hour, but, as a rule, a good journeyman may count on 8½d. or 9½d. an hour. Foremen's wages begin at £2 10s. a week, and may run up to £4 a week.

The salaries for chiefs of departments are from £300 upwards; some of the managers in large works have £1,000.

#### GARAGE AND DEPÔT WORKS.

The manufacturer or constructor of the motor car chassis rarely undertakes a business depôt and garage. In a case where a manufacturer conducts his own depôt, the manager of the depôt would probably be selected from the testing-room or drawing-office at the works.

As a rule, the depôt is an independent business in which a staff of salesmen, clerks, and skilled mechanics are employed, but as the practical work to be done is limited to repairs or alterations, no apprentices are taken for a full training. A fairly representative staff of capable, practical men must be selected for the garage work. Very often the electrical engineers on the staff have had their training in the electrical supply works of a corporation or some electric lighting firm. The motor engineers come from mechanical engineering works, and there are always journeymen who have been trained in coachbuilding works.

A large depôt requires a manager for the works or garage department, and a manager for the depôt or office and sale-rooms. These have usually assistant managers and their own staff of employees. The manager of the garage is a trained expert in motor car construction; but the manager of the depôt may arrive at his position through office work: it is only necessary that he should acquire a good working knowledge of the various cars. The salaries of managers are usually from £400 to £600; assistant managers would receive from £150 upward.

## CHAUFFEUR.

Frequently, young men over 20 years of age, who have served their apprenticeship to some trade, fancy the idea of motor-car driving, and go to a garage for a short period in order to familiarise themselves with the parts of a car and easy repair work. Good-class artisans with previous mechanical experience rapidly acquire the special knowledge. But many others, such as cabmen, coachmen, stablemen, van-drivers, and men from various trades, are inclined to allow too short a time for special training. Many spend no more than a month in a garage, and this is partly because of the expense entailed. A charge of £2 to £4 a week is made for special training during a short period. If a young man takes six months or a year's training, the charge is lowered accordingly.

A reliable chauffeur of good appearance, fair education, and some expert knowledge will receive from £80 upwards, all found.

## MUNICIPAL EMPLOYMENT.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Municipal Officers, .	427	269 + 39	77	80
	Police, . . .	1,373	606 + 128	215	173
	Tramway Service, .	1,539	577 + 160	93	133
	Paviors and Road				
	Labourers, . . .	602	259 + 51	98	135
	Gas Works Service, .	2,159	565 + 243	229	255
	Water Works Service, .	159	66 + 6	16	21
	Electricity Supply, .	169	62 + 9	12	10
	Drainage and Sanitary				
	Service, . . .	411	87 + 13	22	33
	Scavengers, . . .	264	231 + 16	67	103
Female :	Municipal Officers, .	14	6 + ...	15	2

## IN OFFICES.

All the municipal departments require clerks, and these have comparatively good pay, not very long hours,



the prospect of continuous employment, and a pension.

*The City Chamberlain* trains his own clerks; wages begin at £15, and in the case of an ordinary man they rise steadily to a maximum of £110. There are several clerks with salaries of £120 and £250, and even £350.

*The Burgh Assessor* employs a number of trained clerks, with salaries of £90 to £240. A number of temporary clerks may be taken on in summer, at 25s. a week.

*The Burgh Engineer* trains a few boys as civil engineers. They begin with 10s. a week, and have the prospect of steady advancement.

*The City Road Surveyor* also employs a few clerks and civil engineers. Entering at 17 or 18 years of age, apprentice civil engineers serve five years. Their work consists in drawing to scale, making plans, road-surveying, and acquiring a good practical knowledge of matters connected with the works department.

*The Medical Officer of Health* employs a few clerks with knowledge of shorthand, and usually trains lads for the work of the office. Wages begin about 8s. to 10s. per week, and run up, with good service, to £2 per week.

## PENSION FUND.

An excellent superannuation and pension scheme was initiated in Edinburgh in May, 1907.

“ Each employee has to contribute  $2\frac{1}{2}$  per cent. (that is, 6d. per £) on his salary or wages, and this will be deducted from his pay. The Corporation will contribute a similar amount. Every city employee (except members of the police force) who has completed ten years' service, and has further either (1) become physically incapable of discharging his duties with efficiency, or (2) has reached 60 years

of age or upwards, shall be *entitled on retiring* to claim his pension, and at the age of 60 must retire on his pension."

Any city employee who was in service previous to November, 1906, has the option of declining to adopt the scheme.

The police have a pension scheme of their own. Sergeants and constables may retire with a pension of £55, but men of higher rank may not retire before 60 unless certified unfit. At all grades, a man who retires after 34 years' service receives a pension of two-thirds of the pay he has received during the last year of service.

Further particulars can be read in the Edinburgh Corporation leaflet entitled "Memorandum as to Superannuation Scheme."

### Municipal Surveying Office.

The works departments under the Surveying Office are (1) Sewerage, Streets and Roads, (2) Water, and (3) Workshops.

#### SEWERAGE, STREETS AND ROADS.

A large number of men are taken on from 20 to 26 years of age to spread the metal on roads; they receive 22s. to 26s. a week. *Surfacemen* equalise the surface; they get 24s. *Beaters* receive 26s. a week, and *labourers* 24s. A few old men are employed as night watchmen, at 23s. and 24s. 6d.

The only branch of this department for which an apprenticeship is required is that of paving. In most places, pavior apprentices are selected from among those who have already served a year or two as labourers in this department, and they may be 22 or 23 years of age. The apprenticeship lasts for four years, and the usual wage is £1 1s. a week. After training, the wage is 8d. or 8½d. per hour, which amounts to 32s. or 36s.

for a week of 51 hours' work. The working hours are reduced in winter.

Foremen and inspectors, who are often chosen from the ranks, earn 28s. to 45s. A few engineers, joiners, and blacksmiths can earn 27s. to 34s.

In all cases the work is regular. The hours vary in different towns: in Aberdeen they are 51 per week, in Edinburgh 46 per week. Two hours are allowed for meals, and a few days are given annually for holidays.

In winter, stone-breaking is sometimes provided for numbers of unemployed, at a daily wage of 2s. to 2s. 6d.

## **WATER.**

The work in this department includes the care of the water reservoirs, aqueducts, and distributing main pipes. A few skilled pipe-layers are employed, and a number of unskilled labourers at a wage of 21s. per week.

Boys are taken at 14 years of age, and begin by assisting the men, attending fires, handing tools, etc. They receive a starting wage of 7s. to 8s. per week, with an increase of 2s. a week each year.

These lads may, at 18 years of age, be drafted into the labouring work, or the best of them may become trained pipe-layers and inspectors of fittings; the better-class workers receive 25s. to 27s.

## **WORKSHOPS.**

Skilled tradesmen, such as blacksmiths, joiners, slaters, and masons, are employed at the standard wages.

Causeway dressers, trained at quarries, are put on piece rates, and can earn from £2 a week.

## **Weights and Measures Department.**

### **APPRENTICES.**

Lads from 16 to 18 years of age, of good education, are taken as apprentices, and serve for four years. The wages are £15, £20, £25, and £30 in the successive

years. They are trained under the inspector who has charge of the testing of weights and measures. The usual working hours are 9.30 to 5.30, with one meal hour off, but all employees have to be available for extra time if required.

#### INSPECTORS.

At the age of 21 years, if the full apprenticeship has been served, the magistrates may recommend a young man for the Board of Trade examinations, which are held in Edinburgh and London. Those who pass receive a certificate of qualification for the post of inspector. It is not usual to recommend a young man for examination unless he has a definite appointment in view. Names for appointments are entered at the special bureau for inspectors. The salary given to inspectors varies from £100 to £300, or rather more in the larger towns.

#### Police Department.

Those who apply for police work must be between 20 and 25 years of age, of good character, strong and able-bodied, and at least 5 feet 10 inches in height. Soldiers are accepted up to the age of 30, but they must apply within three months of their leaving the army. The police force is largely recruited from farm-servants and from lads who have been occupied at the various forms of labouring work in the towns. Applicants are examined by a medical officer, are tested in their general education, and an inquiry into their character is made. If accepted, they are trained for street service under another constable, and they also meet regularly for class instruction in most places. Probationers receive about 25s. per week (to be exact, 25s. 1d. in Aberdeen), and after ten years' service the maximum wage is reached, which differs in each town—*e.g.*, in Aberdeen it is 30s. 11d. per week, in Edinburgh 33s. Men of

all ranks are supplied with uniform. The wages given in Aberdeen are: for sergeants, from 31s. 6d. to 35s.; detectives, 34s. to £2; inspectors, £100 to £115 per annum; superintendents, £150 to £200; deputy chief constable, from £190 upwards. The wages and salaries are higher in Edinburgh and Glasgow. Several members of the force are selected as clerks, to work in the office; they are of the rank of constables or sergeants.

The *police* work is arranged in nine-hour shifts by day, usually broken up into spells of four and five hours or four and a quarter and four and three-quarter hours, and so on. The night shift is from 9 p.m. to 6 a.m., and the day and night shifts are taken in alternate weeks. *Detectives* work nine hours a day generally. A week's holiday is given annually, increasing to ten days' holiday rather later; and one day each week and every third Sunday are given off duty.

#### **Cleansing and Carting Department.**

In Aberdeen, 270 men are employed in this department, and only 12 lads and 5 women. In Edinburgh, there are 219 men scavengers and 50 boy scavengers, who either go round with the men, or, when older, may have beats of their own. The wages of the lads are 11s. to 15s. a week in Edinburgh, and a waterproof coat is given every third year. In five or six years they may be promoted to be full scavengers. In Aberdeen, the lads begin with 8s. a week, and rise to 12s.; after they are 18 years of age, higher wages are given.

With the exception of the clerical staff and a few tradesmen, all the men are unskilled labourers. They work about 56 hours a week—practically a nine-hours day—with two meal hours off—as a rule from 9 to 10 and 1 to 2. Two or three hours are worked on Sunday, and extra payment is given for them.

The average wage of scavengers is 20s. or 21s. a

week, increasing to 24s.; and a waterproof coat is given every three years. These men may remain scavengers always, but they have a chance of being promoted to be carters. A week's holiday and two or three half-holidays are given annually.

The winter months are the busiest, and additional casual labourers are then employed.

#### DEPÔTMEN.

Depôtmen attend to the load-banks. They must be strong. They work 53 hours a week, with  $1\frac{1}{2}$  hours daily for meals. Their wages are 20s. to 25s. a week, and they have no Sunday work.

#### CARTERS.

Carters take round the dust-carts and attend to the horses. They work  $52\frac{1}{2}$  hours weekly, and have  $1\frac{1}{2}$  hours daily for meals. They receive 22s. to 26s., and an extra 1s. if they have to work on Sunday, and also receive an oilskin suit every three years.

#### LAVATORY MEN AND WOMEN.

Some old men are employed, for six hours daily, at 12s. a week. Women attendants also receive 12s. a week.

#### Electricity Department.

In Aberdeen, 100 men and 6 apprentices are employed; of the 100 men, 51 are labourers, receiving 5d. or  $5\frac{1}{2}$ d. per hour, and their number varies in summer and winter; 18 are tradesmen of various kinds—masons, blacksmiths, fitters, engine-drivers; 5 are clerks, and 1 keeps the store. Thus only 25 per cent. are actually engaged in special electrical work.

#### APPRENTICES.

Lads enter their names on the books as desirous of becoming apprentices, and the most suitable are selected



when openings occur. An agreement is signed by the apprentice to serve for three years. Apprentices for jointing work are taken at 15 to 18 years of age, and the wages given are 6s., 10s., and 12s. 6d. in the successive years. Apprentices are not taken as switchboard attendants until 18 or 20 years of age, and these receive 10s., 12s. 6d., and 15s. a week in the successive years. All apprentices work under the instructions of a journeyman or other competent man. As the wages in the South are higher than in Aberdeen, many of the apprentices leave after serving their three years.

#### JOURNEYMEN.

The electricity meter inspectors receive 26s. a week, the jointers from 24s. to 30s. a week, linesmen from 26s. to 38s., motor inspectors and armature winders 25s. to 38s. 3d., and the foreman in charge of the mains earns 41s.; the superintendent receives from £3 to £4, and his assistants 30s. to £2 15s.

The working hours in the workshops are 51 per week—from 6 to 5, with two meal hours off, and 6 to 1 on Saturdays, with one meal hour off. For engine-drivers, firemen, switchboard attendants, and electrical engineers, the work is arranged in eight-hour shifts, the duty on shift being continuous.

#### Municipal Gas Works Service.

##### INSPECTING AND FITTING DEPARTMENTS.

In the gas-making department in Aberdeen only men are employed, but lads from 16 to 18 years of age are trained in the inspecting and fitting departments. They start with 6s. a week, rising to 10s. a week in the inspecting branch, where they accompany and assist the gas inspector in examining the meters. At 21 years of age, those who become inspectors receive about 18s. a week at first, and may rise to 27s. a week.

Lads who go to the fitting department start with 5s. a week, and learn to fit meters, cooking stoves, etc., along with an experienced fitter. In five or six years they may be promoted to be fitters, with 22s. to 24s. a week. The working hours are 51 per week.

#### **GAS-MAKING DEPARTMENT.**

A few skilled men are employed in the workshops, but enter as fully trained men. The unskilled workmen employed in the retort-house include coal-breaking attendants, furnacemen, stokers, stokers' assistants, coke-quentchers, barrowmen, machinemen, and strouters.

The wages are from 5d. to 6 $\frac{3}{4}$ d. per hour. The working hours are arranged in eight-hour shifts, and the shift is changed once a fortnight; the total number of hours per week is 56 to 60, according to the extra time demanded at a change of shift.

#### **Lamplighters.**

Lamplighters light and extinguish the street gas lamps and common-stair lamps, and clean the lamps. The time of lighting and extinguishing is given out daily. This takes about four hours daily, including Sundays. The lamps may be cleaned at any time. The wages are 18s. to 24s. per week.

#### **Gas Works Service (in Edinburgh and Leith).**

Gasfitters are employed in the various shops and showrooms of the Gas Commissioners. They also fix in stoves, and do general gasfitting in town. There is a great demand for boys in this department. Each boy must comply with the following:—

- (1) To be legally bound as an apprentice with the Gas Commissioners for five years, with wages of 7s. 6d., 10s., 12s., 16s., and 18s.
- (2) To undergo a medical examination at the Commissioners' expense.

- (3) To give a specimen of his handwriting.
- (4) To give a specimen of his figuring.
- (5) To work out several sums in arithmetic.
- (6) To attend a technical school in the evening for such classes as gasfitting or plumber work (compulsory), handicraft, and gas manufacture and appliances.

The class certificate will entitle an apprentice to an addition of 6d. per week if the junior certificate be gained, and 1s. per week should he gain the senior certificate. These classes are taken after the second year of his apprenticeship, and subsequent promotion depends on ability. The ordinary rate of pay for journeymen is  $7\frac{1}{2}$ d. per hour, or about 32s. per week.

The hours are 51 weekly, and two meal hours are allowed daily. The work is regular all the year, and the men are usually given one week's holiday.

#### GAS-MAKERS.

In actual gas-making no boys are employed, as the work is hard and rather dangerous, but a large number of men are employed stoking fires and looking after the different gas-making processes. They work an eight-hours shift, and the wage is 37s. 6d. per week. It is regular all the year round, and fairly healthy.

#### LABOURERS.

A considerable number of labourers are employed, at 22s. or 23s. per week. This work is also regular.

A few *blacksmiths and mechanics* are also employed, at ordinary trade rates.

#### Fire Brigade.

No special numbers are given in the last census, but, as examples, it may be said that Edinburgh employs 66 firemen, and Aberdeen 17 firemen.

Men enter the service at 21 and up to 28 years of age. They must be qualified tradesmen—joiners, blacksmiths, engineers, brassfounders, fitters, etc.—or seamen, as they have to build and repair fire-engines and other apparatus. The sailors do canvas and rope work for the life-saving apparatus. All men must have steady heads for climbing. Each fireman has to go through the workshops, and learn every department, and has to work there regularly.

Men are tried on probation for three months in Edinburgh, at 25s. per week, with lodging; in Aberdeen at 22s. per week. During this time they are drilled daily in ladder and fire-escape drill, etc. If suitable, they receive, in Aberdeen, 23s. after probation; after three years' service, 25s. per week; and after five years, 28s. per week. In Edinburgh, if retained after probation, they become fourth-class firemen, with 25s. per week and quarters. They may be promoted to third-class, with 26s. to 28s. per week; second-class, 28s. to 30s.; and first-class, 30s.

An examination must be passed in each case before being promoted to the higher class. It takes about ten years to become a first-class fireman. The most capable men may be promoted to be officers, with salaries of 35s. to 45s. Uniform is provided for all employees.

Quarters without board are provided on the premises for every employee in the Edinburgh Fire Station, and men may marry, but must wait until a house on the premises falls vacant. Each municipality makes its own conditions in regard to accommodation.

Men are on duty in the workshops from 7 a.m. to 4 p.m., and two hours daily are allowed for meals. There is also a night duty, which is taken in turn, and even when off duty, men must always be within call of the bell, except one day off once a fortnight and a half-holiday every second Sunday.

Some men find the absence of liberty difficult to put up with at first, but the work is steady and well paid. The heads of smaller fire stations are often chosen from men who have been trained in a large fire station.

### Tramway Service.

The Aberdeen Municipal Tramway Service may be taken as a type of an electric car service, run by means of overhead wires.

There are 80 motormen and as many conductors employed in the service. Only six boys are at present engaged—three as parcel-boys at 6s. a week, and three as point-boys at 13s. a week. The life is a very exposed one, and the conductors and motormen are mostly drawn from former tradesmen, soldiers, and men-servants. A robust constitution and steady habits are the qualifications most looked for.

Motormen are trained for two or three weeks on different routes, during which no pay is given, and they are allowed 5½d. an hour the first year, and 6d. or 6½d. the second year. Conductors receive 5d. an hour the first year, then 5½d. an hour for six months, and 6d. an hour after 18 months. Point-boys of good physique are sometimes promoted to be conductors before they are 21 years of age, but any applicants from outside the service must be over 21.

Three or four hours' overtime per week are worked without extra pay, beyond that an overtime rate of time-and-quarter is paid. On Sunday the pay is 8d. an hour, and the day is arranged in two shifts of six hours—from 10 to 4 and 4 to 10. On week-days, one shift is from 7 to 11 and 1 to 5, and the other is from 11 to 1 and 5 to 11; thus 54 hours per week are worked, exclusive of overtime. The junior men have to serve two years as "spares," being called at irregular times, and receiving about £1 a week; they then are put on regular time and pay.

The *Edinburgh Tramway Service* will afford a type of a cable car service, with which parcel delivery is associated. There must be over a thousand men employed either in connection with the cars or in the engineering works.

### BOYS.

Delivery boys are employed in the parcel delivery department. They require to be smart, and to have a good knowledge of the streets, etc., of the town. The standard wage is 5s. per week, but a boy receives a commission of  $\frac{1}{4}$ d. for every parcel delivered, so that he can increase his wages considerably. Vanboys are rather older, and must be able to manage a horse. They receive 7s. 6d. per week and the same commission. The hours are 54 per week, one hour being given for dinner. These boys may, and often do, rise to be conductors, drivers, etc.

### MEN.

In the actual management of the cars no men under 20 years of age are employed. Boys are only employed in quite unskilled work as hatch-boys; they may afterwards become labourers, earning 23s. to 25s. per week. In every department a nine-hours day is worked, either without a break or with two breaks for meals, in which case men may have to work later at night. There is also Sunday work, which men must be prepared to take in turn.

*Conductors* can learn their work in ten days or so. They receive from 5d. to  $6\frac{1}{4}$ d. per hour—from 22s. to 28s. per week.

*Drivers* require to have some knowledge of the mechanism of the cables, etc. They are given a trial for several weeks, but are only engaged permanently if they succeed in acquiring the necessary proficiency.



They receive  $5\frac{1}{2}$ d. to  $6\frac{1}{2}$ d. per hour—from 24s. to 29s. 3d. per week.

*Inspectors and pointsmen* are usually chosen from expert drivers. The former receive a weekly wage of 35s., and the latter earn  $7\frac{1}{2}$ d. per hour—33s. 9d. per week.

*Journeymen fitters* are kept. There are no apprentices in this department. They receive from 30s. to 35s. per week, and a capable man may rise to be foreman, with wage of £2 or £3 per week. In this department the men have to be ready to work at any time, whenever there is a breakdown.

In all departments the work is regular, and a steady man can be sure of continuous employment. There are always more men applying than necessary.

Delivery boys, car conductors, drivers, inspectors, and pointsmen are provided with uniforms.

### Sanitary Department.

The last decade has seen greatly increased activity of the public conscience in matters concerning the health and hygiene of the home and the city, and the duties and responsibilities of the sanitary departments of town and county councils are correspondingly becoming wider and more serious every day. The staff employed even in a large city like Glasgow can in no sense be regarded as commensurate with the growing demands of public-spirited men and women; still, additions are quietly made whenever there is a possibility, and the greatest care is exercised in the selection of the staff. To take the comparatively small department in Aberdeen as an example, it will be found that there, with the exception of the principal officials, all members of the staff are selected from the most suitable candidates by a competitive examination. The examination is simply a test of general knowledge and intelligence—questions in

arithmetic, history, and geography, and, in the case of inspectors, questions on sanitation.

Applicants for inspectorships must either hold the certificate of the Sanitary Institute or of the Sanitary Association of Scotland, or undertake to obtain it within one year after appointment.

#### CLERKS.

Lads entering as clerks receive a starting wage of about 8s. to 10s. a week, and rise, with good service, to nearly £2 weekly. They must know shorthand, but typewriting can be acquired in the office.

#### INSPECTORS.

Inspectors begin with 28s. a week, and rise to 36s. or 40s. They have usually been tradesmen previously—plumbers, joiners, builders, etc.

*Unskilled labourers* are employed, at a wage of 20s. to 22s. a week.

#### WOMEN SANITARY INSPECTORS AND HEALTH VISITORS.

These must hold a certificate of the Sanitary Institute when appointed, be well educated, and possess some specialised knowledge. Their salary is £65 or £70 a year. The work mainly consists in visiting working-class houses, the chief object being to teach the women in charge the virtues of thrift and cleanliness and the great necessity of good ventilation. A most important part is to guide mothers in the proper care and feeding of infants.

#### THE "CITY HOSPITAL."

The "City Hospital" in Aberdeen, under the supervision of the Medical Officer of Health, has on its staff a resident physician, a matron, several trained nurses, and domestic servants; a skilled engineer is employed at 30s. a week; the male employees are a disinfecter,

an ambulance driver, porters, gardeners, and firemen, with wages of from 20s. to 26s. a week.

### MUSICSELLERS.

	M.	F.		M.	F.
Glasgow, 244.	6.		Edinburgh and Leith, 122 + 9.	...	
Dundee, 32.	1.		Aberdeen, . . .	64.	...

Boys are engaged as messengers, and may afterwards be employed at the counter, or, if they have a good ear, they may go to the warehouse work and learn repairing and tuning.

### APPRENTICES.

Apprenticeship begins at 14 or 15, and extends for six years, but there is usually a temporary trial, and only suitable boys are retained. They learn the music catalogue first, then the various instruments, and are advised to attend classes, especially to improve their music. The wages during apprenticeship are 4s., 5s., 6s., 7s., 8s., 9s., but a good boy may get more the last year.

Boys are not always kept on after apprenticeship, but are assisted in finding suitable posts; a great many go to London.

### TRAINED ASSISTANTS.

The wages after training are 15s. to 18s. weekly; a full man's wage is from 30s. to 40s., and a good man may rise to £3 or £4. The hours are 48 to 53 per week, usually from 8 to 6, or from 8.30 or 9 to 7, and a full half-day is worked on Saturday. One and a half hours are often given for meals. In some shops the hours of duty are shortened by an hour a day in summer, but the salary remains the same. A fortnight's holiday is usually given.

The work is regular, but there are not many openings; the number of boys applying is always greater than the demand.

#### ORCHESTRA IN THEATRE.

No boys are admitted, and men must be very proficient before entering an orchestra in a theatre. They receive from 30s. to £5 weekly, and, in some cases, even more. They have employment all the year round, except in the holiday season, when they sometimes go to holiday resorts, and obtain employment there.

#### SCOTTISH ORCHESTRA.

In the Scottish Orchestra, the season lasts only five months. The salary ranges from £3 3s. to £10 10s. or £15 15s. The members usually find employment in some other musical capacity during the summer months. Only exceptionally capable men are accepted.

#### Piano Tuning.

This is a good occupation for boys who have musical ability. Although piano-playing is not essential, it is an advantage; a good ear, however, is an absolute necessity. This trade is usually entered by better-class boys of some refinement and education. Firms advertise for boys, and experience little difficulty in securing as many as they require.

#### APPRENTICES.

Boys are apprenticed to this trade for a period of five years, beginning at the age of 14. Wages begin at 3s. or 4s. per week, and increase during training according to ability; 10s. 6d. is a usual wage in the last year of training, but very good apprentices may get 12s. to 15s. a week. Apprentices are sometimes indentured, and, in some cases, a premium is required.

Apprentices are trained by the other tuners, and it is an advantage for a lad to be for some time in a piano factory, and there learn to put the different parts

together. Employers find that it is a distinct advantage for apprentices to attend evening classes of a kind to develop their general culture and musical knowledge.

Working hours on week-days are from 9 to 6, and Saturdays, 9 to 2, with one hour off for meals.

#### JOURNEYMEN.

A journeyman can earn from 30s. to 50s. a week at this trade. In London, an experienced tuner can earn from £2 to £3 per week. An allowance is usually given for meals, if tuners are sent to the country.

The smaller firms employ their men all the year round, but in London large numbers are paid off in the summer. Few men over 50 are kept by employers.

This occupation is considered a very healthy one, but is not recommended for girls, as a very strong wrist is required.

#### Organ Building.

This occupation offers possibilities to a well-educated, musical lad, as, owing to the larger number of organs required, more men are likely to be engaged in the manufacture.

#### APPRENTICES.

As in the other branches of the musical trade, the apprenticeship is for five years, but seldom begins until a lad is 15 or 16 years of age. The wage begins at 5s., and its increase depends upon ability. Some of the apprentices specialise as tuners and repairers; others, who cultivate the musical side of the work, ultimately become organists. They are recommended to attend classes in perspective and machine drawing, building construction, geometry, arithmetic, and other branches of a good general and mechanical education.

Sometimes boys who intend to be professional musicians learn organ-building for a time in order to be able to undertake smaller repairs in country places. The working hours vary, but are, as a rule, 50 per week.

## JOURNEYMEN.

In less skilled work, such as is done by apprentices immediately through with their training, the wage is 30s. a week. An average journeyman gets £2 per week.

---

## \*NURSES (HOSPITAL AND PRIVATE).

	M.	F.		M.	F.
Glasgow, 6.		1,768.	Edinburgh and Leith, 55 + 1.		1,258 + 145.
Dundee, 2.		264.	Aberdeen, . . .	7.	407.

Young women are not accepted as hospital nurses until they are over 23 years of age; in some hospitals the limit of age is higher. The matron of a hospital has the selection of the nursing staff, and in the Edinburgh and Glasgow Royal Infirmaries the nurses have to pass an entrance examination in elementary physiology and anatomy, hygiene, and invalid cookery. In Glasgow a special school is connected with the Infirmary, and applicants may attend the courses there for six weeks previous to the examination. In the case of Aberdeen Royal Infirmary, there is no entrance examination, but any applicant is expected to have had a good general education, to be able to do all housework well, to have practical knowledge of ordinary and invalid cookery, and to have studied the elements of physiology, anatomy, and hygiene.

The course of training lasts for three years, and includes the nursing of surgical, medical, ophthalmic, and gynecological cases; sometimes massage is also included. Courses of lectures are carried on for the

---

\* Nurses who possess a certificate of not less than three years' training and service in medical and surgical nursing in a recognised hospital may apply for entrance into Queen Alexandra's Imperial Military Nursing Service, Queen Alexandra's Military Nursing Service for India, or Queen Alexandra's Royal Naval Nursing Service. There are several other openings for trained nurses in public institutions and Associations. Full information regarding the conditions and payments may be obtained in special works of reference such as "Burdett's Hospitals and Charities" (The Scientific Press, Limited, London).



nurses throughout the period of training, and occasional examinations are given in connection with these. At the end of the whole period of training, a final examination must be passed.

The ward training must include one year of night duty during the period of three years' training, and this year is usually divided between the second and third years of the full course. The *first-year* nurse or "probationer" is on duty from 7 or 7.15 a.m. to 9 p.m., with two hours off for recreation, and time allowed for dinner; breakfast is usually taken before duty begins, and afternoon tea in the wards. On Sundays, usually once a fortnight an afternoon or evening is given. The probationers dust the wards and keep them tidy, and attend to the beds and the patients. The firesides and floors are done by the ward-maids. In the *second year*, the nurse has six months of day duty and six months of night duty, and her responsibility is increased in regard to the patients. The *third-year* nurse is termed a "staff nurse," and has charge of a ward under a "Sister" or "head nurse." The payments made to nurses during the training varies; in some infirmaries no payment is given to probationers, but a common scale is—1st year, £10; 2nd year, £15; 3rd year, £20, together with uniform, laundry, and board.

Although many of the nurses are cultured women, there is a fair proportion of nurses who have been singled out by the matrons from their staff of housemaids, or who have begun as nursemaids in private families, and gone to the infirmary in the hope of being selected for a nurse's training.

After the three years' training, staff nurses look for a vacancy as a "Sister" in their own or some other hospital, or they may take up district nursing or private nursing. The salary of a "Sister" begins at £30, and rises to £40, £45, or £50 a year, with board, etc.

Matrons' posts are comparatively few; in cottage hospitals, matrons receive from £40 upwards; in the larger Scottish infirmaries, from £150 to £220 a year.

### Queen's Nurses.

"Queen's nurses," also called "district nurses," are employed in nursing the sick poor in their own homes. The system of district nursing was inaugurated in commemoration of Queen Victoria's Jubilee by means of a fund collected for the purpose. The Central Institute in Scotland is at 29 Castle Terrace, Edinburgh; all large towns have District Nursing Associations affiliated with the Central Institute, and these Associations manage homes with a staff of district nurses under a superintendent, while many small towns and country districts employ and pay their own "district nurse."

A "Queen's nurse" must have a certificate for three years' training in a general hospital of over 100 beds, and she must go through six months' probation as a district nurse. For certain districts a knowledge of midwifery is necessary.

After the first six months of trial and training, the salary is £35 a year, together with allowance for board, laundry, uniform, and lodgings.

### Sick Children's Hospital.

The conditions for nurses are much the same in all the Scottish hospitals for sick children. Probationers are not taken before 20 years of age, except in special cases. For the first six months, uniform is given, but no salary, and each probationer pays her own laundry. Regular training begins at the end of the six months' trial. In the first and second years, about £14 is given, with uniform and laundry; in the third year, £16; and after training is over, £20.

From two hours to two and a half hours are allowed off duty daily, and on Sunday a half-day is given.

### Maternity Hospital.

No examination is insisted on before training. The time of training is three months or six months, and fees of £12 or £25 are paid by the nurses. At the conclusion of training, a certificate is given if the nurse satisfactorily passes the examination.

Both outside and indoor uniform is provided by the nurse herself, also she is required to pay her own laundry. It is of immense value to a nurse to have had a hospital training before taking the maternity course—indeed, no maternity nurse can be considered fully qualified without it.

### Private Nursing.

The training that qualifies for private work is the same as for a hospital post. There is no doubt that private nursing, if a nurse can get a really good connection, pays better than hospital or district work, but there is always an element of chance about it, and a nurse working on her own account, unless she is fully employed, incurs heavy expenses between her cases. Good private nurses who have a little capital very often start homes for surgical, medical, and other cases to be nursed privately, and associate with it a boarding-house for nurses whom they undertake to recommend to private cases.

---

### PAINTERS, DECORATORS, AND PAPER-HANGERS.

	M.	P.		M.	F.
Glasgow,	4,066.	32.	Edinburgh and Leith,	2,174 + 305.	41 + 5.
Dundee,	641.	3	Aberdeen, . . .	724.	11.

Formerly, parents were prejudiced against putting their boys to this trade, believing it to be unhealthy; but the grinding of colours is now done by machinery,

and if men take ordinary care when working with the paint, there is no risk of poisoning. A serious drawback which still exists is the extremely seasonal nature of the trade. Masters and men feel this strongly, and efforts in various directions are being made to lessen the evil.

The chief departments in the painting trade are:—

- (a) House-painting and decorating.
- (b) Paper-hanging and whitewashing.
- (c) Lettering.
- (d) Graining (wood-imitation).
- (e) Glazier-work, glass-staining, and leading.

Many firms combine glazier-work, glass-staining and leading, and designing with house-painting and decorating, but this branch is often carried on independently. It has been treated above (p. 227).

#### APPRENTICES.

In this trade, boys who have a taste for drawing and painting are preferred, as they make the best workmen.

Indentures have ceased, and many employers regard this as detrimental both to employers and employed. To the employed, because less scrupulous employers do not hesitate to take in extra boys, and pay them off according to trade fluctuations. The result is, that this class of auxiliary boy does the rough work, and never gets the chance of learning the trade properly. The term of apprenticeship in Glasgow and the larger towns is six years, but in many country towns five years is the usual term. One of the Glasgow employers suggests that if the School Board can arrange that boys wishing to enter the painting trade should go direct from the elementary schools to continuation classes and technical school for two years, the trade would forego one of the years of apprenticeship, and accept a five years' term. Another suggestion is that the younger apprentices should be

allowed the slack season of four winter months for attendance at a recognised trade school, and such attendance should count for part apprenticeship.

It is generally agreed that no lad can become an efficient journeyman painter who has not gone through a steady apprenticeship of at least five years. He has to show written certificates from the foreman stating that he has completed his apprenticeship.

The number of apprentices agreed to by the trade union is one to three journeymen, and a few *bona fide* paste-boys are always allowed. Wages begin at 4s. a week, and rise so much each year; in the last year of training the wages are about 12s. a week. The working hours are 51 per week in summer, 39 to 41 in winter.

A lad generally begins as a messenger, doing odd jobs, such as wheeling barrows and helping and learning in the shop. Afterwards, he is sent out with a paper-hanger, who requires a boy to himself, and must either be given an apprentice or a paste-boy. If the business is not very extensive, the apprentice has more chance of being moved from one kind of work to another, and securing a thorough initiation in all the branches. For this reason, country-trained apprentices are always acceptable in the towns, and the employers say they are generally steadier. The training in a large business, even if it is apt to be too specialised, has, however, its own advantages, as a clever, intelligent apprentice is brought into contact with the finest classes of work in the trade, and if he takes care to supplement workshop training with the teaching given at special classes, he has every chance of promotion in his career.

The classes are arranged in graded courses, to include drawing, designing, and painting. Employers strongly recommend their apprentices to attend evening classes, and occasionally pay half the fee. They complain of the distracting influence of football, and wish

the apprentices would devote more time to improving their ordinary education.

#### JOURNEYMEN.

After apprenticeship, the standard wage is  $8\frac{1}{2}$ d. an hour, or about 36s. 6d. for a 51-hours week. This may rise to 9d.,  $9\frac{1}{2}$ d., and 10d., according to the character of the work. In the Glasgow district, about 50 per cent. of the employers have entered into an agreement with the trade union to recognise three classes of their members, receiving 9d.,  $9\frac{1}{2}$ d., and 10d. an hour respectively. Other employers in no way recognise trade union demands, either in respect of the number of lads employed or the wages given.

When working full time, a good painter or foreman can earn from £2 to £3 per week.

During the busy season, many of the painters in the North go South on the chance of higher wages. A regular migration of this kind takes place from Inverness and other Highland towns to Glasgow. Some even go to America for the busy season, a habit that has been on the increase among painters and masons.

The painting trade employs a number of labourers, whose usual wage is 6d. an hour, or about 25s. a week.

#### SEMI-SKILLED AND UNSKILLED PAINTERS.

The unfortunate liability of apprentices to have their work temporarily suspended during slack seasons, no less than occasional lack of industry and perseverance on their own part, produces a large proportion of semi-skilled workmen, who undercut the prices of properly skilled labour.

This overflow of partially trained men finds an outlet in some of the shipbuilding yards, in signboard work, and in private contracting; in all cases, lower prices are accepted than could be taken in the ordinary course



of the trade. From the point of view of the customer, it is true that only a rough class of work is required, and there is, as a matter of fact, every gradation between the painting and varnishing done on a small scale by an energetic housewife at a spring-cleaning, or by an economical shopman, to the more tedious work done on a large scale by semi-skilled painters, and to finely measured and toned work done by the most skilled. Thus, this trade, which has the misfortune of being sharply seasonal in kind, has the additional misfortune of being one in which the outsider cannot always appreciate the fine shades of difference in the output of skilled and unskilled labour.

The rough, unskilled painters, known as "red leaders," do the rough painting and leading required on ships at a wage of 5d., 6d., or 7d. an hour. These men are often self-taught, and were never apprenticed. The Painters' Society in Glasgow tried to induce them to join their society, and fix a definite wage to which the society would agree, on the understanding that certain classes of work would not be undertaken by them at all, but would be reserved for the trained men. This attempt was unsuccessful, and the shipbuilders also have declined to enter into any agreement with the Painters' Society regarding unskilled painting, as properly trained journeymen and apprenticed painters are attached to most shipbuilding yards. The unskilled or semi-skilled painter bears the same relation to the skilled painter as the machineman or handyman to the fully trained mechanic.

#### UNEMPLOYMENT.

The busy season is from March to August; the quietest season is from September to February. As a rule, employers do their best to keep their apprentices in work by giving them stencil-cutting for friezes, or encouraging

them to do some designing. It may be taken roughly that at least 50 per cent. journeymen painters are thrown out of work in the slack season. In Glasgow, there is sometimes a rush of work in the shipbuilding yards during the slack season, which greatly helps to keep men in employment; but this is a local and uncertain circumstance. Some firms say that in very dull times they have only been able to retain 25 per cent. of their men. The employers say that it is only the exceptional man who lays past a little for the slack season. The more common custom is to take up debt, and trust to being able to pay it off when he is again in full work.

For relief of unemployment due to seasonal or other causes, the Painters' Union (Glasgow district) classified their members according to three scales:—

Class A—pay 3½d. per week; receive benefit in trade disputes only; no new members may join this class; only the older members continue to have their claims.

Class B—pay 7d. per week; receive benefit in unemployment due to slackness, as well as cases of sickness and trade disputes.

Class C—pay 10d. per week; receive higher rate of benefit.

While the trade associations endeavour, in a measure, to come to their own assistance, the employers do their utmost to educate the public mind as to means which might be taken to equalise the demands on the trade, and reduce the numbers of unemployed workmen. They point out that public buildings might, in many cases, be painted and decorated during the slack season, and that much outdoor painting—*e.g.*, the painting of houses and railings—would be better done in the late autumn or winter, when there is less risk of blistering and caking from exposure to strong sunheat.

The increasing use of electric light in houses, shops, and warehouses, on account of its greater cleanliness than gas, has reduced the amount of painting required, and it is probable that this has been a contributing cause to the marked degree of unemployment in recent years.

### Designers.

There is a demand for boys of artistic taste as designers. They require to have a good general education, and their work has much in common with that of architects' apprentices. Freehand drawing and drawing from life are subjects which they should study, as well as the drawing of plans.

The apprenticeship lasts six years, and begins generally at 15 or 16 years of age. The wages rise from 5s. to 18s. or more, if special ability is shown. When thoroughly trained, the salaries may begin at about £50, and rise according to ability.

The hours are 44 per week, one hour for dinner being given. There is a fortnight's holiday in the year, as a rule. There is constant work, and a sufficiency of really good openings for capable men.

---

### PHOTOGRAPHY.

	M.	F.		M.	F.
Glasgow,	228.	267.	Edinburgh and Leith,	174 + 20.	71 + 21.
Dundee,	71.	130.	Aberdeen, . . .	74.	103.

Photography is in a loosely organised state; so much of the success depends upon the individuality of the operator, and in most places each photographer is a law unto himself. He may take apprentices, or he may prefer to select his assistants from the boys who come as message-boys or in some other capacity, and who like the work sufficiently well to wish to become skilful. In

some of the large English cities, the photographers only take apprentices that pay a high premium—£50 to £100—and serve most of their time without payment. This, in a smaller degree, prevails in Edinburgh and Glasgow, where some of the best photographic studios take premium apprentices.

Girls are now being more and more employed in photographic studios, and the demand for trained men assistants becomes, consequently, more limited. Many employers regard girls as more successful in the retouching and finishing processes.

#### APPRENTICES OR LEARNERS.

Lads should be dissuaded from looking to photography for a livelihood unless they have a good education and address, and artistic taste. Those who intend eventually to set up for themselves must possess these qualities in an exceptional degree in order to secure success, as the competition is very keen in photography. During the years of training, drawing and chemistry should be studied, and also light and heat, and optics.

- (a) Ordinary apprentices or young learners paying no premium are taken at 14 or 15 years of age, and receive some small wage—from 3s. to 5s. a week. This increases by 1s. a week each year, and the period of training is held to last five years.
- (b) Premium apprentices serve for four or five years. They do not begin till they are about 16, and receive no wages during training.

The hours of work vary in different places: in Edinburgh and Glasgow, 45 to 47 hours are fairly common; in Aberdeen and Dundee, 50 hours are usual, and some of the departments have longer hours—very generally

from 9 to 6, with one hour off at mid-day, and 9 to 3 on Saturdays. A fortnight's holiday is given annually, during which payment may or may not be continued.

Whether apprenticed or not, a learner has to become familiar with the methods of printing, toning, retouching, developing, enlarging, and finishing. In printing or retouching work, an assistant receives from 14s. to 18s. a week in a middle-class photographic studio; as dark-room assistant or finisher, from 18s. to 30s. a week. Those who attain unusual dexterity and manipulative skill may command higher remuneration in the larger studios. An assistant operator in the studio at first receives about 20s. a week. It is often difficult for an assistant to get sufficient opportunity of training himself as a studio operator; if he is fortunate in this respect, and proves capable, he may earn anything from 30s. to £5 a week. One of the most likely opportunities is when a branch establishment is started as an offshoot from a larger, either in another part of a large town or in a fashionable season resort. The head assistant may be put in charge of such a branch, and have a wider scope.

Of recent years some of the largest Scottish firms have entirely given up taking personal photographs, and have developed other departments which they have found to be more remunerative—*e.g.*, view-publishing, printing post cards, lithography, and letterpress.

#### ASSISTANTS (WOMEN).

- (a) *The reception room.*—The duties of the girls in charge of the reception room are to receive sitters, book their orders, make appointments, attend to the correspondence, keep the books, and usually pack and send off the photographs. The hours are 50 to 60 per week, and the pay averages about 10s. a

week; the scale is from 7s. to 12s. or 14s., according to rapidity of work.

- (b) *Retouching* consists in working on the surface of the film of the glass negatives with a needle-point pencil. No apprenticeship is required; the general rule is for photographers to take young girls free of charge, and draft them from the spotting room to the retouching department. Two years should turn out a good retoucher, and, if talent be shown, good pay can be earned, ranging from 12s. per week upwards.
- (c) *Spotting* is simpler work, and may be learned in a couple of months. It consists in removing the small white spots and blemishes which appear on the surface of printed photographs. Girls may earn from 5s. to 15s. per week.
- (d) *The finishing room*.—A certain amount of artistic skill is here required, but those who have shown an aptitude at the elementary drawing taught in the board schools should have no difficulty in acquiring the use of the brush. The wages in this department range from 10s. to 12s. per week.
- (e) *The printing and toning process* is now mostly done by girls. Much of this work is carried on in the open air, with the hands immersed in water, and it is advisable that only strong, healthy girls should enter for this class of work.

### Photographic Dealers.

The work is often of a varied nature, as, besides the photographic department, in which boys are employed in developing, printing, and washing photographs, there



is also a large amount of optical work and sight-testing done, and many photographic dealers undertake cinematograph and lantern work.

#### APPRENTICES.

Boys require to have a good education, to be intelligent, smart, and willing to apply themselves to their work, and it is to their advantage to have artistic taste. They learn every branch of the work if they are capable. There are not very many openings as yet, and difficulty is experienced by employers in getting suitable boys as apprentices.

The apprenticeship usually lasts five years, and salaries range from £10 to £25 or £30 per annum. Each employer makes his own arrangements, there being no fixed time or wage.

Boys should take classes in photography, physics, drawing, chemistry, and optics.

#### JOURNEYMEN.

After apprenticeship, salaries may begin at £1 per week, rising to £2 and £3. The hours are from 51 to 54 per week, and a week or so is given for holidays. There is work all the year round—rather less in early spring and autumn, but this does not affect the wages. In winter, boys have to be prepared to go out with the lanterns or cinematographs in the evenings, for which they get from 2s. 6d. an evening.

---

#### PLASTERERS.

	Edinburgh and		Dundee.	Aberdeen.
	Glasgow.	Leith.		
Plasterers, . . . .	1,047	620+71	200	286
Plasterers' Labourers, . .	384	143+16	87	82
Plaster, Cement Manufacture,	51	20+ 5	...	15

The work comprises pavement-making, cement-work, house-plastering, the making of plaster cornices, and

frequently tile-laying and mosaic work; although "tilers" have been grouped with "slaters," in accordance with the census returns (see p. 348). This trade requires physical strength, and a man is better to have sufficient knowledge of arithmetic to be able to write a clear statement of overtime, work done, and quantities required. An aptitude for drawing is a recommendation. Of those engaged in plaster-work in Scotland, about 23 per cent. are classed as "plasterers' labourers" in the last census returns.

#### APPRENTICES.

Apprentices used to be indentured, and a penalty of about £10 had to be paid for breach of indenture, but at the present time there seems to be no indenture. The employers insist on several months' trial before accepting an apprentice. The trade union, until about ten years ago, limited the number of apprentices in proportion to the number of journeymen in a shop. Since the restriction was removed, the number of apprentices has considerably increased; but the trade is not one that attracts lads, and many employers say that the class they get is unsatisfactory.

Apprenticeship begins from 14 to 17 years of age. Wages are from 4s. to 5s. a week in the first year of training, and increase by 2s. a week each year in the larger shops; but in Aberdeen and Dundee it is common to rise only 1s. a week each year. The hours of work vary from 51 to 56 a week in the busy summer season to 45 hours in the winter. The usual hours of work in summer are from 6 to 5, with two meal hours off, and 6 to 1 on Saturdays.

The apprentice works with a journeyman both outside and inside, and learns cornice-moulding and modelling from casts in addition to the ordinary kinds of plaster-work. An apprentice who shows no taste for

cutting ornament is likely to remain a working plasterer. If a lad has aptitude for the decorative line, he ought to supplement shop training by attendance at art classes such as drawing and clay modelling. The technical colleges endeavour to organise graded courses for plasterers when there is any local demand for it.

Young men intending to become foremen or masters must have a knowledge of building construction, modelling and designing, and general drawing.

### JOURNEYMEN.

In many shops a lower rate of wages than the full journeyman's wages is given and accepted for a time after apprenticeship—*e.g.*, £1 a week. Men have to supply their own tools. The regular journeyman's wage varies from place to place; for example, it is usually 6½d. an hour in Peterhead, 8d. in Aberdeen, or 8½d. for a good man, and 9d. in the South.

The trade union members in Glasgow and Edinburgh demand the full journeyman's wage of 9d. or 9½d. an hour immediately on the completion of apprenticeship. In shops where this holds, apprentices are very often paid off at the end of their service, and have to go on the market and compete with older and more experienced men. The result may be disastrous, as some never settle down to regular work.

A capable man may rise to be foreman, receiving 10d. per hour, or £2 2s. 6d. a week.

The trades holidays and general holidays are given, without pay.

A clever workman who specialises in the higher forms of plaster-work may in a few years after his apprenticeship command 1s. an hour, or £2 11s. a week, and the higher skilled work has the advantage of being independent of weather, and affording more regular work than ordinary plaster-work.

## SEMI-SKILLED AND UNSKILLED WORKERS.

Two classes of labourers are employed:—

- (a) Those who slake lime and mix cement. They receive 6d. or 7d. an hour—*i.e.*, from 25s. 6d. to about 30s. for a 51-hours week. In Glasgow, wages go up to 8d. an hour. There is no definite training for this work, and yet it could not be done by an unskilled man.
- (b) Those who have quite unskilled work to do, such as carting and laying down road metal. They receive 5½d. an hour, or about £1 3s. 4d. a week.

## UNEMPLOYMENT.

The period from January to April represents the plasterers' short busy season, while from May to December may be regarded as the normal season in the trade. Work in the busy season is liable to be interrupted by the occasional spells of frost. In Glasgow, after the May term, there is a regular emigration to Canada and the States, the men staying from six to eight months, and coming back during the severe American winter, when all building is stopped.

It is customary throughout the trade to employ extra men during the busy season and discharge them at its close. From 30 to 50 per cent. of the men employed during the busy season are thus thrown out of work. The asphalters and cement-workers can sometimes get work at streets and roads, but the plasterers' labourer has less chance of road work than the builders' labourer. The wages at road-making are 4d. to 4½d. an hour, but such work is done much less strenuously than the building and plastering work in the season.

The causes of present unemployment in this trade, other than individual, are:—

- (1) The seasonal character.
- (2) The overplus of apprentices taken on in recent years.
- (3) The general depression in the group of building trades.

### Plaster and Cement Manufacture.

A small number of unskilled labourers are employed in this work, carried on as an independent business.

## PLUMBERS AND SANITARY ENGINEERS.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Plumbers and Sanitary Engineers, . . .	2,469	1,398 + 339	367	398
Gasfitters, . . .	231	87 + 7	17	13
Gas Fittings Makers, .	26	5 + 12	...	1

The work includes all kinds of plumbing and gas-fitting, and many plumbers are now doing electrical fittings, as electricity is taking the place of gas in many departments. Another branch of the work which is becoming very important is that of sanitation, drainage, and sewerage. A man who can draw out plans for the sanitary arrangements of a villa or tenement is invaluable. A good general education is required, and, so far as physical qualifications are concerned, good eyesight, hearing, and steady nerves are indispensable.

### APPRENTICES.

The trade union limitation of the number of apprentices is one apprentice for the first four men, and one apprentice for each three men thereafter—the number of men in a particular shop to be reckoned on a three-years average. There is no premium and no indenture for apprentice plumbers. Boys begin apprenticeship at 14

years of age, and serve for six or seven years, according to arrangement. The wage begins at 3s. 6d. to 5s. a week, and rises by 1s. or 2s. a week in the successive years. The working hours are 51 per week in summer and 45 in winter. One week's holiday and all trades holidays are given.

The training given to an apprentice is more dependent on actual shop environment than in most trades. The apprentice during a large part of the seven years is going about with a journeyman, and the man often uses him as a labourer, scarcely allowing him to help with the work. One of the Glasgow employers remarked that "The modern plumber had to learn his trade after his seven years were up." Under favourable conditions, an apprentice might expect to get simple work to do in his fourth year, and if he attends evening classes and takes intelligent note of what he helps with in the workshop, there is no reason why he should not turn out a competent plumber.

Often the desire for a more rapid rise of wages during apprenticeship makes an apprentice go from one shop to another, and the intervals of idleness between times, as well as the carelessness and want of interest that are apt to be associated with the frequent changes, account for much of the acknowledged inefficiency in this trade. Then, again, it is not so very long ago that most employers were in the way of making in their own workshops the fittings with which they worked, but now the fittings are mostly purchased, and the apprentices simply learn how to piece the parts together and place them in position.

The evening schools and technical colleges arrange graded courses for plumbers, to include practical and theoretical plumbing, elementary heat and electricity, sanitation, and other branches. Training is given for the City and Guilds examinations and for those of the



Worshipful Plumbers. Without this training, no plumber is accepted in the Registered Plumbers' Union.

The employers frankly admit that the technical classes are of incalculable benefit to the apprentices, and most employers offer to pay fees or half fees; but they say that comparatively few attend the classes, the greater proportion giving their spare time wholly to loafing and amusements. Some employers insist upon their men making their statement of time and work in their own handwriting, as a means of keeping them up in writing and arithmetic.

#### JOURNEYMEN.

When their apprenticeship is out, men begin at 6d. an hour, or 25s. 6d. for a 51-hour week, and when more expert get 7d., 8d., or 9d. per hour, according to ability. Apprentices trained in small country towns have not the same opportunities of seeing a variety of work as those trained in the large towns, and usually get the smaller rate of wages when they come to the towns after training.

Foremen may get as much as 10d. an hour, or £2 2s. a week. Overtime is often worked at night and on Sundays and holidays, owing to the impossibility of cutting off the water or the heating supply in hotels and business offices during the daytime. Overtime is paid time-and-a-quarter for the first two hours, and time-and-half afterwards. When working out of town, men are paid extra to allow for car fares and any additional personal expenditure demanded of them. The more intelligent and industrious plumbers who have given regular attendance at special classes frequently become sanitary, gas, and water inspectors. If they stay at shop plumbing, their ability to plan out work besides executing it appreciably raises their value to the employer.

Insurance companies will not insure for workmen

over 60 years of age, and this is telling against the continuance of the services of employees up in years.

### UNEMPLOYMENT.

Unemployment chiefly depends on individual causes, such as insufficient training or unsteadiness, and is subject to the local booms or depressions in the building trades; but, looked at generally, this trade is steadier than the others in the building group. There is no seasonal slackness, and the work subdivides itself into two branches:—

- (1) *Repairs*, which are carried out for regular customers, and drop in all through the year.
- (2) *Contract work*, for which men pass from one employer to another.

A number of Scotch-trained men are drafted to English towns for temporary or permanent work, as the apprenticeship system does not prevail there, and this helps to afford relief from any danger of occasional over-production of skilled men in Scotland.

### REGISTRATION.

It is advisable that all plumbers should belong to the Registered Plumbers' Union. It requires every plumber to pass a recognised practical examination in his work, and show himself thoroughly competent. Formerly, simply by serving an apprenticeship, any journeyman plumber could be registered, but the conditions of registration at present in force are a better guarantee that the members of the Union have a thorough knowledge of their work.

#### Gas Meter Makers.

There are a number of men employed solely in this trade in the larger cities.

The apprenticeship begins at 14, and is for five years,

during which time the wages are 3s., 4s., 5s., 6s., and 12s.

Full journeymen's wages are 33s. a week, which may be earned a year or two after apprenticeship. A very good workman may earn 40s.; 51 hours are worked, with one hour daily for meals.

The work is regular all the year round. There are plenty boys willing to take up this trade.

### POST OFFICE EMPLOYEES.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male:	Civil Service Officers and Clerks, .	652	847 + 146	60	123
	Civil Service Messengers, .	1,289	739 + 121	223	246
	Telegraph and Telephone Service, .	703	329 + 34	113	147
Female:	Civil Service Officers and Clerks, .	107	105 + 15	18	15
	Civil Service Messengers, .	37	12 + 1	10	3
	Telegraph and Telephone Service, .	415	204 + 31	50	73

The proportion of employees required to discharge the various duties connected with the Post Office may be gathered from the numbers in the *Glasgow* district:—

Telegraph messengers, etc., boys	460	
Assistant postmen . . . men	100	
Postmen . . . . . ,	1,050	
Telegraph operators . . . ,	270	250 girls
Sorting clerks . . . . ,	460	
Supervisors . . . . . ,	100	

---

2,440    250

---

There is a fairly sharp class division between the first three and the last three groups of employees.

### TELEGRAPH MESSENGERS.

The 460 messengers in Glasgow include 380 telegraph boys and 80 house boys for carrying messages, chiefly within the head office.

They are engaged at 14, and may stay till 16. Their wages are from 8s. to 10s. indoors, and from 7s. (the minimum) to 13s. or so outdoors, the average being 8s. 3d. Outdoors they are paid so much per message, with a minimum of 7s. They are not employed after 8 p.m. They work eight hours per day.

The boys are under strict discipline, and become very much smarter under it—it is a good training.

By regulation, boys who do not get promoted to other Post Office work must leave at 16. About 200 to 250 boys each year cease to be telegraph messengers; only about 20 to 25 per cent. can be kept for Post Office work—viz., as assistant postmen. The rest go very largely into commercial offices. The Telegraph Boys' Institute, among other things, acts as an employment agency.

The Post Office finds no difficulty in getting boys for the work.

### ASSISTANT POSTMEN.

The 100 assistant postmen include 50 soldiers direct from the Army and 50 boys taken from the telegraph messengers. The pay is 15s. 9d. for 36 hours per week, and remains stationary.

The average period a boy serves as assistant postman would appear to be somewhat over two years. The age of the boys here varies from 16 to 19. All in this class pass on to be regular postmen.

### POSTMEN.

The 1,050 to 1,000 postmen are recruited solely from

the class of assistant postmen. The vacancies for the latter amount to about 40 to 50 per year, half being kept for old soldiers and half for the messenger boys.

About 960 are called "head-office" postmen, and 100 to 150 "sub-office" postmen, serving in outlying districts of the city; the latter are under conditions similar to those for country postmen.

The wages in the city begin at 19s., rising in eight years to 30s., with certain additions and allowances—say, 2s. a week. The sub-office scale is 17s. and 18s. to 24s.

There are a few higher paid postmen, but the enormous majority remain ordinary postmen.

Pensions are given in cases of disablement or at 60 years of age at the rate of one-sixtieth of the wages for each year of service up to 40 years—*i.e.*, at 60, a postman's pension would be about £1 a week.

#### TELEGRAPH OPERATORS AND SORTING CLERKS—MEN.

The majority of the vacancies are open for competition at the examinations conducted by the Civil Service Commission. Application for permission to compete should be addressed to the Secretary, Civil Service Commission, Burlington Gardens, London, W. An entrance fee of 4s. is required for the examination for learners. These preliminary examinations cover three subjects—English Composition, Arithmetic, and General Geography. Candidates must be between the ages of 14½ and 16 years, and at least 5 feet in height without boots; no one is retained in the service who does not attain the height of 5 feet 4 inches before completing his 19th year.

A small proportion of the vacancies are put up for limited competition by Post Office employers. Apart from the opportunity thus afforded, very few of the telegraph boys or assistant postmen enter those higher branches of the service.

Altogether, there are three different classes of candidates who compete for vacancies:—

- (1) *Public competitors* who take the Civil Service examinations.
- (2) *Service candidates*, such as assistants in a sub-office who have had a year's constant employment; also assistant postmen, telegraph messengers, etc.
- (3) *Employees nominated* by postmasters in small offices; these have only to pass a simple examination. The advantage to such nominees is that an assistant in a sub-office is merely engaged by the Postmaster there, and may be dismissed at a week's notice. But if he passes, he enters the postal employment, and is removed from the sub-office to the Central.

A longer limit of age is given to service candidates and nominees; they may compete on to 25 years of age.

The successful competitors go first as probationers into a learning class. The wages during learning start at 6s., and rise pretty quickly on fair ability to 10s., 14s., and 16s. per week. No *learner* attaining the requisite proficiency in telegraphy, and competent in elementary sorting, will receive less than 12s. per week at 18 years of age.

Eight hours are, as a rule, worked per day, but the Postmaster may call upon all assistants for extra time if required.

After the age of 19, the status of telegraph operator and sorting clerk is reached, and the age pay is given, although young men may have occasionally to wait some time before there is a vacancy in these departments. The wage in Glasgow and Edinburgh is 19s. per week, rising by 2s. per week each year to 41s. 6d.; but the abler sorting clerks and telegraphists may attain a



possible maximum of 56s., with certain special additions. In Aberdeen and Dundee, the pay at 19 years of age is 18s. per week, rising to 40s. 6d., with a possible maximum of 52s. per week.

#### SUPERVISING GRADES.

Overseers are selected from among the most capable telegraphists and sorting clerks. In a Post Office of Class III., such as Aberdeen and Dundee, the salary of an overseer begins at £135 per annum, and is advanced by £6 a year to £160.

An *assistant superintendent* begins at £170, and advances by £8 a year to £200.

A *postal superintendent* gets £210, and advances by £10 a year to £240.

A *telegraph superintendent* also rises by £10 a year until the salary reaches £270.

*Chief clerks* receive £260 to commence, and rise by yearly increments of £10 to £340.

The *Postmaster* in an office of the same grade would receive upwards of £600.

Good pensions are given on retirement, but in the event of the death of an official on active duty, no part of the pension is allowed to his heirs.

Though there is an agitation at present among the postal employees for higher wages, one must remember that the service offers many advantages. The premises are well-lit and ventilated, the hours are not long, and the situations are generally permanent, and give prospect of advancement. In cases of illness, employees receive full pay for some time, then half-pay, and, finally, if unable to resume work, a gratuity or a pension is given, according to the length of service.

#### TELEGRAPH OPERATORS AND SORTING CLERKS—WOMEN.

All information regarding the conditions of entry and

service in the Post Office can be obtained through any bookseller for 1s.

The entrance examination set by the Civil Service Commissioners for female learners covers exactly the same ground as for male learners, but the limit of age is between 15 and 18, and the examination fee is 3s. There is no further requirement of height than 5 feet on entrance.

#### LEARNERS.

*Female learners* on entry receive 5s. a week; this is increased to 8s. a week as soon as the requisite proficiency is attained. The minimum sum given to a competent learner at 18 years of age is 10s. a week. In the case of a girl who enters young, she may be receiving 12s. and 13s. 6d. before she attains her 19th year. The working hours are eight per day, and the holidays given are 21 days annually. It is always open to the authorities to discharge a learner, either male or female, who does not show aptitude for the work.

On reaching 19, the learner receives the age pay of female sorting clerks and telegraphists, which is 10s. for the first year, or as much more as the girl was receiving during the last year as learner. An appointment is given when a suitable vacancy occurs, and the wage begins at 15s. or 16s. a week, rising by yearly increments of 1s. 6d. to 28s. a week.

The more capable clerks and telegraphists may earn from 31s. to 35s. a week.

#### GIRL CLERKS.

Girl clerks are employed in the Money Order Office and Savings Bank Department. Candidates for girl clerkships must be between 16 and 18 years of age, and the examination includes, in addition to the subjects of the learners' examination, Latin or French or German,

and any two of the following three subjects—English History, Algebra, Shorthand. The entrance fee for this examination is 7s. 6d.

The successful candidates begin with £30 to £35 the first year, and £32 to £37 10s. the second year, and serve six hours a day. After two years, if capable, they may be promoted to women clerkships as vacancies occur, but if they do not obtain a certificate of competency, they are transferred to the class of women sorters.

### WOMEN CLERKS.

Women clerks are employed in the Savings Bank Department, the Clearing-House Branch, the Postal Order Branch of the Accountant-General, and the Money Order Office.

The age limit for entry is 18 to 20; the subjects of examination and entrance fee are the same as for girl clerkships. The competition for women clerkships is keener than for the other classes of service. The salary begins at £50 to £55 a year, and increases by £2 10s. annually up to £70; the working hours are seven per day. In the higher appointments the salary increases to £100 a year. A month's holiday is given annually. A small pension is allowed after ten years' service, and forms a great inducement to Post Office service. In the case of ill-health or of marriage, a gratuity is given, but, with the exception of postmistresses, the women officials must retire from the service on marriage.

### TELEPHONE DEPARTMENT.

Women assistants in this department have salaries of £65 to £80. An assistant supervisor begins with a salary of £85, and rises by yearly increments of £5 to £110. This is the highest post for a women in the telephone department.

## POTTERY WORKS.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
MALE :	Pottery Works,	954	106+2	2	7
	Brick, Tile, and Terra-cotta,	415	132+...	2	42
FEMALE :	Pottery Works,	696	69+1	1	...
	Brick, Tile, and Terra-cotta,	88	12+...	...	2

There is an inclination among journeymen potters to keep the trade in their own families as much as possible, and, in accordance with this, some employers give preference to the sons of employees when a vacancy occurs. As a rule, however, boys are chosen for their general smartness and appearance, and are given a few weeks' trial. In the Scottish pottery works there is no artistic and delicate work done as in the English potteries, hence there is no inducement for educated boys and girls to enter the trade.

The work in potteries is subdivided among:—

- (a) *Throwers*, who put the clay on the wheel, and mould it into shape; this is highly skilled labour, and requires long practice.
- (b) *Turners*—both men and women—who turn the wheel, and trim and smooth the clay.
- (c) *Flat-pressers*, who press the clay into moulds for handles, spouts, etc.
- (d) *Kiln-men*, who carry on the firing process.
- (e) *Decorators*, who attend to the printing, sponging, and gilding.
- (f) *Glazers*, who prepare the glaze and dip the vessels.

## MEN AND BOYS.

(a) *Throwers and moulders*.—Boys who, during their period of trial, have shown themselves to be capable, are received as indentured apprentices for a term of seven

years. The trade union limits the number. No premium is required, but a penalty of £10 is imposed for breaking indenture. Very often no formal apprenticeship is entered into, but the lad continues for a long period at a special branch as a learner. The apprentice works for a year as a benchman, and learns something of the trade. Then he works at a wheel with a journeyman, or alone under the supervision of a foreman. Payment is sometimes made according to piece-work rates, an apprentice receiving in the first three years half journeyman's rates, in the later years two-thirds. The money thus earned varies with the skill of the worker. An average boy in his third year will make 12s., and up to 16s. or 18s. a week in the last year of apprenticeship. The weekly working hours are from 54 to 60; as piece-work is done, the time is very irregular. At the same time, there is great variation in the rate of wages; sometimes the wage begins as low as 3s. 6d. a week, and never rises above 10s. or 11s.

Generally speaking, the training is best in a pottery that does not specialise.

When apprenticeship is out, the full journeyman's wage is given—viz., 32s. a week, if paid by time. The piece-work average is about £2 a week. In some potteries, the journeyman's wage begins at 27s. In factories where jam jars are the special product, autumn and winter are slack, and many of the workers are unemployed; otherwise the trade does not fluctuate with the seasons. Old men are usually employed as long as they are able.

(b) *Turners*.—A few trained men have the care of the turning machines, and are assisted by a number of girl turners. The average wage of men turners and pressers is 32s. per week; of men printers, 30s. per week.

(d) *The Kiln-men*.—Kiln-men are assisted by boy

attendants, who may or may not be apprenticed afterwards to this branch of the industry. The *Kiln-boys*, taken at 14 years and older, to assist the firemen, receive 10s. to 12s. a week. Apprenticeship begins at about 18 years of age, and lasts four years; the heavy work of filling the kiln and carrying the "saggars" to and from the kilns makes this branch unsuitable for boys under 18. There is no premium and no indenture. The wages of apprentices run from 9s. in the first year to 15s. in the last. A journeyman's wage runs from 30s. to 40s. a week. The *Kiln-boys* very frequently remain as kilnmen in the potteries in which they have been trained. The *Kiln-men* work from 6 a.m. till 2 p.m., but remain in the place till 4 p.m.

*Unskilled labourers.*—Unskilled labourers assist in the various processes as "benchers," and are men of a rough class. Their wages average 18s. to 20s. a week.

The *Packers* employed in the potteries rank as unskilled men and boys. The wages of packers average, however, 28s. per week.

## WOMEN AND GIRLS.

*In the Throwing and Turning departments*, girls enter about 14 years of age, and generally begin as "benchers," with 5s. 6d. to 6s. a week wages. Girl benchers knead the clay and attend the throwers and "turner" women. Many leave quickly; others remain, and may go on to be turners. On time-work, the women turners may make 7s. to 15s. a week, and the "jolly" women, or women working the old-fashioned "jolly" machine, when on piece rates, make from 10s. to 15s. or 16s. a week, according to the length of practice. The average wage may be taken as 10s. a week. They are supposed to work 60 hours a week in most potteries, but their work is extremely irregular. They belong to the roughest factory class; many of them



are married, and come just as they are in want of money. The state of affairs is so bad in some of the Scottish potteries that respectable working people refuse to put their daughters beside those already employed. There is a great deal of drunkenness in the trade.

*The Decorators* are mostly girls, who have to go through a period of four years' training, and are paid 3s. to 5s. a week until they are able to work on piece rates. On piece-work they can usually make 8s. at first, and as they become more expert may make 10s. to 14s. a week, and sometimes up to 18s. a week. They work 56 hours a week.

*In the Dipping department*, great care has to be exercised, owing to the lead contained in the glaze. Trained men are also in the decorating and glazing departments, and their wages are 30s. upward.

### Brick Making.

In Glasgow, Edinburgh, Aberdeen, and elsewhere, a small number of skilled men are employed in brick, tile, and terra-cotta manufacture. The wages range from 30s. to 40s. a week, and a 54-hour week is worked. Winter is the slack season, and spring and summer are busy seasons. The employment is regular. Men are not paid off in the slack months, because during that time stock is made up.

### LABOURERS.

The greater number of men and boys employed in brick-making are labourers.

---

### PRINTERS AND COMPOSITORS.

	M.	F.		M.	F.
Glasgow,	3,039.	702.	Edinburgh and Leith,	3,009 + 269.	1,335 + 174.
Dundee,	448.	28.	Aberdeen, . . .	482.	240.

Edinburgh is the centre of the book-printing trade in Scotland, and a very large number of men are

employed. In fact, the only skilled trade in which more men are employed in Edinburgh is that of joiners. There are also large firms in the other towns, and many of them make a specialty of some of the collateral departments, such as lithography, bookbinding, calendar-making, etc.

Boys may be apprenticed either as compositors or machinememen. The type is set up in the caseroom by the compositor, and is then taken to the machineroom, where the actual printing is done by machine-work. For printing work, a boy must have a mechanical taste, in order to be able to manage his machine, and he must have good colour sight to manage the different-coloured inks, but he does not require to be so well educated as the compositor. The trade union's rule limits the number of apprentices to one apprentice to three men.

### Printing.

#### EDINBURGH APPRENTICES.

In the printing offices in Edinburgh, a boy entering at 14 as a rule spends some time at feeding a machine before beginning his apprenticeship, and he does not begin his apprenticeship till he has full charge of a machine. The actual length of probation before apprenticeship depends on his ability. Boys who wish to get on must attend the special classes for printers at the typographical school.

The term of apprenticeship is seven years. Wages rise sometimes from 3s. 6d. to £1. Some firms give 6s. the first year, rising 2s. a year to 18s.; some even more.

#### EDINBURGH JOURNEYMEN.

The standard wage in Edinburgh is 32s. and 32s. 6d., which is given as soon as a man is out of his apprenticeship. The majority get the standard wage, but a very good man may get 38s., a foreman 50s. to 60s. At a busy time, wages may be very considerably increased.

### APPRENTICES IN OTHER TOWNS.

While these are the usual trade conditions in Edinburgh printing offices, there are local differences in the other chief towns and in country districts.

In Glasgow, Aberdeen, and Dundee, boys may be apprenticed at once on entering. Most firms accept boys at 14 if their education is sufficiently good. All have to serve seven years. Wages begin at 3s. 6d. or 4s., and in the last year of apprenticeship arrive at 10s. to 15s. a week—seldom beyond that. The hours of work are 50 per week.

### JOURNEYMEN IN OTHER TOWNS.

A journeyman's standard wage is 30s. in Aberdeen, 31s. 6d. to 35s. in Dundee, and 35s. 6d. in Glasgow. After the long apprenticeship, there is seldom any transition period before receiving full wages.

### TURNOVERS.

Owing to the length of the apprenticeship and the smallness of the wages, and the fact that a boy after three years is a good workman, there is a tendency, severely repressed by the trade union, for boys to shift in the middle of the apprenticeship, and for a master to employ such a boy at something between the wages of an apprentice and a journeyman. These boys are called "turnovers." Country shops especially tend to employ turnovers. The disadvantage to the apprentice is that in a country shop he is only likely to receive a hand-machine training, and cannot have the same prospects of advancement afterwards.

### Compositors.

The work of a compositor is setting up type and arranging it. For this work a high degree of intelligence is required, and it is necessary to be a good English

scholar and generally to be well educated. Good spelling is essential, and some knowledge of French, German, and Latin is most useful; an artistic sense is also important. The proportion of apprentices to journeymen is again one to three, and the hours of work are 50 per week.

#### APPRENTICES.

In Edinburgh, as in other towns, apprentices may begin at 14 years of age, and serve seven years. The common scale of wages during apprenticeship is from 4s. to 5s. the first year, rising to 10s. or 11s. in the last year of training.

Apprentices as young as 14 usually spend a year in doing messages and assisting generally in the caseroom, or reading to the proof-correctors, and then are allowed to begin setting up simple jobs in type. Apprentices ought to attend classes in typography. Linotype apprentices must serve five years at case, and their wages may go up to 14s. or 15s.

#### JOURNEYMEN.

The wages as soon as a man becomes a journeyman are usually 30s. and 31s. a week in Aberdeen, 31s. 6d. in Dundee, 32s. 6d. in Edinburgh, and 35s. 6d. in Glasgow. Good workers may get a shilling or two more. The greater number of compositors in Edinburgh, both male and female, however, are on piece-work, paid according to the Edinburgh book scale, which is the recognised piece scale for Scotland.

In many firms, machine-setting has taken the place of hand-composition. The linotype machines for newspaper work require the employment of fewer men than formerly. The typesetters who wish to specialise for linotype machine work may undergo a further training at schools which exist for the purpose. The wages paid

to linotype operators are about 34s. a week, but there is a special rate for day and night shifts—say, where 34s. would be given on day work, 44s. would be given on night shift.

Typesetters are still retained to set posters, bills, etc. Compositors who continue their general education have frequently an opportunity of becoming proof-readers.

This is a trade in which an able man may hope to rise. It is not a season trade. Slack times depend on the state of trade, and in busy times extra wages may be earned by overtime.

At present not many boys are taking up the trade. It is supposed that this may be due to the fact that women are now being employed as compositors, and that the linotype machine is so largely used that men are afraid that the trade is not so good. It is certainly to be recommended, because the wages are good, and it is generally from the compositors that the heads of departments in the large printing-houses are chosen.

## UNEMPLOYMENT.

The busiest period in the printing trade is from August to mid-winter, and spring is another busy spell, but the seasonal variation is not enough in itself to lead employers to pay off their workers. The stock and machines are overhauled during the summer, while the employees get 8 to 10 days' holiday, without pay as a rule. A more serious cause of unemployment is the influx of young printers, both turnovers and newly finished apprentices, from country shops to the towns. Comparatively few country shops work on trade union principles, and very often the larger proportion of employees there are lads. These tend to overstock the town trade with journeymen. In Glasgow, the average number of printers unemployed weekly is about 10 per cent.

The printing trade in Glasgow, being chiefly mercantile, affords very steady employment; in Edinburgh the trade depends chiefly on law and publishing, and fluctuates more.

#### PENSION AND SICK FUNDS.

One or two of the large printing firms have pension and sick funds for their employees; older men and women are often put on pension, from 5s. to 15s. a week, and can retire altogether or do a little work each day, which they usually prefer.

#### WOMEN AND GIRLS.

A large number of girls are employed as feeders of machines in the machinerrooms. They used to be engaged in taking off the printed sheets, but this process is now done automatically. In Edinburgh, girls are frequently employed as compositors, but in all the other Scotch towns the printers' union has prevented this to any great extent. It is understood that girls go through a three years' training, beginning at the starting wage of about 5s., and increasing about 1s. a week each year. After training, the wage on time-work begins at 7s. 6d. and goes up to 10s. On piece-work the wage is one-half of what is paid for the same quantity according to the Edinburgh book scale.

Women and girls are employed as packers in the warehouses, at wages of 5s. to 12s. a week.

Several subsidiary trades are connected with printing, and in these women form the chief proportion of the workers.

#### PAPER BAG MAKING.

Machines have been recently invented which can be worked by one man and four girls, and which perform the whole process from the introduction of the paper in



roll form to the printed and complete paper for the bags. A little hand labour is required afterwards to make up the bags, and that is entirely supplied by women.

The output of each machine is about £2,000 in value per annum. The extension of the trade since the use of these machines has been such that, although the output is much more rapid, the number of girls employed has in no way decreased.

The wages begin at 5s. to 6s. a week, and active workers, when put on piece-work, make 10s. to 15s. a week.

*Box-making* is partly machine, partly hand labour. The machines are worked by girls, and men do the more skilled hand labour (see p. 41).

#### STATIONERY, ENVELOPE-MAKING, AND DIE-STAMPING.

This group of industries is often attached to paper-making or printing firms. Men are employed in glazing paper and envelopes at wages of 28s. to 30s. a week. The work is otherwise done by women at the usual rates of unskilled work. Girls start with 4s. 6d., and rise after they become expert to wages of from 10s. to 14s. a week.

They are employed in sorting, 10s. to 12s.; gumming, 10s. to 13s.; black-bordering, 10s. to 15s.; cutting, 10s. to 14s.; stamping, 10s. to 14s.; folding by hand, 8s. to 13s.; overhauling, 12s. to 15s. The strongest girls are employed in the sorting-room, where there is heavy lifting to be done. The work is clean and healthy, and the girls must be clean, tidy, and respectable.

#### BOOK-FOLDING AND BINDING.

The conditions for those employed in the folding and binding departments of printing or publishing firms or in bookbinding warehouses are treated under a separate heading (see p. 149).

## QUARRIERS AND STONE DRESSERS.

Glasgow, 491.

Edinburgh and Leith, 249 + 18.

Dundee, 221.

Aberdeen, 2275 (County, 3484).

A large number of men are employed in the granite quarries of Aberdeenshire, and in the sandstone and other quarries in the South. The work consists in quarrying, cutting, and dressing the stone. It is a very exposed life, and requires physical strength.

The hours are  $56\frac{1}{2}$  per week;  $1\frac{1}{2}$  hours daily are allowed for meals. Work is affected by the weather, and has to be suspended during frost and storm. Trades and general holidays are given without pay.

The branches of the work for which no apprenticeship is required are:—

- (1) *Polishing*, now done largely by machinery.
- (2) *Saw work*, for which boys are employed at a starting wage of 8s. per week.
- (3) *Carrying tools and simple labouring work*, done by boys called “nippers,” the wages given being about 6s. a week.

Boys of 14 are also taken on as signal boys, and to help in attending to the machinery. They receive on an average about 9s. a week, and this may rise to 12s. after three or four years. In Aberdeenshire, the boys, on commencing, receive a time-wage of 2d. or  $2\frac{1}{2}$ d. an hour in the larger quarries. If they continue to do labouring work, they will not earn more than 18s. to 22s. per week. The time-wage is  $4\frac{1}{4}$ d. to 5d. per hour.

Quarry carters are paid at the usual rate for carting labour, and contractors frequently make a special business of carting for quarries.

## QUARRYMEN AND CUTTERS OR DRILLERS.

Quarrymen have to sink shafts or stones, and detach blocks of the rock with tools, or, if necessary, by the use

of explosives. There is very little risk of accident, and the work is healthy, but demands considerable muscular strength and a steady head. Lads who begin as quarry labourers very often turn to the quarrying work, as there is more chance of increase of wages. In Aberdeenshire, a common time-wage is  $4\frac{1}{2}$ d. an hour, but the better men receive  $4\frac{3}{4}$ d., 5d., and 6d. an hour. Most firms pay their men on piece-work, and the wages vary greatly.

Quarriers with some responsibility and foremen receive from 25s. to 35s. a week. A certain number of quarrymen attend to the cutting of the rough blocks into stones of the various sizes. Their tools are supplied on joining a quarry, but they have to keep up their kit. They are paid, as a rule, by piece-work, and it takes a few years for a man to become expert and make good wages. The time rate is  $4\frac{1}{2}$ d. to 7d. an hour.

#### SETTMAKERS.

They supply their own tools, but they are sharpened for them. They receive the stones from the cutters, and have to prepare them for paving purposes. They are usually paid by piece-work, and make from £1 to £2 10s. a week.

#### POLISHERS (MACHINE AND HAND).

In Aberdeen, polishing for monumental work is a special branch of the granite industry, and a large number of men are employed. There is no apprenticeship, as the work is mostly done by machinery. The time-wage is about  $6\frac{1}{2}$ d. an hour, but the wages are given generally by piece-work, and a hand-polisher can make from 25s. to 30s. a week.

#### Stone-Dressing.

Stone-dressing may be done in special yards at the quarries, in building yards, or in independent works for this branch of the industry.

## APPRENTICES.

Boys are apprenticed at the age of 16 or 17 for four or five years. There is no premium and no indenture; according to union regulations, one apprentice is allowed for each journeyman in a monumental yard. A suitable lad, likely to make a career for himself, must be strong and intelligent, and have some artistic taste and training in drawing. Always a dusty trade, stonecutting is becoming more so in proportion as the use of machinery increases, and the sheds where the men work are made more comfortable, but less open. On account of the irritant effects of the dust, boys with weak lungs are not taken as apprentices. In the Aberdeenshire yards, intending apprentices have to present a medical certificate.

During apprenticeship, classes should be taken in freehand, mechanical, and perspective drawing, modelling, and stonecutting; also in building construction.

Tools are supplied, and wages begin at 6s. or 7s. a week, rising by 1s. or 2s. a week each year. The usual hours of work are 51 per week; two hours are given for meals. Four or five days' holiday in summer and a day or two at the New Year are given.

## JOURNEYMEN.

The standard wage in this department is 7d. an hour in Aberdeenshire, but it varies from 6d. to 8d., according to the locality and the experience of the worker; expert carvers get from 8½d. an hour upward. There is very little chance of promotion, except to become a foreman, with a weekly wage of £2.

## UNEMPLOYMENT.

Two main factors have contributed to depress the granite industry in Aberdeen. The one is the replacement of much of the hand labour by machine-work; the

work on the stones is now chiefly done by the grinding machines, and fewer men are required. The other is the importation of moulded and finished granite for architectural work, of dressed granite blocks for dock and bridge construction, and of setts for paving purposes, from Norway, Sweden, Russia, and other countries. The employers attribute to this cause the closing of several of the Aberdeenshire quarries. In 1896 the output from the granite quarries of Aberdeenshire was 348,877 tons; in 1906, only 248,620 tons were produced, a diminution of about one-third in ten years. The darker granites of Northern Europe find favour at present, but the employers in Aberdeen contend that this class of monumental material ought only to be imported in undressed condition, and the work upon them would then give employment in the home granite-cutting yards, of which there are 90 in the city of Aberdeen alone. With regard to the paving setts, the Aberdeenshire quarries are fully stocked with setts, for which there is no market, and this branch of the industry is said to be in a dying state.

At present an effort is being made to establish an export trade, and to secure Canadian buyers of Aberdeenshire granite material. Every encouragement is given to the industry by educational authorities, and the younger workers have unique facilities for becoming trained craftsmen.

### RAILWAY COMPANIES' SERVICE.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Railway, Canal, and Harbour				
Contractors, . . . .	44	15+ ...	5	2
Railway Contractors' Labourers,				
Navvies, . . . .	610	130+ 92	26	53

Railway Engine Drivers and			
Stokers, . . . .	1,327	825 + 53	274 247
Railway Guards, . . . .	755	238 + 30	83 72
Railway Officials and Clerks, .	1,662	694 + 154	162 261
Railway Porters and Servants, .	2,402	1,051 + 225	270 354
Railway Signalmen, . . . .	382	162 + 26	35 28
Railway Pointsmen, Level			
Crossings Men, . . . .	221	67 + 47	39 17
Railway Labourers (not Con-			
tractors), . . . .	678	100 + 25	46 48
Railway Platelayers, Gaugers, .	418	241 + 70	47 34
Total, . . . .	<u>7,845</u>	<u>3,368 + 630</u>	<u>956 1,061</u>

Female : Officials, Clerks, and

Servants, . . . .	56	13 + 1	4	8
-------------------	----	--------	---	---

Each railway company has its own code of service and payments, and there appears to be a disinclination on the part of some companies to give particulars for the purpose of publication; but two of the leading companies have kindly sent information, and it may be regarded as fairly typical, except that the wages given by some companies are lower than these quoted. Comparatively few lads under 18 are employed by the companies—not more than 15 to 20 per cent., and of these the greater number are under training as railway clerks.

Railway work subdivides itself into two main departments—(1) traffic department; (2) clerical department.

### Traffic Department.

Of the employees engaged in this department, about 70 per cent. are carriage-cleaners, porters, guards, and stationmasters, and 30 per cent. are engine-cleaners, stokers, and engine-drivers. The usual working hours are 12 per day, with two hours off for meals.

### CARRIAGE AND ENGINE CLEANERS.

Boys enter the service at 14 years of age or older, subject to passing an examination in handwriting and



arithmetic. As *carriage-cleaners* they begin with 5s. or 6s. a week, and rise to 10s. or 12s. in a year or two. As *engine-cleaners* they begin with 5s. to 8s. a week, and rise to 16s. a week in a few years. On the whole, there is but a small opening for boys in the traffic departments, and promotion is slow. The lads engaged as carriage- and engine-cleaners are usually those who have been at labouring or factory work of some sort before. If they have any serious intention of getting on, these lads usually attend technical schools, and take courses in steam, applied mechanics, drawing, etc.

#### PORTERS.

Porters may be engaged at any age up to about 40; they are largely recruited from the carriage-cleaners, from ploughmen and strong country lads, and from the class of boy labourers in the towns. Good average wages are 16s. or 17s. a week, with uniform, and passengers' tips. The chief foremen porters in large stations get 26s. to 28s. a week; the foremen under the chief foreman, who are in charge of squads at different parts of the work, may receive 23s. to 25s. for inside work, and 24s. to 26s. for outside work. Night porters begin at 20s., and rise to 23s. or 24s. Guards earn from 25s. to 30s. a week in wages, with uniform. Stationmasters are paid from 30s. a week to £4 or £5 a week, also with uniform. At some of the small stations, the stationmaster begins with £60 to £70 a year, and house and coal, as well as the usual free-travel privileges.

*Engine-drivers* are given wages that vary greatly; a good average wage would be 36s. per week; and *stokers* receive from 24s. to 35s. per week.

The perquisites usually allowed by the companies to their officials are—(a) cheap travelling and two or three free passes a year for self and family; (b) pension of two-thirds salary on retirement at 65 years of age; there are

usually well-organised superannuation and benefit societies; (c) occasionally meals are given at busy times.

The summer months form the busy season in the passenger department; the winter months in the goods department. Temporary hands are taken on in the busy season, and about 1 to 20 of the regular employees are paid-off in the slack season, to be reinstalled as vacancies occur or in the busy season. In the branch lines a larger number of employees have to be paid-off in the running department.

### **Clerical Department.**

#### **APPRENTICES OR LEARNERS.**

A better class of boys join this department at 14 to 16 years of age, and enter upon a definite period of training as clerk. The training may extend for three, four, or five years, and corresponds with an ordinary office apprenticeship. An educational test is usually required in handwriting, spelling, composition, and arithmetic. The payment given is 5s. or 6s. a week to begin with, rising according to ability and length of training by 2s. or 3s. a week each year. The maximum payment in the last year of training is about £30 a year. The hours worked are, as a rule, 51 per week—from 9 a.m. to 7 p.m., with  $2\frac{1}{2}$  hours off; Saturdays 9 to 2, with one meal hour off. The meal hours have to be arranged in turns, so that a sufficient number of clerks are always in attendance. The apprentice clerks receive a thorough training in book-keeping and commercial routine, under the supervision of the chief clerk. Several attend commercial classes in evening schools in such subjects as English, commercial arithmetic, book-keeping, shorthand, and typewriting, and the result is said to be highly advantageous for the lad's further advancement.

#### **ASSISTANT CLERKS.**

About 90 per cent. of those trained in a railway office

continue there as clerks. Now and then an employee leaves and qualifies for a post in the Civil Service. The salaries of assistant clerks in a good company rise to £80 per year; head clerks may have up to £120 or £150 per year. All must pay into the superannuation fund out of their wages.

For men of special ability there are always well-paid appointments—*e.g.*, to have charge of a district. Practically any position on a railway is open to a capable man; a boy clerk may rise to any of the higher-paid appointments about a large railway centre, such as traffic superintendent, goods manager, general manager, stationmaster. On the other hand, the superior posts in the locomotive and works departments go mostly to experienced practical men, with a general training in engineering, as well as expert knowledge of railway working.

At large goods stations there is a cashier, who ranks next to the goods superintendent, and who is responsible for the cash and book-keeping. A cashier's salary runs from £90 to £170 per annum, depending on the size of the station.

The busy season in the clerical department is from October to February or March. The summer season is slacker.

The general complaint made by the superior railway officials regarding the boys that join the clerical department is that they display a marked deficiency in quickness and accuracy of arithmetical calculations. They declare that not one among a hundred has been trained up to the mark of mental arithmetic that is wanted in railway work.

#### TELEGRAPH CLERKS.

Telegraph clerks, both male and female, have to join the service before they are 18 years of age. They make

application to the telegraph superintendent of a company, and when a vacancy occurs, two or three of the applicants are usually examined, and a selection made. When engaged as learner, no wage is given, but when proficient, and on appointment as a junior clerk in the telegraph office, the salary begins at £20 to £30, and rises by £5 a year to £50 and £70 per annum. Seniors and superintendents receive correspondingly higher salaries.

### ENGINEERING SHOP.

The hours of the apprentices in the engineering workshops are practically the same as those in engineering works generally. The apprentices have, however, the usual railway privileges.

Journeymen receive a fair average wage, rather less than the standard wage for members of some engineering societies, but the work is regular, and cheap railway fares are allowed as a perquisite.

---

## APPROXIMATE LIST OF RAILWAY SALARIES.

### Passenger Department.

		WORKING HOURS.	REMARKS.
Lad Porters,	. 12/- per week, rising to 16/- per week.	10 hours per day.	Must be of good physique.
Adult Porters,	. 16/- per week, rising to 20/- per week.	" "	" "
Foremen Porters,	22/- per week, rising according to merit.	" "	" "
Ticket Collectors,	19/- per week, rising to 24/- per week.	" "	
Guards,	. 21/- per week, rising to 28/- or 30/- per week.	" "	
Signalmen,	. 20/- per week, rising to 24/- per week.	8 to 10 hours.	Good eyesight essential.
Inspectors,	. 30/- per week, rising to 37/- or 40/- per week.	" "	Must have a fairly good education.

---

**Goods Department.**

		WORKING HOURS.	REMARKS.
Porters (Day), .	20/- per week, rising to 23/- per week.	Very Irregular.	Must be strong.
Porters (Night), or working outside,	21/- per week, rising to 24/- per week.	"	" "
Foremen (inside),	23/- per week, rising to 25/- per week.	"	" "
Foremen (outside),	24/- per week, rising to 26/- per week.	"	" "
Station Foremen (Chief), . . .	26/- per week, rising to 28/- per week.	"	" "
Shunters, . . .	21/- per week, rising to 24/- per week.	10 hours per day.	In busy yards these men sometimes have an eight hour day.
Goods Guards, . .	24/- per week, rising to 30/- per week.	"	This is only in a very few cases.
Yardsmen, . . .	28/- to 30/- per week, rising to 35/- per week.	"	These boys take the number of waggons when they arrive and depart at large depôts.
Number Takers (boys), . . .	12/- or 14/- per week, rising to 16/- per week.	"	
Pointsmen, . . .	15/- per week, rising to 21/- per week.	"	
Weighers, . . .	19/- per week, rising to 23/- per week.	"	There is as a rule no set wage for weighers, but they never exceed 23/- per week.

**Locomotive Department.**

		WORKING HOURS.
Cleaners, . . .	16/- per week . . .	Night Duty mostly.
Firemen, . . .	20/- per week, rising to 24/- per week.	12 hours per day.
Drivers, . . .	5/- per day, rising to 7/- per day.	"
Inspectors (Foremen), . . .	These men are better paid than drivers, and their remuneration depends very much on their service.	

**CHEAP TICKETS.**

Each company makes its own special terms of cheap travelling as a perquisite for employees. The usual

allowance is one free return pass each year to any station on the company's line, and a privilege ticket may be had at any time at about half single fare for the return journey. These terms are extended also to the wives of employees, and to any of their children who are solely dependent upon them.

#### SICKNESS, INSURANCE, AND PENSIONS.

The employees who receive weekly wages—*i.e.*, porters, guards, etc.—pay about 6d. per week into an insurance society, which grants them 10s. per week when they are off duty on account of ill-health. If they pay into this society for 20 years they are entitled to a pension of 10s. per week.

This fund corresponds with the superannuation fund for the salaried staff. The salaried members receive full pay during illness, and may retire on a *pension* at the age of 60; they must retire at 65. Each man pays a certain percentage of his wages or salary to the pension fund—this payment is compulsory—and on retiring he receives as a pension about two-thirds of his average salary for the preceding seven years.

#### GENERAL REMARKS ON PROSPECTS OPEN TO A LAD IN THE RAILWAY SERVICE.

A boy entering the service of a railway company begins as a lad porter, telegraph boy (delivering telegrams), apprentice clerk, or, if he wishes to go into the locomotive department, he starts as a cleaner—*i.e.*, the engines at night. Again, there is also the engineers' department; the training there, however, is very similar to that in any civil engineer's office.

A lad beginning as an apprentice clerk must be able to write, read, and do simple arithmetic; shorthand is now very important—in fact, every boy must be able to write shorthand. The apprentice's work is at first



similar to that in any commercial office—opening letters in the morning, going messages, and copying letters at night. If a boy keeps his eyes open and attends to his duties, he should by the time he reaches manhood be experienced in railway work in its various branches, and be eligible for filling such posts as may become vacant.

In the locomotive department, a boy cleaner is after a time promoted to fireman, then to driver of a goods train or shunting engine, next to fast goods or local passenger train, and, ultimately, the most intelligent men are selected to drive the express passenger trains.

A boy starting as a lad porter can become goods shunter, passenger guard, or signalman; if he is intelligent, he may rise to inspector or stationmaster.

The most scrupulous attention is paid to the training of signalmen, and they are never entrusted with the sole charge of signals until they have received a specific course of instructions in the duties. The period of training varies according to the importance of the posts at which the men have to be employed.

Colour-blindness is, of course, a fatal defect in a railway servant.

Surfacemen begin as common unskilled labourers, but if they show intelligence they can rise to become foremen, or even permanent way inspectors.

Many lads hesitate about joining the railway on account of the long hours, but as a lad is promoted, the working-day, as a rule, is shortened, and with the many privileges of cheap travelling, railway service is quite a good vocation, and the work is varied and interesting. The railway world is now very large, and the field of promotion is of a very wide scope.

A steady man who has received a good railway education in this country can quite easily get a good position abroad, where the pay is much larger—in fact, some of

the greatest railway magnates in the colonies began their careers in very humble positions in this country.

### REPORTERS.

M.	F.	M.	F.
Glasgow, 54.	4.	Edinburgh and Leith, 39 + 11.	...
Dundee, 12.	9.	Aberdeen, . . .	16. 1.

A boy who is accepted in a newspaper office begins by doing messages for the men reporters. He must have great perseverance, and early acquire a mastery of shorthand. His wages begin at 2s. 6d., and rise to 15s. in five years. Afterwards his wage depends on his capacity, but he may expect, after a few years' experience, to rise to 30s., which is an ordinary wage. A very good man may get as much as 80s. a week.

It is of little use for any lad to think of reporting work unless he is a good scholar, and has some natural aptitude for writing. A lad of 16 or 17 from a secondary or higher grade school, who is an adept at précis writing, may do well if he continue to take every opportunity of widening his general information, and acquiring literary taste and knowledge. Skill in drawing is often a great help, as rapid sketches may be required, and a reporter is expected to be familiar with the more usual technical terms in describing architectural or mechanical plans.

There is at present a tendency for journalists to be graduates, as it is felt that a young man trained in the university and acquainted with classical authors and frequent quotations is provided with the best general equipment before specialising in journalistic lines. At the same time, there must always be a demand for the business-trained lad, or good commercial clerk, who has possibly a fair knowledge of foreign languages, and is intimate with commercial and industrial pursuits.

Very often a lad who has gone through an office training, while still attending continuation classes, may offer to report for some of the local newspapers on any small meetings or matters of interest to one class of business men or another, and, after gaining some experience in this way for little or no remuneration, may be accepted on a reporting staff. A young man brought up among business surroundings has often great facility in seizing the outstanding points that will be likely to interest the public. Provided such a man has a good constitution, and is able to go in and out in all weathers and at irregular times, and, above all, if he has unquestioned sobriety, he will probably be making £2 a week by the time he is 22 years of age, and will have every prospect of a successful career.

Experienced reporters on the Scotch journalistic staffs receive, as a rule, from £150 to £250 a year.

From time to time sub-editor posts are secured, and the higher ranks in the profession may always be said to be open to the best comers.

---

### **SADDLERS, HARNESS AND WHIP MAKERS, LEGGING MAKERS, HARNESS COMPOSITION.**

M.	F.		M.	F.
Glasgow, 530.	34.	Edinburgh and Leith, 229+26.		15+1.
Dundee, 58.	...	Aberdeen, . . .	87.	5.

The maker of riding-saddles is called a "brown saddler," to distinguish from the more general use of the term "saddler and harness-maker."

During the last few years the increase in the number of motor vehicles has created a great depression in this trade, and as there are plenty of skilled men to be had, the employers are taking scarcely any new apprentices.

They seem to be holding back until a few years may show more clearly what is to be the outcome of this transitional condition. At the same time, a general training in saddlery cannot fail to be useful, as men who have passed through the apprenticeship are employed by all kinds of leather workers, and are also in demand at the rubber factories for such work as stitching football covers, etc.

#### APPRENTICES.

There is a five years' apprenticeship, beginning when a boy is about 14 or 15 years of age. The wages run from 4s. or 5s. a week in the first year to 10s., or in some workshops 14s. or 15s., a week in the fifth year. The apprentices are few, and are trained by the foreman in the workroom. In Glasgow there is no apprenticeship, properly speaking, but boys are taken to learn for a few years, and begin with 5s. a week. The working hours are 9 per day, and 5 or 6 on Saturday—altogether, 50 or 51 per week. The work is regular and very healthy.

#### JOURNEYMEN.

Immediately after training, a young man will probably earn as an "improver" from 18s. to 22s. a week. Afterwards he is paid by ability, and an average journeyman's wage is 28s. to 30s. weekly. In the larger workshops in Edinburgh and Glasgow, the best journeymen may occasionally have wages up to 35s. or 36s. Again, a foreman in Aberdeen or Dundee may receive about 32s. a week, but in Glasgow £2 to £2 15s. may be given.

The seasonal slackness in this trade is during winter, when stock is usually made up for the fresh demand in spring.

#### GIRLS AND WOMEN.

A few women are employed to do light stitching and make horse clothing. Many saddlers also employ women in the making of leggings.

Girls of 15 years commence with a wage of 5s. a week, increased in six months' time to 6s. a week. The work is all done by hand, and only neat-handed, careful workers attain proficiency. They must be strong-chested, as in stitching the leather they have to stretch their arms more than in ordinary sewing. A trained worker makes from 8s. to 10s. a week. The wages are low, but the employment keeps very steady, and mill-workers not infrequently turn to it.

### Harness Composition.

A small number of boys find employment in this light work, which consists chiefly in filling, labelling, and packing boxes of composition.

It is a good training for a boy waiting to commence an apprenticeship, as neatness and smartness are required, but it leads to no definite employment in the same line.

---

### SAWMILLING.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male:	Sawyers, . . .	1,424	201+207	354	325
	Timber and Cork				
	Merchants, . . .	256	52+ 35	31	60
Female:	Timber and Cork				
	Merchants, . . .	8	3+ 7	1	3

This is an example of a trade that has become highly specialised through the use of machines. A man works continuously sometimes at one particular machine, making high wages from the first, but unable to earn a living at a different machine. Many firms combine joinery and cabinetmaking with sawmilling, but in sawmills pure and simple the workers may be subdivided into:—

- (a) Machinememen, with average wages from 28s. to 30s.

- (b) Labourers, with average wages from 18s. to 21s.
- (c) Articled apprentices, with wages from 8s. or 10s. to 16s. or 18s.
- (d) Boy labourers, with wages from 6s. or 7s. to 14s. or 16s.

A number of boys from 14 to 16 years of age are employed as "drawers-off" at the machines, to carry the work away as it is sawn, and stack it for storage. At each of the elaborate sawing machines, one man and two or three boys are employed; at the planing machine, one man and one lad. Boys are substituted for labourers in this carrying work, and are very often the sons of labourers engaged in the yard. They usually come for temporary employment, and, according to the employers, the majority of them leave after six months or a year. The wages are about 7s. to 10s. a week, but if lads continue in the labouring work, wages may be gradually increased to 14s. or 16s. a week. The working hours are 54 per week.

#### APPRENTICES.

Those who wish to make sawmilling their trade ought to have a thorough knowledge of arithmetic and elementary mathematics, and to take classes in building construction and geometry.

Apprentices are usually chosen from the "drawers-off" at the machines. Boys who wish to enter an apprenticeship must be over 16 years of age, and are put on probation for a few months. The wages vary considerably in different localities: in country towns, such as Peterhead, where a good all-round training in joinery and sawmilling is given, the wages begin at 3s. a week, and rise to 8s. a week in the fifth year of training. In the larger sawmills, where work is highly specialised, the apprenticeship wage begins at 8s. a



week. The apprenticeship lasts for a different period with different employers—sometimes for three years and sometimes for five years. As a matter of fact, the apprenticeship is insisted upon by the men, as all that is necessary at machine-work could be learned by intelligent youths in three or four months. In Glasgow, apprentices are not indentured, and the trade union limits the number to one apprentice to two journeymen. In Dundee and Aberdeen again, apprentices are sometimes indentured.

The apprentice has chiefly to learn how to set the knives on the machines, but before he is allowed to do that he has to assist the machinemen generally. In shipbuilding yards the work of “drawing-off” is almost all done by apprentices; it is heavy work, and strong country boys are needed. Altogether, sawyer work in shipyards is heavier than in the sawmills.

At about 17 or 18 years of age, the apprentice is passed on to a simple machine, where he works alone as machineman, under the superintendence of a foreman. When there is an opening he is put to work on a more elaborate machine, and in this way becomes familiar with the various machines used in sawmills. There are circular, frame, horizontal, and perpendicular saws, and many different forms of machines specialised for sawing the wood for flooring, moulding, and other purposes; but it usually happens that an apprentice becomes an adept at one particular machine, and remains at it.

## JOURNEYMEN.

After apprenticeship, a wage of about 24s. is given to machinemen; afterwards, machinemen in Aberdeen and Dundee receive 28s. to 30s., and sawyers 26s. to 28s. a week. Higher wages may be made in the South. The full journeyman's rate in Glasgow is 30s. to 32s. a week. Foremen receive from £2 to £2 10s. a week,

but may now and then obtain some more highly paid post as manager.

### UNSKILLED WORK.

Labourers are employed in storage and cartage work, and although the average wage is from 18s. to 21s. a week, a smart labourer may earn 25s. a week.

### UNEMPLOYMENT.

The busiest season is summer, but in most yards there is steady work for the skilled men all the year. Dullness of trade or seasonal slackness affects chiefly the number of labourers employed in a yard. On the other hand, the firms that combine a joinery branch with the saw-milling depend in the main upon large contracts, and when none are in hand, hundreds of joiners may be thrown out of employment.

The risk of unemployment in this trade arises from over-specialisation of the machinememen, and this appears to be greatest in some of the Glasgow woodyards, because of looser methods of employing boy labour and letting the boys work machines without providing any all-round apprenticeship training. An employer in this way exacts the greatest commercial usefulness from a lad at the particular time that suits the employer—when work is in demand—but the toll paid by the lad for the higher wages he may get at an early age is that he becomes one-sided in his trade, and specially liable to periods of unemployment. The trade unions try to counteract this tendency by insisting that when an unskilled lad of 17 or 18 is set to work at certain machines, he has to receive the union rate of wages. But in many of the yards there is a constant flux of boys from 14 to 18 years of age, who come for a few months, attracted by a higher temporary wage, and go as the trade fluctuates and wages are lowered. The better-class boys may work

more steadily, but where employers use boy labour to any great extent, they also have to leave as they get older.

### SHIPBUILDING.

	Govan, Partick, Edinburgh and Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Platers, Riveters, etc., . .	3,607	78 + 275	382	145
Other Workers in Iron, . .	724	6 + 60	12	25
Shipwrights, . . . .	2,131	26 + 301	301	288
Other Workers in Wood, . .	554	1 + 11	71	1
Others engaged in Ship and Boat Building, . . . .	4,938	21 + 210	610	313
Total, . . . .	<u>11,954</u>	<u>130 + 875</u>	<u>1,376</u>	<u>772</u>

### Boilermakers.

Govan, Partick, and Glasgow, 5,416.	Edinburgh and Leith, 104 + 289.
Dundee, . . . . . 251.	Aberdeen, . . . . . 221.

The Clyde shipyards represent the great centre of this industry in Scotland. The number of men and lads employed in the yards between Glasgow and Greenock was over 26,000 at the last census, and must be considerably more now. It is calculated that, all over, there might be 20 per cent. apprentices to journeymen, while about 25 per cent. of the men employed are unskilled workers.

In Leith the census numbers give an under-statement of the men actually employed about the shipyards. Probably about 1,200 to 1,600 are fairly regularly employed either as skilled hands or labourers. The number employed at any given time depends entirely on the state of trade, and at busy times a great many more men are required.

In all the departments of shipbuilding, 54 hours a week are worked. Two hours are allowed daily for

meals in summer, and one and a half in winter. The apprentices in every department are advised to work such subjects as naval architecture, shipbuilding, marine engineering, at such special schools as the Leith Nautical College; and carpentry and geometrical drawing at the technical colleges or evening classes.

The *platers*, *riveters*, *caulkers*, and *boilermakers* are members of the Boilermakers' Society. By the rules of this society, apprentices must be between the ages of 16 and 19 on entry. No lad need think of the shipbuilding trades unless he is physically strong and well built. There is no indenture. A premium is accepted only from gentlemen's sons who are to follow out the higher branches, and receive a wider training. The apprenticeship term is for five years, and the apprentice then receives a written certificate, or "lines," from his employer, attesting that he has served his time satisfactorily. The rates of wages mentioned are those given in the South; the wages are all rather lower in the north of Scotland.

#### PLATERS AND APPRENTICE PLATERS.

A plater gets the drawings from the draughtsmen, and has to make his plates accordingly, punch them, and put them in their places. Apprentice platers receive wages of about 8s., 9s., and 10s. a week during the first three years. As soon as a boy is fit—perhaps in three years—he is put on piece-work, when he is paid at a rate of 15 or 20 per cent. less than the man's rate, so that in his third year he may be getting from 15s. to £1 a week. Some boys may be able to make considerably more.

When he completes his apprenticeship, the plater continues on piece-work. Some men do not make more than £2 a week, whereas others can make as much as £6 in their 54-hours week. A great deal depends on a

man being able to feel the best way to cut out and place his plates, so that to be successful, a boy ought to have this geometrical instinct. Platers have fairly regular employment. A "squad" of platers consist of four to six platers, 20 to 25 helpers, and two templet boys. The helper gets 7d. an hour, or 31s. to 32s. a week. The templet boy comes at 14, and is a learner for a few years, receiving 15s. a week; afterwards he usually apprentices himself as a plater.

#### RIVETERS AND APPRENTICES.

Riveters do both hand-riveting and machine-riveting. An apprentice begins with 8s., but in six months he should be able to be put on piece-work, when his wage depends on his ability. In a year he should be able to make £1 a week. Apprentices are paid on piece-work 30 per cent. less than a journeyman's wage. A journeyman riveter can make from £2 to £6 in a 54-hours week. Sometimes on repair jobs, when many hours of overtime are worked, still higher wages can be made.

Riveters work in squads, which usually consist of a right-hand and a left-hand riveter, a holder-up in the middle, and a boy to heat the rivets. Both the holder-up and the boy are paid by the riveters. Another assistant may be required, if the distance between the heating and the work in hand be too great for the heater to carry the rivet quickly, and, in that case, it is usually the employer who engages and pays this third assistant.

Payment is made by piece-work, at so much a rivet. According to their efficiency, a squad may make anything from £10 to £20 a week, which sum is divided according to a definite arrangement made by the squad. The boy's portion varies from 10s. to £2. The rivet boy starts at 14, and may stay only a few weeks, or may continue a rivet boy till 16 to 19 years of age. Some men remain at the heating work all their lives, because, if

they are good at the job, they are always sure to find riveters anxious to work with them. Others become holders-up, and may eventually apprentice themselves with a riveter.

The holder-up is an unskilled workman who makes from 30s. a week. The rivet boy is usually a rougher class than the templet boy; it is said that riveting tends to remain in families. A common arrangement on the Clyde is that a holder-up is given 8d. for each shilling that riveters receive. Taking £15 a week as a sum made by a good squad, then the proportion allotted to each member would be £5 5s. to each of the riveters, £3 10s. to the holder-up, and £1 to the rivet boy.

Riveters must be very strong men, and in the large shipbuilding yards the general report is that they are of rough class, and very often of unsteady habits. This has its hardship to the employer and to the workers, as when one member of a squad absents himself, the work of the whole squad is stopped. The men of one squad will not join with men of another to form a complete squad. Thus their own irregularity keeps down the earnings of riveters. The apprentices work in squads by themselves, under the supervision of the foreman.

#### CAULKER APPRENTICES.

Caulkers close up the joints between the plates after they have been riveted, working with a blunt chisel. For the first two or three years wages are 8s., 9s., and 10s., but at the end of two years a boy should be able to go on piece-work, and make as much as £1. Apprentices are paid about 20 per cent. less than journeymen's rates. A journeyman works on piece-work, and may make anything from £2 to £4 a week. This work is also irregular.

#### BOILERMAKER APPRENTICES.

Boilermakers work in the engineering department of the large shipbuilding yards. But boilermaking is such



an important industry that it forms the sole work of some firms. The apprenticeship is for five years, and begins between 16 and 19. The apprentice is given a general training in the lighter work for two or three years, and is allowed to do riveting the last two years. The wages begin at 8s. a week, and, if good work is done, an apprentice may be given a time-wage of 15s. to 19s. a week in the last year of his training. As a journeyman, 8 $\frac{3}{4}$ d. to 9 $\frac{1}{4}$ d. per hour is paid. At 9d. an hour, this is 40s. 6d. in a 54-hour week. This work is regular.

#### SHIPWRIGHT APPRENTICES.

Shipwrights or ship carpenters erect the frame of the ship, and do all the heavier wood work, such as laying the decks.

The apprenticeship is five years, and the wages are 6s., 7s., 8s., 9s., and 10s. a week in the successive years. A journeyman's wage is 8 $\frac{1}{4}$ d. per hour—*i.e.*, 37s. 1 $\frac{1}{2}$ d. in a 54-hours week. The full wage is given as soon as apprenticeship is over. A well-trained apprentice has no difficulty in finding employment, and the work is regular.

*Joiners* do the finer woodwork of the ship. A large number of ship joiners are employed. Their apprenticeship is five years; wages, 6s., 7s., 8s., 9s., and 10s.; and the journeyman's wage is 8 $\frac{1}{4}$ d.—*i.e.*, 37s. 1 $\frac{1}{2}$ d. for a 54-hours week. This is less than the rate of a house joiner, but the work is more regular.

#### OTHER LABOUR EMPLOYED.

A few *painters* are employed. Apprenticeship is five years; wages, 6s., 7s., 8s., 9s., and 10s. Journeymen's wages are 8d. an hour.

A few *riggers* are employed at 8d. an hour, or 36s. a week. They receive their training elsewhere, very often as sailors.

*Drillers* can learn their work in a month or two. As soon as they are able, they are put on piece-work at full journeymen's rates, and can make from £2 to £4. This work is fairly regular.

*Blacksmiths* have a five years' apprenticeship. Their wages are 8s., 9s., 10s., 11s., 13s. The journeyman's wage is 8d. an hour, or 36s. a week, but some men who go on piece-work may make £2 to £4. This work is regular.

A few *patternmakers* are employed. They make from the drawings wooden models of the different parts of engines. Their apprenticeship is five years; wages, 5s., 6s., 7s., 8s., 9s. The journeyman's wage is 8½d. per hour—38s. 3d. per week. This work is regular.

There are a large number of *fitters*, *turners*, and *machinememen*. Their apprenticeship is five years, beginning at 16 or over. The wages are 5s., 6s., 7s., 8s., 9s. The journeyman's wage is 7¼d. an hour. This work is regular (see p. 211).

A large number of *labourers* are employed at wages ranging from 17s. to 30s a week.

A considerable number of boys are employed at various unskilled jobs, with wages of from 5s. to 10s. a week.

In all departments, apprentices are preferred well-grown and strong. Formerly, many came from the country, but it is getting more difficult to get country lads.

## DRAFTSMEN.

Boys may serve their whole apprenticeship in the drawing-office. They ought during apprenticeship to take as many classes as possible, particularly in design, naval architecture, and shipbuilding.

The term of apprenticeship is five years; the wages are 6s., 7s., 8s., 10s., 12s., and the hours 45 per week. After apprenticeship, the salary depends entirely on

ability. A man may not be worth £1, or he may begin with 30s. or £2. From this department he has a chance of promotion, particularly if he has a good general education, and is a good designer. He may become a chief draughtsman or a naval architect.

#### GIRLS.

Girl tracers are employed in the drawing-offices of shipbuilding and engineering firms. After a few months' probation, they are apprenticed for four years at wages of 5s. or 6s. the first year, rising by 2s. each year. After apprenticeship, the wages are 14s. to 16s. a week, or a little more for expert workers. Forewomen receive 25s. to 32s., and second assistants about 20s. a week. The tracing work in itself is quite mechanical, but there is every encouragement to talented girls to become designers, and to command higher payment.

---

#### SHOP ASSISTANTS.

The hours and conditions of shop assistants vary considerably in the different shops. In high-class shops in the principal streets the hours are 50 per week, while in smaller shops, as well as in large shops in many other neighbourhoods, the hours are often 65 or 67 per week. In some shops they are even as many as 75 or 78 per week. A week or sometimes a fortnight's holiday is given, without deduction from salary.

#### MALE APPRENTICES.

Good appearance, smartness, and civility are the requirements, also accuracy in rapid calculation. In many cases boys begin as message-boys, and if they are smart, they are taken to serve behind the counter when about 15 or 16 years old. There is in most shops a

period of four years' training, which corresponds with a trade apprenticeship in so far as a lad is changed from one department to another, and given some opportunity of gaining a general insight into methods. The usual wages are 4s., 5s., 6s., and 7s. a week in the successive years of training, but if a lad is smart, his wage may be brought up to 10s. a week in the last year of training. A capable salesman, after two years' apprenticeship, can sometimes make a good wage, especially in trades such as grocery and provisions. Again, a lad that shows taste and deftness in displaying goods may be given window-dressing to do, and this may become almost his sole work in large establishments. It is a particularly important and well-paid branch.

#### TRAINED ASSISTANTS.

After training, wages may be from 14s. to 18s. the first year, and the subsequent increase depends on ability; about 28s. to 30s. a week is considered a good wage. The advantage of this work is that it is steady all the year round. In the large shops there is a possibility of rising to 36s. or 38s. a week, and managers or heads of departments may get anything from £2 to £4 a week, but the chance of such appointments occurs relatively seldom. Frequently young men branch off to commercial travelling or start business for themselves.

There is at present a large number of experienced shopmen out of work. In all cases young men are preferred as shop assistants, and older men, if they lose a place, have difficulty in finding work. Many of them take up insurance business as special agents.

#### GIRL ASSISTANTS.

The conditions of training for girl assistants are much the same as for boys. The usual starting wage for a girl assistant at the counter is 6s. a week, and it is gradually

increased to 12s. a week; the higher wages of 15s. to 20s. are for the best saleswomen or trained assistants who are given charge of some branch or department.

A girl assistant at the desk will get 6s., rising to 15s. a week, and afterwards, if she shows ability and is taken into the office, her wages may rise to £1 a week. An office assistant and typist in large shops gets from 15s. to 25s., but in smaller offices and shops 12s. 6d. and 15s. a week are considered average wages. The employers say that the standard of reading, writing, and arithmetic in the case of girl assistants has much improved in recent years; this improvement may probably be traced to the fuller attendance of girls at higher grade board schools and evening classes.

---

### SHORTHAND AND TYPEWRITING.

Most of the young men who learn shorthand and typewriting do so for use in their business, but seldom seek occupation as typists in offices. This occupation is now almost entirely given over to young women.

Though typewriting is taught to the senior pupils at some of the public schools, those who wish to make shorthand writing and typewriting their calling generally attend classes at a business college or evening school. The time occupied in training varies according to the intelligence and previous standard of education of the pupil, but, as a rule, from nine months to a year of special training ought to suffice. Some pupils can be ready for a situation in six months, but these are quite exceptional cases. Then, again, the Pitman system of shorthand, which is required in any of the Government services, is said to demand a rather longer period of practice than "Script" or the new American system of Greig's "Light-Line" and other varieties.

The pupils, either boys or girls, who make the most rapid progress are those who begin shorthand and typewriting at about 16 years of age, directly after leaving a higher grade or secondary school. Those who begin at 14 years, on leaving elementary public schools, have seldom a sufficient knowledge of English composition, and find difficulties with punctuation, paragraphing, quotation marks, and even spelling. The bad results of capping a poor school career with a year of shorthand and typewriting are familiar to most business men who have to employ girl typists.

A special feature in all training should be to familiarise the pupils with the particular groups of words and the technical phraseology in as many varieties of commercial pursuits as possible. The mere mechanical skill of taking notes in shorthand and using the typewriter will not assure any pupil of success: there must be in addition a definite mental training and a study of commercial vocabularies, in the acquirement of which much the same faculties are called forth as in the case of a foreign language. Most shorthand and typewriting pupils take a special course of practical book-keeping and business calculations.

There is a regrettable tendency among some classes of employers to take girls of inferior education and training at low wages, and this cuts out the competent workers. From Dundee one hears that "the minimum wage for a typist going out from a business college is regarded as 10s. per week; but it is too often the case that a girl has to begin with 5s. or 6s. a week in order to get a start, and some offices never give any but a low standard of wages to their girl typists." If better-educated and better-class girls cease to enter the profession, this will react upon the employers; the present unsatisfactory state of matters can only be rectified by an understanding among the employers and their insist-



ance upon a systematised scheme of training and graded certificates.

Among certificates in common use in Scotland which can be depended upon may be named these of the Pitman's Institute, the Chamber of Commerce, the Society of Arts, and the Incorporated Society of Shorthand Teachers.

Shorthand writers and typists are employed in merchants' offices, with manufacturers, and in general business houses, and with commission agents, accountants, lawyers, etc. Besides the actual dictation of correspondence and typewriting, they are expected to do general office work, book-keeping, accounts, and must be able to calculate, and send out circulars and post cards. The working hours are usually 9 a.m. to 5 p.m., with one meal hour off.

The average wage to start with is 12s. 6d. weekly, though some begin at 8s. and 10s. Wages rise to 15s. and 18s. in a year or two. Those with ability to conduct correspondence obtain from 25s. to £2. All wages given throughout Scotland are less than those in London, where the greater expense of living and daily travelling is taken into account.

The class of shorthand writer and typist engaged in good offices of professional men is altogether more cultured, having usually passed through secondary or private schools. The salaries given range from £60 to £100 a year.

### SLATERS AND TILERS.

Glasgow, 1,637.

Dundee, 147.

Edinburgh and Leith, 487 + 72.

Aberdeen, . . . 258.

#### SLATERS.

The work consists of roofing and repairing the roofs of houses, and requires strength and steady nerves.

Every slater must be able to sweep chimneys (see p. 56). Employers find no difficulty in securing as many lads as they want, but they complain of a deficiency in writing and spelling.

#### APPRENTICES.

Boys are apprenticed for a period of five years, beginning about the age of 16; sometimes they are 18 before starting apprenticeship. There is no premium and no indenture. According to the union regulation, one apprentice is allowed to three journeymen. The recognised wage of an apprentice for the first year is 7s. a week, and a yearly increase is made; during the last year of training the wage is 11s. or 12s. in Aberdeen, but may be 13s. for a good worker. In Glasgow the first year's wage is 8s. a week, and the last year's 14s. or 15s. a week, according to ability. The rates of payment to apprentices are fixed locally by the master slaters' association, and payment is continued during the specified holidays. In summer the working hours are 51 per week—from 6 a.m. to 5 p.m., with two meal hours off; and 6 a.m. to 1 p.m. on Saturdays, with breakfast hour off. In winter the working hours are 45 per week.

Apprentices sometimes have to work at a height of from 20 to 80 feet, but most lads become used to this during the first three months. Boys are provided with the necessary tools to start with—namely, slate hammer, slate knife, and a trowel. If they do not finish their apprenticeship, their tools have to be returned. This, however, is almost unknown in Aberdeen; it is chiefly in Glasgow where employers complain of apprentices leaving after two or three years. Such lads take labouring work at 5d. an hour, and end as unskilled labourers with no fixed connection.

#### JOURNEYMEN.

After training, the minimum wage is 8d. an hour,

but many get 8½d. per hour; in Glasgow the wage is 9d. an hour. An average wage is 30s. to 32s. a week. The men work in pairs, and the masters do all the supervising, so that there is little chance of individual advancement. When the men are sent to country jobs, they are paid 6d. a day extra, or 5s. a week, and apprentices get 3s. a week additional pay, or possibly more, according to the price of board and lodging. The older men are by most masters given such work as they can do without risk of accident. Any good worker will be retained by most employers until he is 60 to 65 years of age.

#### UNEMPLOYMENT.

During the winter time, when slaters are not so busy, and employers are sometimes compelled to discharge their men, they find employment in various ways, such as jobbing about buildings, helping masons, or other seasonal jobs. Some attend the evening class work in building construction.

#### TILERS.

Tile-fixing is a trade in which good wages can be made, but employers say the class of men engaged in it are rough, and they would hesitate in recommending a boy to take it up.

The apprenticeship is for five years, and all conditions are much the same as for slaters and plasterers. Foremen are very well paid, but sometimes capable men prefer to remain as journeymen, owing to the many personal and other difficulties with which a foreman has to contend.

---

#### STATIONERS.

	M.	F.		M.	F.
Glasgow,	739.	657.	Edinburgh and Leith,	559 + 50.	425 + 61.
Dundee,	69.	63.	Aberdeen, . . . .	57.	72.

Stationers manage the paper department either in

wholesale or retail firms. In retail firms they also act as shopmen. For this work a boy requires to be strong, as he has heavy lifts, and he must be fairly well educated. Commercial stationers very often undertake on their own account the printing and preparation of notepaper and envelopes, numbering and paging, paper-ruling, and other forms of machine-work.

#### APPRENTICESHIP.

Apprenticeship begins at 15 or 16, and lasts from four to seven years, wages rising in most places from 4s. to 5s. the first year to 8s. or 10s. the last year. In Glasgow the rate is usually higher throughout the whole period of apprenticeship; as much as 8s. in the first year and 20s. a week in the last year may be given. The business is learnt by working alongside journeymen in the different departments in turn. Apprentices are advised to take such subjects as writing, arithmetic, and mathematics; French or German are sometimes useful.

#### JOURNEYMEN.

Not more than about 25 per cent. of apprentices continue with the same employer after the period of training. After apprenticeship, wages may begin at 18s., and rise to 30s. in about five years. In Glasgow the wages are rather higher, ranging from 30s. to 40s. a week. An average time-wage in the trade is 8½d. per hour. There are good openings as managers of departments, but they are only possible for those who have capacity.

The working hours vary from 45 to 50 per week, and one hour is allowed daily for meals.

#### GIRLS.

(1) *In stamping and printing work.*—A large number of girls are employed in stationery warehouses. The

starting wage is 4s. 6d. or 5s. a week, and it increases in a year or two to 10s. or 12s. 6d. a week. On piece-work, the weekly wage made in large warehouses is from 12s. upwards. Clever workers may make from 12s. to 20s. a week. The time-wage ranges from 2½d. to 5d. an hour.

(2) *As shop assistants*.—Girls for counter work either in stationery or bookselling shops are usually taken at 16 years of age, and receive 10s. a week to begin with. When fully trained, the salary ranges from £25 to £65 a year, according to the experience and capability of the assistant.

## UNEMPLOYMENT.

The slack season in this trade is from April to August, the busiest season is from October to the New Year. It is a frequent practice to suspend the employees in turn for short periods during the slack season, and it is calculated that during the busy season about 33 per cent. additional workers find temporary employment in the stationery trade.

## SURGICAL AND SCIENTIFIC INSTRUMENT MAKERS AND OPTICIANS.

		Edinburgh and Glasgow. Leith. Dundee. Aberdeen.			
Male :	Scientific Instrument				
	Makers and Opticians, .	359	87 + 6	11	13
	Weighing and Measuring				
	Apparatus, . . .	99	196 + 23	3	5
	Surgical Instrument				
	Makers, . . .	33	63 + ...	6	11
	Dealers in Instruments,				
	Games, etc., . . .	73	34 + 1	5	8
	Total, . . .	564	380 + 30	25	37

	Edinburgh and Glasgow. Leith. Dundee. Aberdeen.			
Female : Scientific Instrument				
Makers and Opticians, .	19	10+ 2	4	2
Weighing and Measuring				
Apparatus, . . . .	2	46+...	...	...
Surgical Instrument				
Makers, . . . .	10	23+...	...	...
Dealers in Instruments,				
Games, etc., . . .	63	14+ 2	2	2
Total, . . . .	<u>94</u>	<u>93+ 4</u>	<u>6</u>	<u>4</u>

It will be noted that, for its size, Edinburgh has a large proportion of *surgical* instrument makers, whereas in Glasgow there are, relatively speaking, few surgical instrument makers, but more than half the total number of *scientific* instrument makers in Scotland are employed in Glasgow. The influence of the largely attended medical schools in Edinburgh is clearly indicated in the diversion to that city of the special trade in surgical instruments.

In *surgical* instrument making the work is chiefly in steel. In *scientific* instrument making the work is varied; it comprises brassfounding, iron and tin working, glass-blowing, wood-cutting, etc., and the large makers in Glasgow subdivide the workshops into several departments:—

- (1) Machine-shop.
- (2) Fitting-shop.
- (3) Wood-working.
- (4) Foundry.
- (5) Optical grinding.

Boys learn every branch of the trade. In the making of an instrument, one man forges, grinds, and finishes it as a rule. He thus obtains an all-round knowledge, and this gives him a better chance of employment than he would have if he specialised in one branch.

A good education, average intelligence, good sight and hearing, and skill in handling tools are the requisite



qualifications. It is usual for employers to apply to headmasters of the public elementary schools for suitable apprentices, as they specially desire lads who are of the best artisan class and good scholars.

#### APPRENTICES.

The apprenticeship is six years, sometimes beginning at the age of 14. The employers prefer a lad of 15, but find the disadvantage that most lads forget much of their school work in the interval. Wages rise from about 4s. or 5s. to 10s. 6d. per week, and occasionally to 12s. and 15s.; but this is exceptional.

The hours are from 54 to 56 per week in Edinburgh; in some of the Glasgow shops, 50 hours are worked. Either one or two meal hours are given. An annual holiday of about a week is allowed.

Apprentices in the best firms are under the care of skilled men, whose duty it is to instruct them. About a year is spent in the fitting-shop, doing general work, giving out tools, and assisting generally. A period is then given in the turning- and machine-shops, both of which are largely worked by boys. A finishing period is then spent in the fitting-shop, learning the more difficult and intricate forms of work. The apprentices are by some firms allowed an addition to their wages, which averages 20 per cent., in the form of a weekly premium depending on the amount of work produced.

The employers strongly encourage attendance at evening classes, and one suggestion is that any boy leaving school at 14, and wishing to go to an instrument maker's workshop, should first spend a year at some employment which would bring him into touch with machines, at the same time attending board school evening classes regularly.

For *scientific* instrument making, classes in physics, electricity, and mechanics are useful, but there are no special subjects necessary for *surgical* instrument makers.

## JOURNEYMEN.

After training, wages vary according to ability, and in some cases men are paid by piece-work. From £1 to 35s. per week may be earned; 30s. is an ordinary wage for a competent workman in most places, but in large Glasgow firms 32s. 6d. to 42s. 6d. is the ordinary range for skilled men. The highest wages are given in the optical grinding department. Foremen may get from £2 to £3 10s., according to their work and the responsibility which they have.

Most firms prefer to have boys of their own training, but find it difficult to get boys who will apply themselves to their work sufficiently to become skilled.

This trade has leapt forward so rapidly, and is in such a formative condition, that employers and employees still enjoy great liberty of action. So far, the trade union has essayed no limitation in the number of apprentices, and an unusually large number of lads are employed in the machine and turning workshops. Several young men have gone to the United States after having completed their training here.

---

**SWEETMEAT MANUFACTURE AND JAM MAKING.**

M.	F.		M.	F.
Glasgow, 146.	1,278.	Edinburgh and Leith, 20 + 23.	...	+ 2.
Dundee, 106.	37.	Aberdeen, . . .	8.	14.

In sweetmeat factories the work is mostly done by girls, but the boiling and heavy work is done by men. This is a larger industry in Glasgow than in the other cities, but in all localities it offers good wages and regular work to both men and women engaged in it.

The regulations as to the number of men employed vary in different factories. Some employ a greater pro-

portion of journeymen than apprentices; others have more apprentices than men. The hours are 52 to 54 per week. They are usually from 7 or 8 a.m. to 6 or 7 p.m., with one hour off for meals; on Saturdays, 7 to 12. Many firms begin at 7.15 and go on to 6 p.m. Trades and general holidays are given, usually without pay. One or two firms quoted 48 as the number of hours per week.

The chief departments in confectionery are:—

- (1) Sugar-boiling.
- (2) Fondant-making.
- (3) Pan goods.
- (4) Lozenges.

Sugar-boiling is attended to by groups of three workers—one man who has been thoroughly trained in this work, and two girls. The boiling is the only heavy work in this trade, and it is of importance that only respectable, well-educated lads enter upon a period of training. Formerly the men were rough, but there is now a great improvement. The heat of the rooms and the changes of temperature require a good physique.

Men have the chief charge in the fondant-making, where the boiled sugar solution is poured into the moulds made of starch; they also make the dough for the lozenges, and have charge of the steam-pan process in the harder confections.

Girls assist the skilled men at the steam-pans, and the machine-work of rolling, stamping, and punching is attended to by women and handymen. The departments of kneading, of labelling, and of finishing are those in which the greatest number of girls are employed.

#### APPRENTICES.

Apprenticeship in all the above departments begins at 16 years of age, provided a lad is sufficiently strong and

well developed, and lasts for five years. The wages begin at 5s. a week, and rise to 8s. or 12s. per week. In some cases, where the boys are smart, active, and intelligent, as much as 16s. per week is given in the last year.

#### JOURNEYMEN.

A "first hand" over eight or nine sets of "boilers" earns £2 per week, and a sugar-boiler may earn from 30s. to 35s. per week. An expert hand at the "pans" may earn £2 a week, a first hand 37s., and a second hand 28s. per week. In the lozenge-making department, each man earns about £2 per week; and at fondant-making a man may earn £2 7s. and upwards. While these may be regarded as the average wages, good men at the heads of departments may earn 50s. or even 70s. a week.

#### Chocolate Making.

In this branch of the work physical strength is not so necessary, and the work is not quite so hot as in the other branches of sweet-making, but absolute cleanliness is essential, as the chocolate has to be handled.

Apprenticeship begins at 14 years of age, with wages rising from 4s. to 8s. The average wage for a journeyman is about 30s. per week. A foreman may receive from £2 to £3 per week.

The machines are worked, not by tradesmen, but by handymen, who receive the usual wage of 22s. to 29s. a week, which is given to unskilled labour of this kind.

#### GIRLS.

It may be said roughly that 90 per cent. of the employees in sweetmeat- and chocolate-making are women and girls. Employers say there is some difficulty in getting a sufficient number of strong, healthy girls and steady workers. Girls serve no apprenticeship, but it takes a year or two before they become proficient.

They enter at 14 to 16 years of age, and are tried for a time in different departments before they decide in which to remain. The wages to begin with are 5s. or 6s. a week, and afterwards they vary very much. Some of the different kinds of work may be taken as examples:—

Wrapping caramels—6s. to 7s. a week.

Assisting at the sugar-boiling—11s. to 13s. a week.

Assisting at the pans—12s. to 14s. a week.

Attending to the machines—10s. to 16s. a week.

Packing the sweets and making up the orders—  
usually by piece-work, averaging from 12s.  
to 14s. a week.

The forewomen in the different departments generally receive from 16s. to 18s. weekly, but very often there are foremen and no forewomen. Sometimes the more intelligent girls take shorthand and typewriting at the evening classes, and are afterwards transferred to office work, at wages from 15s. upwards.

### **Jam Making.**

About 25 per cent. of the employees are men, and not more than half of these are skilled workers; 75 per cent. are women and girls. This is pre-eminently a seasonal industry, the slack season being in early spring, and the busy season in the autumn. It is, consequently, usual to associate it with some other form of industry, such as confectionery, pickles, coffee, and so on. The workers regularly employed by a firm can thus be transferred to other work in the slack season. In the busy season, extra women are employed for such work as picking the fruit, and get about 2s. 6d. a day.

The jam-making is done by expert men boilers or by handymen, with the assistance of capable women, and is the part of the work that demands most care.

The women are engaged in filling out the jam and

washing the utensils, and receive about 10s. to 16s. a week.

Girls under 18 who are employed in building the jars, labelling and finishing, and other routine work, receive 6s. a week at starting, and rise to 7s. or 8s. a week.

---

### TAILORS.

	M.	F.		M.	F.
Glasgow,	4,399.	4,745.	Edinburgh and Leith,	2,203 + 225.	917 + 170.
Dundee,	651.	248.	Aberdeen, . . .	865.	243.

### Clothiers and Outfitters.

	M.	F.		M.	F.
Glasgow,	505.	204.	Edinburgh and Leith,	319 + 39.	191 + 21.
Dundee,	65.	9.	Aberdeen, . . .	120.	15.

---

### APPRENTICES.

There is a steady demand for boy apprentices in the high-class tailoring business, and more would be employed but for the trade union limit of 1 apprentice to 15 journeymen. For this work boys must be smart and intelligent, but need not necessarily be very strong physically. Lame boys often become tailors' apprentices.

The term of apprenticeship is four to five years, and may be entered upon at the age of 14 or 15. There is no premium and usually no indenture; in some cases a verbal agreement is made. The working hours are from 50 to 56 a week, and the wages may rise from 3s. weekly in the first year to 7s. to 10s. in the last, or up to 14s. in Glasgow. The apprentices work under a journeyman, and in a good business pass through all the different departments, and thus thoroughly learn the trade.

### JOURNEYMEN.

As soon as apprenticeship term is out, journeyman's pay may be demanded. Most high-class firms still hold



to an agreement formerly recognised by all, according to which a fixed time is allowed for each particular piece of work, and time-wages are paid at that rate. For example, the time allowed for a coat may be 12 hours, and the firm in question may pay 6d. an hour. If the tailor makes the coat in 10 hours, he receives 6s. all the same. Taking an average from the busy and slack seasons, a general wage may be said to be 25s. to 27s. a week, although 40s. a week is quite a usual wage in good seasons.

It is the general custom for a journeyman to specialise in one branch. Coat-making is the best paid branch, trouser-making comes next, and vest-making is the lowest. Vest-making is done very largely by women, who earn for this work 16s. a week. Very expert workers may earn more. There is great need of first-class workers, and the prospects for these are very good; expert cutters are paid from £4 to £6 weekly. Work is slacker in January, February, and August, but earnings during the busy season are high, and a clever workman may count on an average of 30s. to 35s. per week over the year. If a young worker has real ability, he can become a cutter, with a starting wage of 25s. a week, which rises to 40s., and even to 5 or 6 guineas a week in the case of the most expert.

### Salesmen.

#### APPRENTICES.

Shop assistants with tailors and clothiers have an apprenticeship of four years, beginning at 14 or 15 years of age. The starting wage is about 4s. a week, and 7s. 6d. or a little more is given in the last year of training. Employers say there is some difficulty in getting suitable boys for shop assistants. They require to be accurate in mental arithmetic, of good manners, and to be sufficiently artistic to lend some guidance in choice of colours,

in dressing windows, and dealing with the goods. The working hours are about 47 per week.

### TRAINED ASSISTANTS.

The time-wage for a trained assistant immediately after apprenticeship is 16s. a week, and, according to the ability and character of the assistant, the wage is increased to £2 or £3 a week.

Slack seasons do not affect the shop assistants' wages, and a good holiday is usually given without deduction. There are various opportunities of promotion for a man of resource. Some become shirt-cutters, some travellers, and others heads of departments.

### WOMEN.

Women tailors undergo three years' apprenticeship, beginning at 14 or 15 years of age. They receive no wages for the first three months, then 3s. 6d., 6s. 6d., and 7s. 6d. a week, depending on ability. The time-wage for a fully trained girl machinist or sewer is from 10s. to 20s. a week.

---

### TAILORING AND CLOTHING FACTORIES.

The importance of factories in the clothing trade is rapidly increasing, and it is probable that they will offer in the future a field to many workers. The labour is subdivided, and the processes fall into three main classes:—

- (1) Designing and cutting.
- (2) Machining and finishing.
- (3) Ironing and pressing.

(1) The designing and cutting is done by journeymen tailors. Payment is made according to piece-work, and

runs from 7s. in slack seasons to £3 in busy ones—an average of 35s. to 42s. per week. Spring and summer is the busy season, and the late autumn is the slackest time in the trade.

(2) The machining and finishing is almost entirely in the hands of women and girls. The men's trade union places some limitation upon the number of girl machinists who may be employed, but in any large clothing factory one finds from 12 to 20 girls for one tailor. The work is very specialised: for example, one worker may spend her whole time in making buttonholes, and another in sewing on buttons. Newcomers work for three months under the supervision of an experienced girl, who gets the advantage of the learner's work, if there be any. The learner herself gets no pay. When she becomes sufficiently expert, she is put upon piece-work, and will probably earn 7s. or 8s. to begin with; when she is more experienced, this will rise to an average of 15s. or £1 per week, occasionally £1 5s.

(3) The ironing and pressing is very heavy work, and is done by men. Their average wage throughout the year is 37s. per week.

#### TAILOR APPRENTICES.

Few boys are employed in those factories. There are, however, occasional openings for apprentice tailors, and there is often difficulty in getting suitable boys, probably due to the inconstancy of the trade. General smartness and good arithmetic are the qualifications chiefly looked for; there is no indenture and no premium. Apprentices work under the care of a journeyman during a term of four years, and pass from one department of the factory to another. The average wages during training are 6s., 8s., 10s., and 14s.; the hours of work are 50 to 56 per week.

**TANNERS AND SKINNERS.**

Glasgow, 257.

Edinburgh and Leith, 95 + 53.

Dundee, 44.

Aberdeen, . . . 3.

The work consists in cleaning, tanning, and dressing skins, and is at present mostly done by hand. Machinery is being introduced slowly. It is a healthy occupation, with both indoor and outdoor work.

**APPRENTICES.**

Boys are taken at 14 or 15 years of age, and serve an apprenticeship of from five to seven years, during which time wages rise from 4s. 6d. or 5s. to 14s. a week; but in the busy season, the more able apprentices, although paid by time-work, receive increase of wages, and may earn as much as £1. The working hours are 54 to 56 a week, usually from 6 a.m. to 6 p.m., with two meal hours off, and 6 to 1 on Saturdays.

**JOURNEYMEN.**

The time-wage for a journeyman is 6½d. per hour, but wages vary according to ability from 25s. to 30s. a week, or rather more, and a foreman's wage is £2 a week. Summer is a slack season, when time is reduced, and men are sometimes paid off. In some cases, men go to other trades, such as painting, which have their busy seasons in summer.

**UNSKILLED LABOUR.**

Unskilled labourers are also employed, with wages varying from 15s. to 25s. A number of old soldiers take up this trade.

**TELEPHONE ELECTRICIANS, CLERKS, AND OPERATORS.**

For the information upon which this account is based, I am indebted to the National Telephone Company, Limited.

### Electrical Department.

A large staff of skilled electricians is employed in this department. In Glasgow, for example, there are 190 seniors, 20 juniors, and 10 apprentices on the staff.

#### APPRENTICES.

Apprentices are not indentured, but are expected to serve for a term of five years. No premium is asked from lads taken into the company's service when between 15 and 16 years of age. Youths may be taken at various stages, but if they are much over 16 they are not accepted as apprentices.

They start with a small pay of 4s. per week, and an increase is given each year, until during the fifth year they have 12s. They pass through all the departments during their period of service. At least six months are spent in each of the following departments:—(a) mechanic shop, (b) instrument room, (c) switch room, (d) drawing office, (e) commercial or district office; and one year is spent in *outside* practical work, and another year in *inside* practical work. The outside practical work consists in running the outside wires and cables, and attending to the poles and standards. The inside work is the fitting up of instruments in subscribers' houses, and connecting the wires.

These apprentices, with their all-round experience, are expected afterwards to fill responsible positions in any department of the company's service as required. The wage given immediately after apprenticeship is 20s. to 25s. per week.

#### JUNIORS.

The juniors are essentially learners who are gaining experience in various classes of electricity work, and do not serve any definite period, being paid according to their usefulness, at an average wage of 14s. per week,

working an eight-hours day. As a rule, 95 per cent. of the lads who enter the service remain in it.

All the electrical staff are encouraged to attend evening classes, either at board schools or at a technical college, and the company pay the fees of those who attend technical classes. There is, as a rule, a large number of men in attendance at such classes.

The proportion of seniors to juniors is kept much the same from year to year.

The company have occasionally a difficulty in getting lads who have had a sufficient grounding in mathematics for the electrical department, although they say this deficiency is becoming less marked. Hitherto, very few lads have followed any special line of study at school with a view to entering the company's employment; but as the development in telephones is now both large and rapid, it might perhaps be taken under consideration in certain of the higher grade day schools under the board, or in the day classes of technical colleges, whether the ordinary course in mathematics, physics, and chemistry might include definite points in relation to telephony in rather more detail.

Up to the present, the company has found it necessary to supplement the teaching of either day or evening classes by a system of correspondence classes conducted from their own head office. From September to May, a course of lectures, issued in printed form, is circulated among the apprentices and juniors. Each lecture is accompanied by a series of questions, and these have to be answered and sent to the head office.

The courses of instruction are carefully graded to suit the successive years in the period of apprenticeship, and during the first two years special work has to be done on a similar plan in arithmetic and mathematics.

#### SENIORS.

The proportion of seniors to juniors is kept much the



same from year to year. The wages of experienced workmen run up to about 35s. a week. Those who show capacity have good prospects, as inspectors and all heads of departments are well paid.

Employment with the company is very steady at all times, the busiest time being, as a rule, in May and June.

### **Clerical Department.**

#### **LEARNERS.**

Boys entering this department are not apprenticed, but it is a rule to let it be honourably understood that at the time of accepting the vacancy, the boy has no prospect of ever going away to any other employment, and that only a very grave change of circumstances will be sufficient to cause him to resign his position. The age for beginners is about 15, and the hours are 9 a.m. to 6 p.m., with an hour off for dinner.

Boys are chosen principally by an educational test, in which arithmetic is given a chief place. No boy is considered unless he has a minimum two years' higher grade education; first-rate arithmetic and a knowledge of book-keeping are always looked for, and shorthand writing is an advantage.

Boys are, as a rule, started at 5s. weekly, and their advances are made entirely on merit, and are difficult to place a figure upon. It may be safely said that a lad who does well can command increments to the value of 3s. per week each year until he reaches over 20s. per week.

#### **JUNIORS.**

The boys are first of all employed as messengers, a large portion of their time being occupied out of doors, delivering letters, etc. After a period thus spent, the boy will be transferred as junior clerk into one of the several departments into which the clerical work is

divided, and a point is made of shifting the lad from one department to another until he has been round the whole circle. Six months is looked upon as a reasonable time to spend in each of these departments, and the whole circle can be completed at that rate in about four years. Every encouragement is given to clerks to attend evening classes and extend their capabilities.

#### CLERKS.

After reaching the end of the course outlined, the lad should have a very good knowledge of the work, and ought then to be capable of taking an ordinary clerk's post. His progress thereafter depends almost entirely upon himself. Every time a clerk is promoted to a fresh position, involving a little additional responsibility, his salary is specially considered.

#### **Traffic (Operating) Department—Women.**

*Requirements.*—Generally speaking, the requirements of a prospective operator are intelligence, good education, refinement, truthfulness, and politeness. Applicants for the position of operator in the National Telephone Company must be about 5 feet 3 inches in height (without shoes), and not exceeding 17 years of age. They have to pass an educational examination equal to the 5th standard requirements in reading, copying, dictation, and arithmetic. Usually the girls who apply have attended higher grade or secondary schools. They must be of healthy and robust constitution, and must pass the company's medical officer before being accepted; eyesight and hearing are specially tested.

*Nominees* have to attend a training class under the chief operator, and this generally lasts from six to eight weeks. It takes about three months for a new hand to become expert.

Each operator sits at a table with a telephone fitted

to her head, and has charge of about two hundred subscribers' wires. When a subscriber rings, she answers, and then places the end of the caller's wire into a vacancy in the table in front corresponding to the number required. By a more recent method, a light is shown at the caller's number when the button is pressed, and this is not so confusing to the learner as the former way, when more than one subscriber could speak at once.

This occupation requires intelligence, good memory, smartness, patience, and attention, as much inconvenience is caused when there is delay or negligence on the part of the operators. There is no doubt that the work entails a certain strain on the nervous system; but the hours are not long, and a comfortable meal is provided on the premises at a moderate charge. As far as the work is concerned, it is of no benefit to the girls in after-life. Operators are required to resign their appointments on marriage.

#### HALF-TIME AND FULL-TIME OPERATORS.

Half-time operators work 24 hours per week, and the commencing salary is 3s. 6d. per week. Their age is 15 and over. Such operators are generally drafted later into the ranks of full-timers.

Full-time operators are 16 years of age or more, and they work 45 hours per week. They are divided into two classes—junior and senior. The work is arranged in three shifts of eight hours each, an interval for a meal being allowed within the eight-hours shift. Work on Sunday is paid at double rate. A fortnight's holiday is given annually.

#### JUNIOR AND SENIOR OPERATORS.

*Junior operators* have a commencing salary of 6s. per week, increased in six months to 8s., thereafter by

half-yearly increments to 12s., or in some towns 13s. per week, which is the limit for a junior operator.

*Senior operators* are recruited from the ranks of juniors, and their scale of pay is from 14s. per week, increasing by yearly increments of 1s. per week to 19s. per week.

Clerks-in-charge, chief operators, and supervisors are recruited from the ranks of the senior operators, their wages varying according to the length of service and responsibility of position. All increments to salary are dependent on approved service. Supervisors may get 25s. to £2 per week, and a chief operator might rise to 50s.

Boys are seldom employed as operators, but men are sometimes employed on the night shift at the exchange.

The regulations for the situation of female telephone operator in provincial post offices are different. Application has to be made to the local postmaster, as nominations are made from his list. Candidates have to be at least 5 feet in height (without boots), to be between 17 and 19 years of age, to pass a simple examination (for which a fee of 1s. is charged), and their speech must be free from pronounced local dialect.

The scale of pay for post office telephone operators is as follows:—

*Unestablished service.*—

First year . . . . . 10s. a week.

Second year . . . . . 12s. a week.

*Established service.*—

Third year . . . . . 15s. a week.

Fourth year . . . . . 16s. a week.

Fifth year . . . . . 18s. a week.

After five years' service it rises by yearly increments to a maximum of 20s., 22s., or 24s., according to the importance of the office.

An efficiency test is required before wages in excess of 18s. a week are allowed.

---

## TEA BLENDERS AND TASTERS.

London is the chief centre of the tea-dealing business, and in Scotland practically no boys are taught tea-tasting. In most firms, this work is done entirely by the heads of firms; although in some Italian warehouses, a boy may occasionally taste tea, he cannot hope to acquire any skill.

*Tea-brokers* in London are similar to stockbrokers in other centres. In the tea market, only a fully qualified tea-broker may buy; just as in a stock market, only a fully qualified stock dealer may buy.

### APPRENTICES.

Apprentices are taken in the tea-broker's office. Some of these apprentices do purely office work and book-keeping, and are paid at the usual rates of office apprentices in other trades. There are also apprentices who have to handle the tea itself, taste it, put it up in complete packets for the broker's clients, and attend the stock market. These apprentices get some practice in tasting. It is only at such work that a man may become a skilled taster. Formerly, very large premiums were paid by such apprentices; now, in a few firms, a premium is asked. Sometimes boys work for no wages, or sometimes wages are paid.

### ASSISTANTS.

After four years' training, the wages as assistant may begin at £75 or £100, and the chance of promotion depends on general business capacity. As a traveller

or buyer for a large firm, salaries of £150 to £400, or even more, may be earned by the select few.

### TINSMITHS AND DIE-MAKERS.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Tinplate Manufacture,	59	...	1	...
	Tinplate Goods Makers,	1,537	521 + 76	138	386
Female :	Tinplate Goods Makers,	19	48 + ...	24	11

The tinware industry employs a number of workers in Scotland, but only 20 to 25 per cent. of these are skilled workmen. Some of the skilled men in factories are tinsmiths, but for the most part these men have received their training with tinsmiths, copper-smiths, and ironmongers. Die-making is quite a separate branch, and is ordinarily learnt in the tinware factories. The work offers no difficulty, and can be done by ordinarily robust lads.

#### APPRENTICE TINSMITHS.

It is expected that a boy who is to apprentice himself as a tinsmith shall have passed the highest standard at a public elementary school, and shall continue school work at evening classes during his apprenticeship.

Boys enter apprenticeship at 15 or 16 years of age, and continue five or six years under training. The wages begin at 4s. a week, and increase by 1s. a week in each successive year, generally by 2s. in the last year or two years of training. In Glasgow, the wages may run 5s., 6s., 8s., 10s., 12s. a week for a series of five years. The usual hours of work are 51 per week, but more are worked in some shops. During the first year a boy helps in the workshop generally, carrying goods and helping the men; then he is allowed to do simple work



at a bench. His further training generally includes both tinsmith and gasfitting work, and there are good prospects in gasworks for well-trained lads. Many become meter-makers and meter-measurers.

A large proportion of tinsmiths are engaged as experts in the tinware factories.

#### JOURNEYMEN.

The wage for a tinsmith immediately on the expiry of his apprenticeship is about 22s. a week for the first six months, and after that the journeyman's wage of 27s. to 30s. a week is expected. In Glasgow, the trade union wage is as high as 34s. per week. By time-work the average wage is 6d. to 7½d. an hour in the North, and 7½d. to 8d. in the South. It is customary for journeymen to move about from shop to shop and from town to town to get experience. There are quite good prospects in the South for capable workers as foremen, along various special lines in the trade.

#### UNEMPLOYMENT.

The trade is slack in autumn, and employers have frequently to pay off a proportion of their men.

#### APPRENTICE DIE-MAKERS.

*Die-makers'* apprentices have a five years' period of training, with wages beginning at 4s. a week, and increasing 1s. a week each year. They must have a good education, and attend drawing classes and technical subjects, engineering, mathematics, geometry. There is no premium and no indenture in Scotland, but in England apprentices who wish to be taught die-making have to pay a premium.

#### JOURNEYMEN.

*Die-makers*, when finished with apprenticeship, usually get from 25s. a week upward; head die-makers get 44s.

a week in Dundee, and in Glasgow as much as 50s. to 60s. per week may be given. In the large factories in England, they get from £3 to £4 weekly.

---

## TINWARE MAKING.

### Tinware Factory Workers.

#### FACTORY WORK.

The manufacture of tinplate goods by machinery sprang up as an English trade, and has developed rapidly since tin cases and boxes have in so many industries been replacing cardboard boxes. Now the plain tin with labels are giving place to those decorated in colours, which are very tasteful, and keep longer fresh than the paper labels. This trade could be recommended to boys, as they have a choice of different branches, and, according to their opportunities, can either be trained as *die-makers* (a highly skilled trade) or as *tinsmiths*, with prospects of steady work. Without preliminary training they can earn good wages at the machines. In fact, the best "unskilled" workers can often take the place of skilled men, and sometimes a labourer or handyman working at a machine may earn as much as a tinsmith who has learned his trade.

Each factory specialises in a certain line. In Dundee, for example, special goods like tin canisters, paint-kegs, and oil-drums, tin boxes for coffee, tobacco, etc., are made in one factory; spinning-frame oilers and sliver-cans for the textile factories, and milk-flasks in another; domestic and ship articles in others. The processes in a tin canister factory are:—Folding and grooving by machinery, hooping, stamping tops and bottoms, riveting handles, driving in ends, dipping tops and bottoms, necking, and vacuum testing. Labourers attend to the folding and grooving machines, tinsmiths

do the hooping, girls attend the stamping machines, boys rivet handles, tinsmiths drive in the ends, labourers dip the tops and bottoms, girls do the necking, and men test the articles.

Lads are taken at 14 years of age into the factories for various kinds of hand labour. They clean and fit together the parts of cans and boxes, and do the finer finishings by hand. Most of these lads leave in a year or two. Others with more intention of remaining at factory work are taught different kinds of work at the machines. They soon earn 8s. to 10s. per week. Most of the skilled tinsmiths in factories have learned their trade in ironmongery workshops before joining the factory, and sometimes intelligent lads are allowed to go through a few years' apprenticeship under them in the factory. On piece-work the skilled tinsmiths in factories earn from 28s. to 38s. a week.

*Labourers* are also paid by piece-work, and earn about 18s. to 20s. a week. *Testers* are paid 20s. a week as a time-wage.

Factory work is steady; the busy seasons are spring and Christmas time, and in the seasons when fewer orders come in, stock is constantly being made up. The months of July and August are the duller in the trade, and a certain number of employees may at a time be paid-off for a few weeks or a couple of months.

## GIRLS.

Girls are employed to tend both hand and power machines, and very little training is required. Girls are taken at 14 or 15 years of age, and if they are dependable they may, at 16 years of age, be given a machine to work, such as cutting forms of tin and making up the simpler kinds of work. They can earn full wages at some of the machines after two or three weeks' training. They get about 8s. a week to begin

with, and are put on piece-work when they get a machine under their charge. All piece-work is paid per gross, and the exact wage depends on the size of the tin. An average piece-work wage is 1s. 1d. per gross. Payment by time differs according to the kind of machine-work. The average wages for fully trained workers are:—

For putting on tops and bottoms and double-seaming, 12s. a week.

For stamping, 15s. a week.

For folding and grooving, 21s. a week.

For labelling and packing, 12s. a week.

The factory hours are 8 to 12.30 and 1.30 to 6; on Saturdays 8 to 1. The part of the factory work that proves least pleasant for the girls is the soldering. They have to use spirit to make solder run, and it is apt to be a little dirty. But if they become expert at this branch they sometimes earn 25s. a week, and it is not heavy work.

### Pipe Top Factory.

This is very light work, where a few boys from 14 to 17 years of age find temporary employment, at an average wage of 5s. to 8s. a week. With small machines they cut out the tin and form it into tops. The working hours are 56 a week.

---

### TOOL MAKERS.

		Edinburgh and		Dundee.	Aberdeen.
		Glasgow.	Leith.		
Male :	Tool, File, and Saw				
	Makers, . . .	609	26 + 13	15	47
Female :	Tool, File, and Saw				
	Makers, . . .	10	1	...	...

The making of wooden tools for the use of joiners, cabinetmakers, and coopers, although always a limited

industry, used to be fairly well represented in each locality. The tools were made by hand, and intended for use by hand, and, some twenty or thirty years ago, a number of small workshops existed for the supply of local needs. Apprentices used to serve a period of seven years, and counted their trade sure and steady. The decline of the small workshop was inevitable as the various tools came to be adapted for use by machinery, and more expensive appliances were required for the making of the machine-tools than could be afforded in small workshops.

To take an example, the cabinetmakers used to make the mouldings for walls and furniture by hand, and the planes they required for this purpose were made in considerable number by the local tool-makers. Now machine moulding-planes are used in all the larger cabinetmaking workshops, and these can turn out more mouldings in a day than a workman could formerly have done by hand in a week. In this way, the demand for hand-made tools is being reduced every year, and as the small tool-makers die out, their workshops are seldom continued.

The census number given above for Aberdeen in 1901 would now be an over-statement. During the last ten years, the Scottish trade has centred more and more in Glasgow, in one or two large factories, where tools are made both by hand and machinery, and in all grades and sizes. The smaller makers throughout Scotland buy the steels, plane-irons, nuts, screws, etc., either from Glasgow or some English centre, mostly Sheffield, and fit them into hand-made wooden tools. The most common of these tools are coopers' tools—*e.g.*, "cheves," for cleaning and smoothing the inside of barrels; "crozes," for cutting out the grooves where the tops and bottoms of the barrels are fitted; "flenches," for smoothing the top bevelled edge; and "pluckers," for finishing

the outside surfaces of barrels. For joiners, all types of planes are prepared—the “jack-planes” for rough work, and the “trying-planes” and “hand-planes” for finishing work. The iron tools—hammers, chisels, augers and auger-bits, brasses, and others that only require turned handles—are made in the large factories in Glasgow and the English centres.

A rather interesting point is the superiority conceded to the American handles, on account of the greater hardness of the wood. Beechwood is chiefly used for our own home handles, but is not so strong as the hickory and ashwood used for the American handles. An American handle for a mason's hammer, for example, will sell for 11d., and the handle made of home-grown wood sells for 4d.

#### APPRENTICES.

The term of apprenticeship for hand-made tools is now six years, beginning as soon as a lad leaves school. The wage on starting is 5s. or 6s. a week, and rises by about 2s. each year. In the last year or two of training, an apprentice is paid by piece-work, at two-thirds the journeyman's piece rates, and a good lad can easily make 17s. or 18s. a week. The working hours are from 6 a.m. to 6 p.m., with two meal hours off, and a short day on Saturday.

#### JOURNEYMEN.

The journeyman is paid full piece rates immediately after training, and the minimum earnings might be about 27s. or 28s. a week. Usually, very good wages can be made by active men. In the smaller towns, when trade is dull at tool-making, a journeyman can often find employment as a machineman or handyman in some of the engineering or machine-tool works or in large factories.



### Machine-Tool Making.

The machine-tool trade in Glasgow, while it merges into engineering and foundry work, is much more highly specialised in the types of labour it presents. Nearly all the wages are on piece rates, and the tendency is for each man to become very expert in one limited line of production. One employer writes:—"Whereas many years ago a fairly smart man would be able to turn out a finished auger completely by himself, except, perhaps, the forging, now an auger passes through a number of hands, and very few men can do more than one special part of it. This, of course, enables the work to be produced much more quickly and cheaply, but it tends to render the worker, in a sense, unskilled, and very dependent on the fluctuation of that kind of work."

#### APPRENTICES AND BOY LABOURERS.

Much of the work can be done after a comparatively short training, and is in the hands of boy labourers, who come at 14 years of age or more, and are given 5s. or 6s. a week. They help in the forge, store, and other departments (see p. 243).

There are seldom any apprentices in the *grinding* and *polishing* departments; *finishers* serve a three years' apprenticeship, and *plane-makers* a five years' apprenticeship, beginning at 16 years of age. The wages of an apprentice, either in the finishing or plane-making department, are paid during the first half of his time by the man under whom he works, and range from 5s. to 10s. a week. In the latter half of the apprenticeship period, the apprentice is put on piece-work, and is paid by the employer, receiving two-thirds the prices of the men.

The working hours are from 6 a.m. to 5.30 p.m., with two meal hours off, and a short day on Saturday.

## JOURNEYMEN.

The exception to the payment on piece-work is in the store department, where a certain number of the best workmen—called “improvers”—are selected to do the finest finishing work, and receive a time wage; the store-keepers or “importers” are also on set pay. Average payments on piece or time rates run from 33s.

## WIRE WEAVERS AND DRAWERS.

	M.	F.		M.	F.
Glasgow, 484.	114.		Edinburgh and Leith, 94+111.	18+13.	
Dundee, 21.	...		Aberdeen, . . .	11.	...

While Glasgow is the chief wire-weaving centre, and competes with Belfast in this industry, the demand for wire is so great and its uses so diverse, that workshops are to be found in almost all local centres of trade and industry. The main departments of work and subdivision of labour in the large Glasgow firms may be roughly indicated:—

- (a) Wire-drawing—mostly women and girls, a few men.
- (b) Winding and sewing—women and girls.
- (c) Narrow power-loom weaving—women and girls (under foremen).
- (d) Broad hand-loom weaving—men and boys.
- (e) Machine-room and store—men and boys.

The work in the *broad hand-loom weaving* department is very heavy, and many lads try it for a few months, but give it up. The apprenticeship is so long that it means a fairly heavy strain upon a lad's patience and endurance to carry it through successfully; but for strongly built, steady lads there is in this trade a sure prospect of constant and well-paid journeyman's labour.

During the last twenty years, one firm after another has introduced *narrow power-loom weaving* in addition to the hand-loom weaving, and women have at once been given the work at the power-looms. The increase in the trade consumption of wire has not hitherto made it possible for the hand-looms to satisfy the demand; and employers find so much difficulty in securing a sufficient number of apprentices and learners at the hand-looms, that they are at present considering how they may best modify the hand-loom by the introduction of power in some part of the machinery. At present three workers are required on a hand-loom—a weaver and two helpers, either an older apprentice and a boy, or a labourer and a boy. The Benchers' Union, which came into power in Glasgow about seven years ago, has rather curtailed the use of boy labour.

#### BOY LABOURERS.

*Pullers-up.*—Boys of 14 to 16 work at pulling the beam of the loom after the shuttle has gone through it. It is the purest labouring work, both heavy and monotonous; few remain more than six months, unless they have the intention of becoming apprentices when openings occur. The time spent at pulling-up does not count in the term of apprenticeship. The wages given are 7s. to start with, and the increase never exceeds 1s. Any pullers-up who are over 18 years of age may work on night shift, and get 12s. to 14s. a week. It is said that many of the pullers-up, when they leave, go to Singer's machine work, others become general labourers, seamen, etc.

#### APPRENTICES.

The apprenticeship is for seven years, and does not begin until a lad is 16 or 17 years of age, as the work is heavy. The starting wage is 8s. a week, and it

increases to 14s. or 16s. the last year; during the last two years of training the apprentice may in some firms be on piece-work, and earning 19s. to 25s. a week, or may receive a bonus, in proportion to piece-workers' wages, not exceeding 2s. 6d. per week—generally 1s. 6d. per week. The working hours are usually 55 per week—from 6 to 6, with two breaks. One or two firms allow a short rest to all operatives in the weaving-shop after each hour and a half of work. A few firms work 48 hours per week, exclusive of rest and meal hours.

Many of the apprentices stay on and serve their time, but a fair number leave for easier work, such as Singers'. The wages given to apprentices are very much higher than they used to be: some twenty-five years ago, the seven years began at 2s. 1d. a week. Apprentices at first do general work and messages in the shop, running the material from place to place in cars, and so on. Then they work with a man for two or three years, afterwards independently at benching work, making up the heavier kinds of wire goods, or possibly on piece-work in some particular department.

The employers say it frequently happens that either the apprentice is inattentive and slow, or the man with whom he works does not take the trouble to teach him properly, and then at the end the apprentice is inefficient, and the employer, in his own interest, cannot afford to retain him at full journeyman's wage.

#### JOURNEYMEN.

Sometimes, owing to the lack of apprentices, a man when through his apprenticeship may still have to be employed in the position of an apprentice, but he has to be paid at the union rate of wages, which in Glasgow is 34s. or 35s. On piece-work a capable journeyman may make from 42s. to 50s. a week. A fair number of men over 50 years of age are employed in the weaving

department. Overtime work is often required, and extra pay allowed.

#### UNSKILLED LABOURERS.

The full-grown labourer assisting at a loom along with a weaver and puller-up receives about 18s. a week.

#### WOMEN AND GIRLS.

Girls are taken at 14 years of age or older in the drawing, winding and sewing, and power-loom weaving departments. A few weeks suffice for training any intelligent girl how to attend the wire machines in the drawing and winding departments, and they then receive an average wage of 8s. to 10s. a week. The work is light, but thought to be rather unpleasant. In the weaving department, three or four months of training are required, and the wages are then given by piece-work. The range of wages is from 10s. to 15s. a week, but a few experienced hands can occasionally make 18s. to 20s. a week.

# PART III.

## PROFESSIONAL CALLINGS.

The number of young men and women preparing themselves for a professional career by attendance at the four Scottish Universities is shown in the following Table of Statistics for Session 1906-7.

### SESSION 1906-7.

	Glasgow.	Edinburgh.	Aberdeen.	St. Andrews and Dundee.		Total at the Four Universities.
				St. Andrews. Dundee.		
<b>MEN—</b>						
Arts, . . .	696	620	267	152	11	
Science, . . .	276	275	69	20	29	
Theology, . . .	56	63	16	19	...	
Medicine, . . .	632	1,423	292	6	49	
Law, . . .	203	301	23	...	16	
Music, . . .	...	6	...	...	...	
		(not recorded).				
In Two Faculties, Single Class Enrolments,	16 39	...	17 ...	14 ...	3 ...	
Men, . . .	1,918	2,688	684	184	108	= 5,582
<b>WOMEN—</b>						
Arts, . . .	512	507	190	108	64	
Science, . . .	9	15	8	5	8	
Medicine, . . .	58	55	6	6	14	
Law, . . .	...	2	...	...	...	
Music, . . .	...	11	...	...	...	
In Two Faculties, Single Class Enrolments,	...	...	2	2	4	
				1		
	7	...	..	(Theology).	...	
Women, . . .	586	590	206	122	89	= 1,593
Men & Women, Total	2,504	3,278*	890	306	197	= 7,175

\* There were, in addition, 56 men and 39 women in attendance at Edinburgh as non-matriculated students, and 55 extra-academical women students of medicine.



## ACCOUNTANTS.

Glasgow, 407.

Edinburgh and Leith, 451 + 20.

Dundee, 30.

Aberdeen, . . . 75.

The work of an accountant is checking the accuracy of business books and accounts, and criticising methods of book-keeping; he also administers bankrupt estates, judicial factories, and does secretarial work. To command success, a man ought to have the business faculty and the algebraic faculty, and untiring accuracy in detail.

A chartered accountant must serve an apprenticeship of five years (four if he has a British university degree) with a member of any of the three societies of accountants in Scotland. He cannot begin his apprenticeship before he is 17 years of age. A temporary trial of an applicant is usually arranged, and a preliminary examination must be passed prior to indenture being entered upon. A premium may or may not be required. In Edinburgh, the apprentice premium is a hundred guineas, but this is generally repaid as salary in the course of apprenticeship. Where no premium is asked, the scale of salary rises from £5 in the first year to about £30 in the last year of apprenticeship. The hours are generally 9.30 to 5.30, and 9.30 to 1.30 on Saturdays; a holiday of a fortnight or a month is given.

Office training is carried on under the supervision of seniors, and during apprenticeship certain prescribed classes must be taken, the fees for which amount to about £16 16s. for examination, and the other fees amount to a further £5 5s. Besides compulsory classes, it is advisable that certain extra classes should be taken, but the further outlay in fees should not be more than £10 10s.

There are three examinations:—

- (1) The *preliminary*, which must be taken before beginning the apprenticeship, or within six

months thereafter. The subjects are (a) English, (b) arithmetic, (c) algebra, (d) Latin, French, or German, and any two of the following—British history, geography, geometry, and shorthand. The standard of the examination is that of the Intermediate Certificate of the Scotch Education Department, which exempts from it.

- (2) The *intermediate* examination must be passed during the last three years of apprenticeship. The subjects are arithmetic, mathematics, book-keeping, framing of accounts, and correspondence.
- (3) The *final* examination must be taken after the apprenticeship. The subjects are the law of Scotland, actuarial science, political economy, and the general business of an accountant.

After completing the apprenticeship and passing the examinations, a man may become a member of the particular society of which his master is a member. The entrance fee for the Society of Accountants in Edinburgh is £105, and £5 5s. a year must be paid to the annuity fund of the society. It is necessary to join the society within three years after passing the final examination, except in special circumstances.

This training is useful for any business. If a man remains a clerk, he will not get more than £70 to £200. He may, however, be appointed book-keeper in a large firm or secretary of a company, and in these positions salaries run up to many hundreds. In the Colonies there is a great demand for chartered accountants, either starting for themselves or as clerks.

---

### ARCHITECTS.

Glasgow, 304.

Dundee, 60.

Edinburgh and Leith, 338 + 33.

Aberdeen, . . . 99.

In proportion to its population, Edinburgh has a remarkably large number of architects, the total number employed in this profession being greater in Edinburgh than in Glasgow.

#### APPRENTICES.

Boys are not advised to enter this profession unless they have more than ordinary business capacity and artistic taste. To get on as an architect, a boy must have a good general education, and ought to qualify himself specially in mathematics, drawing, and languages. Some knowledge in Latin and Greek helps to a fuller understanding of the terms, and French and Italian are much recommended for those who wish to study foreign architecture. Boys are not wanted until they are 16 or 17, and it is desirable that they should spend a year or two in getting up the subjects mentioned before beginning training. They may, however, begin at 15 or 16 years of age, and the apprenticeship term, as a rule, is either for four or five years. In many of the Glasgow firms apprenticeship is from five to seven years in length.

The Institute of Architects limits the number of apprentices to one for each paid assistant, and this regulation is adopted by all the firms within the institute. There may or may not be an indenture, but boys are usually taken for two or three months' trial before being accepted by a firm, and they must show good school certificates, especially in drawing. Wages are seldom given in Edinburgh during apprenticeship, unless a premium (which is, on an average, £100) has been paid; in this case, the premium is returned in yearly instalments. There is great diversity in the matter of wages during apprenticeship; some firms give a Christmas box ranging from £5 to £25; others give nothing the first year, and small sums of £5 to £15 in the following years.

The hours of office work are 9 a.m. to 5 p.m.;

Saturdays, 9 to 2; and from 20 minutes to an hour is allowed daily for lunch. In winter, time is generally curtailed by three-quarters of an hour in the afternoon. Holidays vary with the different firms. They are usually given in the late autumn, when business begins to be slack, and are from 14 to 16 days. The general holidays are given, and sometimes a Saturday is allowed off for sketching purposes.

#### TRAINED ASSISTANTS.

Each paid assistant in an office is expected to give theoretical instruction to an apprentice, and training in practical work. It is, in addition, often made compulsory for architects to attend the special courses arranged conjointly by the art schools and technical colleges. The subjects required are surveying, building construction, and sometimes geology. In order to qualify as an associate of the Royal Institute of Architects, three examinations have to be passed—the first in general knowledge, and the second and third in professional subjects.

After the apprenticeship period, when a young man is about 21 years of age, he is usually advised to go to some other town and widen his general skill and knowledge before settling to the rather limited career in most offices. As a *draughtsman*, he may be given at first £1 a week or more, according to his capabilities. As an *improver* or junior assistant, the salary starts at about £50, and rises to £75; the salary of a senior assistant rises to £120, but more is paid if the senior assistant is also manager.

Unless a man has outstanding ability, he may remain a senior assistant, but there is plenty of demand for capable men in the profession, and plenty of scope for any man to make his way to high posts and salaries.

In London, where payments are much higher than

in Scottish offices, senior assistants may receive as much as £400 or £500 salary. At present, a large number of young architects are emigrating, especially to Canada, where the rapid growth of towns and spread of population are affording exceptional and varied opportunities for architectural work.

Architecture in the home country is, relatively speaking, more specialised. Different men, and often different firms, develop one chief line of work—*e.g.*, churches, public buildings, domestic or commercial architecture, etc.

#### CLERK OF WORKS.

Men who have served an apprenticeship at a manual trade, such as joiners, and afterwards have some training in an architect's office, frequently secure very good appointments as clerks of works. They are employed outside, in superintending the actual construction of buildings.

---

#### ARMY COMMISSIONS.

In determining the requirements for entrance into the Military Colleges of Woolwich or Sandhurst, the Army Council take into consideration both the educational standard and physical development. The age limit for the competitive examination is between 18 and  $19\frac{1}{2}$  years, and those who are highest on the lists, and are thus eligible in point of educational standard for entrance to the colleges, have also to satisfy a searching medical examination. A boy who wishes to enter the Army usually keeps the competitive examination in view during his school life from the time he is 15 or 16 years of age, hence it is very advisable that he should early consider the likelihood of his proving physically fit. At 16, a boy who hopes to pass into Woolwich or

Sandhurst should be not less than 5 ft. 4 ins. in height, and the measurement across his chest when fully expanded should be 34 ins. At 18 years of age, his height should be not less than 5 ft. 5 ins., and his chest measurement 35 ins., fully expanded. A little special training helps a boy to arrive at the required standard. The teeth have to be carefully tended, as the loss or decay of ten teeth disqualifies a candidate; an impediment in speech also disqualifies.

A boy is eligible for the Woolwich and Sandhurst examinations (1) if he has attended a continuous course of instruction in a properly inspected school for three years, and obtained the Leaving Certificate; (2) if he has passed the special "qualifying" examination for admission. Neither the Leaving Certificate nor Qualifying Certificate can be obtained before 17 years of age. Excellence in the subjects of an ordinary school course paves the way naturally for the Competitive Army Examination.

The compulsory subjects common to the candidates for Woolwich and Sandhurst are English, and either French or German, and any two of the following subjects: (a) Science, (b) History, (c) German or French, (d) Latin or Greek. In the case of Woolwich, a fairly comprehensive knowledge of mathematics is also compulsory, and a more advanced examination in mathematics may be taken as an optional subject. The reason for this is because the subsequent training in Woolwich assumes a thorough groundwork in mathematics. The cadets from Woolwich pass into the Royal Engineers and Royal Artillery; those from Sandhurst into the cavalry, infantry, and West Indian regiments.

Parents may calculate the cost of the cadet's outfit and the two years' course at Woolwich or Sandhurst at from £400 to £500. For boys whose fathers have been officers, the cost is very small in proportion. The



printed "Regulations" for the Woolwich and Sandhurst examinations may be obtained from Wyman & Sons, Fetter Lane, E.C., post free for 1½d.

*University candidates*, between the ages of 20 and 25, may be nominated for Army commissions by special nomination boards; they must have graduated, and have obtained a certificate of military instruction during twelve weeks.

Candidates for commissions in the *Militia* and *Yeomanry* must have obtained the Leaving Certificate of the schools or the Qualifying Certificate. They must be over twenty years of age, and have to pass a competitive examination in military subjects. Those who wish to enter the Royal Artillery must attain the same standard in mathematics that is required for entrance to the Woolwich Military College.

It is well known that in many regiments the officer's pay is not expected to cover his expenses; still, this matter is receiving very careful attention, and there is a distinct effort to moderate the tendency to extravagance, and enable a man of modest means to take his rank with the best in the Army. The pay of a second lieutenant is from £96 a year upward, according to the branch of the service; and that of a lieutenant, from £119 upward. All particulars may be read in the "Pay Warrant" (Wyman & Sons, Fetter Lane, London, E.C.; price, 1s.).

Young men who wish to enter either the Army or the Indian Medical Service must hold a diploma for the practice of surgery and medicine, and are required, in addition, to pass a special entrance examination for the service they select. If they pass, they receive a commission, and have to attend further courses at the Service Colleges.

**BANKERS.**

Glasgow, 668.

Edinburgh and Leith, 700 + 60.

Dundee, 70.

Aberdeen, . . . 183.

Edinburgh, as indicated by the census numbers, is the principal banking centre of Scotland. A boy may begin his apprenticeship at 15 or 16. He requires to be a good writer and arithmetician, must have a good appearance and manner, and be generally smart; a medical certificate of good health is required. The apprenticeship extends for three years, and the salary is £10, £20, and £30 in the larger towns, and £10, £15, and £20 in the smaller towns. The hours of work are 9.30 to 4.30 on week-days, and 9.30 to 2 on Saturdays. A fortnight's holiday is given to apprentices, and three weeks or a month after apprenticeship.

It is not the practice of the Scottish banks to advertise for applicants. Applicants should give their names to the agent of any of the banks in the town where they reside, and this ought to be done a year or six months before they purpose leaving school.

As apprentices in the smaller offices have more opportunity of learning the details of book-keeping and accounting, it is probably advantageous to begin in the smaller offices, and look forward to transference to a larger office after the expiry of apprenticeship.

To begin with, the learner does the work of an office-boy, and attends to the addressing, stamping, and posting of letters; then he is taught the simpler book-keeping, and assists in making up the weekly report which is sent from all branches to the head office.

A youth who wishes to get on must go through the Bankers' Institute examinations. Some banks make these compulsory, and give a bonus of £5 to every apprentice who passes as an associate, and £10 to those who pass as members, provided both examinations are passed in two consecutive years.

After apprenticeship, the next grade is that of clerk, at a slightly increased salary; then, when a vacancy occurs in his own or another branch, a clerk may be promoted to the position of "teller." A teller pays out the sums that are drawn, and at this stage accuracy and quickness in counting out money are very necessary. As a rule a clerk's salary does not rise over £100, but the older men in leading offices may earn up to £150 per annum. A teller's salary may begin at £50 and rise to £150, according to his experience and the importance of the branch in which he is: this last figure is only reached in most towns after long service. In Edinburgh, the tellers in large offices receive £200 to £300 salary.

The next step upwards in the career is that of "accountant," and it is here that the actual interest of banking begins: up to this stage the work is merely clerking. The accountant is next to the agent, and must act for him during absence. An accountant who shows himself capable and responsible has a very good chance of becoming agent at a branch office.

The salary of the "agent" may be anything from £150 upwards, and there are at the head offices of all banks a few highly paid officials. All officials in head offices have larger salaries than those in the branches, and in the "inspector's" department the work is very interesting.

The present number of bank agents in Scotland was noted lately by the chairman at a meeting of the Institute of Bankers, June 4, 1907:—"There are not more than five or six thousand bank officials in Scotland, including apprentices, who probably number about a fifth of the whole. There are nearly twelve hundred branch banks in the country, and each must have an agent," etc. This shows that in the banking profession a considerable proportion of the total number employed will ultimately earn a fairly good income.

Many young men select a career abroad, as there is a demand both in India and China for men trained in Scottish banks. The posts abroad are more highly paid, and the standing is higher than at home.

Altogether, the prospects in banking are good but not brilliant, except for particularly capable men. In the case of clerks, for example, the work is mechanical, but their position is absolutely sure: they are never dismissed except for ill-conduct, and can rely on good treatment in cases of illness. Posts are frequently kept open during compulsory absence, and retiring pensions are often allowed. In some banks there is an age-limit for service, but not in all.

---

### CIVIL SERVICE CLERKS.\*

For information regarding the numerous posts open in the Home Civil Service, reference may be made to the "Civil Service Year-Book." The home appointments open to competition include:—

	Age of Entry.	Examination Fee.	Minimum Pay.
Boy Clerkships . . .	15-17	5s.	15s. a week.
Second Division			
Clerkships . . .	17-20	£2	£70 a year.
First Division			
Clerkships . . .	22-24	£6	£150 a year.

The *Boy Clerkship* may be held until a lad reaches 20 years of age, and his pay increases by a 1s. a week each year. Boy Clerks may then be admitted on examination to the grade of Assistant Clerks (Abstractors), with a salary of £55 a year, rising by £4 a year to

---

\* "Civil Service Officers and Clerks" census figures, see p. 302.

£75, then by £5 a year to £100. Certain higher posts are open to competition; or a very good Assistant Clerk may be promoted to a Second Division Clerkship.

The entrance examination for a *Second Division Clerkship* covers a fairly wide ground, but ought to be within the reach of a good average scholar trained at a secondary school. Up to the age of 25, a Second Division Clerk may compete for a junior appointment in the supply and accounting departments of the Admiralty, and there are opportunities of appointments in the Inland Revenue and other departments; more rarely, promotion is given to a First Division Clerkship. The higher salaries obtained as Second Division Clerks are from £250 to £350; in some of the special appointments, the salaries go up to £500.

The *First Division Clerks* undergo the same entrance examination as candidates for the Indian Civil Service and Eastern Cadetships, and are, as a rule, exceptionally brilliant men. The higher place they attain in the list of successful competitors, the greater is the choice of vacancies open to them. These are in the most important Government offices, the Treasury, Colonial Office, Home Office, etc. The higher salaries may rise to £800 in some offices, and in others to £1,000 and £1,200.

The usual office hours for all clerkships are seven per day; Saturday afternoon is given free once a fortnight for First and Second Division Clerks, and once a week for Boy Clerks, who have a comparatively short annual holiday, not exceeding 12 days.

The great attractions in the Civil Service appointments are the certainty of work and the prospect of a pension. To women only the Post Office Department is open, and a certain number of women typists are employed in most of the Government offices. The conditions for male clerks in the Post Office Department

have been mentioned (p. 305). Other Government departments open to competition are the Customs, where the age of entry is 18 to 21, and the Inland Revenue Offices, where the age of entry is from 20 to 25.

The Civil Service also includes a number of higher grades of appointments in the Foreign Office, the Diplomatic Service, the National Museums, and in other special departments of work under Government.

### The Indian Civil Service.

The age of entry into the *Indian Civil Service* is 21 to 23 years, and the Service appointments include some of the highest and best paid under Government. But the least of them demands great mental capacity, and a life of long-protracted effort in India. Only the most gifted young students can hope to pass high enough in the competitive entrance examination to be among those selected for the Service.

The best training for the entrance examination is that given in a well-equipped public school or secondary school, supplemented by a university course up to the time of examination. The general culture thus secured is far superior to being "coached" for the examination, and if the young man who has had it fails to win a sufficiently high place in the list, he has the satisfaction of being able to complete his university course, and select some other career.

The *Indian Forest Service* is entered between the ages of 17 and 20; the *Indian Police Service* between 19 and 21. All details about the entrance examinations and further training required in these branches of the Civil Service may be obtained by applying to the Secretary, Civil Service Commission, Burlington Gardens, London, W.



## CLERGYMEN.

## Established Church of Scotland.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male:	Ministers—Established				
	Church, .	125	111 + 14	26	47
	„ United Free,	206	167 + 18	40	51
	Episcopalian Clergy, .	29	56 + 3	13	17
	R.C. Priests, . . .	83	33 + 5	20	11
	Ministers and Priests of				
	other Religious Bodies,	103	95 + 6	27	19
	Missionaries, Itinerant				
	Preachers, . . . .	125	89 + 16	13	18
	Monks, . . . . .	5	...	...	...
Female:	Missionaries, Preachers,				
	Scripture Readers, .	107	73 + 7	32	29
	Nuns, Sisters of Charity,	14	117 + 5	42	52

The number of students in attendance in 1906-7 at the divinity halls of the Scottish universities is given on p. 383. Two entrance examinations are required for admission to the divinity hall—(a) an examination on knowledge of Holy Scripture and the Shorter Catechism, conducted by the presbytery within whose bounds the candidate usually resides; (b) an examination in general scholarship, conducted simultaneously at the four university seats, under a representative board of examiners. This examination is usually held in the beginning of October, so that results may be announced before the opening of the university session.

University graduates are exempted from the examination in general scholarship in all subjects covered by their diploma. Thus, it is usual for those who wish to enter the ministry to begin with the Arts course of the university, and afterwards to proceed to the divinity hall. A knowledge of Greek, Latin, moral philosophy, and Hebrew is compulsory.

Each divinity hall has a number of bursaries at its disposal, to be applied to the maintenance of students

while passing through the course of Theology, and residence in a college hall is provided for those who desire it. As the Carnegie grant is, moreover, available for the class fees, the Church may be said to hold an open door to all earnest-minded young men who feel desirous of entering upon its ministry.

The course of Theology in the divinity hall occupies three sessions, and embraces Apologetics, Church history, Old Testament and New Testament introduction and exegesis, and Christian Doctrine. During his course of study in the hall, the student is examined each year by his presbytery before being permitted to enrol for the ensuing session.

An "exit" examination by the representative board of examiners is held at the close of the student's theological course in the hall. If the student passes the examinations for the degree of bachelor of divinity, the board examines him only in Apologetics, Greek New Testament *ad apert*, and the Confession of Faith. In the event of this examination proving satisfactory, the student has still further to be tested by his presbytery, and has to deliver a popular discourse before the presbytery on some text different from any prescribed to him in the divinity hall. If the presbytery is satisfied, the moderator of presbytery licenses the candidate to preach the Gospel, and he is given a presbyterial certificate. The licentiate has again to undergo questions or "trials" by a presbytery when he is ordained and inducted as minister of some charge.

A young man usually takes the post of an assistant to some minister with a large charge for a year or two, and after gaining practical experience of ministerial work in this way he may be successful in being elected a minister in some town or country charge. There are still a number of parishes whose stipends are below £200, but the majority are from £200 to £400, and have a

manse, and possibly a glebe, attached. Higher stipends are given in the large city parishes and in a few of the country parishes.

Those young men who wish to serve as Army chaplains have to make special application after completion of their university course.

### **The Episcopal Church in Scotland.**

The Theological College of the Episcopal Church in Scotland is Coates Hall, Edinburgh.

The ordinary course is one of two sessions for graduates, and of three sessions for non-graduates. Each session lasts for 28 weeks, and is divided into three terms, between October and June. All students live in the college, and all meals are taken in common.

The annual expenses amount to £35 for board and lodging, and £12 for tuition fees—in all, £47.

There are several bursaries, ranging in value from £60 a year to £10 a year. These are bestowed partly on a consideration of the previous academical records of the applicants and partly with a view to their present financial circumstances. Sometimes a competitive examination is held, when necessary to differentiate the abilities of the various candidates. An entrance examination is held for all students in the following subjects:—

1. Outlines of Old and New Testament History.
2. Christian Evidences.
3. St. Matthew's Gospel in Greek.
4. Additional for non-graduates:—  
Cicero—"De Senectute."  
Plato—"Apology."

The best mode of preparation for the Theological course is to be found in the universities. In England,

it is customary for a young man who intends to enter the Church of England to graduate as a B.A. of Oxford or Cambridge, and afterwards attend lectures by the divinity professors, or pass through one of the Theological colleges. In Scotland, likewise, attendance is very often made at a Scottish university before taking the Theological course. At the same time, no young man of good ability and real industry, who feels truly called to the ministry of the Church, is disqualified by the want of a university training. A thorough grounding in Latin and Greek grammar and translation is indispensable, but that is hardly outside the reach of any young man of education and steady application.

In special cases, the attendance at a Theological College course may be waived, if the bishop, in whose diocese a candidate desires to take holy orders, be willing to accept other qualifications. The requirements for ordination are in the Episcopal Church in Scotland, just as in the Church of England, left to the discretion of the bishop in each diocese. The candidate for holy orders communicates with the bishop three months or six months before the probable date of ordination, and full inquiry is then made as to the candidate's fitness for the ministry.

### **Roman Catholic Priests (Scotland).**

The selection of boys who give promise of good service in the priesthood is, in most cases, made by the Roman Catholic clergy. Priests observe boys in their districts who give evidence of an inclination to the clerical state. Personal piety and assiduity in religious duties are the ordinary signs of a clerical vocation. Such boys, if they come of respectable parents, are recommended by priests to some bishop, who satisfies himself as to the fitness of any candidate.

After the boy has had a good primary education, he is sent, at an age varying from 12 to 15, to a seminary such as Blairs College, near Aberdeen, where for four or five years he studies his "humanities." If a boy's parents can afford to pay for board and residence at the college, they naturally do so. In the case of poor boys, there are bursaries or foundations available.

After the completion of the preparatory course in a seminary such as Blairs, clerical students go to a higher college for philosophy and theology. Ordinarily, they have two or three years of philosophy and three or four years of theology. In the case of Scottish lads, they often go abroad, as there are Scots Colleges in Rome and in Valladolid. In Rome, students live in the college, and attend the Gregorian University. In addition to these two colleges, the Roman Catholic clergy of Scotland have many foundations in France.

After 11 or 12, and, sometimes, 14, years of study, the aspirants to the priesthood are ordained, and enter on their work in Scotland.

As to salary, no fixed sum is laid down. In no case does the salary exceed the merest pittance, enough to buy clothes and books, and perhaps to have a short holiday. Probably, in Scotland, no priest has from clerical sources a salary of more than £50 a year—of course, there are prison chaplains and army chaplains, who are paid by Government in the usual way.

### **United Free Church in Scotland.**

Before entering upon the Theological curriculum, a man must satisfy the same conditions as intrants to the Church of Scotland Theological curriculum. Graduates in Arts of the Scottish universities are accepted without further examination in the subjects in which they have passed for their degree. Young men who can show

certificates of attendance at university classes are also exempt from examination in these subjects. All intrants are examined by their local presbyteries, and have to pass a special examination in Hebrew and Scripture, set by an examining board appointed by the College Committee of the Church; the College Committee is itself appointed by the Assembly. Graduates who have obtained their Arts degree are examined in Greek by this board, and non-graduates are also required to show a good knowledge of Latin and Greek.

After satisfying the conditions for entry, a man must attend for three or four sessions at one of the recognised colleges of the Church—*i.e.*, the New College in Edinburgh and the United Free Church Colleges in Glasgow and Aberdeen. The fees for the whole course, inclusive of matriculation, do not exceed £20, and for those of Scottish extraction the fees may be paid by the Carnegie Trust. There are also scholarships open to competition which range in value from £10 to £30 in Aberdeen, and £10 to £100 in Edinburgh and Glasgow. All students at these colleges dine together during the session at a table presided over by a professor. A nominal charge of about £2 10s. a session is made for the dinner.

The course of Theology in the colleges embraces Old and New Testament language and literature, Apologetics, Dogmatics, Church history, New Testament theology, Christian ethics, and practical training. The “exit” examination covers the whole of these subjects; those who have about 75 per cent. receive a certificate of honour.

During the college course, each student is examined by the local presbytery before the beginning of each session, and the presbytery is requested to certify to the College Committee that the intersessional work of the student has been satisfactorily carried out. The local presbytery also examines the outgoing student, and grants his licence.



The stipends given by the United Free Church to their ministers are from £160 upwards, together with a manse or its equivalent.

### **Congregational Church.**

There are eight institutions in England and one in Scotland for training young men for the Congregational ministry. Scotch students are eligible for all these institutions. They vary in the degree of education demanded from accepted students. Some of them give an Arts as well as a Theological education. In some the entrance qualifications are very high; in a few, young men with the full Leaving Certificate would be eligible if they gave evidence of ability and the promise of becoming good speakers.

The Scotch Hall in Edinburgh will take in hand a young man who has passed the university preliminary, and, if in funds, will give him a grant of £20 to help him through his Arts course.

It is, however, preferred that, before entering the Hall, a man should have taken an Arts curriculum at a university. Every candidate for admission must pass an examination in Bible knowledge and Church principles, English, Latin, Greek, and mathematics, unless any of these subjects has been included in his Arts course, and he must have been a member of a Congregational church for at least a year before beginning his Theological course.

The Theological course extends over three summer and two winter sessions. The student pays his own fees at the university, but the course at the Theological Hall is free, and the fees of the Hebrew class, which has to be taken at the university, are paid by the Hall. There are several bursaries which may be held both during the Arts course and the Theological course.

Some of the English colleges, such as the United Yorkshire, will even help a youth of promise to get the education which will enable him to pass the university preliminary.

One or two of the English colleges provide a residence for the students, and partially meet the expenses of maintenance when located outside. All the institutions have bursaries, which are for the most part open to competition. Maurfield College, Oxford, only receives students who have gone through an Arts course, and even then expects the students to become members of Oxford University, and take at least the B.A. degree. All these institutions find Sunday engagements in their neighbourhood for their students, and thus a young man is well helped towards keeping himself after the first year in Theology.

The courses in these institutions run from three to six years; the three-years course obtains where only Theology is given.

### **Methodist Church.**

A man who desires to enter the ministry must be a local preacher for one year on trial, and then one year a fully accredited local preacher. During this time he preaches in the various churches in the circuit. His name has to be publicly registered by the circuit as a candidate for the ministry, and after having been voted upon at a quarterly meeting of the church, it is sent forward to the district synod. The candidate then preaches a trial sermon, and undergoes a literary and theological examination, both written and oral, set by the synod. If the synod be satisfied, the candidate has to provide a manuscript sermon for the July meeting, and at that meeting is again examined in literature and theological subjects. His name is then submitted to

the conference, and if accepted by the conference, he enters one of the theological institutions as a student, and undergoes a training of three or four years' duration, sometimes a longer period. The subjects included in the course are theology, philosophy, Greek, Hebrew, Latin, mathematics, and English literature. At the end of the fourth year, if the student has successfully passed his examinations, he is ordained.

There are four English colleges, each accommodating 70 to 80 students—at Richmond, Surrey; Birmingham; Didsbury, Manchester; Headingley, Leeds.

No young man is excluded from the ministry on account of lack of means, and no questions are asked with regard to financial matters until a student has been finally accepted. For those students who support themselves during the theological course, the annual expense amounts to about £60.

### **Baptist Church.**

In England and Wales there are eight colleges, the largest and best equipped being Rawdon, in Yorkshire, and Regent's Park and the Metropolitan (Spurgeon's) in London. There is also a college in Dublin.

In Scotland, the Baptist Theological College is located in Glasgow. Its curriculum comprises:—

1. A course in Arts at some university, qualifying for the M.A. degree.
2. A course in Theology, including (a) Biblical and Systematic Theology; (b) Biblical Criticism and Exegesis; (c) Church History and Apologetics; (d) Homiletics and general pastoral work.

There are six lecturers, four of whom are in pastoral charge. Hebrew is taken at the university. The curri-

culum (including the Arts course) generally extends over six years.

There are two orders of bursaries:—

1. Probationers' bursaries, tenable for one year, ranging from £10 to £20.
2. Regular bursaries, from £15 to £25, tenable during the Arts and Theological course.

There is also a less fully equipped Baptist college in Dunoon, some of whose students have been called to the pastorate in Scotland and elsewhere.

Only those who have had an adequate theological training are recognised by the Baptist Union of Scotland as accredited ministers of the denomination. Others may be admitted to this status on passing two examinations covering the subjects usually included in a theological course. Some of the Scottish pastors have preferred to take their training in the Presbyterian colleges.

### Unitarian Church.

There are two Unitarian colleges in England—viz., the Home Missionary College, Manchester, and the Manchester College, Oxford.

Students are admitted to the collegiate course of the Home Missionary College after having attained the age of 19. The collegiate course consists of an Arts curriculum of at least two years, and a Theological curriculum of at least two years, each year comprising three academical terms. Students are admitted to the Theological curriculum (a) after having completed the Arts curriculum, (b) after having obtained a degree, or (c) after having attained the age of 25, and shown special aptitude for the work of the ministry.

There are three scholarships in connection with the

Home Missionary College—one of £70, tenable for three years; one of £70, tenable for one year; and the other of £90, tenable for one year. The college is affiliated with the Victoria University.

The curriculum of Manchester College, Oxford, is designed both for students for the ministry and for others who wish to obtain a special knowledge of theological and philosophical subjects. The full course extends over three years; but students desiring to avail themselves of only a portion of it may, at the discretion of the committee, be admitted for shorter periods, under the name of “special students.”

Every candidate for admission as a “regular student” must be recommended by three competent and disinterested witnesses testifying to moral character and natural endowments. The recommendation must certify that he is qualified by disposition and ability to become a student for the ministry, and that the ministry is the object of his own voluntary choice. He must also have a satisfactory medical certificate.

Each candidate accepted is required, before entering college, to have graduated at an approved university, and also to pass an entrance examination; but, under special circumstances, non-graduates may be admitted. Students are required to satisfy the requirements of the Board of Studies in their annual examinations as a condition of proceeding further in their course.

The entrance examination is in the Old Testament, from Genesis to Kings, the Four Gospels in Greek, with certain prescribed Latin, historical, and philosophical subjects.

The College offers four annual exhibitions of £50 each for the academical year. Each exhibition will be continued for the full course of three years to satisfactory students. Preaching engagements, occasional or periodic, are limited to students of the second or third years.

There are four yearly exhibitions to undergraduates. These external exhibitions are given, on recommendation, to candidates over 16 who have chosen the ministry.

The Presbyterian College (Unitarian), Caermarthen, is open to students of all denominations, without any theological test. The course extends over three years, and is mainly Theological, being adapted to the requirements for the B.D. degree of the University of Wales.

Students and others are assisted for the ministry by the M'Quaker Trustees, having special regard to Scotsmen and churches in Scotland.

There are Unitarian scholarships—one of £40 for three years at the University of Glasgow, and two of £50 each for two years, tenable in any approved university or school of theology, in connection with Dr. Williams' Trust—Secretary, Dr. Williams' Library, Gordon Square, London, W.C.

There are also Hibbert Scholarships, Holt Scholarships, Jones' Grants, and others available for Divinity students. Rev. W. C. Bowie, Essex Hall, Essex Street, London, will give information regarding these.

---

## DENTISTS.

	M.	F.		M.	F.
Glasgow, 232.	15.		Edinburgh and Leith, 186 + 18.	2 + ...	
Dundee, 55.	...		Aberdeen, . . . 42.	1.	

To become a Licentiate in Dental Surgery, which is the qualification required in order to practise as a dentist, it is necessary—

- (1) To serve as an indentured pupil with a registered dentist for three years or as an apprentice for five years.\*

---

\* The prospectus of the Edinburgh Dental School gives three years' apprenticeship as a necessary condition, but, as a matter of fact, no dentist will take a boy as an apprentice for less than five years.



- (2) To take a four-years college course at the Dental School.
- (3) To take a two-years course of hospital practice. Students are recommended to take this course during the last two years of their college course.

Boys who become indentured pupils to a dentist pay a premium of £60 or more, serve three years, and receive no wages. Those who become apprentices pay no premium, serve five years, and receive a weekly wage of 2s. 6d. the first year, with a rise of 1s. a year.

Before beginning the college course, it is better to have completed the three years of pupilage, although it is possible to begin the course while serving as a pupil.

Three examinations must be passed:—

- (a) The preliminary, which must be taken before the commencement of the college course, and which is in the subjects of English, Latin, mathematics, and one other language. It is of the standard of the Lower Leaving Certificate, which exempts from it.
- (b) The first professional.
- (c) The second professional.

When a man has satisfied conditions (1), (2), and (3), has passed the three examinations, and is over 21 years of age, he becomes a dental surgeon.

The minimum cost of the four-years college course and the hospital practice amounts to £90 7s. Students have also to provide their own instruments, which cost £20 to £25, and the necessary books a further £10.

#### CARNEGIE FEES.

Such students as have obtained the Higher Grade Leaving Certificate, or have passed the university Arts or Science preliminary examination, and who are of

Scottish birth, parentage, or education (for particulars, see p. 429), may have the fees of the purely medical part of their curriculum paid by the Carnegie Trust. This portion of the fees amounts to about £42.

To set up in practice requires an additional outlay of at least £40 on apparatus.

#### DENTAL MECHANICS.

Dental mechanics are employed in dental workshops. They work in various metals, vulcanite, etc. It is essential that they should be neat-handed.

Boys are preferred to begin their apprenticeship at 14. It is for five years, and the wages are 2s. 6d. the first year, with a rise of 1s. a year; but in some cases no wages are given the first year.

The hours worked are from 45 to 50 per week, and one week's holiday with wages is generally given. A man, when through his training, may expect to begin with 30s. Some men may never get more, but good men may get £2, £3, £4, or even £5 a week. A man who has served his apprenticeship as a goldsmith can make the minimum wage of 30s. as a dental mechanic in about a year. The work is regular all the year round, and as it is always a weekly wage the pay does not fluctuate.

If a dental mechanic has sufficient perseverance he may get on to be a licentiate of the Dental School, as the apprenticeship he has served counts as part of the necessary qualification.

---

#### ENGINEERS (CIVIL).

	Edinburgh and			
	Glasgow.	Leith.	Dundee.	Aberdeen.
Civil Engineers, . . . .	418	202 + 23	20	93
Land and House Surveyors, .	198	123 + 6	8	13

The best preparation for a lad proposing to be a

civil engineer is a first-class general education, with a strong leaning to the mathematical side. A knowledge of French and German is very useful, but not indispensable; but it is almost indispensable to have a good knowledge of higher mathematics, and for this reason two or three years of a university training is of great advantage, ending, if possible, by taking the degree of B.Sc. in Engineering.

A pupil should not enter an office under 18 years of age, and, as a rule, apprenticeship is for five years. To get into a good office a considerable premium has generally to be paid, varying according to circumstances from 50 to 500 guineas.

To quote from a presidential address delivered by Mr. Robert Walker to the Aberdeen Association of Civil Engineers:—

“A boy invariably wishes to be a civil engineer from a love for construction or mathematics or drawing, and by the time he is 14, or at least 15, ought, if he is to be a C.E., to have a seat in an office bespoken, and direct his studies accordingly, taking particularly mathematics, freehand and geometrical drawing; and when he starts his office career should not lose any time in attending evening classes. In his first year in an office, though it often goes against the grain, he ought to be in the correspondence department, booking letters, etc., so that he may get a little knowledge of business principles and get into the way of office life. but at the same time he should take what opportunities he can get of seeing works in construction and in going out in the field. Too little attention is often paid by young civil engineers to both architectural and mechanical engineering, and if a young civil engineer could afford to spend some time in a purely architectural office and also in a workshop of some bridge-building yard, the experience gained he would find to his

advantage, particularly in the latter, as he would thereby obtain a knowledge of practical girder work as well as the use of tools and the various engineering appliances.

“A young civil engineer, in my view, who starts in an office about 17, serves an apprenticeship, taking evening classes during that time, and at the conclusion continues in the office as an engineering assistant, or leaves and obtains a post as a contractor's engineer or assistant to such, finally going on to study at a technical college to get a brush-up for passing the Civil Engineer's examination at 25, can go abroad afterwards and get a very good situation.

“Some, of course, cannot afford to give up a paid assistantship to go to a college when so far on in life; but at the same time, if they cannot, they can with home study and going over old examination papers of the Institute, fit themselves for the examination, and more particularly now that competent teachers in this College have taken up, at the evening classes, subjects which form the backbone of the examination.”

Mr. Walker pointed out the differences of opinion which exist as to the best method of training a civil engineer, particularly as to whether an apprentice should go straight from school into an office or whether he should first go to college or take special classes. In the former case the apprentice sees others doing the kind of work he wishes to learn, forms his own ideas of what he is deficient in, and can take steps to improve his knowledge. On the other hand, the apprentice who has been to college goes there not having formed in his own mind any due appreciation of what will be expected of him when he becomes a civil engineer, and gets crammed full of theoretical knowledge. When he actually comes into an office, he finds it is a year or two before he gets the opportunity of applying, so far

as it goes, his theoretical knowledge to the practical work. He is also under the disadvantage of being older than the others in the office at his own stage of work there (*cf.* pp. 208-211).

Pupils generally become attached to the Institute of Civil Engineers as *students*, which gives them certain privileges, but they have to be 25 years of age before they are admitted as *members*, and have to pass a rather severe examination in mathematics, applied mechanics, chemistry, and languages. Some civil engineers join the Surveyors' Institute and the Factors' Society (Scotland), according to the particular direction of work they undertake.

#### TRAINED ASSISTANTS.

After the termination of the apprenticeship, future prospects depend entirely on the individual. If he has shown marked ability, he may be retained as an assistant, at a salary of from £50 to £100 per annum, and there are numerous permanent positions for which he may in course of time apply, such as engineers to corporations, railways, and water trusts; but he can hardly expect to obtain any of those positions until he has had a very considerable experience in designing, superintending, and carrying out works of the kind.

There are fairly well paid positions to be got by selection or by examination in the Indian and Colonial public works departments, but it should be clearly kept in view that the prospect of commencing and making a business as a civil engineer on one's own account in this country is extremely small. While almost everyone at some time or another requires the services of a lawyer or a doctor, hardly any private individual requires a civil engineer, so that their chief clients must necessarily be bodies such as corporations or railway companies, who have large works either to construct or

maintain, and for this reason the number of an engineer's clients is generally very limited; and, of course, as a rule most of these corporations or companies have engineers in their own employment.

Some offices, however, take apprentices at the age of 16, without a premium, and they serve four years with wages. The burgh engineer has a few apprentices, who receive 10s. per week the first year, and 25s. per week the fourth year. The prospects of such men also depend on their ability. As draughtsmen, they may begin with £50, and may never get more than £70, or may rise to many hundreds a year.

#### **Land and House Surveyors, Measurers.**

For this profession a strong mathematical bent is necessary. The training is long and extremely difficult, and a very good general education is an essential preliminary. Concurrently with training for a surveyor, it is necessary to have a technical training in all the construction trades, as the measurer is frequently called upon to arbitrate between contractors and tradesmen as to price, etc. Indenture is compulsory in Edinburgh, but not everywhere, and in Glasgow a premium is no longer asked. It takes about nine years of preparation to become a junior assistant. Apprentices must pass a preliminary examination in general knowledge equal to the standard of the Lower Grade Leaving Certificate. After seven years of training, learners may enter for the final examination, which admits to membership of the Institute. Payment during training starts at £10 to £12 per annum, and rises slowly to £25 or £30.

There is no great scope for the practice of the profession, and in order to be successful it is almost necessary that a young man should be able to command some social influence.

Some young men spend a few years at work of



this kind, but afterwards go as clerks to building contractors. Their information is valuable in this position, and they receive good salaries.

### INSURANCE OFFICES.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Insurance Officials and Clerks,	653	619+28	58	146
Male Insurance Agents, . . .	584	270+69	147	172
Female Insurance Agents, . . .	9	2+...	1	...

Edinburgh is the principal centre of insurance in Scotland, and a large number are employed in this profession.

Boys must be intelligent and specially good at figures; some companies set a test examination in general knowledge, and, where pension funds are in force, a medical certificate is frequently required. The number of applicants for entry into insurance offices is much in excess of the demand, and lists are usually kept from which the best are selected as vacancies occur.

### APPRENTICES.

Apprentices usually serve four years, beginning at 15 or 16 years of age. A premium is never asked, and there is seldom an indenture. The wages during apprenticeship vary according to the office. In some offices the first year's salary is £10, others £15, and some £20, rising £10 yearly till they receive £40 or £50. Boys are trained under the heads of their respective departments.

The hours are usually 9.30 a.m. to 4.30 p.m., and Saturday 9.30 a.m. to 1 p.m. Half an hour daily is allowed for lunch. Two or three weeks are usually given at the holiday season; older officials in some cases are given a month.

During the first year the apprenticed clerk assists in whatever department he happens to be wanted, does copying, and reads over comparative lists and statements. In this way he gains an insight into what goes on, and gets some idea of modes of technical wording. He is then drafted into some particular department, and trained under the head of that department.

The chief departments are—(1) Fire, (2) Life, (3) Accident, (4) Burglary.

#### FIRE.

In this department it is necessary for the clerk to acquire a good knowledge of building construction. A ground-plan of every risk is drawn by the “fire” staff, and an efficient “fire” clerk must be able not only to draw a good ground-plan, but to prepare a good report. He must be generally alert and quick to grasp a situation.

#### BURGLARY AND ACCIDENT.

Burglary and accident and other contingency business require much the same qualifications and training.

#### LIFE.

For the *actuarial* branch of this department, clerks must be particularly strong in mathematics, especially in algebra. This work is done inside. For the *canvassing* branch, a pleasant manner and ready powers of expression are most valuable.

#### CLERKS.

The majority of “juniors,” when they have completed the period of apprenticeship, are kept in the office in which they have been trained. The salary begins usually at £50, rising by increments of £10 yearly to £100 or £120. This is stationary for some time; good men gradually move on to definite appoint-

ments, such as surveyors and superintendents, from which class branch secretaries are chosen. Those who, for one reason or another, are not promoted to special work, but remain clerks, receive salaries up to £250 for supervision of departments.

#### ACTUARIES.

Young men who wish to get on ought to qualify themselves for the examinations of the Faculty of Actuaries, which are the examinations usually taken in Scotland, but no one without distinct mathematical ability can hope to be successful in these examinations.

There are no regular classes for these examinations; instruction is usually received under a tutor, where perhaps two or three youths study together, and in this case the fees are rather less than if private tuition is received. Most men have to spend about £20 in coaching fees. Further fees for examinations and sundry necessary subscriptions do not exceed £10. Usually three years are spent preparing for the three grades of examinations, and men who are successful in passing become Associates of the Faculty of Actuaries.

The library of the Faculty, to which students have access, contains all books necessary to be studied in connection with the subjects of the examination.

It is to those who become Associates of the Faculty that the higher-salaried posts are open. The passing of the examination is, however, no guarantee of promotion, because to be successful a man must combine practical ability with theoretical knowledge.

After 40 years' service, a retiring allowance is usually given, equal to two-thirds of the salary received during the last year of service.

The conditions in insurance offices may be said to be much the same as in banks, excepting in this respect—that a man with an insurance training may

apply for a post in any office, whereas a man almost always remains in the banking company in which he has been trained.

For full particulars of examinations, apply to the Faculty of Actuaries, 24 George Street, Edinburgh.

### LAW AGENTS.

	Glasgow.	Edinburgh and Leith.	Dundee.	Aberdeen.
Advocates and Solicitors, .	457	1,102+64	78	202
Law Clerks, . . . .	680	1,338+92	162	290

In Edinburgh and Leith there are more than twice as many advocates, solicitors, and law clerks as there are in Glasgow, although Glasgow is a much larger city. This is due to the fact that the Scottish law courts are in Edinburgh, so that most of the legal business of the country is done there.

### APPRENTICES AND STUDENTS.

Failing a university training, a good general education in a secondary school is the best preparation for work in a lawyer's office. For those who have not a university degree in Arts, a five-years apprenticeship is required, which may begin as soon as a lad has gained the full Leaving Certificate of the Scotch Education Department. Should an applicant not have obtained this certificate, he is required to pass a "general knowledge" examination embracing the following subjects:—

- (1) English composition and writing to dictation.
- (2) Arithmetic, simple and compound, and vulgar and decimal fractions.
- (3) Elements of Latin.
- (4) History of England and Scotland.
- (5) Geography.

A Leaving Certificate (Higher or Lower Grade) in any of the subjects will exempt from examination in that particular branch. Other certificates that are accepted are the University Preliminary Examination Certificate and the Higher or Lower Certificate of the Oxford or Cambridge Examining Board.

This examination, known as the "First General Knowledge Examination," is followed at any time during the apprenticeship by a second, which must be passed before entry can be made for any examination in Law. The subjects for the "Second General Knowledge Examination" may be selected from mathematics, logic, Latin, Greek, French, German, Spanish, and Italian. A Higher Grade Leaving Certificate exempts the candidate from examination in the particular subject to which it applies. *Book-keeping* must also be passed, but it may be taken either along with the Second General Knowledge Examination or at the time the Law Examination is taken.

Apprentices are indentured on entering a law agent's office. In selecting an apprentice, most lawyers would give a preference to a lad that had already acquired a knowledge of shorthand; and it can be strongly recommended to law apprentices to spend one or two evenings a week on this subject, as it may often prove of the greatest service. The usual office hours are 9 a.m. to 5 p.m., and 9 to 1 on Saturdays; a fortnight's holiday is given in summer.

Very little, if anything, used to be given in the way of salary to law apprentices, and a premium used to be almost always paid; but it is now customary to dispense with the premium and to pay a small salary—say, £10 a year to start with, and a yearly increment of £2 10s. in the earlier years, and £5 in the later years of training, bringing it to £25 or rather more in the last year.

The normal period of five years' training is reduced to three years if the apprentice holds a degree in Law or in Arts of a university in Great Britain or Ireland, granted after examination, or if he has previously been an advocate or barrister or a solicitor in England; also, if the apprentice has previously served as an articled clerk in a law office, two years of training are dispensed with.

As a rule, all apprentices begin with the simplest office duties, but everything depends upon the capacity of the apprentice. A capable man is soon promoted to advanced work. There is no doubt that a lad who enters an office already equipped with a university degree or the Higher Grade Leaving Certificate is at a great advantage, as he can more fully devote the years of training to his law studies and to acquiring an intimate knowledge of commercial and business relations.

#### LAW CLERK.

The Law Examination, after apprenticeship, includes:—

- (1) Law of Scotland—civil and criminal.
- (2) Conveyancing.
- (3) Forms of process—civil and criminal.

These classes can be attended at any of the Scottish universities. The fees for Scots law, conveyancing, and forms of process are 4 guineas each. The Carnegie Trustees do not pay the fees of Law students.

If a candidate has already passed the LL.B. or B.L. degree at a Scottish university, and has included Scots law and conveyancing in the subjects of his degree, he will only be examined in forms of process.

On the completion of apprenticeship, a young man ranks as a *law clerk*, and receives from £50 to £80 salary. When he passes the Law Examination he ranks



as a solicitor or law agent. If he prefers to remain in a lawyer's office as a qualified assistant, he may receive a yearly salary of £80 to £100, which may rise with service to £150; but the salaries paid vary greatly with the experience and capacity of the assistant and the extent and standing of his employer's business. If he has personal influence, or feels himself capable, a young solicitor may start in an office of his own, or may look round for situations that would widen his experience or lead to special experience in the different branches of professional work.

For the examinations necessary the fees payable are as follows:—

*First Examination in General Knowledge—*

First enrolment . . . . .	£3	3	0
Subsequent examinations (each) . . . . .	2	2	0

*Second Examination in General Knowledge—*

First enrolment . . . . .	£3	13	6
Subsequent examinations, when more than one subject is taken . . . . .	2	2	0
Do., when only one subject is taken . . . . .	1	1	0

*Law Examination—*

On first examination . . . . .	£5	15	0
For subsequent examinations . . . . .	2	2	0

Further, before a law agent is allowed to practice, he has to pay to the Inland Revenue a stamp duty of £55 if he intends to practise before the Sheriff Court only, and £85 if he intends to practise as an agent before the Court of Session. Law agents have also to take out annually an attorney licence, the annual payments being, for the first three years, £3 if the agent practises in the Sheriff Court, and £4 10s. if he practises in the Court of Session. Afterwards, the annual

payments are £6 and £9 respectively. All law agents have to pay these sums.

Many law agents in Edinburgh, Glasgow, and Aberdeen become members of special law societies in these cities, such as the Societies of Writers to the Signet, Solicitors before the Supreme Courts, Faculty of Procurators in Glasgow, or Advocates in Aberdeen; but membership of these societies is not in any way necessary for practice. Their attractions consist in the pecuniary benefits which they offer to the widows and children of their members, and the use of their libraries. Large sums have to be paid for membership of these societies, the amount depending on the age of the applicant and various other considerations.

Members of these societies are respectively styled W.S., S.S.C., and Advocates in Aberdeen. The right to admission to them is restricted in various ways, such as special university training, apprenticeship, etc.

Scottish law agents are recognised in the Cape, Australia, New Zealand, and Canada, where, after going through a few formalities, they may practise their profession.

### **Advocates or Scottish Barristers.**

Admission to the Scottish Bar is granted by the Faculty of Advocates in Edinburgh.

Many Scottish barristers take the full Arts course at a Scottish university before specialising in Law subjects, since the M.A. degree of a Scotch university, or the B.A. or LL.B. degree of certain English and Irish universities, exempts an inrant at the Bar from the first examination of the Faculty of Advocates in general scholarship. Others, by preference, go through the complete training of a law agent as a preliminary to practice at the Bar, and after passing the examination in Law, take out the additional special classes which

are required in qualifying for the Bar. These are civil law, international law, constitutional law and history, and medical jurisprudence. An inrant for the Bar who has obtained the LL.B. degree from a Scottish university in all the prescribed subjects is accepted by the Faculty of Advocates as fully qualified, but he has also to present a thesis to the Faculty, and undergo a formal public test in defending it. If successful, he may then be admitted as a member of the Scottish Bar by a vote by ballot of the Faculty. Intrants are examined by the Faculty in all the required subjects in which they have not taken a university degree.

No inrant is admitted who has spent any part of the previous year in the practice of any trade, business, or profession. Thus, young men who may have fully qualified themselves, but have been acting as lawyers' assistants or in any similar capacity, find themselves put upon a year of probation, during which they are supposed to attend the sittings of the Court of Session, read law, or otherwise prepare themselves for professional work.

The entrance fees to the Faculty of Advocates amount to £339, and a large portion of the fees is devoted to the Advocates' Library in Edinburgh. As in the other societies already mentioned, there are pecuniary benefits to members' widows.

Members of the Faculty of Advocates have the exclusive right of audience in the supreme civil and criminal courts of Scotland—viz., the Court of Session and the Court of Justiciary; they may also plead in the Scots inferior courts, and they may plead in the House of Lords. After practising for a number of years as a junior at the Bar, Advocates may be appointed King's Counsel (K.C.), on the recommendation of the Lord Justice-General. King's Counsel cannot act in cases except along with a junior. They wear a silk gown,

for which reason the acceptance of the distinction of being King's Counsel is commonly termed "taking silk."

Scottish barristers are all members of the Faculty of Advocates, and are properly designated "advocates" in Scotland. The use of this term has also been allowed to solicitors or law agents in Aberdeen who belong to the Advocates' Society in Aberdeen, but who have not the right of pleading in the superior courts. A certain confusion has thus arisen, the position being that, while all Scottish barristers are advocates, not all Scottish advocates are barristers.

Sheriffs and judges are chosen from members of the Faculty of Advocates. The knowledge of Scots law, however, does not qualify for practising in the Colonies.

---

### NAVY COMMISSIONS.

Special training for the Navy begins at a much earlier age than for the Army. A boy becomes a naval cadet before he is quite 13 years of age. Hence, even if a boy himself expresses a wish to enter the Navy, the responsibility of selecting his career falls chiefly upon his parents or guardians. They must be prepared to spend a little over £100 a year on him during the long period of training. Physically, a boy must be well-developed and strong, and he ought to give distinct evidence of strength of character, ready wit, and resource. These qualifications weigh quite as much with the examiners for the Navy as scholastic attainments. And, in order to allow the examiners to form an estimate of a boy's bearing and disposition, he is called for a personal interview with them a few weeks previous to the written examinations.

The test or qualifying examinations for the Navy are

held every year in March, July, and December. The following are the subjects:—(1) English; (2) history and geography, with special reference to the British Empire; (3) arithmetic and algebra (to single equations); (4) geometry, practical and theoretical; (5) French or German (with an oral examination); (6) Latin (easy translations from and into English, and simple grammar).

The parents or guardians of an intending candidate, as soon as the boy is 12 years old, should apply for a nomination to the First Lord of the Admiralty (address to Assistant Secretary, Whitehall, London). The preliminary formalities will then be gone through, and the boy will be called for the personal interview by the examiners when he is 12 years and 8 months old. If he be nominated after the interview, he must then be examined medically, and his sight and hearing are strictly tested. Afterwards, he has to pass the qualifying examination, and, if successful, he becomes a naval cadet.

The naval cadet is trained for two years at Osborne, and then two years at the Royal Naval College at Dartmouth, after which it is open to him to retire from training, or he may be asked to do so, should his work not prove satisfactory.

His further training is at sea for three years in the position of midshipman; he has then to pass an examination, and after his seven years' training may be promoted to the rank of acting sub-lieutenant, and have to study for a short time again on shore. Another examination has to be passed before he can become a sub-lieutenant, and he then enters one of the three branches of the service—the Executive, Engineers, or Royal Marines.

At 22 years of age, if he has arrived at the rank of lieutenant, his pay is £182 a year, and from that time

onward it is in most cases possible for the naval officer to be self-supporting.

As in other Government services, the retired pay is an attraction, and makes up for the limited scale of pay during active service (see "Quarterly Navy List").

Fleet surgeons do not join the Navy service until they have obtained a full diploma in medicine and surgery. They then undergo a special entrance examination, and, if successful, receive a commission, and continue further study for a time in the Service Colleges.

---

### PUBLIC LIBRARY ASSISTANTS.

In public libraries throughout Great Britain and Ireland, the practice is to employ girls and young men as assistants. These young men are promoted, whenever possible, from younger lads who have been acting as messengers or boy assistants. In the Dundee libraries, museums, and fine art galleries, it is usual to accept lads as learners for a term of five years, taking them at 14 years of age, and giving them 6s. a week in the first year and 10s. in the last year of training. But there is seldom any regular system applying to those under training. Girls are usually taken for training when they are between 16 and 20 years of age.

The practice of promoting younger assistants to higher places is one that all library authorities are glad to follow. In some libraries, employment is subject to passing an examination, but this is not general. The examinations (following on special classes) promoted by the Library Association are also advantageous, and an applicant for an assistantship in a public library who possessed a certificate of proficiency in these examinations would, other things being equal, have a certain advantage



over other candidates. It is rare, however, to find that an applicant for a library assistantship—not previously employed in a library—has paid any attention to specially preparing himself or herself for such work.

The duties in a public library are pleasant but exacting, and an assistant not in full sympathy with reading, without a desire to interest others in books, and without at least a fair general knowledge of literature and library subjects, would find it trying to serve the public as a library assistant. There must be good temper, too, and a natural courtesy which will find expression hour after hour throughout long days.

The hours of service in public libraries are usually about eight per day, beginning at 9 a.m. and ending about 8 p.m. The usual holidays for library assistants are a weekly half-holiday and a fortnight in summer.

The remuneration in public libraries varies with local circumstances. Assistants usually commence at about 10s. per week, and rise to 18s. or £1 per week in ordinary assistantships, and to £70 or £80 as women assistants in charge, and £100 to £150 for young men as sub-librarians.

In this country, women have not taken their place to any extent as principal librarians. In the United States it is different, but there it is the practice for young women to begin specialising for public library work in their High School curriculum, and to extend their studies afterwards at special classes.

When a vacancy occurs in a public library in any large centre, the library authority either promotes lower assistants or publicly advertises the vacancy. In the latter case, there are usually many more applicants than would staff the library half a dozen times over. The majority of the applicants are quite unsuitable, and of the others—usually well educated, intelligent, keen young men and women—probably not one had seriously

thought of selecting library work prior to seeing the advertisement. It has to be repeated, that if a young lad or girl thinks of taking up public library work, they should specialise beforehand—at least, to some extent. Every public library of any standing has on its shelves standard works in bibliographical system, cataloguing and indexing, also special literature manuals, and these ought to be carefully studied. Intimate knowledge of a special subject—French, German, Spanish, or classical languages—is always of value to a library assistant, and invariably marks out an assistant for consideration. Then, although special classes in library work may not be available in a district, a young person who is in earnest will never have much difficulty in getting from the principal librarian of the district practical hints that will be helpful in studies of the kind.

---

### PHYSICIANS.

	M.	F.		M.	F.
Glasgow,	550.	13.	Edinburgh and Leith,	441 + 35.	17 + 4.
Dundee,	60.	3.	Aberdeen, . . .	114.	2.

There are four university medical schools in this country—in Edinburgh, Glasgow, Aberdeen, and in Dundee and St. Andrews, whose colleges form one university. The doctor's diploma may be taken either at a university or at the School of Medicine of the Royal Colleges in Edinburgh, and the Anderson's College in Glasgow.

### UNIVERSITY COURSE.

At the university the necessary degree is the M.B., Ch.B., and five years must be given to the work. Before beginning, an entrance examination must be passed. The Lower Leaving Certificate, if it includes Latin,

exempts from the entrance examination of the university

An average cost for a man who takes only the compulsory classes, and who does not fail in his examinations, is £150. This includes matriculation and class fees, infirmary fee, and examination fees. In the majority of cases, however, it is better for a medical student to attend some of the classes for a second time, and it is also desirable for him to attend certain additional courses. It will probably be necessary to spend an additional £20 on class and examination fees. The cost of books may be reckoned at about £40, and of instruments about £20. The total cost is between £200 and £250.

There are a few bursaries available for medical students, and for graduates there are a considerable number of scholarships and fellowships open to competition.

For further particulars see the university calendars.

#### OTHER COURSES.

In connection with the Colleges, the qualifying degrees given are L.R.C.P.Edin. and L.R.C.S.Edin.; and L.F.P.S., Glasgow.

A candidate must first pass a preliminary examination in English, mathematics, Latin, and one other language. This is on a lower standard than the university preliminary. Either four or five years must be spent on the medical course. If the four-years course is taken, the minimum cost for class, infirmary, and examination fees is about £100. If the five-years course is taken, the minimum cost is about £115. The same remarks apply here—that it is better to take out several additional courses—and an additional £40 for books and £20 for instruments will be necessary.

For further particulars see the Calendar of the School

of Medicine of the Royal College, Edinburgh, and the Anderson's College Medical School, Glasgow.

Before beginning practice for himself, a man should, if possible, spend six months or a year in a hospital to gain experience, and many who have the time and means to spare would be well advised to go to Vienna or to some German school of medicine, and get further insight into clinical and laboratory methods and familiarity with the technical language of German medical literature.

#### CARNEGIE FEES.

If a student is of Scottish birth, or of Scottish extraction—*i.e.*, can give evidence of the Scottish birth of one or other of his parents or his grandparents—or has given two years' attendance after the age of 14 at a school or institute under the inspection of the Scotch Education Department, the Carnegie Trust is prepared to pay his class and examination fees either at the university or the colleges, provided the student has passed either the Leaving Certificate of the Scotch Education Department or the Arts or Science preliminary examination or its equivalent.

Full particulars can be obtained from the Secretary of the Carnegie Trust, the Merchants' Hall, Edinburgh.

---

#### STOCKBROKERS.

Stockbrokers attend the Stock Exchange to buy and sell stocks and shares, and no one who is not a member can deal there except through a member.

#### APPRENTICES.

Apprentices are taken at 15 or 16, and serve an apprenticeship of five years, when their salaries are

£10, £15, £20, £25, and £30. A boy requires to be fairly well educated, and is better to have some knowledge of book-keeping, and it is essential that he should not be of an excitable disposition.

The first year he goes messages, addresses letters, etc.; later, he is promoted to keep the books, and if he intends to become a member of the Exchange or an Exchange clerk, he is allowed some practice in the Exchange itself.

### CLERKS.

After finishing his apprenticeship, he may begin with £40 or £50 a year, and an average man will rise to £100 in six or seven years. A good man may rise to £150, and there are a few whose salaries are as much as £200 or £300. Many offices, however, work with one or two clerks and several apprentices, so there are not posts with stockbrokers for all the boys who are trained as apprentices, and they must find employment as clerks elsewhere.

The hours are usually 40 per week, from 9.30 to 5.30, with one meal hour off, and from 9.30 to 1.30 on Saturdays. In some offices 45 hours are worked. A fortnight's holiday is given annually; many firms give as much as three weeks. All the English Bank holidays are given, and several Saturdays during summer, but the Scotch Bank holidays are not given. There is generally more work in winter than in summer. This does not affect the pay, but may mean working longer hours in winter.

### MEMBERS OF THE STOCK EXCHANGE.

Before becoming a member of the Stock Exchange, a man must be twenty-one years of age, must have served a five years' apprenticeship, must pay the sum of £210 to the Exchange, and must be balloted for by the members of the Exchange. Black-balling is not resorted

to, except for serious reasons. Men are occasionally admitted members without having served a full apprenticeship. In this case, their entrance fee is £525, and they run some risk of being black-balled.

For the first five years of membership, securities of the value of £2,500 must be deposited with the Stock Exchange.

A member of the Edinburgh Stock Exchange has no right to practice in any other Exchange, and he must not be occupied in any other trade or profession except that of chartered accountant or insurance agent. Similar regulations are made in each area of practice.

---

### VETERINARY SURGEONS.

Glasgow, 34.

Edinburgh and Leith, 28+5.

Dundee, 7.

Aberdeen, . . . 3.

Boys wishing to become veterinary surgeons must attend classes at the Veterinary College in Edinburgh, or the Glasgow Veterinary College. Before entering on the college course, it is necessary to pass a preliminary examination. A Lower Leaving Certificate in English, mathematics, Latin, and a modern language or Greek exempts from this.

The full course is four sessions of about thirty weeks, and there are four professional examinations, one at the end of each session. The minimum cost of the course (including examination fees, but exclusive of the cost of books) is £80. After passing the four examinations, a man becomes an M.R.C.V.S. He may start in practice for himself, or become assistant to a veterinary surgeon, or go into the municipal employment as cattle inspector. One of the best openings for him is the Veterinary Department of the Army, which takes men between 21 and 27 years of age. Here salaries begin at £250, and rise to £600, and a good pension is given.



After having been in practice five years, a man may, by writing a thesis and passing a further examination, become an F.R.C.V.S. The fee for examination is five guineas, and for the diploma a further £10 10s. is charged.

Fuller particulars are given in the prospectuses of the veterinary colleges in Edinburgh and Glasgow.

### CARNEGIE FEES.

Students who are of Scottish birth, parentage, or education, and who have passed the Higher Grade Leaving Certificate of the Scotch Education Department, may have their fees paid by the Carnegie Trust. For particulars, see under "Physicians."

There is a special veterinary school at Aldershot for the Army service; veterinary officers are attached to the cavalry and mounted corps of the Army, and are employed at remount depôts.

### TEACHERS.

		Edinburgh and			
		Glasgow.	Leith.	Dundee.	Aberdeen.
Male :	Professors, Teachers, and Lecturers, .	1,114	870 + 79	211	240
	Others engaged in Teaching, . . .	93	82 + 11	6	12
	Total, .	<u>1,207</u>	<u>952 + 90</u>	<u>217</u>	<u>252</u>
Female :	Professors, Teachers, and Lecturers, .	2,573	1,976 + 265	428	710
	Others engaged in Teaching, . . .	18	9 + ...	2	6
	Total, .	<u>2,591</u>	<u>1,985 + 265</u>	<u>430</u>	<u>716</u>

Under the authority of regulations recently issued, the whole question of preparation, training, and certi-

fication of teachers has been remodelled. The first important point to note is that future teachers in any of the State-aided schools—primary, intermediate, or secondary—require to have undergone a course of professional training. There are no non-certificated or untrained teachers permissible.

Entrance to the teaching profession is best got by completing an attendance at an approved secondary school, under Government supervision. The system of pupil-teachership has been superseded by a new organisation called “Junior Studentship.”

#### JUNIOR STUDENTSHIPS.

Junior studentships are secured by nomination made by county committees and burgh committees on secondary education. This nomination is only received by the county committee from a responsible teacher who has had supervision of the candidate for a considerable time. After approval by the department, junior students undergo a three-years course of training, which includes all the subjects of the secondary school curriculum, at the same time receiving instructions in the art of teaching. The county committees grant maintenance allowances and free education to the junior students throughout their period of studentship. On the completion of this course, they may be nominated as students in full training, and proceed to a training centre to be equipped for the teaching profession.

The maintenance allowance granted to junior students ranges from £8 to £15, with free education.

#### STUDENTS IN FULL TRAINING.

This course embraces a two or three-years curriculum, and includes professional subjects of instruction as well as general and university subjects. Those who aim at taking a university degree require the three-years course,

but the certificate to teach in a primary school can be earned by a two-years course. Candidates are not accepted till 18 years of age, and are never received unless their health has been medically certified as satisfactory.

The maintenance allowance to students in full training is graduated according to the circumstances of each individual case, and according also to the period of obligatory service in schools afterwards to be undertaken. The amounts range from £5 to £15 for women; £15 to £25 for men.

The training authorities also arrange professional instruction for teachers of higher subjects. These teachers are for service in secondary schools, and can only undertake such work if they are holders of an honours degree at a British university in the subjects they mean to teach. (In the case of modern languages, this implies one year's residence abroad.)

#### TEACHERS OF SPECIAL SUBJECTS.

Those who aim at qualifications to teach special subjects, such as art, applied science, agriculture, domestic economy, physical training, manual instruction, have also to undergo a shortened period of professional instruction, in addition to the diploma which the specially attended school may have granted.

There are thus three classes of certificates issued:—

- 1st—The General Certificate, entitling the holder to teach in primary schools, and receive the benefits of the Superannuation Act on retirement at the age of 65.
- 2nd—Teachers of higher subjects, who alone may be employed in secondary schools.
- 3rd—Teachers of special subjects.

It is worthy of note that all of these teachers must have undergone a more or less extensive period of professional training, thus ensuring, to a very considerable extent, their capacity to impart instruction.

Speaking generally, the salaries for male assistant teachers and second masters in the elementary and ordinary schools under the school board begin at £90 or £100, £120, £150, and rise respectively to such sums as £150, £180, £200; in the higher grade departments and academies, the salaries of male assistants and special second masters generally begin at £100 to £130, £180, and £230, or more, and rise to £175, £200, £280, or £300.

The range of salaries for women teachers under the boards is from £75 to £150.

Headmasters of schools receive from £240 to £500 or £600, according to the size and grade of school and its locality.

### **The Episcopal Training College.**

The Episcopal training college for teachers is Dalry House, Orwell Place, Edinburgh. Students are drawn from all parts of Scotland, and undergo two or three years' training in this residential college. The College was founded in 1850, and at first undertook only the training of male teachers, but in 1866 it was converted into a college for the training of women teachers. There is, in addition to the College, a practising school with accommodation for 388 pupils.

The admission of new students takes place in September of each year. Candidates for admission must be at least 18 years of age, and have obtained either the Junior Students' Certificate or a Leaving Certificate, or be otherwise qualified in accordance with Articles 15 and 73 of the Regulations of the Scotch Education Department for the Training of Teachers.

Candidates who have passed the University Preliminary Examination may, if they so desire, attend university classes with a view to graduation. The course of such candidates extends to three years; for ordinary students the course lasts only two years.

The fees payable by students for tuition and training are £10 per annum in the case of non-university students, and £5 per annum in the case of university students. University students require, in addition, to pay their own university fees. The charge for residence is £16 per annum; the total payment for tuition and maintenance thus amounts to £26 in the case of non-university students, and to £21 per annum in the case of university students. The cost of books adds about £2 10s. per annum. A number of bursaries for tuition, ranging from £5 to £11 a year in value, are open to intrants.

In addition to these bursaries there are 15 maintenance allowances, varying from £6 to £16, tenable for two or three years, which may be held by students.

These bursaries and maintenance allowances are allocated by the College Committee in accordance with the instructions of the Scotch Education Department, not by competition, but according to the needs and circumstances of the candidates.

All students are expected, after leaving College, to serve for two years in a State-aided school in order to earn their Parchment<sup>t</sup> Certificate, as the grants for their training are not credited to the College by the Education Department till their Parchment Certificates are earned. Those whose bursary and maintenance allowance do not exceed £30 do not require to serve beyond these two years, but where the bursary and maintenance allowance exceed £30 the Education Department requires a proportionately longer period of service. As there are only 36 students on an average in each class, the

lecturers are enabled to give a large amount of individual attention to each student.

Deputations from the leading school boards and education committees visit the College regularly every spring for the purpose of engaging teachers, and all the outgoing students readily obtain appointments at a commencing salary varying from £65 to £90 per annum.

### **Training for Roman Catholic Teachers.**

There are about a dozen centres for junior students in Scotland, and a large training college for Roman Catholic teachers at Dowanhill, Glasgow. Promising boys and girls are aided on their way through such institutions.



# ALPHABETICAL INDEX.

## PART I.

### INDUSTRIAL OCCUPATIONS WITH SHORT PERIODS OF TRAINING.

	PAGE		PAGE
Aerated Water Manufacture . . . . .	35	Coal-mining . . . . .	58
Bedding and Mattress Manu- facture . . . . .	38	Picking Tables . . . . .	58
Bleaching Works . . . . .	39	Pushing Hutches, Learners, Miners	59
Bobbin Turning . . . . .	41	Roadsmen, Firemen, Oversmen	60
Boxmaking (Fancy) . . . . .	41	Brushers . . . . .	61
Cabdriving . . . . .	42	Combmaking . . . . .	61
Stablemen . . . . .	43	Corkeutting . . . . .	63
Cab-washers . . . . .	43	Curtain and Blouse Cloth Making . . . . .	63
Carpet Manufacture . . . . .	43	Mechanics, Boy Labourers, Tenters . . . . .	64
Tapestry Carpet Manu- facture . . . . .	44	Women and Girls . . . . .	65
Axminster Carpet Weav- ing (Loom-boys, "Staff- boys," Weavers) . . . . .	45	Dairy Work . . . . .	65
Carpet Designing . . . . .	48	Message-boys . . . . .	65
Scotch or Kidderminster Carpets . . . . .	48	Town Dairymen, Dairymen	66
Art Carpet Manufacture . . . . .	49	Girls and Women . . . . .	67
Carting and Vandriving . . . . .	52	Dairymaids . . . . .	68
Carter-boys or Vanboys . . . . .	52	Distillers and Spirit Merchants	68
Trace-boys, Vandrivers, Carters . . . . .	53	Unskilled Workers: Bottling and Vatting	68
Chemical Works . . . . .	54	Skilled Workers, Girls and Women . . . . .	69
Unskilled Work . . . . .	54	Domestic Service . . . . .	70
Skilled Work . . . . .	55	(a) In Hotels and Places of Resort: Page-boys, Waiters, Boots, Billiard- markers, Chefs, Scullery- men . . . . .	70-72
Oilcake Manufacture and Artificial Manure . . . . .	55		
Chimney Sweeps . . . . .	56		
Coal Carters and Coal Heavers	57		

	PAGE		PAGE
Domestic Service—continued—		Linen and Cotton Manufacture	106
(b) Asylum Attendants . . . . .	72	Linen Manufacture—	
(c) In Private Houses:		I. Preparing, Spinning,	
Footmen, Butlers . . . . .	72	and Reeling Department	107
Outdoor Men-Servants:		II. Weaving Department . . . . .	108
Grooms, Coachmen,		Men and Boys ("Beamers")	
Chauffeurs, Gardeners		and "Drawers") . . . . .	109
(domestic) . . . . .	73	III. Bleaching and Finish-	
Women Servants . . . . .	73	ing Work . . . . .	110
Caretakers, Charwomen . . . . .	75	IV. Sewing . . . . .	110
Farm Work . . . . .	75	Cotton Manufacture . . . . .	111
Firelighter Making . . . . .	79	Linoleum Manufacture . . . . .	113
Firewood Making . . . . .	79	Newspaper Messengers and	
Fishing Industry . . . . .	80	Storesellers . . . . .	114
Trawl Fishing . . . . .	80	Paint and Colour Manufacture	116
Line Fishing . . . . .	83	Paper Making and Stationery	
Fish Salesmen and Buyers	85	Manufacture . . . . .	116
Fishcuring: Herring-curing,		Men and Boys . . . . .	119
Cooperage, Boys and		Girls and Women . . . . .	120
Men, Women and Girls	86-87	Picture Post Card and	
Fishmongers . . . . .	89	Christmas Card Mounting	121
Flour Milling . . . . .	89	Half-tone Blockmaking,	
Hackle Making . . . . .	91	Letterpress Printing,	
Hosiery . . . . .	93	Three-Colour Printing,	
India-rubber Goods Manufacture	95	Litho Printing, Post	
Boy Labourers . . . . .	95	Card Packing, Die-	
Machinemen and Labourers	96	stamping . . . . .	122
Warehousemen, Clerks,		Provision Works . . . . .	123
Salesmen and Sales-		Ham-curing, Warehousemen	123
women . . . . .	97	Tinsmiths, Packing De-	
Girls and Women . . . . .	98	partment, Finishing De-	
Jute and Hemp Mills and		partment, Machine De-	
Factories . . . . .	99	partment, Pudding and	
(a) Preparing Department	99	Sausage Making . . . . .	124
(b) Spinning Department . . . . .	100	Rag and Waste Picking . . . . .	124
(c) Reeling and Winding		Rope, Twine, and Cord Makers;	
Department . . . . .	101	Net Weavers . . . . .	125
(d) Weaving Department . . . . .	101	Factory Work . . . . .	125
(e) Finishing Department . . . . .	102	Hand Work . . . . .	126
(f) Sack-sewing Department	103	School Bag Making: Market	
Skilled Mechanics and		and Net Bags . . . . .	36
Apprentice Mechanics	103	Sea-faring Occupations . . . . .	126
Laundry Work . . . . .	104	Seamen . . . . .	126
Unskilled Work . . . . .	105	Engineers, Firemen,	
Skilled Work . . . . .	105	Stewards	127
Men and Boys . . . . .	106	Stevedores . . . . .	128

	PAGE		PAGE
Soap Making . . . . .	128	Tobacco Manufacture—continued—	
Candle Making . . . . .	129	Tobacco Pipe and Pipeclay	
		Manufacture . . . . .	132
Tobacco Manufacture . . . . .	130	Umbrella Making . . . . .	132
(1) Sorting and Cutting		Men and Boys . . . . .	133
Department, (2) Rolling,		Girls and Women . . . . .	133
Spinning, and Winding			
Department, (3) Packing		Window Cleaners . . . . .	134
and Putting-up Depart-		Wood-turning and Wood-	
ment, Cigarette Making	131	machining . . . . .	134
		Woollen Manufacture . . . . .	112

## PART II.

### APPRENTICESHIP TRADES AND OCCUPATIONS REQUIRING LONG PERIODS OF TRAINING.

Auctioneers and Valuers . . . . .	137	Brewers and Maltsters . . . . .	157
Assistants and Clerks . . . . .	137	Brewers, Working Brewers,	
Auctioneers . . . . .	138	Brewhouse Men, Cellar-	
Baking: Bread, Pastry, and		men . . . . .	158
Biscuit . . . . .	139	Maltmen, Bottlers, Clerks	159
“Halfins,” Improvers,		Bricklayers . . . . .	159
Journeymen, “Jobbers”	140	Brushmakers . . . . .	160
Pastry-baking . . . . .	141	Women and Girls, Blind	
Biscuit-making . . . . .	142	Workers . . . . .	162
Basket-makers . . . . .	144	Builders . . . . .	163
Blind Workers . . . . .	144	Boy labourers—Can-boys . . . . .	163
Bell and Blind Hangers and		Masons — (1) Stonecutting	
Locksmiths . . . . .	145	and Hewing, (2) Building	164
Blacksmiths . . . . .	147	Unskilled Labourers . . . . .	165
Cartwrights . . . . .	148	Butchers . . . . .	167
Farriers (Blacksmiths) . . . . .	148	Cabinetmakers . . . . .	168
Bookbinding . . . . .	149	Cabinet and Chair-making	
Women and Girls . . . . .	150	and Machine-shop . . . . .	169
Paper-ruling . . . . .	151	Unskilled Labour . . . . .	170
Booksellers and Publishers . . . . .	151	Wood-carving . . . . .	170
Boot and Shoemaking . . . . .	152	Furniture Design . . . . .	171
Hand-made Boots and		French Polishing . . . . .	171
Shoes . . . . .	155	Upholstery . . . . .	172
Box and Packing-Case Making	156	Carvers and Gilders . . . . .	173
Apprentices and Boy		Carpenters . . . . .	175
Labourers . . . . .	156	Chemists (Manufacturing) . . . . .	178
Skilled and Unskilled		Chemists (Pharmaceutical) . . . . .	181
Men . . . . .	157	Clock and Watch Makers . . . . .	184

	PAGE		PAGE
Coachbuilding and Motor Car		Engineers (Mechanical) . . .	211
Body-building . . .	186	Fitters, Erectors, Turners,	
(1) Body-building, (2)		and Machine-tool Makers	211
Carriage-making, (3)		Boy Labourers . . .	212
Painting, (4) Trim-		Machinemen or Handymen	214
ming and Upholstery		Special Positions for	
Works, (5) Blacksmith		Engineers . . .	215
Work, (6) Wheelmaking .	187	Girls and Women . . .	216
Commercial and Business		Fishing-tackle and Rod-makers	216
Clerks . . .	189	Fish-hook Dressing by	
Trained Assistants . . .	190	Women and Girls . . .	217
Girls and Women . . .	190	Furriers and Fur Garment	
Commercial Travellers . . .	191	Making . . .	217
Coopers . . .	192	Gardeners, Seedsmen, and	
Coppersmiths . . .	193	Nurserymen	219
Brassfinishers and Brass-		Nurserymen and Seedsmen	220
founders . . .	194	Women Gardeners . . .	221
Typefounders . . .	194	Glass Bottle Manufacture . . .	221
Currier or Leather Goods		Unskilled Workers: Packers,	
Makers . . .	195	Sorters, Machinists . . .	224
Cutlers . . .	195	Glass Manufacture . . .	225
Cycle and Motor Manufacturers	196	Glass Blowers . . .	225
Die and Stamp Cutters, Seal		Glass-cutters, Decorators,	
Engravers, and Engravers on		Engravers, Labourers . . .	226
Brass and Silver . . .	197	Glass (Stained) Manufacture . . .	226
Drapers' Assistants . . .	197	Draughtsmen, Glass	
Salesmen, Message-boys		Stainers, Glaziers . . .	227
and Porters . . .	199	Golf Materials . . .	227
Saleswomen . . .	200	Golf-club Making and Re-	
Dressmaking Apprentices . . .	201	pairing . . .	228
Mantlemaking, Millinery . . .	202	Golf-bag Making . . .	229
Outfitting . . .	203	Golf-ball Making . . .	229
Cash Office — Ledger		Grocers . . .	230
Clerks, Correspond-		Women and Girls . . .	233
ence Clerks, Special		Gunmakers . . .	234
Clerks, Purchase Clerks . . .	203	Hairdressers and Barbers . . .	234
Unskilled Labour . . .	204	Trained Assistants . . .	236
Dyeing and French-cleaning . . .	204	Therapeutic Branch . . .	237
Unskilled Workers . . .	205	Hat and Cap Making . . .	237
Girls and Women . . .	205	Iron and Brass Founders . . .	239
Electro-plate Workers . . .	206	Moulding Department—	
Engineers (Electrical) and Elec-		Moulders, Pattern-	
trical Apparatus Makers	206	makers, " Dressers " . . .	240
Draughtsmen, Engineers,		Storemen . . .	242
Switchball Attendants,		Unskilled Labour . . .	243
Engine-drivers, Stokers,			
Fitters, Trimmers, Cable			
Jointers, Girls . . .	208		

## PAGE

Iron and Brass Founders—continued—	
Steel Casting Foundry—	
(a) Mechanical Engineering, (b) Bricklaying, (c) Foundry (moulding and dressing), (d) Melting-shop, (e) Mills . . .	243-244
Unskilled Labour . . .	245
Iron Frame Building Makers . . .	245
Draughtsmen . . .	245
Template Makers, Platers . . .	246
Riveters, Machinemen, Rivet Heaters . . .	247
Ironmongers and Hardware Dealers . . .	248
Practical Tradesmen, Shopmen . . .	248
Japanners and Cycle Enamellers . . .	249
Jewellers, Silversmiths, and Goldsmiths . . .	250
Silversmiths . . .	250
Chasers . . .	251
Goldsmiths and Jewellers . . .	252
Lathsplitters . . .	252
Lithographers . . .	253
Lithographic Artist . . .	253
Lithographic Transferrer . . .	254
Lithographic Machinemen . . .	254
Unskilled Workers . . .	254
Process Workers . . .	255
Millwrights . . .	256
Monumental Sculpture and Marble Cutting . . .	257
Marble Polishers . . .	258
Motor-car Chassis Construction . . .	258
Garage and Dépôt Works . . .	262
Chauffeur . . .	263
Municipal Employment . . .	263
In Offices—Clerks . . .	264
Municipal Surveying Office—Sewerage, Streets, and Roads . . .	265
Water . . .	266
Workshops—Blacksmiths, Joiners, Slaters, and Masons; Causeway Dressers . . .	266

## PAGE

Municipal Employment—continued—	
Weights and Measures Department—Inspectors . . .	266
Police Department . . .	267
Cleansing and Carting Department . . .	268
Electricity Department . . .	269
Municipal Gas Works Service—Inspecting and Fitting Departments . . .	270
Gas-making Department . . .	271
Lamplighters . . .	271
Gas Works Service (in Edinburgh and Leith) . . .	271
Fire Brigade . . .	272
Tramway Service . . .	274
Sanitary Department . . .	276
Musicsellers . . .	278
Trained Assistants . . .	278
Orchestra in Theatre . . .	279
Scottish Orchestra . . .	279
Piano Tuning . . .	279
Organ Building . . .	280
Nurses (Hospital and Private) . . .	281
Queen's Nurses . . .	283
Sick Children's Hospital . . .	283
Maternity Hospital . . .	284
Private Nursing . . .	284
Painters, Decorators, and Paper-hangers . . .	284
(a) House-painting and Decorating, (b) Paper-hanging and Whitewashing, (c) Lettering, (d) Grain-ing (wood imitation), (e) Glazier-work, Glass-staining, and Leading . . .	285
Semi-skilled and Unskilled Painters . . .	287
Designers . . .	290
Photography . . .	290
Photographic Dealers . . .	293
Plasterers . . .	294
Semi-skilled and Unskilled Workers . . .	297
Plaster and Cement Manufacture . . .	298



	PAGE		PAGE
Plumbers and Sanitary		Saddlers, Harness and Whip	
Engineers	298	Makers, Legging Makers,	
Gas Meter Makers . . .	301	Harness Composition . . .	332
Post Office Employees . . .	302	Harness Composition . . .	334
Telegraph Messengers,		Sawmilling . . . . .	334
Assistant Postmen,		Shipbuilding . . . . .	338
Postmen . . . . .	303	Platers . . . . .	339
Telegraph Operators and		Riveters . . . . .	340
Sorting Clerks—Men . .	304	Caulkers, Boilermakers . .	341
Supervising Grades . . .	306	Shipwrights, Joiners . . .	342
Girl Clerks . . . . .	307	Other Labour employed—	
Women Clerks . . . . .	308	Painters, Riggers, Drillers,	
Telephone Department . .	308	Blacksmiths, Pattern-	
Pottery Works . . . . .	309	makers, Fitters, Turners,	
(a) Throwers, (b) Turners,		Machinemen, Labourers . .	343
(c) Flat-pressers, (d) Kiln-		Draughtsmen . . . . .	343
men, (e) Decorators, (f)		Girls . . . . .	344
Glazers . . . . .	309	Shop Assistants . . . . .	344
Women and Girls . . . . .	311	Trained Assistants . . . .	345
Brickmaking . . . . .	312	Girl Assistants . . . . .	345
Labourers . . . . .	312	Shorthand and Typewriting . .	346
Printers and Compositors . .	312	Slaters and Tilers . . . . .	348
Printing . . . . .	313	Slaters . . . . .	348
Compositors . . . . .	314	Tilers . . . . .	350
Women and Girls . . . . .	317	Stationers . . . . .	350
Paper Bag Making . . . .	317	Girls . . . . .	351
Stationery, Envelope-		Surgical and Scientific Instru-	
making, and Die-		ment Makers and Opticians	352
stamping . . . . .	318	Sweetmeat Manufacture and	
Book-folding and Binding .	318	Jam Making . . . . .	355
Quarriers and Stone-dressers .	319	Chocolate Making . . . .	357
Quarrymen and Cutters or		Jam Making . . . . .	358
Drillers . . . . .	319	Tailors . . . . .	359
Settmakers . . . . .	320	Clothiers and Outfitters . .	359
Polishers (machine and		Salesmen . . . . .	360
hand) . . . . .	320	Tailoring and Clothing Factories	361
Stone-dressing . . . . .	320	Tanners and Skinners . . . .	363
Railway Companies' Service . .	322	Telephone Electricians, Clerks,	
Traffic Department . . . .	323	and Operators . . . . .	363
Clerical Department . . .	325	Electrical Department . . .	364
Approximate List of Rail-		Clerical Department . . . .	366
way Salaries—		Traffic (Operating) Depart-	
Passenger Department . .	327	ment—Women . . . . .	367
Goods Department . . . .	328	Tea Blenders and Tasters . . .	370
Locomotive Department	328	Tinsmiths and Die-makers . . .	371
Reporters . . . . .	331	Tinsmiths . . . . .	371
		Die-makers . . . . .	372

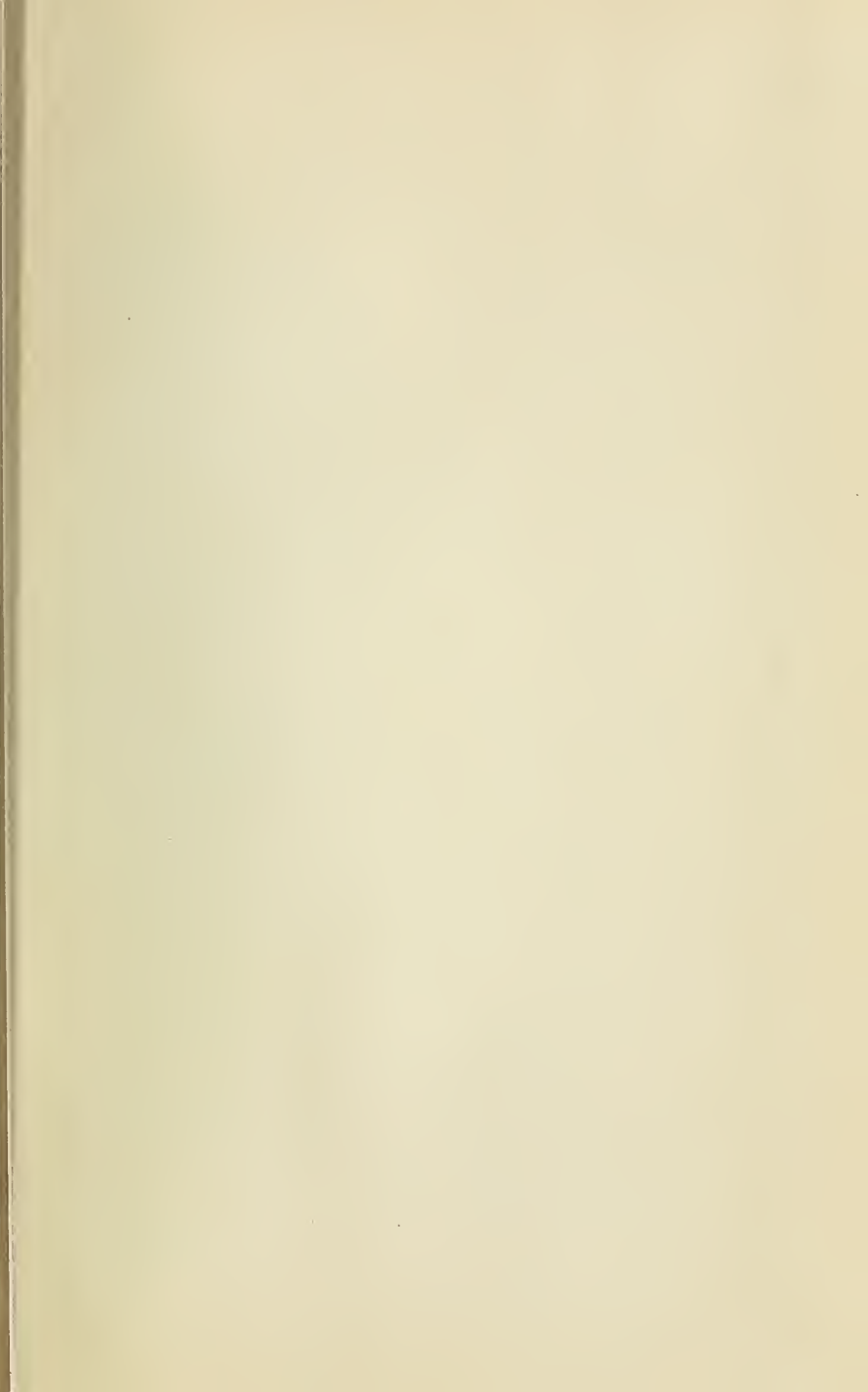


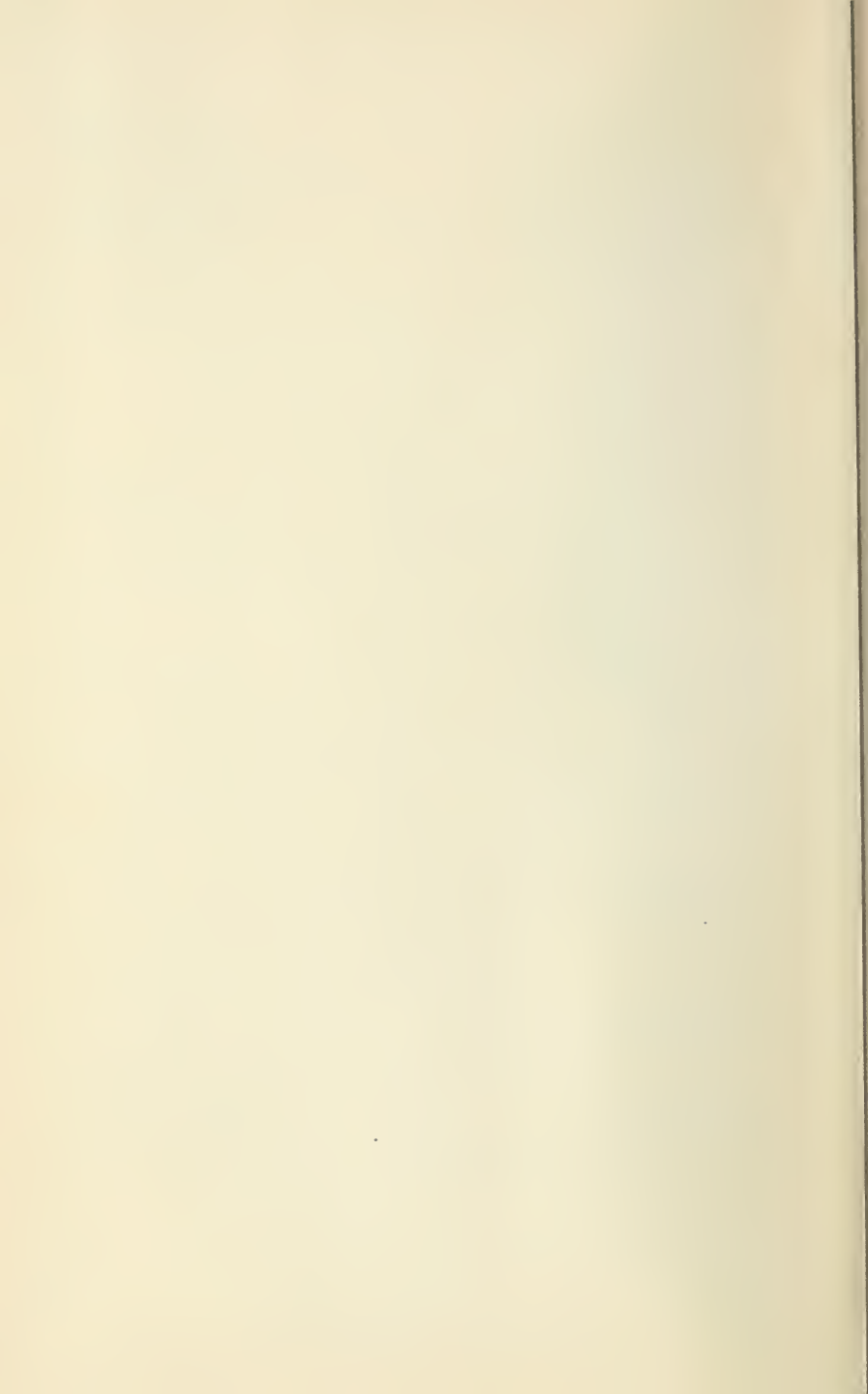
	PAGE		PAGE
Tinware Making . . . . .	373	Tool Makers . . . . .	375
Tinware Factory Workers		Machine-tool Making . . .	378
—Labourers, Testers,		Wire Weavers and Drawers .	379
Girls . . . . .	373	Boy Labourers—Pullers-up	380
Pipe-top Factory . . . .	375	Unskilled Labourers . .	382
		Women and Girls . . . .	382

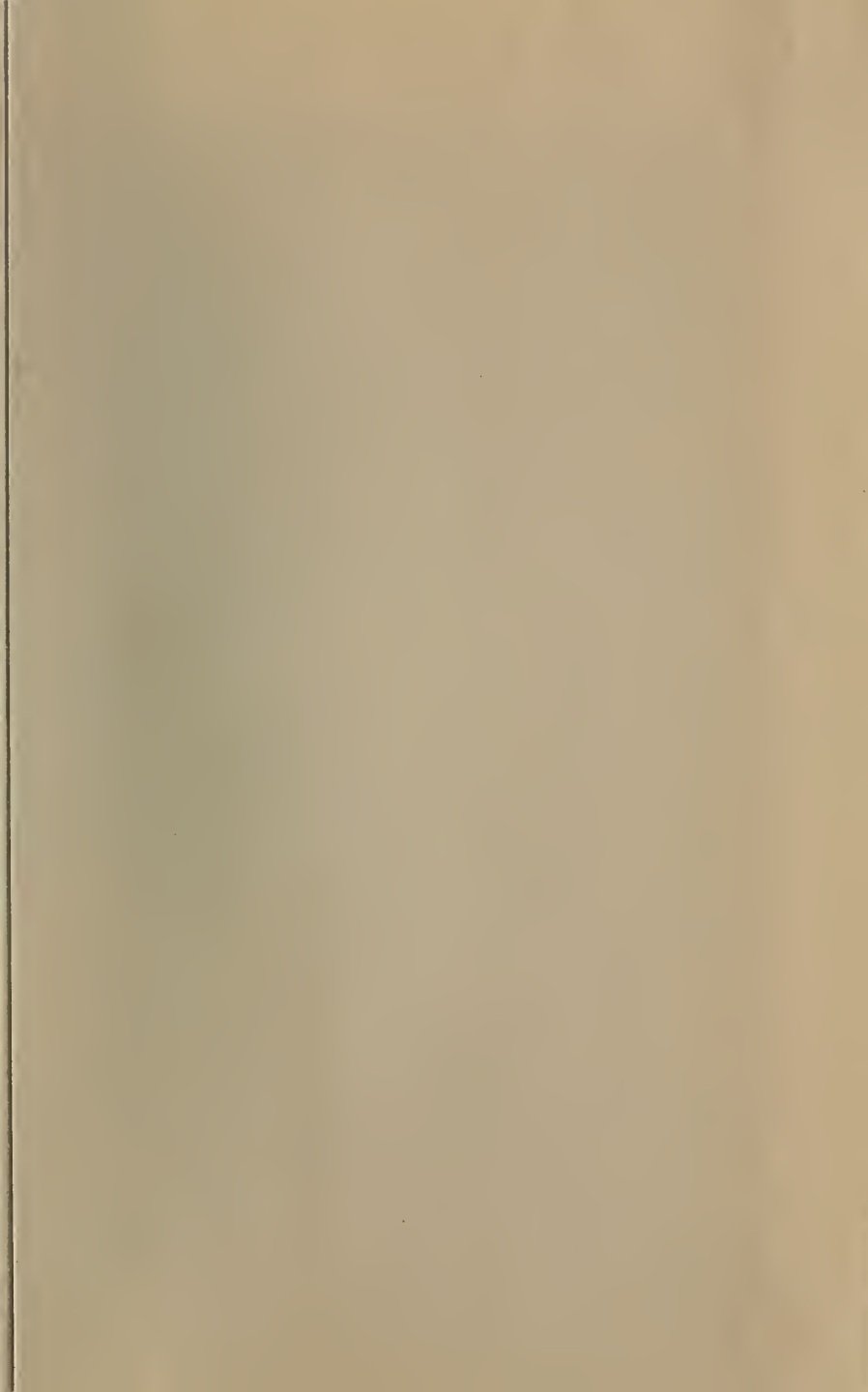
## PART III.

### PROFESSIONAL CALLINGS.

Accountants . . . . .	384	Dentists . . . . .	407
Architects . . . . .	385	Dental Mechanics . . . .	409
Trained Assistants . . .	387	Engineers (Civil) . . . . .	409
Clerks of Works . . . .	388	Land and House Surveyors,	
Army Commissions . . . .	388	Measurers . . . . .	413
Bankers . . . . .	391	Insurance Offices . . . . .	414
Civil Service Clerks . . .	393	Fire, Burglary and Acci-	
Boy Clerkships . . . . .	393	dent, Life . . . . .	415
First Division Clerks . .	394	Clerks . . . . .	415
Second Division Clerks .	394	Actuaries . . . . .	416
Indian Civil Service . . .	395	Law Agents . . . . .	417
Indian Forest Service . .	395	Law Clerks . . . . .	419
Indian Police Service . .	395	Advocates or Scottish	
Clergymen . . . . .	396	Barristers . . . . .	421
Established Church of Scot-		Navy Commissions . . . . .	423
land . . . . .	396	Public Library Assistants .	425
The Episcopal Church in		Physicians . . . . .	427
Scotland . . . . .	398	Stockbrokers . . . . .	429
Roman Catholic Priests		Teachers . . . . .	432
(Scotland) . . . . .	399	Teachers of Special Subjects	434
United Free Church in		The Episcopal Training	
Scotland . . . . .	400	College . . . . .	435
Congregational Church . .	402	Training for Roman	
Methodist Church . . . .	403	Catholic Teachers	437
Baptist Church . . . . .	404	Veterinary Surgeons . . . .	431
Unitarian Church . . . .	405		







UNIVERSITY OF CALIFORNIA LIBRARY  
Los Angeles

This book is DUE on the last date stamped below.

AUG 8 1961

REC'D LUN

JUN 20 1980

JUN 20 1980

SEP 21 1961

OCT 08 2007

HF Gordon -  
5381 Handbook of em-  
G657h ployments



3 1158 00612 5883

BINDERY SEP 24 1957

RK

HF  
5381  
G657h

UC SOUTHERN REGIONAL LIBRARY FACILITY



AA 000 711 218 8



