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TELEPHONE MEN.

LVI.—WILLIAM FREDERICK TAYLOR.

WILLIAM FREDERICK TAYLOR was born in 1879 at Ayr—

“Auld Ayr wham ne'er a toon surpasses
For honest men and bonnie lasses,”

as Burns says. Mr. Taylor's stay in the town of his birth was not of long duration, for when he was four years old his parents removed to Glasgow, his father having been promoted to the Governorship of Barlinnie Prison. Mr. Taylor was educated firstly at a private school, and subsequently at the Glasgow High School. He later, whilst in the Company's service at Glasgow, attended the West of Scotland Technical College, and obtained certificates in magnetism and electricity, first class in telephony and telegraphy ordinary grade, and first class in telephony honours grade in the City and Guilds examination. He was also successful in obtaining a first prize in the honours examination in telephony. After leaving school, Mr. Taylor spent some time on mechanical work in order to learn the use of tools, having by this time determined to enter upon an engineering vocation. With this in view he entered the service of the National Telephone Company in February, 1896, as an apprentice-mechanic, and as such he occupied himself in the mechanics' shop in Glasgow for a year, gaining useful experience of switchboard and instrument work under the guidance of Mr. Tom Donaldson, the chief mechanic. At the end of this period Mr. Taylor was removed to Dundee, where he had the opportunity of obtaining experience in various phases of the Company's work. He first became an instrument fitter, and as, during his stay in the town, the process of changing from the earth circuit to the metallic system was in operation, he was given the opportunity of taking a share in this work.

Mr. Taylor's stay in Dundee was not a long one. At the end of fifteen months he was transferred to Glasgow and appointed to the Fitting Department in that town. In November, 1898, he received promotion, being appointed Test Clerk. This post he occupied for a year. Mr. Taylor's next move was to a different branch of the Company's business—viz., the engineering. He was first appointed as Clerk to the Glasgow Engineer, and during the time he spent in this department he never missed an opportunity of acquiring knowledge and experience in order to fit himself for higher and greater responsibilities. In a very short time his zeal and

ability were fittingly recognised by his promotion to the District Managership of Stirling, which post he occupied until 1903.

At this date the Company resolved upon and inaugurated a policy in connection with the development of its business which has practically revolutionised the methods which had been previously adopted for the same purpose. Up to that time it had been the practice to “rent a telephone” and no very great difficulties were met with in the manner the Company's business was presented to the public, but with the advent of different grades of service involving a variety of tariffs, it became necessary to organise a special department to deal with these new conditions, with the result that Contract Departments, which are now part of the Company's organisation in all the districts, were introduced. Glasgow was one of the first places, however, to establish such a department, and Mr. Taylor was selected to take charge. He entered into his new duties with that keenness which always characterises everything which he takes in hand. Glasgow was at that time in the throes of a severe competition with the Corporation. Mr. Taylor, however, seemed to be in his element, and there is no doubt that the success which attended the Company throughout its fight with the Corporation was due to the zeal and enthusiasm of all who assisted in it. Three strenuous years were in this way spent in Glasgow.

In the summer of 1906 Mr. Taylor took a flying visit to America, where he occupied his holiday in enquiring into the American methods of contract work; he visited several of the important towns, including New York and Philadelphia, and he was fortunate enough to bring away with him some valuable hints on contract working generally as practised in the States. On Mr.

Taylor's return to England he learned from his JOURNAL that he had been appointed to the responsible position of Contract Manager for London. Mr. Taylor's first duty on taking up his new appointment was the re-organisation of the department, and this work was carried out with great success, and says much for Mr. Taylor's organising ability. Mr. Taylor has temporarily relinquished the post which he has held with great credit to himself and with advantage to the Company during the last four years, to fill the position of Divisional Officer on the Inventory staff.



Mr. Taylor has a thorough knowledge of his business, and is thereby able to appreciate all the difficulties that are inherent in contract work. He is firm and just in the control of his large staff, and whilst he is not one to overlook "any slackness" that comes under his notice, he is always ready to offer a word of praise for work well done.

He is a thorough believer in a word of encouragement at the right time, and has deservedly won not only the respect of his own staff but of all that have been brought into business relations with him. With his colleagues he is on the friendliest terms, and he enjoys to the full the confidence of his chiefs.

Mr. Taylor confesses to no particular hobby. Gardening, however, has a great fascination for him, the growing of roses being his speciality. Walking is his recreation, and when not engaged in this healthy pursuit he devotes most of his spare time to reading, of which he is extremely fond.

LONG-DISTANCE TELEPHONY.

By J. J. CARTY.

[Mr. Carty, Chief Engineer of the American Telephone & Telegraph Company, made the following remarks on this subject at the second International Conference of European Telegraph and Telephone Administrations (held at Paris).]

MR. PRESIDENT AND GENTLEMEN,—I think that my contribution to this discussion can best take the form of a general statement, setting forth some points with respect to the condition of long-distance telephony in the United States.

The present state of the art with regard to long-distance telephony in the United States involves the use of two gauges of copper open wire toll lines—namely, No. 12 N.B.S.G. (2.64 mm.), weighing 173 lbs. per wire mile (42.3 kos. per km.), and No. 8 B.W.G. (4.2 mm.), weighing 435 lbs. per wire mile (122.6 kos. per km.), and the use of underground and aerial toll cables with conductors varying in size from No. 16 B. and S. (1.3 mm.), 42 lbs. per wire mile (11.8 kos. per km.), to No. 13 B. and S. (1.8 mm.), 83 lbs. per wire mile (23.4 kos. per km.) paper insulated twisted pairs. The open wire circuits are both loaded and non-loaded, and the non-loaded circuits are frequently used in conjunction with telephone repeaters, both of the test board and cord circuit type. The cable circuits used in connection with long-distance telephony are invariably loaded.

In addition to the use of physical circuits there is a great deal of phantoming of non-loaded open wire toll lines. Cable circuits are phantomed to but a small extent however.

In addition to the foregoing, which are in actual commercial use, the development at present taking place in connection with long-distance transmission, contemplates the use of larger gauge loaded cable circuits arranged for phantoming and the phantom working of loaded open wire toll lines. These points are taken up under the separate headings below.

Open Wire Toll Lines.—At the present time the standard of transmission aimed at for long-distance work is the equivalent of about 850 miles of No. 8 B.W.G. (1,360 kms. of 4.2 mm.) copper circuit (about 30 miles of No. 19 gauge cable—48 kms. of 0.9 mm.) The exact distances for which it is permissible to use the different classes of constructions depend to a considerable extent on the terminal conditions, that is the amount of underground toll entering cable and the uses to which the circuit is to be put; for example, whether it is largely for terminating business or is to be used mainly in connection with other circuits. The following table shows the relative transmission efficiencies of the different classes of non-loaded and loaded circuits at present employed:—

Open wire circuit.	Miles equivalent to 1 mile No. 19 B. and S. cable (0.054 mf.).	Relative efficiency.
No. 12 N.B.S.G. (2.64 mm.) non-loaded	12.8	1.00
" " " loaded ...	30.2	2.36
No. 8 B.W.G. (4.2 mm.) non-loaded ...	29.0	2.26
" " " loaded ...	67.0	5.23
In general the No. 12 N.B.S.G. (2.64 mm.) circuits are used for		

the short haul toll connections or as feeders for the long haul toll circuits, that is for connecting the terminal points to toll centres which have long haul facilities. The No. 12 N.B.S.G. (2.64 mm.) loaded circuits and the No. 8 B.W.G. (4.2 mm.) non-loaded circuits are used for long haul toll lines. As the above table shows, these two circuits have approximately the same transmission efficiency, and the principal reason why there are any non-loaded No. 8 B.W.G. (4.2 mm.) circuits in the plant at the present time is due to the fact that, in the days before it was feasible to load open wire circuits, the No. 8 B.W.G. (4.2 mm.) wires were universally used for long toll lines. Owing to the inherent characteristics of loaded lines the loading of large gauge aerial circuits was not made practicable until very recently. As fast as the present plans can be carried out all of the No. 8 B.W.G. (4.2 mm.) circuits now in the plant, and certain other circuits which will be required to take care of the long-distance traffic, are to be loaded. This new loading contemplates the arrangement of the circuits for phantom working. When this is completed the loaded No. 8 (4.2 mm.) gauge circuits, both physical and phantom, will constitute what might be termed "extra long haul" circuits.

Aerial Loading.—At the present time there are about 52,000 miles (83,500 kms.) of loaded No. 12 N.B.S.G. (2.64 mm.) circuit in the United States, and about 1,000 miles (1,600 kms.) of No. 8 B.W.G. (4.2 mm.) loaded circuit. There are at present under construction, or intended for completion by Jan. 1, 1911, about 17,000 miles (27,200 kms.) No. 12 N.B.S.G. (2.64 mm.) loaded circuit, and about 13,000 miles (21,000 kms.) of No. 8 B.W.G. (4.2 mm.) loaded circuit. Of this latter about 3,800 miles (6,100 kms.)—namely, four circuits from New York to Chicago—will be arranged for phantom working.

The efficiency of these two phantom circuits from New York to Chicago is expected to be substantially greater than the physical circuits of which they are composed. Either of these two phantom circuits may be connected at Chicago to a pair of loaded No. 8 B.W.G. (4.2 mm.) wires extending from Chicago to Omaha. At Omaha these two wires may be connected to a phantom circuit made up of four loaded No. 8 B.W.G. (4.2 mm.) wires, now being constructed between Omaha and Denver. Over this combination of circuits it is expected, about Jan. 1 next, that we shall be able to get a fairly good talk between New York City and Denver, Colorado, and that, by means of this and similar combinations of circuits, the value of the transmission obtained between New York and the far Western cities will be very greatly increased. Over these circuits—or over sections of them—it is proposed to operate in the standard manner each wire for the purpose of duplex telegraphy which can be carried on over these wires while they are being used for telephone purposes. Thus we may have going on at the same time two independent and non-interfering telephonic conversations between New York and Chicago, also two independent and non-interfering telephonic conversations between Omaha and Denver. In addition to this, a third conversation may take place—at the same time and over the same wires—between Denver and New York. While all of these telephonic conversations are taking place, eight (8) telegraphic messages may simultaneously be sent over these circuits, none interfering with the others nor with the telephone transmission.

Some idea of the economic importance of this loading and phantom work may be gained when I state that the re-arrangement of the circuits on the new plan between New York and Chicago is being accomplished at a cost of \$110,000 (frs. 572,000). The improvement in efficiency in the transmission of speech thereby obtained and the additional improved circuit which phantoming gives to us would cost more than a million dollars (\$1,600,000) (frs. 8,320,000) if obtained in the ordinary way.

With the loading coils and lightning arresters as now constructed, there is very little trouble due to the failure of the loading coils, and practically no trouble due to low insulation in the arresters. These latter are also constructed in such a manner that there is practically no maintenance on them.

In the early attempts to load serial circuits one of the chief difficulties arose from inability to protect the loading coils from lightning with an arrester which did not require an excessive amount of attention, and it was largely for this reason that the early attempts at aerial loading were a failure.

At the present time the chief trouble on loaded circuits has been occasioned by low insulation due to leakage at the bridling points. This has been corrected by the adoption of the bridle wire electrose insulator, which insures a break in the conducting path along the wet bridle wire.

Phantoming.—The phantom of non-loaded circuits involves the use of phantom repeating coils on the component side circuits. These coils necessarily introduce a certain amount of transmission loss so that the efficiency of the side circuits is slightly reduced. The phantom circuit produced is, however, considered more efficient than the original side circuits, and where phantom is adopted in the toll plant it is usual to arrange the traffic so that the long haul connections will be put up on the phantom and the shorter haul connections on the side circuits.

Loaded Phantoms.—By properly arranging the windings on the loading coil cores, by observing extraordinary precautions in the manufacture and by constructing special coils arranged for four sets of windings, it is possible to phantom loaded circuits and to load the phantom thus produced. The impairment in the efficiency of the loading side circuits due to the introduction of the phantom loading coil is slight, and the loaded phantom has materially higher transmission efficiency than either of the side circuits.

By the adoption of this phantom loading, the preliminary work on which is just being completed, one of the chief drawbacks to the extensive use of aerial loading will be overcome, and at the same time the range of transmission will be considerably increased. The limitation to loading which has existed in the past due to inability to phantom the loaded circuits has been due to the fact that it has been necessary to choose between the economies of phantom with practically no increase in the transmission range, or to load the physical circuits thus extending their transmission range and to provide additional physical circuits to care for increased traffic. With phantom loading both benefits will be available.

Superimposed Telegraph.—All of the long-distance toll lines are used for superimposed telegraph working. This applies also to phantom circuits.

Both simplex and composite combinations are in use. Both involve grounded telegraph operation. In the first of these the two wires of a pair are used in parallel as a telegraph conductor, and in the second each wire is used as a separate telegraph circuit. Straight and duplex Morse working are in vogue, and while automatic keys are used to a considerable extent, there is no present operation of high speed machine sending. The loading of circuits does not interfere in any way with their applicability for telegraph purposes except that it places a limitation on the maximum value of the telegraph current—*i. e.*, it is not possible to employ such currents as will magnetise the loading coil cores.

Cable in Connection with the Long-Distance Telephone Service.—Paper insulated cables are employed for two purposes in connection with the long distance telephone plant (this does not include the use of cables for toll-switching trunks). The first of these is for bringing open wire toll lines into the centres of cities where it is not possible to install and maintain open wire leads, and the second is for use between large toll centres where the volume of terminating traffic is such as to require a large number of circuits. Under these conditions it is economical to instal underground toll cables for very considerable distance.

For both classes of service the cables are invariably loaded.

Toll Entering Cables.—Cables for toll entering purposes range in size from No. 16 (1.3 mm.) to No. 13 B. and S. (1.8 mm.) gauge conductors, depending upon the character of the open wire toll lines and are the loaded, light, medium or heavy, depending upon their length, upon whether the open wires are non-loaded or loaded and upon whether the toll switching trunks are non-loaded or loaded. As the number of circuits in the toll entering cables is always in excess of the number of toll lines to be brought in, considerations of the warranted expenditures for a given transmission gain result in the cable conductors being somewhat smaller than those of the open wire lines which they are to serve. In determining the proper gauge of any toll entering cable, this cable is so arranged as to be in cost-equilibrium with the open wire plant which it is to serve.

Duplex Cables.—At the present time practically all of the toll entering cables are of ordinary construction, that is, not arranged for phantom working. Duplex cables and proper loading coils for use on them have recently been devised and are being installed. The employment of such cables will make it possible to employ phantom of the open wire plant to full efficiency, as it will remove the necessity of placing the phantom repeating coils on the outer end of the toll entering cable by permitting the phantom circuits to be carried into the toll office as such, thus making all the wires available for composite operation.

Toll Cables.—Between certain large cities—for example, between New York and Philadelphia, New York and New Haven, Chicago and Milwaukee, Boston and Worcester, Boston and Brockton—the volume of traffic is sufficient to warrant the provision of special high-grade loaded cable circuits in underground conduit. At the present time these circuits are in cables of ordinary construction, that is, not arranged for phantom working, and are usually provided with heavy loading. To provide the necessary transmission efficiency the cable conductors for the long haul circuits are usually No. 14 (1.6 mm.) or No. 13 B. and S. (1.8 mm.) gauge. A certain number of smaller gauge conductors for service to intermediate points are frequently incorporated in the same cable sheath. The standard full-sized sheath is $2\frac{1}{2}$ inches (66 mm.) outside diameter and the sheath thickness is $\frac{1}{4}$ inch (3.2 mm.). The paper insulated conductors have a mutual electrostatic capacity of about .068 mf. per mile (.042 per km.).

In cases of this kind, where a large number of circuits are provided in a single sheath, special rapid operating methods are in vogue. The circuits are also employed for superimposed telegraph working.

Extension of Underground Working.—At the present time we are preparing to install an all underground cable route from New York to Washington, a distance of 235 miles (378 kms.), and from New York to Boston, a distance of 235 miles (378 kms.). The cable in these routes is to be of special duplex construction, that is, arranged for phantom working and both the side circuits and the phantom circuits are to be loaded. The cable will be of standard size and will contain seven quads No. 10 B. and S. (2.6 mm.) conductors, eighteen quads No. 13 B. and S. (1.8 mm.) gauge conductors, six pairs of No. 13 B. and S. (1.8 mm.) gauge conductors unphantomed, and eighteen pairs of No. 16 B. and S. (1.3 mm.) gauge conductors unphantomed. The loaded No. 10 (2.6 mm.) gauge physical and phantom circuits and the loaded No. 13 (1.8 mm.) gauge phantom circuits will give a high grade of transmission from New York to Washington or Boston, and the No. 13 (1.8 mm.) gauge loaded side and non-phantomed circuits will give transmission to intermediate points. No. 16 (1.3 mm.) gauge conductors will be used for short haul service along the route and for telegraph operation.

It will be seen that over the circuits of this cable phantom working will be accomplished, superimposed telegraph working will also be used, so that over two pairs of wires three independent telephone conversations may take place simultaneously, and at the same time eight telegraph messages may be sent, all without interference.

Phantom Loading Coils.—With the standard coils now in use it is not possible to secure efficient phantom working. The coils have, however, been re-designed to eliminate this difficulty, and in the future all coils are to be manufactured so that they may be employed on duplex cable. In the case of the New York to Washington and New York to Boston cables the associated side circuit and phantom loading coils will be mounted in the same pots, all of the cross-connecting being done at the factory. The plant force will, therefore, have simply to connect the stub cable into the main cable.

Certificate for Saving Life.—Mr. C. A. Bevan, Cashier in the district office, Swansea, who assisted in rescuing a young lady from drowning at Langland Bay, near Swansea, about three months ago, is the recipient of a certificate recording his gallantry. The presentation was made by the Mayor of Swansea at the Guildhall in that town.

THE PERFECT CASH CLERK.

By D. B. HEBENTON, *Glasgow.*

THERE may, at the present moment, be an impression that anyone, so long as he can make out a receipt for six-and-eightpence and subtract that sum from half a sovereign, is good enough for the public counter. Lest such an opinion should gain any degree of currency, let it at once be said that such is not only far from being the case—it is a slur upon one of the most important posts filled by the minor staff. For, in addition to all those qualities which constitute clerical efficiency, it possesses several particular requirements, and the successful cash clerk is in a way a specialist.

The cash clerk should be of a good height and should at least look his age. He should be neither so short as to appear insignificant nor so tall as to place the subscriber at a like disadvantage. One has recollections of a counter clerk—now in another clime—who, while standing behind the counter, could almost pick up a threepenny-bit from the floor on the other side. Although his reach was useful, he was rather large, for, although the subscriber may be looked up to, he must not be looked down upon. He should be most particular as to his toilette and manure. In the cold winter mornings one is sometimes apt to leave too little time for shaving, but, while such procrastination may be sympathised with in other parts of the building, it cannot be countenanced at the counter.

He should possess clear speech and pleasant manners. The former is most essential, for so many questions are continually being put that the clerk who can give his replies in clear tones saves repetition and consequent loss of time. In the absence of an enquiry office, its duties fall upon the cash office. But the counter clerk should always bear in mind that he is there primarily to collect money. His object should be to behold the back and not the face of the subscriber, and, should a short explanation not suffice, the latter should at once be referred to the department concerned. There are people who appear to like the sound of their own voices, and the clerk who can terminate an unnecessary conversation has a good card up his sleeve. A good business man, who himself uses terse, direct language, prefers that kind of speech in others, while the garrulous deserve to be met with as few words as possible.

Although there is something to be said for the linguist who can vary his speech to suit the occasion, the cash clerk should avoid slang expressions. One has heard it told of a certain clerk of the long ago who, no matter how crowded or busy the counter might be, would sometimes stop in the middle of a receipt to greet a sporting friend with such a remark as "Hoo did ye's get own on Saturday, Joney?" Such a person was obviously unfit for his position. On the other hand, a "Kelvinside" accent ought not to be cultivated. One cannot feel other than sorry for the young person who says "men" when he means the singular, and, in a way, he is more to blame than his vulgar opposite because the latter is such from ignorance, whereas he is so from choice.

Of manners, there may sometimes be a tendency to overdo these. This is particularly the case should the subscriber take the form of a rather genteel young lady. To this it should be remarked that the counter provides neither the time nor the place for amorous pursuits, and there, at all events, the lady killer is entirely out of place. Simple civility is all that is required, and to "smile the smile of a dependent" or to "sir" a man's every remark is quite unnecessary.

Sometimes it is better to take the upper hand of the subscriber; sometimes to "sing dumb"; and it is well if, before commencing a dispute, the clerk possesses the faculty for weighing-up the subscriber. One should never enter into an argument without a full knowledge of the point at issue, for there is no ignominy on earth like that of being cornered—of being found wanting where one should know all.

Of all counter requirements, however, the most important are exactness and coolness. In the handling of money it is absolutely essential to be quick and accurate, for mistakes made there cannot be remedied as in other departments, and should the error be on the wrong side, the cash clerk's pocket will be the sufferer. The opportunity presents itself sooner or later for losing one's head, and unless a proper grip is kept something is bound to

go wrong. Under extreme pressure the writer has given change in a mechanical kind of fashion without *knowing* that the money given was the correct amount. Likewise, he has been asked to give change for a colleague who had momentarily lost his self-control. Therefore, when the pinch comes, coolness is of the greatest value at the counter.

Summarising the foregoing it would appear that the perfect cash clerk should possess:

A good appearance and address.

Clear, direct speech, devoid of mannerisms.

A manner "courteous but not courtierlike."

A good all-round knowledge of the Company's business.

Great accuracy, and

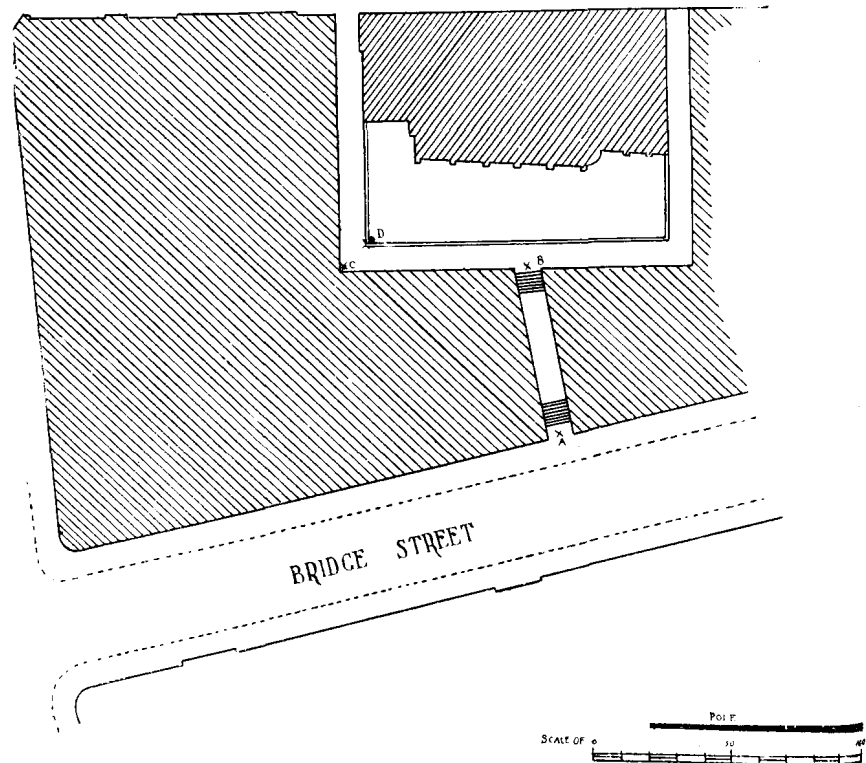
A coolness that should never amount to nonchalance.

Such a type is the product not of chance but of adaptability, cultivation and common sense.

ERECTION OF LARGE POLES IN DIFFICULT PLACES.

By E. L. PRESTON, *Engineer, Bristol.*

As is well known, the telephone engineer's troubles are numerous and varied. One of the most recent locally met with and overcome may prove interesting. An H roof distributing pole, with a capacity for 102 circuits, erected in connection with the first Bristol underground scheme, had to be removed at short notice. The first consideration was how to deal with the existing and anticipated circuits; whether another roof pole should be erected or a



ground pole; or whether covered distribution should be adopted, having regard to efficiency and economy. A study of the circumstances indicated that the best method was the erection of a tall ground pole, although the proposed (and, in fact, the only available) position C was an extremely awkward one. The preliminaries having been settled, a start was made, but when the pole hole had been got out to a depth of 4 feet to 5 feet a hidden cellar was discovered. As this was upon a different property involving another D.P. agreement and the usual delay attendant on this, work was temporarily abandoned, permission being sought to erect the pole some feet away on the original grantor's property and clear of the cellar at point D. The grantor's agent agreed to this and the

next stage was entered on. The pole to be erected was 80 feet in height and about 2½ tons in weight, and it will be obvious from the sketch-plan that the restricted space made the job one of consider-

start was made, the pole being derricked at A and dropped into passage A B. Fig. 1 shows this passage and flight of steps. The pole shown being lowered is not the 80-foot but a 45-foot derrick,



FIG. 1.



FIG. 3.

which in turn had to be erected and lowered by means of a smaller derrick. A good deal of trouble was caused by the numerous open wires at this point, all these having to be dipped in semi-darkness) before the pole could be swung into the passage. The pole was then derricked at B and dropped along

able difficulty. The spot is in the heart of the city, and Bridge Street is one of the busiest streets as regards traffic. It was necessary therefore to start the work at night. At midnight a

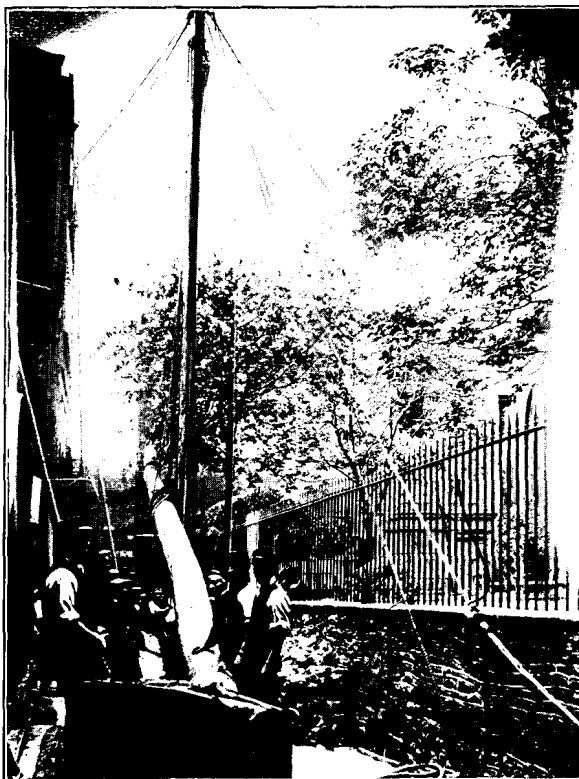


FIG. 2.

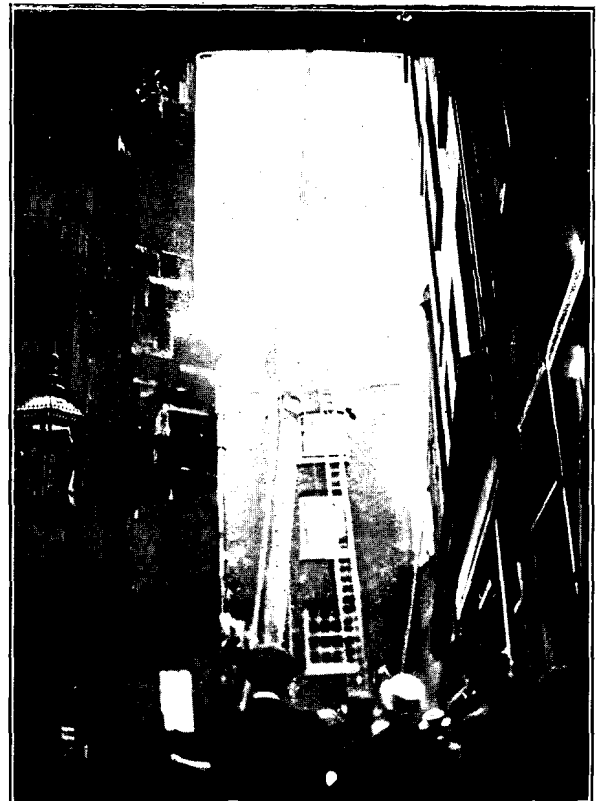


FIG. 4.

the lane at back (Fig. 2). Fig. 3 shows the pole being lifted again at D. Fig. 4 shows it being lowered into what was thought to be its final resting place, after eighteen hours' continuous work. It was now imagined that our chief trouble was over, and the pole was stayed, steel wires were run

for aerial cables, and some open wires transferred, when the grantor came on the spot, repudiated his agent's action, and insisted on the pole being erected in the originally proposed position. This,

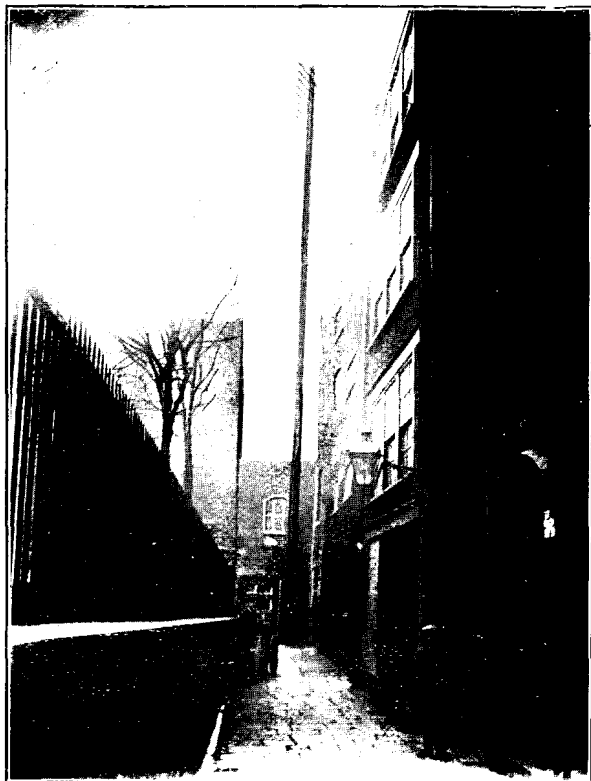


FIG. 5.

of course, meant that a distributing pole agreement had to be entered into for the cellar. This was successfully completed, and the pole was lifted from the spot in which it had been deposited and

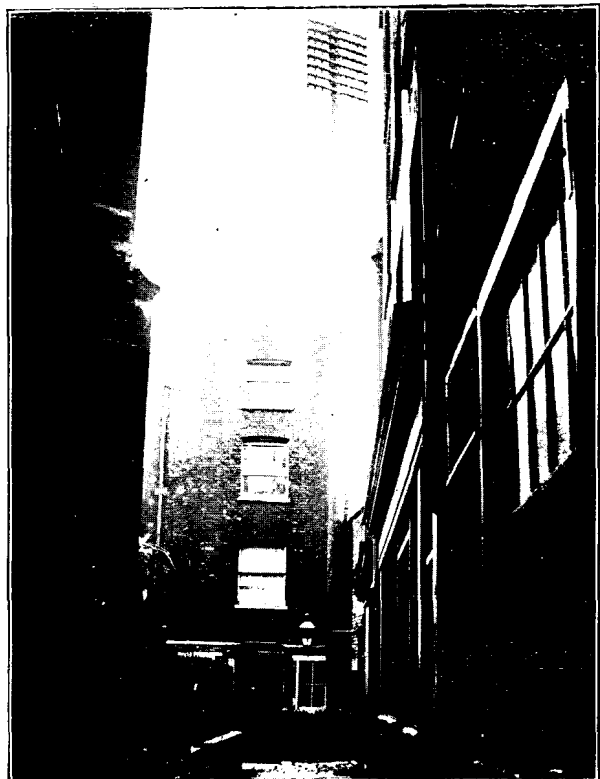


FIG. 6.

dropped into the cellar, which I hope will be its permanent home. There is nearly 13 feet of pole below the ground line. Figs. 5 and 6 give two views of the pole when the work had been completed. The estimate was naturally greatly overspent, and indicates what a difficult job it must be to find the values of certain poles in place, and I think that most engineers would be under rather than over the correct figure.

I would here like to compliment all members of the staff who took part in this work for their united efforts, which were excellent, as a large portion of the work was carried out under most unfavourable weather conditions, and the whole of the work was of an extremely risky nature, and called for exceptional skill and care.

The photographs are the work of official photographer Wayleave Officer Saunders.

TELEPHONE WOMEN.

LXXXII.—ANNIE ELIZABETH REEKIE.

MISS REEKIE, although, as her name denotes, of Scotch descent on her father's side, is a Londoner by birth, having been born in Marylebone, and receiving her education at schools in the City and Tottenham.



ANNIE ELIZABETH REEKIE.

At the present day, when new operating staff enter the service at an average of about nine per week, one is able to appreciate the difference which existed when Miss Reekie made application to enter, as she was then told that there were 50 names in front of her's, and that she would doubtless have to wait for a year for a vacancy. As a matter of fact, it was almost two years to the day when she received notification to present herself for duty at the Bank Exchange—viz., on May 5, 1893—and by that time she had actually almost forgotten making her application. The Operating School was not then in existence, but, when inaugurated, Miss Reekie had a great ambition to be placed there, and was delighted when in December, 1900, she was notified that she had been promoted to be

one of its Supervisors. She states that the period there, during which she was advanced to Senior Supervisor, was one of the happiest in her telephone career. It is certain that she was most successful in the training of learners, her ready sympathies going very far to assist in imparting knowledge and dealing with the various dispositions which came under her care.

On Oct. 7, 1907, she was promoted to her present position as Clerk-in-Charge of the Bank Exchange, where her success has been maintained and her work much appreciated by her chiefs. The "Bank" is unique inasmuch as it is the only flat board exchange remaining in London. The subscribers at present number about 2,000 with 374 outgoing junctions, and the staff, including supervisors, is 98.

One might almost say that Miss Reekie's recreation is found in work. She is one of the vice-chairmen of the London Telephone Operators' Society, a member of the committee of the Staff Benevolent Society, one of the Company's delegates to the Hospital Saturday Fund, and a very hard-working member of that fund's surgical appliance committee. Whatever she undertakes she enters into with whole-hearted enthusiasm, and the successful whist drives which have added considerably to the coffers of the Hospital Saturday Fund, Life Boat and Fresh Air Funds, and the Staff Benevolent Society, during the past two winters, have been held under her organisation. She merits the sincere respect and affection with which she is regarded by her staff, and has made many friends in the Service.

LXXXIII.—BLANCH READ.

MISS READ, who is the Clerk-in-Charge of the Company's exchange in the ancient city of Coventry, entered the Company's service there in March 1898, and has risen through the various grades to her present position. The exchange is three times the size that it was when Miss Read started, having grown from just over 300 to over 900 subscribers. She has had the unusual experience of working under the one district manager during the whole of her period of service. Her duties have always had a



BLANCH READ.

strong fascination for Miss Read, and she spares no pains to achieve good results and to maintain harmony amongst both subscribers and the staff.

Miss Read's recreation is really change of occupation, as she is fond of nursing and finds opportunities for exercising her talents in this direction. If an exhibition of fancy work executed by the members of the operating staffs throughout the country were held, it is probable that Miss Read's place in the prize list would be a high one.

LOCAL OFFICE WORK.*

BY W. H. TAYLOR, Bath.

IN opening, I should perhaps explain that this paper has been made as elementary as possible, and all abbreviations or technicalities have been omitted, or, in the few cases where they are included, fully explained, since it is, I take it, the object of these societies to make the meetings as interesting to one branch of the staff as to another, and not to specialise or talk "over the heads" of the majority of the members.

The work of a local office cannot be split strictly into sections as can that of a larger office; it may be described as a multitude of details, the garnering of which provides work for the district office mill.

This is possibly the reason why local office work seems so full of interest, in that there is little routine and a great deal of variety, partly due to an almost constant procession of the public in and out of the office.

In addition, the local office clerk with an enquiring turn of mind is privileged to learn portions of all branches of the Company's work—with the practical side through the stores work and the technical portion through the circulars, plans, estimates, and proposals passing through the office. Given suitable material for the foundation, this, combined with a further technical training through the medium of the Correspondence Classes, should have the effect of producing a thoroughly efficient unit, a good "all round" man.

Now look at another side of the picture, and compare the foregoing with the humdrum, stagnant monotony of the days in the business career of the average commercial clerk, whose imagination is chained to columns of figures in huge and just as dreary ledgers, maybe further harnessed to the musty traditions of the old-fashioned British firm—an enterprising undertaking of the style that steadfastly declines to have a telephone installed on the grounds that they "have managed very well so far without it" and "Our business is of too important and confidential a nature to use a telephone," and so on, and obstinately declines to be convinced to the contrary.

The little routine work consists of the various returns—daily, weekly, monthly, and quarterly—perhaps some of the most important, owing to their frequency and the quantity of detail they contain, being the weekly reports. These deal with such varied subjects as the sale of metaphones, the employment of the gargs, subscribers disconnected for non-payment or other reasons, two-party subscribers working singly, junction faults, roof repairs and reconstruction works, the state of the inspections made of subscribers' telephones, staff late or absent from any cause, the tests made on limited rate tickets recorded by the operators, new business obtained, and, finally, a general *précis* of the miscellaneous items dealt with during the week.

Requisitions for stores, though not returns, yet occupy their little space in the weekly round. Their preparation involves careful scrutiny of the stores, and, when a list of the requirements has been obtained, due consideration of the exact quantity necessary to clear the orders in hand and allow a small margin for contingencies. Then, resplendent in the glory of Stock List numbers and descriptions, and the most exhaustive data as to quantities, destination, etc., instead of the bald and cryptic abbreviations of the local office, the forms are sent to the district office, where are evolved the finished requisitions—sometimes "finished" in more senses than one if the local manager has ventured to "foresee" too far ahead. The greater quantity of the stores asked for can be sent on at once, by an arrangement introduced a year or two ago which enables the district to keep a good stock at a central point.

Stationery is differently managed, the requisitions being submitted monthly. An ingenious check is now kept on the supplies, and the revised system also facilitates ordering.

The only other returns of note are the monthly applications for the money estimated to be spent during the succeeding month in the

* Paper read before the Bath Telephone Society.

erection and maintenance of inside and outside plant (though this again cannot perhaps be termed a "return"), and the quarterly engineering return, generally known as the "10a," which gives particulars of the capacities of switchboards and each class of subscribers', junction, service and record line connected thereto, as well as private lines, a schedule of subscribers' and junction mileage and a summary of the three months' faults for the centre.

The responsibilities attached to the local offices are not, I think, generally realised. In addition to cash, all stores and stationery (no inconsiderable item in centres such as this, with over 2,700 stations) is received and issued, the clerk in most cases being also the storekeeper. This entails the examination of all stores inward as they are delivered by the carrier, their entry on credit slips, checking the delivery and advice notes and later the carriage accounts, issuing as required by the engineering or electrical staff, or possibly transferring to another centre.

While speaking of stores transfers it would, I think, be well to extend the use of the gummed address label at present issued, but in a slightly altered form. The address of the recipient only is now printed, but a label printed as the present tie-on ones are, with "The National Telephone Co., Ltd.," added below, leaving the address to be written in, would probably be largely used and prove more economical. The postal authorities point out the risk of loss or delay through the use of tie-on labels. This would be obviated were a gummed label used; in fact, the *printed* linen and cartridge labels of the Company could be abolished in favour of blank ones and gummed address labels a trifle larger than at present.

The foregoing is a general summary of the work connected with the stores, and makes no mention, perhaps discreetly, of the bugbear of a storekeeper's (and presumably—though in a lesser degree—of a stores clerk's) existence, that hardy annual, the investigation of stock differences. Without much experience of other centres, one cannot claim to be an authority on the point, but personally I should view with grave suspicion a centre which could not produce its annual crop of excesses and deficits to while away the idle evening hours.

Regarding the line foremen's requisition book, may I suggest that future issues be slightly amended?

At present insulator bolts have invariably to be written in, since few jobs are carried out with only one kind of S.A. and S.I. bolt. By making the S.A. bolt the last item in the first column and prolonging the ruling the various bolts could be shown *ad lib*.

Arming or pole bolts could be transferred to the foot of the second column, and in any job where these were required the item could be "dittoed" as necessary, these being, in common with insulator bolts, rarely issued in one size only.

Jointing sleeves, which have now practically superseded solder, could be added as the last item of column three, also to be "dittoed" as required.

Regarding works orders, these are, as the name implies, orders to carry out certain works, and consist usually of two slips—pink, issued to the foreman, and blue, issued to the Fitting Department. This explanation may seem amusing to the clerical, engineering and electrical portions of the staff, but it must be borne in mind that the letters "W.O." (the usual code) convey no more meaning to the average operator than so much Greek.

Their importance will, however, be realised when it is understood that no work can be commenced without a works order, and a shortage of works orders means that the engineer, and in his turn the chief inspector, has to rack his brains to find employment for his men.

The issue of works orders rests generally with the district manager, as also does, through the cost clerk, the responsibility of seeing that the monthly estimates cover the expenditure to be made under the works orders sent to the local office.

In connection with the recording of works orders a labour slate, which is also, for some mysterious reason, called a "labour board," is kept in each local office, and on this the works order is posted on its receipt, together with the estimated man-hours. As the men proceed the time worked is posted up daily from the gang sheets and the engineer is enabled to see at a glance how the work stands and to keep it under control. Any serious difference between the estimated and worked man-hours has to be explained

on the works order. It sometimes happens that a refractory wayleave grantor delays the gang, and there are also numerous other causes of over-spending—rain and snowstorms for instance.

The author of the following paragraph in the Service Instructions had evidently experienced trouble in dealing with local managers and engineers in this respect:—"The labour slate is intended as an aid to, and not as a substitute for, personal supervision."

Regarding the checking of works orders, the line slip is examined and the mileage of wire and cable and details of poles and attachments are compared as far as possible with the engineering records—maps and mileage books. Also it is generally the case that the engineer has a good knowledge of the job from personal observation. The blue slip, which has to be filled in by the fitter personally, should be checked with the stores issue slip in the case of a new job, and compared with the subscriber's card if it is a cessation. It rests with the chief inspector to see that no apparatus is fitted that is not covered by the works order and that nothing is left at a subscriber's premises that should be recovered. In the latter event it is obvious that the subscriber's card forms a very inefficient check on the return stores, since only instruments and other principal portions of the apparatus are recorded. Of course, the storekeeper, in the great majority of cases, is aware of the main details of a subscriber's installation, and consequently knows what stores should be received from the inspector.

A list of works orders completed each day is sent to the district office the same night, the instrument, and as far as possible the line slips, after checking and posting to the testroom engineering and office records, being written off and attached.

Arrived at the district office, the completed works orders are first entered in the various returns after being numerically sorted, and are then carefully checked. The only exceptions are the "N." works orders, which first go to the rentals clerk, who despatches the accounts, or confirms that this has already been done from the "Daily report of works orders completed." The backs of the blue slips are compared with the instrument store slips, which together with the line slips, have been previously sorted into numerical order. The weight of wire, man-hours, and as many details as possible, are also examined, any discrepancy resulting in the return of the works order to the local office for explanation. This, it must be confessed, is preferable to its return by the auditor, though either is not usually creditable to the local staff. After a final scrutiny the works order is passed away to await audit.

Dealing with the examination of works orders, an extremely useful innovation is the printing on the back of the blue slip of a double column ruled off at intervals, indicating the various books and returns in which the works order is recorded. This obviates the "patchwork" appearance of the former completed works order. Instead of initials and figures scattered over the face and back of the slips, the necessary data are now collected at one point. Of the thirteen columns provided the first is used in the testroom, the following four in the local office, and the remainder in the district office. In addition, for "ceased" works orders, the credit slip number is added in several centres for reference.

Works orders may be divided according to allocation into "N." (new), "C." (ceasing), "O.C." (ordinary construction), "R.R.," "L.R." and "I.R." (roof, line and instrument repairs respectively), "F.I." (fire insurance), and "Rls.S." (removals according to a fixed quotation). In addition, there are sundry other heads, such as works orders issued monthly for ordinary and metaphone cash sales. These cover, as the titles infer, all the sales transactions for cash during that particular month. If, as sometimes happens, stores are sold to a well-known and responsible party without immediate payment, a works order is specially issued for the sale under this account, as is also the case when a request is received to repair such electrical apparatus as telephones, bells, medical coils, etc., which are not the property of the Company. Also orders for complete installations of telephones, bells or alarms, of which practically every pattern on the market is supplied by the Company, are dealt with under this heading.

Among the headings which have not been previously enumerated are those on works orders issued for special works, such as wholesale overhead and underground construction, and repairs to exchange premises carried out by the Company's own men. Sales

of scrap metal, old poles, and obsolete material of all kinds are treated under removals account, as also are lost tools.

The first (new) may be again split up into numerous sections and sub-sections—the various descriptions of exchange and extension lines (including private branch exchanges), private wires, extension bells of all kinds, extra receivers and plugs and jacks. It is obvious to anyone who has followed the foregoing explanation that “N.” works orders are solely those issued for work from which the Company derives a direct annual revenue. It will also, I think, be clear that “C.” or ceasing works orders are those issued for the recovery of the subscriber's apparatus previously mentioned. In short, “C.” is the exact reverse of “N.” and every cessation works order means the loss of so much annual revenue.

If several lines have to be run in the same direction at the same time it is allowable, to avoid duplication of stores issues and clerical work, to group the works orders, but this does not apply to private branch exchanges. There is an instruction that the works orders issued for these are not to be grouped with any other, as the cost of each has to be kept entirely separate. This is presumably for fire insurance purposes, since the subscriber on this system has to be requested to insure the Company's plant on the premises against destruction by fire. That the plant in question is often extremely costly is proved by the fact that a certain firm in the Western Province was advised that the fire insurance value of their internal private branch exchange apparatus was £375, and the values of a number of the huge Metropolitan exchanges (that at Selfridge's for instance) would undoubtedly make even this sum seem insignificant.

In the case of party lines a works order may not be issued until both agreements on a two-party or three on a four-party line are obtained.

Ordinary construction works orders are those issued for extensions to the Company's general plant; orders for “E.C.” or exchange construction cover the switchboard portion of the work when new exchanges are opened or extensions made to existing ones. Any accounts for damage to roofs, either through negligence or wear and tear, are charged to “roof repairs.”

Line and instrument repairs are each split up into two heads per month, termed ordinary and special maintenance. Such work as the removal of a pole through wayleave troubles or building operations, or its renewal, changing a subscriber's telephone, or any work needing an estimate is treated as special and not carried out under the general works orders for the month.

Reverting to lost tools, it will readily be believed that a foreman or inspector will prefer a new works order involving a week's work to one of this description, whether the amount to come out of his pocket is a few pence or several shillings. Whatever may be said against it, there is a good deal to be considered in favour of charging the man at fault for lost tools. It may be said that this is not viewing the matter from the men's standpoint, but on the facts there are few who would contend that the Company should themselves replace lost tools instead of the loser. Under the present arrangement they are charged at cost price, less an amount assessed by the engineer or chief inspector for depreciation due to wear and tear.

Fire insurance works orders are only issued in the event of any damage by fire or lightning to the Company's plant, the cost being subsequently claimed from the insurance company.

The final heading is “Removals S.” and applies to all orders where an agreement has been signed to carry out the work for a fixed sum in accordance with the Company's tariffs. It was formerly the practice to get subscribers to agree to pay the Company's out-of-pocket expenses, but though the present system involves slightly more work, in estimating the cost beforehand, it is undoubtedly more satisfactory, both to the subscriber and the Company.

A point which has of late years received considerable attention, particularly from the audit office, is the delay which sometimes takes place in fitting the instrument after the line portion of the work is completed. Years ago, in “the good old days” (which were the “bad old days” from a shareholder's point of view), a subscriber had to be contented if he had the service within a week.

As an illustration of the importance of such “details,” it may be stated that during the first half of 1910, 113 additional subscribers were connected in the Bath centre, and averaging these at £5 each

an aggregate annual revenue of £565 is obtained. Changes from ten-party lines to the measured service are included and extensions excluded. Suppose a day had been wasted on each of the new orders in question, and taking the exchanges in this centre as fairly representative ones, the loss of revenue would have amounted to £250 on the Company's 2,000 odd exchanges. The loss from a day's delay on an £8 order is nearly 6d., but even this small amount cannot be ignored when the thousands of stations annually connected by the Company are borne in mind.

It should be clearly understood that the foregoing figures are to some extent arbitrary and unofficial, but the importance of the gangs completing each order at the earliest possible moment, and of the fitters following close on the heels of the gangs, as it were, will, I think, be apparent.

Dealing with the fault card system, every subscriber (with the exception of those on party lines) has a separate card allotted him. On this the name, address, exchange number, date fitted and details of the installation are entered upon connection, the inspections and faults being entered up as they occur. Subscribers with more than one instrument have two cards, one for the foregoing details and the inspections, the other for faults. The colour of the card is an index to the class of circuit; for instance, green cards are used for party lines and blue for private lines.

The inspections are controlled by the streets directory cards, which are made out for each street or for a particular district in any town where the density of the telephones is not great.

Faults, whether reported by the subscriber direct to the office by means of a fault form from the out-centres, or through the clerk-in-charge, are posted up on receipt and the card withheld from the cabinet until the trouble is reported clear, when the daily totals are entered in the complaint summary.

Cards are printed only for subscribers' and junction circuits, and it is not, I think, the intention that faults occurring on the equipment common to the whole switchboard, such as cords, keys, generators, etc., should be dealt with except through the exchange complaint register, and that alone. This should contain full details of the trouble cleared, a stroke being entered in the “exchange fault” column and the total at the month-end transferred to the complaint summary.

As to the filing of correspondence, with the exception of one or two special files for numbered circular letters, fire insurances and other important matters, all papers are passed away on Shannon files in alphabetical order and are subsequently transferred to binding cases, one of which is reserved for each month. This system, presumably the general one, has the advantage of extreme simplicity and is obvious to the veriest novice in office routine.

Dealing with the delivery of the Post Office and junction fee accounts, I have personally always looked upon their issue by hand with disfavour, as tending to disorganise the regular work of the office. With the great increase in number during the past few years, however, some cheaper system than the post was essential and, as a saving of about £10 per annum is effected in Bath alone by the present arrangement, its advantages are too obvious to need discussion.

Turning now from accounts to the actual cash, it is interesting to note that no less than eight cash accounts, each one of which has to be kept distinct from the others, have to be dealt with in the office. The cash of two of these is collected from and administered on behalf of the staff—a touching instance of faith in the Clerical Department.

The official accounts (using the word in its strictest sense, since none of the cash dealt with is private) consist broadly of the petty cash, treated through the No. 5 return, and the cash taken from subscribers and others in payment of accounts for rentals, removals, sales, fees, etc., and dealt with through the cash delivery notes daily.

In passing, a few remarks on a portion of the latter may be of interest. In the Bath centre the collections from automatic boxes average about £34 per month, giving an annual total of nearly 100,000 coppers, and since these weigh considerably over three and a half tons it will be realised that even a day's collections are not always easily handled.

The receipts from trunk call offices average between £23 and £24 per month, the Company's share of this (roughly, five-twelfths)

working out at about £100 per annum for the 37 call offices in the centre. On the whole, call offices are no doubt a paying investment, and might probably be made even more so by a careful scrutiny and weeding out of those which are not largely patronised or are much used by people who could (and no doubt would) well afford a circuit of their own.

From the petty cash all accounts under £2 owing by the Company, wages and allowances—in fact, all disbursements which the local office is allowed to make—are paid. The weekly cheques considered necessary are requisitioned, two at a time, in advance through the district office, and the bank pays out the cash each Friday on receipt of an instruction from the secretary. On the completion of the wages statement from the attendance books and gang's time record, and the wages vouchers—which are a subdivided and condensed copy of the complete statement—the cash is made up for each member of the staff, the necessary deductions for the various funds being made in one operation. This, the most vital portion of the week's work to a large number of the staff, being over, the signed vouchers follow the No. 5 return with its attendant accounts and vouchers to the district office. It will probably be agreed that if Friday is an important day to most of the staff it is an extremely busy one for the clerical machinery.

It is not, I think, known to the majority of the staff that at no time may the cash from one account be used for the other. I remember one of the engineering staff engaged on underground work calling at the office during a miniature financial crisis for the cash to purchase some stores he wanted at once. He had been used to pay cash for everything in this way, and was considerably upset when, the balance being very low, he was told to have it booked, particularly as a small handful of gold was paid over the counter at the time he was waiting. The problem was beyond him.

Contract work is, of course, entirely under the Contract Department's management, but, so far as possible, a miniature contract department should be maintained in every local office. It is obvious that people on the spot must have a far better knowledge of the places to canvass and local developments which may lead to business than anyone else. It has been found very difficult here, and this trouble is probably common to most residential towns to obtain what may be termed a "preliminary footing" to introduce the service, and in this connection the value of the enquiries recorded by the operating staff cannot be overestimated. Mrs. Brown, who is "on," asks for Mrs. Jones, who probably belongs to the same political club. The latter lady is not connected, and the operator having enlightened the enquiring subscriber regarding Mrs. Jones' unfortunate state of civilised barbarism, makes a record for the contract manager. If the good lady fails to respond to the arguments applied, coupled to the implied reproach of the enquiry, she is evidently a hard nut to crack. Such instances could be indefinitely multiplied, but the imaginary one given will indicate the importance of the point and, I hope, encourage the operators to renewed efforts in gathering every scrap of information that might prove of use in getting new business. In particular, busy lines should be closely supervised and records taken if the traffic appears too heavy for the circuit or circuits rented, regular users of call offices, who in time become familiar to the operators, should be noted, and in short if there appears to be an opportunity at any time to add to the Company's earnings, in any direction or to any amount, it should not be lost.

INVENTORY OF PLANT.

THE following alterations and additions have been made to the lists previously given in the JOURNAL:—

HEAD OFFICE STAFF.		
Spooner, A. W., Clerk, Engineer-in-Chief's Dept.	..	Head Office.
Watkins, J. H. (Test Dept.)	..	" "
Harding, R. W. (Lines Dept.)	..	" "
McGuinness, F. J., Chief Clerk	..	late Birkenhead District.
Fairhead, J. W., Chief Clerk	..	Oldham.
French, F. C., Cost Clerk	..	Manchester.
Sinclair, A. M., Local Manager	..	Dumfries.
Constantine, H., Clerk	..	Leeds.

TRAVELLING STAFF.—Sectional Officers.

Wran, A. R., formerly Enumerator.	
Bell, R. W.	" "
Padgett, W.	" "
Blight, W.	" "
Hood, J.	Clerk
Buften, C. W.	Enumerator.
Frost, J.	" "
Dipple, H. W.	" "
Crompton, W., Lines Dept., Engineer in-Chief's Dept.	.. Head Office.
Thyne, J. R., Confidential Clerk	.. Glasgow.

ENUMERATORS.

Downing, D. R. J., Local Manager	..	Colchester.
Crampton, G. H., Asst. Engineer	..	Southampton.
Hill, R. J., Instrument Inspr.	..	Bristol.
Coyle, H. L., Inspector-in-Charge	..	Carnarvon.
Wall, W., Sw. board Staff	..	Head Office.
Barker, C. G., Engineer	..	" "
Dickinson, H., Local Manager	..	Winchester.
Coles, W. H. A., Lineman Inspector	..	Bath.
Green, F. C., Engineering and Electrical	..	Bristol
Dilger, P., Switchboard Staff	..	Head Office.
Moore, E., Foreman	..	Hull.
Warnock, J., Local Manager	..	Peterhead.
Maxwell, A., Sub-Engineer	..	Edinburgh.
Bailey, G., Switchboard Staff	..	Head Office.
Borland, J.	..	" "
Payton, G. A., Divl. Constn. Electn.	..	Met. Dist.
Jones, A. E., Local Manager	..	Grimsby.
Maggs, J., Inspector-in-Charge	..	Ascot.
Stewart, C. L., Exchange Inspr.	..	Edinburgh.
Price, E. J.	..	Liverpool.

The following names should be deleted from previous lists:—

Cunningham, T., Enumerator.
Barnes, T. M.,
Harvey, T.,
Simpson, A. E., Clerk.



AN OUT OF THE WAY STAY.

By E. J. Woods, Margate.

THE above photograph may prove of interest to readers of the JOURNAL. The stay is in a very out of the way position and the staff have to go through a large private residence to get at it, which probably accounts for the condition not having been noticed previously. The tree has grown up between the screw and the side of the bow, forcing the former quite out of position, as is apparent. The indentation is much deeper on the other side of the tree, the screw being quite out of sight, being embedded in the trunk, which has attained a height of twelve feet.

Whether it will ultimately produce strangulation and kill the tree is open to question, but seems probable.

PREPARATION OF "UNDERGROUND" DATA.

By E. J. Woods, *Margate.*

THE difficulty of showing graphically the details of cables to be provided, and the method of utilising all possible circuits to the best advantage, has been practically overcome by the method illustrated below. I may say that since first devised several centres have adopted the suggestion; and its possible usefulness generally led to this article being written.

When final plans are received from the Engineer-in-Chief, showing what cables are to be drawn in and the sizes of D.P.'s (*i.e.*, number of pairs) approved, each cable or section of cable is drawn as per Fig. 1, which is self-explanatory.

Fig. 2 is then drawn, beginning with lines A to B and A to C, the latter being in a definite proportion to the number of pairs in the largest cable in the section. Consideration of Fig. 1 shows that the total pairs in the D.P.'s are more than in the main cable—*i.e.*, 150 to 100—due to economic reasons not under consideration

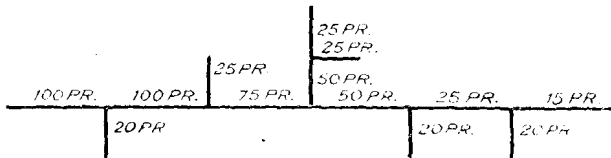


FIG. 1.

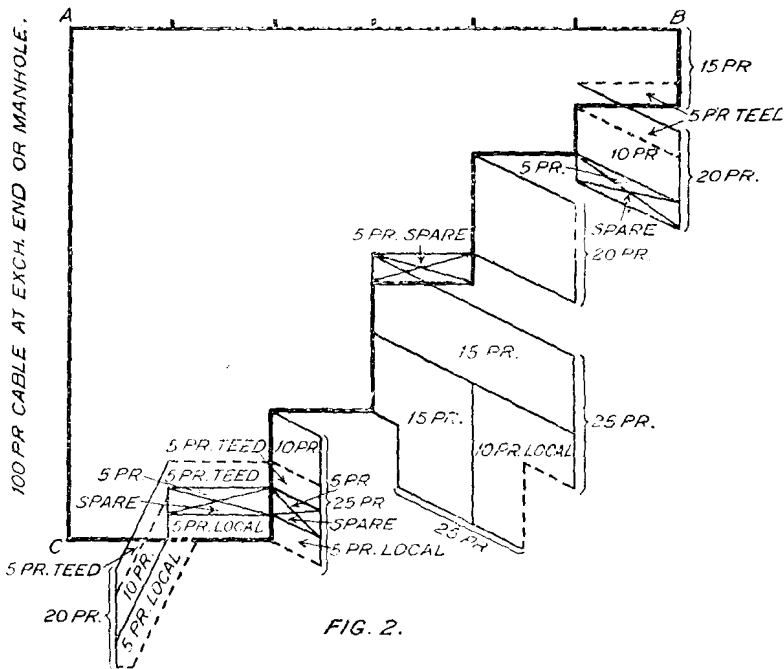


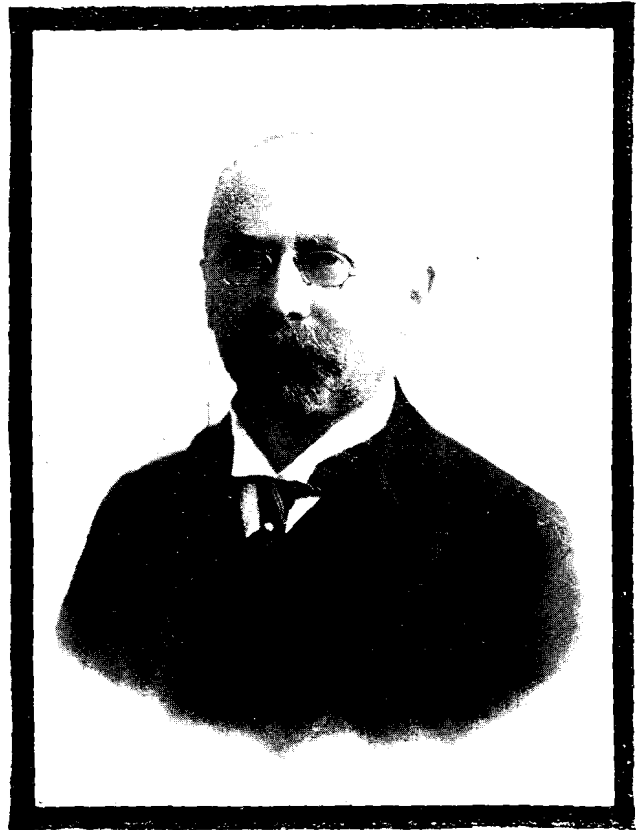
FIG. 2.

here. A knowledge of the locality comprised in each D.P. area will suggest where "teed" wires will be of use, as for example in party lines: or for an uncertain part of two adjacent sections which owing to wayleave questions may have to be reached from either D.P., both of which may be in the same area. In some cases "local" wires from one D.P. to another to accommodate private or extension lines may be of considerable service, besides being a saving of wire in main cables and of plant in the apparatus room at the exchange.

These points decided, it is a simple matter to draw this data in between B and C, allowing the same proportion of space to number of pairs at the D.P. The divisions on the line A and B roughly indicate the jointing points of the cables and the vertical lines under each give a full and clear statement of the nature of each joint. This facilitates the issuing of instructions to jointers and gives all requisite information for the ultimate completion of "cable circuit distribution" plans.

DEATH OF MR. GUSTAV BYNG.

WE regret to record the death of Mr. Gustav Byng, of the General Electric Company, on Nov. 23 last, at his residence in Fitzjohn's Avenue, Hampstead, at the early age of 55. He was born in Bavaria in 1855 and, after being educated at the Augsburg Polytechnikum, came to this country at the age of eighteen, and in 1879 became a naturalised Englishman. He devoted his life to the development of the electrical industry in England and to the building up and expansion of the General Electric Company, which



flourished under his guidance until it now has branches and agencies in most of the important cities of the world. His name is associated with electrical signalling and with the advance of electric lighting, heating and cooking. He paid great attention to the construction and improvement of electric meters and many other electrical devices now in ordinary use. He was a member of the Institute of Electrical Engineers and of other technical and public bodies.

TRAIN CONTROLLING BY TELEPHONE.

THE *Telephone Engineer* of Chicago, which devotes a good deal of attention to the application of the telephone to railway purposes, gives a table showing that the telephone is supplanting the telegraph even in the operation of manual block signalling. Altogether, 45,857 miles of road thus operated are controlled by telegraph as against 9,859 by telephone, which shows that the control of signals by telephone has made great progress in a very short time. The lines which have adopted it most extensively are the Atchison, Topeka and Santa Fe, 1,884 miles; Chicago, Burlington and Quincy, 3,004; Northern Pacific, 864; Pennsylvania system, 830; Norfolk and Western, 550; and Chicago and North-Western, 616 miles.

INTRODUCTION OF THE MEASURED RATE IN GERMANY: THE NEW TELEPHONE RATE BILL.

ACCORDING to the *Zeitschrift für Schwachstromtechnik*, the Budget Committee of the Reichstag began the debate on this long-delayed and much-criticised measure on Dec. 6.

The National Telephone Journal.

"BY THE STAFF FOR THE STAFF."

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[No. 58.]

A RETROSPECT.

THE year 1910 has been a not uneventful one in the annals of telephony in this country. Whilst it has not been marked by any abnormal development of the system, or by any events of magnitude in the technical field, it nevertheless yields a record of substantial and, in all the circumstances, gratifying progress. For a corporation in the last year of its life the National Telephone Company, so far from being decrepit and inactive, has shown abundant signs of vigour, and has steadily fulfilled its mission in the development of the telephone service of this country. The number of telephone stations on its system has increased from 503,600 to an estimated figure of 534,300. In London the increase is from 120,900 to about 132,000, so that when the stations on the Post Office system are added it will be found that not less than 200,000 telephones existed on the London area at the end of the year. The number of new exchanges opened has been insignificant, but the supplemental heads of arrangement which were agreed during the year with the Post Office for facilitating the establishment of new exchanges in outlying districts of the Company's areas will tend to accelerate the telephone development of many rural districts and will probably result in an early and noticeable increase in the total number of exchanges. If, however, the actual increase in the number of exchanges is small, the work which has been accomplished in the direction of constructing new common battery exchanges of the most modern type in place of other equipments has been very great. Jointly with the Post Office such exchanges have been opened during the past year at Streatham (2,080 lines) and Birmingham (East and Northern). The Company itself has installed C.B. equipments at Wavertree (1,440 lines), Lee Green (1,300), Bootle (1,080), Edgbaston (1,000), Anfield, Trafford Park and Victoria (Birmingham), whilst the Post Office has installed on behalf of the Company a 4,200-line equipment at Cardiff.

Under a joint scheme common battery equipments are being installed at Clydebank and Cheetham Hill, and a large equipment for 3,820 lines is on order for Douglas Exchange (Glasgow). Extensions to common battery exchanges have been carried out by the Company at Hillhead (Glasgow) and Gerrard, Dalston and London Wall (London), and under a joint scheme an extension for 2,160 lines is being installed at Paddington.

Another step in the direction of the assimilation of the Company's system with the State, which will so soon be an accomplished fact, is the closing of duplicate exchanges in the Glasgow area. On the one hand the Post Office Western, Govan, Beardsden, Milngavie and Clarkston Exchanges have been closed and their subscribers transferred to the Company's exchanges, and, on the other, the Company's Cambuslang, Lenzie and Kirkintilloch Exchanges have been abolished and their subscribers' lines run into Post Office exchanges.

A work of stupendous character was embarked on during the latter months of the past year, and bids fair to occupy the whole attention of a large body of staff for a very long time to come. This is no less than a complete inventory of every kind and description of plant and property possessed by the Company and to be acquired by the State. When it is remembered that the Company's operations extend to nearly every county in the three kingdoms, that they have offices, buildings or exchanges of some sort in about 1,500 towns, villages or districts and pole routes of many thousands of miles in extent on highway and across country, some faint idea of the magnitude of this work can be conceived. A staff of upwards of 400 is at present engaged upon it.

Turning to the staff, the number of important changes which have taken place has not been great. The hand of death has fallen upon Mr. R. GILMOUR, District Manager at Edinburgh and long associated with Belfast, upon Mr. A. T. WALLER, a popular member of the London staff—both in the prime of life—and upon Mr. F. T. RUSHTON, a solicitor at Head Office. A very old servant was lost to the Company by retirement in Mr. TOM DONALDSON, Chief Mechanic, of Glasgow, responsible for the sound training of so many telephone men; and Mr. E. A. LAIDLAW, of the Engineer-in-Chief's staff, has left to take charge of the telephone department of the well-known firm of Siemens Brothers & Co. Amongst the promotions may be numbered those of Mr. WORTE from the District Managership of Hull to Edinburgh, of Mr. SWITHINBANK from Middlesbrough to Hull, and of Mr. A. ROBERTS, Chief Electrician at Liverpool, to the District Managership of Middlesbrough.

During the year the Greenock and Dumbarton districts were combined under the designation "West of Scotland," and the old Ayrshire and Dumfries districts under that of "South of Scotland." Mr. A. R. Lamb and Mr. G. A. Macdonald respectively were placed in charge of the enlarged districts.

The danger of dismissal which hung like a shadow over so many of the construction staff owing to the restrictions and threatened cessation of all development has been dispersed, and the considerate policy of the Board, referred to in our last issue, will relieve the anxiety of a large body of men.

The year 1910 was marked by the almost unprecedented occurrence of two General Elections in one and the same year. The

heavy additional work thereby thrown on all branches of the service, but especially on the traffic staff, showed the dependency placed on the telephone in all phases of public life.

The educational progress of the staff shows no signs of diminution, and the number of telephone societies is on the increase. An interesting feature of the past year in connection with these societies was the establishing of two prizes for the best essays under five different heads. The high quality of the winning papers, some of which have been published in these pages, affords the most gratifying evidence of the good work done in recent years by the various educational schemes of the Company, and of the excellent grasp of sound telephonic principles possessed by the writers.

Another work accomplished during the year was the classification of clerks, contract officers, draughtsmen, storekeepers, assistant and sub-engineers, inspectors and line and labour staff on a standard basis, with fixed maximum and minimum rates of pay.

As regards matters of interest outside the Company, the second International Congress of Government Telegraph and Telephone Engineers was held at Paris, at which many instructive papers on telephonic subjects were read, and at which the Company was represented by its Engineer-in-Chief. During the year the first loaded telephone cable laid in the sea was successfully placed in the Channel for the Post Office to form part of the trunk route between London and Paris. An interesting event worth recording was the presentation to Capt. Scott's expedition by the Company's staff of a special telephone equipment for use in South Polar regions.

HIC ET UBIQUE.

We were in error last month in stating that Miss E. K. Reynolds was the first lady to appear in a "List of Awards for Inventions and Suggestions." Miss Minter, London, and Miss Duggan, Dublin, both appeared in the list published in the July, 1908, issue.

ANOTHER operators' telephone society was inaugurated this season—namely, that at Southampton. The operators' societies, in fact, seem to have considerable vitality and awaken a lively interest in traffic problems in the rank and file which is equally to the benefit of themselves, the Company and the public. At the last meeting of the London Operators' Society debates took place on "Are Speed of Answer Tests Useful?" and "Should an Operator Answer One Call Immediately After Another?" (*i.e.*, before completing the first), and not only were papers by Miss Harriet Somers (Paddington), Miss Gertrude Berry (London Wall), Mr. A. Abbott (Birmingham) and Mr. T. Beck (Holborn) by which each debate was opened very excellent, but the animated criticisms which followed testified to the keenness of the other members of the society. There was an attendance of 236.

MR. H. LEGGE, formerly Engineer at Portsmouth, who is now at Para, Brazil, sends an interesting cutting from the *Electrical Review* of Oct. 26, 1889. It contains a paper read before the American Institute of Electrical Engineers, describing a visit to London in that year. The writer in a quasi-prophetic mood says:

The Post Office Department charges the telephone companies a regular royalty, it having been legally decided that the telephone is a "telegraph" within the meaning of the statute. The Postmaster-General apparently does not like the action of the companies in uniting, although none of them were competitive, but all working in distinct territories. There is no doubt, however, that he fears that the capitalisation will unnecessarily enlarge, and will be a big bite for the Government mouth whenever, and if ever, purchase may be decided upon.

It does not seem to me likely that the Postmaster-General will take any steps to harass the companies, nor do I believe that the Post Office Telegraph Department will care, for a long time to come, to trouble itself with telephony; and it is my opinion that the remaining telephone companies will soon in turn be absorbed or otherwise unite with the National Company.

Long line telephone work in Great Britain is, of course, limited by the size of the island and by the peculiar relative position of the large towns. I found very good talking between Birmingham and the several towns of Sheffield, Derby and Nottingham; between Glasgow and Edinburgh and Dundee; and especially fine from Sunderland to points upwards of 100 miles distant. For these latter distances circuits had to be artificially made up. In London there are necessarily many central telephone stations. No one who has not seen and studied London can form an idea of its vastness; and by reason of this vastness there will always be (notwithstanding the manifest excellencies of centralisation) a plurality of central stations connected by trunk lines, mainly converging to a principal trunk station, but supplemented by a sufficient number of trunks between such central stations as are adjacent to each other. Yet I should say that there are at present too many central stations and that they are too close together; and I am under the impression that the present management thinks so too, and will condense closely grouped central offices considerably.

Further on he commends the work of the British telephone engineer:

As to electrical construction outside, I may say, without hesitation, that the average is far above ours, whether telegraphic, telephonic or otherwise. The poles are no longer than are necessary, are uniformly well trimmed and painted, and, above all, are well stayed. Mile after mile I have ridden on a railway both in England and on the Continent, and found every pole "stayed," or, as we would say, "guyed." The cross arms are usually short, and project alternately a greater distance to one side or the other, that is, the upper cross arm may carry two insulators on the right side of the pole and but one on the left. While the next will reverse that, two being on the left and one on the right, and so on. The telephone companies had much housetop construction, but the same system of staying prevailed, so that the construction was superb, even though the roofs were all of the pitched variety. In Sunderland only, and the other towns where the Northern District Telephone Company holds sway, are to be found long cross arms à la American, the idea having been imported by Mr. Clay, who visited the United States a year or two ago, and who is a manager of the most progressive type.

REVIEWS.

Automatische Fernsprechsysteme, von Arthur Bessey Smith und F. Aldendorff. Two volumes, 327 pages. (S. Heimann & Sohn, Berlin).—This book is to a great extent a translation of articles by Prof. Smith which appeared in the *American Telephone Journal* and *Telephony*. The translator, Mr. Aldendorff, has appended descriptions of the Lorimer and of Clement's automanual systems so that the work may be comprehensive of the most important systems in the "automatic" world of to-day.

It is a descriptive treatise, very well illustrated, of the history of automatic telephony, commencing with the first American patent of Connolly and McTighe taken out in September, 1879, to the present time. The systems dealt with are those of J. G. Smith, Strowger, Ericsson, McDonough, Lorimer and Clement's automanual. Other systems of interest and connected with the development of these are also touched upon.

It is to be deprecated that comparative costs, as far as they relate to capital outlay and maintenance, of automatic, automanual and manual systems are not given, but such a descriptive treatise as this is to be recommended to all who desire a knowledge of the various systems now extant and who are interested in the development of the same.

Die Automatische Telephonzentrale München-Schwabing.—We have received from the *Zeitschrift für Schwachstromtechnik* a special reprint from that journal in pamphlet form of the articles by Mr. J. Baumann upon the "Automatic Telephone Exchange" at Schwabing, near Munich. The brochure describes this interesting exchange exhaustively, and contains 32 double column pages, illustrated very fully by 23 good diagrams and photographs. The price is 1 mark 50 pf.

NOTICES.

REPRODUCTION on sunk art plates of the portraits of Messrs. A. B. Gilbert and A. Magnall are now ready. Those of Messrs. C. C. Worte, C. W. Salmon and W. F. Taylor are on order. Price 6d. each.

THE PSYCHOLOGY OF THE OFFICE.

By J. F. SCOTT, *Glasgow.**(Concluded from page 184.)*

We are given to repeating glibly that the subscriber's opinion is based on the treatment which he receives at our offices, but we give little real attention to those matters which count in conveying an impression. As each clerk is the specialist in his own particular work, it follows that he is constantly called upon to act as its interpreter to the subscriber. Now, our subscribers are not all philosophers—many require careful handling; and the incoherent explanations and tactless replies occasionally given do not tend to soothe feelings ruffled by supposed injustice. A junior was recently overheard endeavouring to calm an irate caller by preaching a sermon on the bad policy of losing one's temper. The result neither redounded to the credit of the individuals nor enhanced the Company's reputation. Our clerk can be a potent advocate for the Company and its methods, and he must seek to acquire the advocate's clearness of speech and ever-present tact.

To determine each individual quality necessary to evolve our ideal clerk—for we aim at the sky, though we may but reach the steeple spire—would be a tedious task, and this branch of our homily may fittingly close with a last exhortation. Many shrink from exhibiting initiative, from undertaking responsibility. Sometimes they trouble their superiors to pronounce judgment where a child's understanding were sufficient, and always they prefer to slip along in an old well-worn groove—it is so much easier, and, if fault be found, reference can be given to "the black sheep who did it first." It is a natural failing; but our duty is to master nature. If our clerk cannot justify any method he uses, the sooner he finds justification or a new method, the better for his reputation. If he will not elect to show himself equal to responsibility, he need not expect consideration when responsible posts become vacant.

The treatment of our next theme, *the clerk's duty to his fellow-clerks*, will be less definition than a plea for consideration. The present-day attitude tends towards Socialism, and this, as its adherents would explain, means the widest practical application of the motto, "Union is strength," an aphorism above contradiction. We want union. Office work is a relay race in which many runners are dependent upon each other's exertions. If one fail to exert himself, the whole contingent is delayed, and the stigma of defeat is applied to all. This is scarcely just, but usually there is an honourable disinclination to disclose the culprit. For the sake of his colleagues—perhaps a stronger incentive than the employer's weal—each clerk must see to it that he does not lag on the way. Consider how in office work all sub-departments are vitally interdependent, how the completion of one clerk's work often awaits facts and figures from others, and at once it is obvious that punctuality and a wider standpoint than the individualistic one are necessary if delay and disorganisation are to be avoided. Our clerk must be capable of thinking imperially, able to comprehend at least what is best for the office, if not for the complete organisation, and to carry it through, even although in some cases it may seem in contradistinction to an immediate interest. In the interest of all factors, we repeat WE WANT UNION.

In some circumstances it happens that a clerk has to consider the moral aspect before deciding his policy. An attempt to classify such instances would, of course, be useless, but it may be profitable to give an indication of their nature by outlining a few.

A common instance occurs when one is called upon to add a new duty to his routine work. The first instinct is to feel aggrieved, the second to search for some means of escape—the most obvious being the endeavour to convince by argument, sometimes sound but often otherwise, that the addition is more applicable to the work of some other clerk. The proper attitude is to ask and answer personally, "Is this within the scope of my duty?" "Am I the person best suited to perform it?" "Can I perform it without being eased of part of my present duty?" If an unprejudiced consideration negatives these questions the clerk must seek for justice at the hands of his superior; but let it first be looked to that the consideration given is unprejudiced.

Sometimes a clerk feels that his work has increased to such an extent that he can no longer adequately cope with it during business hours, and some find it hard to decide the correct course to pursue. An ambitious person, afraid that the confession may be misconstrued into a sign of incapability, hesitates to give in, and may prefer to struggle on at the sacrifice of part of his leisure time. One imbued with less worthy motives may actually seize the opportunity of working night and day with the hope that he may benefit by contrast with the failure of an unpractised successor. Both are manifestly wrong. The special effort of an experienced worker may stave off casualties for a little, but the inevitable breakdown will come. The increase must be made known; we owe it to ourselves, to our colleagues, and lastly to the Company, for breakdowns are more expensive than timely assistance.

From this point we naturally approach (although it scarcely comes under our present heading) the delicate question of payment for overtime worked by the clerical staff. The clerk urges that he is entitled to it, but it must be confessed that he is sometimes blind of one eye—the eye which should see the other side of the question. Office work is so elusive, and the time required for performing it is so difficult to gauge, that in the hands of an unscrupulous person payment for overtime might become a lucrative source of undeserved income. It is common knowledge that in offices where payment is made for tea or overtime the privilege is constantly abused. Let us make a distinction. The work of a clerk should be so arranged that he can perform it without undue pressure during ordinary business hours, and it is right that he should suffer for any failure. Special work and special circumstances require special treatment, however, and it is unfair that these should go unnoticed. The plea can be pressed too far; but the principle of recognising special late work in some way—as already existent in times of stock-taking and Directory proof-checking—might be extended slightly with profit to both parties.

Our consideration of *the relations between the office staff and other departments* will be brief, for it may serve to generalise. We do not appreciate each other as we should. Members of the technical departments vaguely surmise that the office has many important functions; but their closest contact with it is the receipt of wages, and this appeals so strongly that it overshadows all else. The clerk hazily recognises that the technical departments are indispensable; but, having palpable experience of their clerical makeshifts, he is apt to deem them necessary nuisances. These are, of course, exaggerated statements, but even exaggeration has its use in driving home a difficult truth. A simple cure for the evil is found in the cultivation of a more than departmental outlook and understanding.

The frequent shortcomings in records kept by technical departments demand special reference. The crux of the question is that the technical worker has only a dim consciousness of the fact that this matter is of paramount importance. To him the misquoting of a works order number or an inaccurate statement of material used or recovered may appear a slight and excusable error, but to some unfortunate clerk it means worry and ill-spaced time, and very possibly actual monetary loss to the Company. He must be brought to understand that his work goes for little if he cannot supply information which will enable its results to be realised.

This is superficial treatment, but the scope of the paper does not allow of further. We can but hope that to mention the matter is to awaken a keener consciousness of the need for improvement.

In conclusion a word of explanation is necessary. Some may hold that the writer has unjustifiably set himself on a pedestal from which to view the shortcomings of his colleagues. This charge is candidly met by the confession that external observation has gone hand in hand with introspection, and that the decisions arrived at by both methods have coincided. Others may argue that, since office men and methods have attained the highest standard known, such writings are but a modern exposition of the futile exercise of tilting at windmills. So far as they extol the progress made the writer agrees; so soon as they assume that the be-all and end-all is attained he parts issue. Much can yet be accomplished. The following excerpt from Mr. Hare's article on "Control" in the November JOURNAL, coming as it does from one who is conversant with the "inner mysteries," forms in itself sufficient justification for all that has been said:—"I am telling no secret when I say that

one of the most difficult tasks our management has to meet is to find a really competent chief clerk when a vacancy occurs—a man who possesses both knowledge and ability to control."

This paper has failed if it has not shown that the remedy for this evil is the improvement of those matters which lie nearest us. The whole is greater than its part. Given the improved minds, the improved methods will follow as a natural consequence. We may harness ourselves to the car of progress, and exult in the sense of something achieved; or we may suffer ourselves to be dragged along behind, hindering others, gathering dust, and bearing the jolts and jars consequent on our unenviable position.

The individual must make the choice!

A KNOWLEDGE OF ELOCUTION AS AN AID TO TRANSMISSION.

BY T. RODGER, *Glasgow.*

My attention has been directed lately to the beneficial effects on transmission of a knowledge of elocution, and it has occurred to me that the matter might best be brought before the staff and the public in the columns of the JOURNAL.

I recall a case where special observations necessitated that an officer of the Company should listen-in on an operator's position, and, owing to the bad effect on the transmission in this particular operator's case, it had to be abandoned. In talking over the matter with the electrician of the exchange, whose elocutionary attainments are good, he could tell who the operator was, and expressed the opinion that although few people are very deficient in this way it would certainly be conducive to better working if the staff, particularly the operating staff, knew better how to make the best use of their voices.

While experimenting with the first telephones made he found that while Mr. Watson, his assistant, could hear him, he could not hear Mr. Watson, and the reason he gives for this is that he had the elocutionary ability which Mr. Watson lacked.

An article on "The Telephone as an Educator" (extracted from the *New York Sun*), in the *Telephone Review*, of New York, gives the opinion of a teacher of elocution that the general improvement in enunciation in New York is a direct result of the universal telephone habit.

These have led me to suggest that the anticipated rapid development of the telephone in this country in the near future warrants more attention being given to the teaching of elocution by making it compulsory in our schools. Why leave this much needed improvement in our education to be taught us by the telephone habit? Much time, thought and money have been given to the study of the problem of transmission from the electrical point of view which would avail more if telephone users knew how to use their voices to the best purpose.

A little further reflection makes me suggest that the articulation and grouping of figures according to telephone practice should also be taught. It is also well-known that the carrying power over the telephone of many letters in the present alphabet is far from good or not good at all, and although it may not affect the present generation we might with advantage consider the adoption of an alphabet more in keeping with future requirements, when it is expected the telephone will have become as much a household necessity as light and water.

It would be interesting to know whether in the extended alphabet of 43 letters, which I believe our progressive Japanese allies are adopting, the telephone requirements are being met.

ANXIOUS TO KNOW.

THE following letter was received by a district manager of the Michigan State Telephone Company in a district where the nationality of the settlers is evidently much mixed:—

How it may concern:

Please would you be kind to Talofon don to Wittaker to the Catalok Priest. Tell him that Heres is to Bohimien man that wanst gat maryd by the catalok priest and ask him if he woud do it and if he come to Milan or wee go don to Wittaker. And when Woud he do it what day.

So please ask him whot woud he do and when.

THE HEAD OFFICE DINNER.

ON Nov. 29 the staff at Head Office held a most successful dinner at the Holborn Restaurant. Mr. A. Watts of the Engineer-in-Chief's staff was in the chair and presided over a thoroughly representative company of nearly 200 including Mr. Franklin (the President) and the following chief officers:—Messrs. Anns, Gill, Cook, Hart, Phillips, Cotterell and Lowe. The most notable absentees were Messrs. Goddard, Clay and Hare, the first two owing, unfortunately, to ill-health and the latter to a previous engagement. An excellent musical programme had been arranged by Messrs. Darville and Baldwin. Mr. Catchpole (of the Secretary's office) gave a capital performance on the cello, and Messrs. Baldwin and Poultney looked after the accompaniments very satisfactorily. Of the professional artists Mr. Walter Walters and Miss Frances Roscorla were much appreciated.

After proposing the usual loyal toasts, Mr. WATTS, the Chairman (who had a most enthusiastic reception), in proposing the toast of the National Telephone Company, said that it was one which he was sure would be enthusiastically received by most of them; they all knew something of the history of the Company which had played so notable a part in the industrial and scientific development of their beloved country. They were all cognisant in their various departments of its present state and condition, and they knew also to a day and an hour that which is mercifully concealed from all of us in our individual lives, the date of its demise. Or perhaps he should not call it demise, but rather its glorification into a State Department.

Soon, very soon in these days which pass so quickly, so quickly because they had to press so much into the limit of a working day, the Company, of which it was their privilege to be servants, and which formed the subject of their present toast, would develop from the chrysalis stage of a limited company into the full, glorious, butterfly liberty of a branch of the national service, and so, when shadows fell, it was meet and fitting that they should honour it at that, the first dinner of the Head Office staff.

He could well have wished that one of their chiefs had been chosen to perform the duty which had fallen to his lot, for in their hands he knew the toast would have had fuller justice done to it than he could possibly hope to achieve. But it may have been thought more fitting that, as they went out of active service when the deathknell of the Company sounded, none of them should propose that toast lest, overcome by mournful reflections, the conviviality of their gathering might suffer.

And while, therefore, it had fallen to his unworthy self to propose that toast, it gave him great pleasure indeed to see so many of their chiefs with them there. It might be that in addition to the general purpose of the gathering some little spark of curiosity might have impelled their presence there to-night to see how those who did not retire might be able to comport themselves when they were set free from the tutelage of their lords and masters. (Laughter.)

Their chiefs knew them, the members of Head Office staff, well, they knew their work and doubtless they knew their faults and failings too. He was sure they must often have smiled at them, for it was a common failing of each member of the staff, from the top to the veriest office boy, to consider that he was the Company and that without him the whole business would collapse and come to a standstill. That failing of theirs might be explained if not completely accounted for by the fascination of telephone work, and it could certainly only be because of that fascination that they found the members at all times willing to work overtime with no ulterior motive than the reward that comes from work well and faithfully done.

Even when the remuneration had been inadequate that personal interest in the Company's welfare had ever been present, and he was sure that in this direction they had had the Company's benediction and blessing. And yet, though they had sometimes thought that they had occasion to grumble at the Company owing to the lack of appreciation as evidenced in their insufficient remuneration, it was with somewhat mixed feelings that they looked forward to the new state of affairs.

Changes were lightsome, it was said, but in the present circumstances they rather considered them to be burdensome. For whatever it did mean, it certainly must mean new chiefs for them, and while they had got their present chiefs, educated up to their standards so that they could endure, aye and had even grown to like them—(loud laughter)—it was no light matter to commence their work all over again, especially with a set of fresh men whose knowledge of telephone matters and administration must necessarily be limited and whose methods could not be otherwise than radically different from the methods of their previous chiefs.

Everything hitherto had been considered from the standpoint of: "Will it pay?" whereas their new queries would ever be: "Is it in accordance with the Regulations and Rules of the Department?"

Theirs was therefore a somewhat anxious time at present; and they now were waiting for the promise made by Lord Stanley of equivalent work and equivalent pay to materialise.

The Postmasters General, however, came and went and even now the present Postmaster-General might be making his final bow to his national audience, so that no matter how anxious they might be they had no alternative to the Prime Minister's dictum: "Wait and see."

One thing, however, had been strange, passing strange, nay, rather, quite incomprehensible to many of them, in connection with the transfer of the Company's affairs, viz., the compulsory retirement of so many of their chiefs with whom they had worked so loyally and, he thought he might claim, so economically and so successfully.

The ways of Governments were past finding out, but when they found heads of departments cashiered at the time of transition of such a complicated and intricate business as the National Telephone Company, for no other apparent reason than that they were in receipt of salaries over £700 per annum, well then he thought the limit of foolishness had been reached.

Had there been any claim as to extravagance either in numbers of chief

officials or in their remuneration some explanation, if not excuse, could have been offered for this drastic treatment, but when it was universally allowed that the business could not have been conducted more economically and more efficiently than it had been, then he did say that there was "something rotten in the state of Denmark" when it acted in this incomprehensible fashion.

If they turned now from the treatment meted out to their chiefs to the prospects of the Company itself before it finally expired, they could easily espy unlimited work for them in the near future.

He was credibly informed that already active operations had commenced in various parts of the country for enumerating all the tangible effects accruing to the Company, and as the time for the transfer drew near, wagon-load after wagon-load of field forms and schedules under suitable escort would arrive at headquarters.

To agree the quantities and values of all these effects with the officers of State was no easy matter; the opinions given and the views expressed by both sides were likely to be widely divergent, and it would probably facilitate a speedier agreement were it possible to act on the advice of the learned professors of the ancient city of Lagado.

Their advice was as follows:—You took a number of the leaders of either party, you disposed them into couples of such whose heads are nearest to a size, then let *two nice operators* saw off the occiput of each couple at the same time, in such a manner that the brain was equally divided. Let the occiputs cut off be interchanged, applying each to the head of the opposite party man. It seemed indeed a work that required some exactness; but if it were dexterously performed the results would be infallible, for the two half-brains, being left to debate the matter between themselves in the space of one skull, would soon come to a good understanding.

What an excellent thing it would have been if even one man could have been found with a brain so evenly balanced that justice might have been done to both parties without this long drawn-out period of suspense—a period which had hampered the development of the telephone service and had been fraught with anxiety to shareholders, directors and chief officers alike. With regard to the general staff, it is true they had been promised work after the transfer, but many of them had been in peril of losing the means of subsistence until that time. Fortunately, owing to the generosity of their Board of Directors, urged no doubt by their sympathetic President, the peril had been averted. (Cheers.)

They honoured the National Telephone Company; they admired it for its pioneer work and for the upbuilding of such a successful and well-organised business. They acknowledged with pride the value it has been to the nation, to the business world, and to the community at large, and he asked them to be upstanding and drink with all the enthusiasm at their command the toast he had the honour to submit to them, the National Telephone Company, Limited, with which he coupled the name of their esteemed President, Mr. George Franklin. (Cheers.)

Mr. FRANKLIN, the President (who was received with loud cheers), said he would indeed be irresponsible if he did not at once acknowledge in the fullest possible way not merely the toast but also the kind wishes which had met with such a great response from them. When he thought of that meeting which they were holding and of the many other meetings which were going on in the country, where possibly the talk was about guarantees and Second Chambers, he was glad that the Head Office staff had inaugurated even at the eleventh hour of the Company's existence such a charming and agreeable function as that Head Office dinner was. With a chairman like Mr. Watts he ventured to think little was required for the mental side, and the musical side, judging from the programme, was in every way agreeable. He noticed that they had a song "Good-bye" on the programme, but he hoped this would not apply to the long connection between the Company and its staff. He would only say he did not quite share the chairman's miserable foreboding. During the 30 years of the Company's existence he ventured to think no company had ever deserved better of the British public. (Cheers.) No company had ever come off with a poorer reward—from early in their history an exaction of 10 per cent. for no service at all had been made. There was reason to be thankful that the Company had been able to make the progress it had. The service which it had given to the public was not to be discredited as compared with other services in different parts of the country or the world. With regard to this service of the National Telephone Company, both he and his colleagues freely and gladly acknowledged the splendid service given to the Company by its staff. He had said on other occasions, and he did not mind repeating it then, that the National Telephone Company owed a debt to the staff of the Company much beyond the monthly salary compensation sent out. But he had to refer to the difficulties which the Company had had to face. Those difficulties had not been light, and had required most serious consideration, and if at times it had seemed to the staff that the shareholding part of the enterprise got a little more than its share, he ventured to remind them that capital was necessary to a telephone undertaking, and without reasonable compensation and reasonable dividend capital would not come into the concern and therefore employment would not have followed. With regard to this Company other difficulties loomed ahead. At the end of the next year its license closed—possibly its history would close also. One of the difficulties had been the question of capital expenditure. The telephone enterprise constantly required the expenditure of new money. The Company having a license limited by years is not in a position to expend that money because there is nothing to be got out of it, whilst the agreement with the Post Office made no provision for dealing with expenditure of that kind. Some two or three years ago the Directors were face to face with the question: What shall we do with regard to capital expenditure? The interests of the shareholders required that expenditure should not go on—there was no object in providing capital expenditure for the benefit of the Postmaster-General, who did nothing whatever to earn it—and so it was that the Directors came to the decision (with great sadness) that the right thing to do was to curtail this expenditure. Some two years had passed since

that decision was come to. Some hundreds of honest working men of the Telephone Company had had to seek employment elsewhere in consequence. Now only recently, from a further study of this question which was not possible at an earlier date, in the light of events as they stood to-day, he was able to advise the Directors that if they would pursue a certain policy with regard to the development of the undertaking they might be able to safeguard the interest of those who otherwise would be in jeopardy and probably have lost their employment. He looked upon the decision as one of the most momentous of his life—these men within thirteen months of employment guaranteed by the Postmaster-General, and yet face to face with the question of whether they should be retained on the staff. He was happy that his colleagues had seen it in the same light as he had seen it, and they had come to the conclusion that come what would, although some sacrifice was involved, the staff was not to be sacrificed, but should be retained right up to the termination of the license. (Great cheering.) He trusted he might be with them as a guest on some future occasion, so that they might take counsel together. An opportunity of a gathering of that kind that they would be able to meet each other face to face, and exchange a friendly word or two, and long after the Company had ceased to exist, and they had all become sober Post Office officials, bound up in the most beautiful pink tape. He ventured to think they would look back to those happy days when, as officers of the National Telephone Company, they worked with spirit and goodwill for that Company, and it would be some pleasure in those days to feel the grasp of the hands of those who have met before in friendship. He noticed the chairman referred gloomily to the discharge of their chiefs. He had often heard of it, but the chairman was anticipating a little. He believed the Postmaster-General had until June, 1911, within which to say which of the staff he wanted. They did know that there were many in the position of having to go over to the Post Office under Lord Stanley's declaration. He agreed with the chairman that it should not be limited to a question of salary—questions of policy, administrative skill, and skill in other directions necessary for the development of the enterprise would arise for the Postmaster General and the Government of the country as they had done in the days of the National Telephone Company. If any evidence were wanted of the admirable spirit amongst the staff of that Company he would point to what had been accomplished recently in the organisation of the Inventory staff, which had entered upon a task never entered upon before. Nothing could be better than the spirit which had been shown by the staff in relation to that inventory. He ventured to think that the staff who have applied themselves to the inventory would take care that every single piece of plant was enumerated in that inventory, and it would not be possible for the Post Office officials to remind them of some plant to be included. This he did know, that those who were working on the inventory were working in a thoroughly sympathetic spirit and would take care the Company got its rights—He often thought the Company had every right to be appreciative of the great services which had been rendered by their staff to the shareholders. The shareholders' interest in the concern was now in the direction of vanishing point. Sometimes he believed that not only the staff but the public, in the coming time, would look back upon those possibly happier days when the telephone was being worked by the National Telephone Company. He wished, on behalf of the Board, to thank them for the kind reception they had given him and for the applause which had greeted the kind words of the chairman in proposing that toast. (Cheers.)

Mr. CAPARN, in proposing the health of the chairman, said the committee had found some difficulty in the selection of a chairman. They would have been most pleased to see one of the great chiefs in the chair, but the latter considered that one of the staff, pure and simple, should occupy that post. After some show of diffidence on the part of one or two, Mr. Watts, after a little gentle pressure, was induced to accept it. He thought the committee's choice had been thoroughly justified, and it was not the first time Mr. Watts had stepped into the breach. The gathering had come far too late—it ought to have come years ago. They in Head Office, divided as they were into various departments, did not have proper opportunities of getting to know one another individually. The Head Office staff were the best of good fellows, and he wished they had had more such opportunities in the past. Their late great General Manager, Mr. Gaine, had spoken of *esprit de corps* in the first issue of the JOURNAL. Generally no *esprit de corps* could exist without *camaraderie*. He hoped they would gather there next year and find themselves even better comrades and better friends than hitherto. They could congratulate themselves on that gathering. Another aspect of the gathering which might be a happy omen was the juncture at which it was held. Very soon they would be sending out the forms bearing the heading, "Annual increase." (Cheers.) And what a splendid chance a general parade such as they had that evening given the chiefs, from Mr. Franklin downward, of seeing what a grand lot of men their staff were.

He would say once again that they could congratulate themselves on the success of that evening, and they could congratulate themselves on their first chairman. He thought also Mr. Watts could congratulate himself on the honour of having presided over the first Head Office dinner. (Cheers.)

Mr. WATTS having responded, a very enjoyable function was brought to a close.

PRESENTATION TO MR. & MRS. OWEN.

At the monthly meeting of the Bath Telephone Society an interesting function to mark the celebration of the silver wedding of Mr. W. C. Owen (Local Manager) and Mrs. Owen took place. Miss Weeks, Clerk-in-Charge Bath, in making the presentation of a handsome silver spirit kettle, stand and lamp (supplied and engraved by Messrs. Hayward Bros., Bath), voiced the congratulations of the staff in a neat little speech, to which Mr. and Mrs. Owen suitably replied.

A YEAR'S GROWTH OF THE TELEPHONE.

AUSTRALIA.

SINCE the article published last month later statistics with regard to Australia are now obtainable, which show that the Commonwealth now possesses 75,870 telephone stations. They are distributed in the principal States as follows:—

New South Wales	...	...	...	31,888
Victoria	...	...	...	21,112
Queensland	...	...	...	7,256
South Australia	...	...	...	6,656
Western Australia	...	...	...	6,514
Tasmania	...	...	...	2,494

75,870

These, added to the 29,681 stations in New Zealand, make the total number of telephones in Australasia 105,551 instead of over 80,000 as estimated, and increase the total for the world to some 10,341,000.

The development of the principal cities in Australia is shown in the following table:—

	Beginning of	
	1909.	1910.
Sydney area	16,392	18,239
Melbourne area	—	16,778
Adelaide	—	4,816
Brisbane	—	2,698
Perth	2,554	2,752
Newcastle area	828	897
Ballarat	—	794

Melbourne is therefore an addition to the list of towns with over 10,000 telephones.

CORRESPONDENCE.

DISTRICT OFFICE STORES BOOKKEEPING.

TO THE EDITOR OF THE NATIONAL TELEPHONE JOURNAL.

MR. SARGEANT in his letter to the JOURNAL last month on the subject of "District Office Stores Bookkeeping" shows, in his remarks re the omission of the instruction from the latest issue of S.I. B.1 to "show in proper column of requisition the quantity in stock and on requisition undelivered," a misconception as regards the scope of the Service Instruction book. In the particular case in question the requisition form itself has headings (amongst which is included the heading referred to by your correspondent) for certain information to be filled in by the district before same is forwarded to Head Office, and it was obviously superfluous for the Service Instruction book to continue to reiterate that these headings must be filled in.

London, Dec. 14.

PERCY CHESTER.

CABLE FAULTS.

TO THE EDITOR OF THE NATIONAL TELEPHONE JOURNAL.

IN response to Mr. Gillmore's inquiry regarding methods of dealing with cable faults, two cases of locating faults are given below; the actual steps taken being described with a view to making the matter more interesting.

The whole of the subscribers' lines on a D.P. were reported "earth" at 7 a.m., and as water-pipe-laying operations had been noticed a few days previously in the vicinity of the D.P., it was at first thought the cable pipe had been damaged. On reaching the spot, it was found that the water-pipe trench was deeper than the cable pipe, but the latter appeared quite sound. The D.P. being only 3 yards from the water-trench, the footpath near the foot of the D.P. was opened, and a split bend exposed (the Corporation permit to open the ground was not obtained until two hours later, but the case being an "emergency," no difficulty was raised).

On opening the "split," which was higher at one end than the other, the pipe was found to be flooded with water, extending up to the centre of the lead sleeve. The water was ladled out, and a blow lamp applied to sweat off the lead sleeve. The highest wiped joint was removed all right, but the lower wipe which had been covered by the water had a slightly pitted or spongy appearance, and began to bubble when heated. The bubbling was not altogether from water, but seemed to be also due to air, as little globules of solder were noticed to form and break. When the sleeve was removed, it was found that the water had saturated the paper insulation up to and including the paper sleeves.

A split bend at the opposite side of the road (14 yards away) was then opened, the cable cut into, and the faulty length drawn out, with a "drawing-in" wire following it through the pipe. It was found afterwards that the water had extended 11 feet along the cable from the faulty joint.

A piece of good cable was drawn in, and a through joint made at the second split bend. The pairs were then verified at the first "split" to the exchange and to the D.P., and a second joint made, completing the repairs.

The flooding of the cable was not accounted for until it was noticed that amongst the water pipe gang's material there was a much battered length of lead

pipe. This was apparently part of a service pipe which had been burst, and it is surmised that as the "split" containing the faulty joint was situated partly under the kerbstone and gutter the water from the burst pipe had gradually soaked through the soil and thus reached the spongy wipe.

In the second case, it was urgently desired to join up a new subscriber on the only remaining spare pair of a 50-pair cable. An earth-connected buzzer was put on the spare at the exchange, and the required circuit picked up by an earth-connected receiver at the chamber nearest the subscriber's house. On further test, a short circuit appeared on the loop. With the Silver-own test-set the conductor resistance of the loop from exchange to the fault was obtained, but as the exact proportion of 20-lb. and 10-lb. conductors in the section under test was not known, another C.R. test was taken from the subscriber's end. The result gave the short circuit at 779 yards distance, and as the route had been carefully stepped on the road out to the house, it was found that a brick chamber existed 780 yards away. On opening the joint at this place it was seen that the paper sleeves on the faulty loop had been slightly misplaced, allowing the wires to touch each other. The sleeves were put in proper position, and the circuit then tested "O.K."

Greenock, Dec. 10.

JOSEPH V. ELLIOTT, Engineer.

ENTHUSIASM AND ENERGY.

TO THE EDITOR OF THE NATIONAL TELEPHONE JOURNAL.

AFTER reading Mr. Nick's article on the above subject in the September JOURNAL, one was almost forced to put the question, "What is Enthusiasm?" I am quite prepared to admit with Mr. S. G. Hare that there is a great amount of truth in what he says. At the same time this is not the fault of enthusiasm. Shakespeare wrote a play about Julius Caesar, the student and fighter who studied war till he knew it thoroughly, and then used his knowledge to make himself boss of Jove's footstool. One of the characters in the play—an energetic gentleman named Cassius—is made to say "The fault, dear Brutus, is not in our stars, but in ourselves." I think the same applies here; it is not the fault of enthusiasm, but ourselves who do not apply enthusiasm in its proper sense. What is enthusiasm? Mr. Nick says that "an enthusiast" is one who imagines that he has a special converse with the Almighty, or a special communication with Him. Is this correct?

In my opinion enthusiasm is *not* only to be used in connection with religion, poetry, patriotism, duty and such high matters as stated in the editorial under the heading of "False Enthusiasm."

The word enthusiasm is derived from *en* and *theos*, two Greek words meaning that the possessor has divine inspiration; but as *theos* is Greek, why not take it in its Greek sense as not applying to a *god*, but to *gods*? Thus, a man might not only be inspired with some fire of the Almighty, but with any of the gods. For instance, a man might be inspired with some fire of Mars and be an enthusiastic warrior, of Bacchus and be an enthusiastic drinker, of Apollo and be an enthusiastic hunter.

Enthusiasm, in my opinion, is what makes the world beautiful. Only when an artist is divinely inspired can he produce the pictures that delight the world. Only when a poet is thoroughly enthusiastic can he produce his great masterpieces. When a man is thoroughly enthusiastic he can do his very best work in the shortest time. Can this be a drawback?

On the other hand, some people are gifted with such vivid imagination that their ambition overbalances their judgment; their enthusiasm (?) paints more gilt than detail into the picture of the future. Others are too critical of the little things of the daily life and miss the larger outline.

To be "an enthusiast" it is not necessary to stand on the housetop and tell everyone what you are doing, and to make people believe that the only way to do anything right is the way you or your staff do it. Such men as these cannot be classed as enthusiasts, but as men wrapped in their own conceit.

A thorough enthusiast is one who tries to obtain all the knowledge possible, and is never above getting anyone's opinion or consulting his subordinates and getting their ideas on any point previous to bringing it into practice. I think this is a very important point for officials to consider, as I am certain that if you take the staff into your consideration and ask them what they think on any matter they at once realise that they are supposed to know something, and consequently they realise their responsibility, with the result that more energy and thought is put into the work.

Of course, what is wanted is a combination of the plodder and the enthusiast. Here we have inspiration and originality, together with hard work and perseverance.

If we are to attain our ambition we must realise that nothing is "good enough" except our best, and the more we develop the better our "best" becomes.

ALBERT E. RYLAND.

SOME SUGGESTIONS.

TO THE EDITOR OF THE NATIONAL TELEPHONE JOURNAL.

AS the JOURNAL encourages any of the Company's employees to give expression to what may occur to them in the course of their daily work, regardless of whether it is in one's particular sphere or not, I venture to make one or two comments.

I. I have always thought it might be useful if ringing connection were maintained between two subscribers when, either by intent or neglect, the receiver is off the hook and not actually in use. For example, in business, when making a call, one sometimes has to await the arrival of the person required, or to wait indefinitely while information is being obtained; and it may occur, agreeable to the law of contrariety, that no sooner is the call made than the query in some way or other is solved, or perhaps urgency of other business necessitates the call being dropped prematurely. Now, in such cases, it seems to me it would be advantageous and certainly a saving of time to be able instantly to attract the attention of the other end, independently of the Exchange. How far this is practicable, I am not in a position to say, but since mentioning the matter at a telephone lecture, I have been agreeably surprised to

hear a warning tinkle occasionally, on one of our telephones in the office, apparently denoting that the caller is getting impatient.

2. I do not think the use of guide lines on account forms or books is sufficiently recognised. For instance, on H.O. debits, Schedule 506, could not the *£ s. d.* columns be made more distinctive, either by the lines being thinner, or by a double line separating S.L. No. from *£*? This may seem a trifling matter, but I have to own to being once caught mistaking one column for another. I might not have mentioned this but for the fact that my successor in that work did likewise. Now, as any mistake of this kind means a considerable loss of time at the critical moment when the No. 6 return is being made up, it becomes a matter of more importance than at first appears. Then again, as another instance, it is all very well for those accustomed to the work to say they can at once drop on any particular one of the twenty or more columns on the ledger cards and analysis sheets, but the absence of guide lines makes it unnecessarily troublesome to a new hand.

3. My third and, perhaps, most seasonable remark is respecting ventilation. While fully appreciating a fine new office to work in, as we have at Dalston, the unavoidable occurrence of occasional draughts leads me, in my simplicity, to wonder why construction folks cannot provide for the proper ventilation of buildings apart from the ordinary use of windows and doors. We have radiators for warming the atmosphere; cannot some device be found, in these days of the perfection of science, for the introduction of fresh and outlet of bad air, other than by the above ordinary means? As it is, some unfortunate clerks less favourably situated than we are have no alternative between working in unhealthy atmosphere and being subject to draughts, or the inconvenience of having papers blown about the office. I trust you will not take this in the light of a personal complaint, but simply a wish to take advantage of the opportunity afforded by the NATIONAL TELEPHONE JOURNAL to ventilate an idea which has long been in my mind, and which would equally apply to all the habitations of man.

Metropolitan Stores Office, Kingsland Green, E. G. ADENEY.
Dalston, N.E., Nov. 30.

LONDON NOTES.

A NEW C.B. installation has just been fitted by the Company for Messrs. Thos. Cook & Son, the noted tourist agents. The new equipment consists of three 250-line sections, multiple type, and replaces two 50-line magneto boards. As a considerable proportion of the lines are external extensions, the equipment has been specially designed to provide for them. Another private branch exchange recently installed is that for Messrs. Arding & Hobbs at Clapham Junction. This is noteworthy as indicating the up-to-date nature of everything in the splendid new building which has been erected to replace that destroyed in the disastrous fire of a year ago.

MR. H. GREEN, of the Engineer-in-Chief's staff, read his prize paper on "The Designing of Dry-Core Telephone Cables" at the last meeting of the London Telephone Society. The audience, if not so large as one would have liked to see, was very appreciative. The subject is so important to the telephone engineer, and was treated so lucidly by the lecturer, that there ought to have been a full house. The next meeting will be on Jan. 4, when it is understood that another engineering paper of more than ordinary interest will be read.

THE Bank traffic staff were unfortunate in the weather when their first whist drive of the season was held at "Ye Mecca" Cafe on Nov. 23. Notwithstanding the terrors of bespattered mud and pouring rain, 170 assembled at the tables. The prizes were all given by friends, and the committee had the satisfaction of handing over £4 to the Hospital Saturday Fund. Miss Reekie, the "Bank" Clerk-in-Charge, who takes a leading part in the organising of these functions, wishes to thank all those who helped to make the evening so successful.

WHEN Mr. Davis, Metropolitan Stores Manager, was appointed temporarily to Cardiff a few of his friends expressed a desire to present him with some small token of their esteem and regard. The outcome was the presentation by Mr. Clay, on behalf of the subscribers, of a handbag and travelling rug, the little ceremony taking place in the Superintendent's room on Dec. 5. The subscriptions were limited in amount and confined to some of the senior officers. Mr. Davis's popularity with his colleagues was evidenced by the willing response made when the project was first mooted.

Two debates figured on the programme of the Operators' Society on Dec. 12. The first subject was "Are Speed of Answer Tests Useful?" The affirmative was maintained by Miss Somers, Supervisor, Paddington, while Miss Berry, Senior Supervisor, London Wall, opened for the negative. Miss Berry, according to strict debating rules, rather gave her case away by admitting that the term "useful" confined the subject within such narrow limits that she would have to go outside its scope. She certainly gave a very able and loudly applauded exposition of the bad effects of speed-of-answer tests. The discussion was very good indeed, but the exponents of the affirmative received scant encouragement from the majority of the ladies present: in that respect, perhaps, the debate was a little one-sided, as it was so evident on which side the popular sympathies lay. One rather got the impression that a complete case had not been stated for either side, and it certainly does seem as if a great many operators still consider that tests are made as much for the purpose of "finding fault" as for sampling the service. The second subject bore the somewhat cryptic title "Should an Operator Answer One Call Immediately after Another?" If the question were put to a novice he would unhesitatingly and rashly answer "Certainly," particularly if he happened to be an impatient subscriber. However, it turned out that the question as put was not really the question at all, for it was found that Mr. A. E. Abbott—now of Birmingham—was showing

that the best method for an "A" operator was to get all her signals answered quickly, leaving the completion of the connections until that had been done. Mr. T. Beck, Exchange Manager, Bank, on the other hand, demonstrated as ably that a call having been taken, the operator should complete it before answering another. It was a very pretty problem, and the interesting discussion showed that there are in the traffic ranks two divergent schools of thought. The Operators' Society is conferring a real boon on the staff by affording opportunities to discuss such matters. The attendance at the meetings continues to be very encouraging. The next meeting will be held on Jan. 11.

MR. H. CRISP, Clerk, Sales Department, City, was presented on Dec. 13 with a marble clock and ornaments on the occasion of his marriage. Mr. Crisp is well-known to the staff, and his many friends wish him a happy married life.

GLASGOW NOTES.

OWING to the absence of Mr. J. R. Thyne on inventory duty the presidency of the National Telephone Society (Glasgow and West of Scotland districts) was rendered vacant. A special committee meeting was held on Nov. 25 when Mr. C. J. Millar was unanimously elected president in lieu of Mr. Thyne, and Mr. J. F. Scott, vice-president, in place of Mr. T. Pettigrew, who is also on inventory duty.

WE regret to record the death of Mr. Thomas Barton, formerly of the Clerical Department, who passed away on Friday, Nov. 18. Mr. Barton, who was about 78 years of age, was the "Father of the Glasgow clerical staff." He was formerly an employee of the Caledonia Telephone Company, and entered the service in March, 1892, when the Company acquired the former undertaking. Deceased retired some four years ago, and up to the last few weeks has enjoyed good health. Of a genial disposition, Mr. Barton was much respected by all who came in contact with him, and much sympathy is felt for his family in their bereavement.

THE third meeting of the Telephone Society was held in the new Lecture Hall of the Technical College on Dec. 14. Mr. C. J. Millar, president, occupied the chair, there being a good attendance of members. A paper was read by Mr. Allan, A.M.I.E.E., Electrician, on "Telegraphy." The development of the telegraph system in this country was traced and an account given of the successive steps which were taken to improve the apparatus and lines so as to meet the requirements of the increased traffic. Various types of apparatus such as single needle instruments, sounders, Wheatstone A.B.C. relays and keys, were shown, and the method of working was explained by means of diagrams of the circuits on which the various pieces of apparatus are used. A Wheatstone automatic set was shown working on an artificial circuit and proved of special interest to the members. The apparatus was run at various speeds and a demonstration was also given of the method adopted for perforating the strip to be run through the transmitter. A specially prepared strip of one page of Mr. Allan's paper was run through at a speed of 250 words per minute and the ribbon from the receiver shown to the members.

At the close of the lecture Mr. Allan was accorded a hearty vote of thanks for his interesting and able paper. Mr. Heatherington of the Post Office who assisted with the demonstration was also thanked.

The apparatus used for demonstration purposes was kindly lent by Major O'Meara.

Hospital Fund. The sum of £183 10s. has been contributed by the staff for year ending Nov. 24 in respect of this fund. It is gratifying to note that since the inception of the fund in 1903 the sum of £1,378 has been subscribed and divided over the various charitable institutions.

This year's contributions have been distributed as follows:—

	£	s.	d.
Royal Infirmary	32	0	0
Western Infirmary	32	0	0
Victoria Infirmary	18	10	0
Convalescent Home, Leazie	4	10	0
" " Dunoon	20	10	0
Samaritan Hospital	2	5	0
Eye Infirmary	4	10	0
St. Andrew's Ambulance Association	4	10	0
Glasgow Maternity Hospital	4	10	0
Consumptive Sanatorium, Bellefield	2	5	0
Sick Children's Hospital	4	10	0
Quarriers' Consumptive Home	4	10	0
Cancer Hospital	4	10	0
Ear Hospital	4	10	0
Sick Nursing	2	10	0
Quarriers' Home	2	10	0
Kilmun Convalescent Home	2	10	0
Eastpark Home for Infirm Children	4	10	0
Broomhill and Lanfine Homes	4	10	0
St. Elizabeth's Home	2	10	0
Fresh Air Fortnight	2	10	0
Benevolent Fund	18	10	0

£183 10 0

ARRANGEMENTS are again being made for a visit to the Theatre Royal pantomime. It will be remembered that last year a similar event took place when the entire upper circle and pit were reserved for the Company's employees and friends. Although the actual evening has not yet been fixed it will probably be about the end of January. As last year the demand for seats was greater

than the supply early bookings are advised. Mr. J. W. Macdonald, Cashier, has kindly taken the arrangements in hand.

The National Telephone Operators' Society and Club.—The third meeting of the session in the form of a social evening was held on Monday, Dec. 12. There was a large attendance including several friends and guests.

Mr. Valentine, District Manager, was chairman for the evening, and among others present were Mrs. Valentine, Mr. and Mrs. C. J. Millar, Mr. and Mrs. J. M. Anderson, Mr. and Mrs. T. Rodger, and Mr. J. R. Brown. Mrs. Dunn (the first female telephone operator in Glasgow) was also present.

After tea a varied programme, including vocal and instrumental selections, readings, and dancing, was indulged in and was much enjoyed. The committee were rewarded by a most successful evening.

Whist Club.—This club, which proved so successful among the office and contract staffs last year, has resumed practice for the winter. Meetings are held every other Friday, and these are being fairly well attended and much enjoyed. Mr. A. C. Thomson is again an able and energetic secretary.

Owing to the calls of inventory the following temporary changes in the office staff have been effected:—Mr. J. W. Macdonald to be Cashier; Mr. J. F. Scott, Cost Clerk; Mr. J. Gibson, Rental Registers Clerk; Mr. M. Cullen, Stores Clerk; Mr. G. Dewar, District Manager's Confidential Clerk; Mr. H. Murray, Petty Cashier; Mr. J. McGinlay, Correspondence Clerk; Mr. J. Paton, Rental Registers Department.

In the periodical absence of Mr. J. M. Anderson, the duties of Chief Clerk will devolve upon Mr. J. W. Macdonald, while Mr. J. F. Scott, will control the General Office.

Staff Benevolent Fund.—The amount of £22 19s. 6d. has been distributed for the year ending Nov. 24 in respect of the above fund, relief being granted to eleven necessitous cases.

Clydebank Exchange.—The members of the staff of Clydebank Exchange and friends held an "At Home" on Nov. 25, in the switchroom of the new premises, advantage being taken of this before the installing of the apparatus. About twenty couples were present among those being Mr. and Mrs. Rodger and Mrs. Peters. Dancing was engaged in and several songs were rendered by members of the staff. Altogether a most enjoyable evening was spent.

NEWS OF THE STAFF.

Mr. C. C. WORTE, District Manager at Hull has been transferred to a similar capacity to Edinburgh. Mr. WORTE entered the service in November, 1885, and has been successively Local Manager at Cambridge (1893), Watford (December, 1893), Reading (1896) and District Manager at Canterbury (1897) and Hull (1900).

Mr. J. W. SWITHINBANK, District Manager, Middlesbrough, has been transferred to the District Managership of Hull. He entered the service in August, 1881, and was appointed Local Manager at Leeds in 1893, and District Manager at Middlesbrough in 1898. He was presented with a handsome travelling-bag on his leaving Middlesbrough for Hull. Mr. T. Hann, Chief Clerk, made the presentation and expressed the good wishes of the staff for future success and welfare. A presentation of a hand-bag was also made to Mrs. Swithinbank as a token of regard.

Mr. A. ROBERTS, Chief Electrician, Liverpool, has been appointed District Manager at Middlesbrough. He will for the present continue to perform the work he is engaged upon in connection with the taking of the inventory. Mr. ROBERTS entered the service in January, 1885, was appointed Chief Clerk, Liverpool, 1895, Local Manager, Bootle in 1902, and Electrician, Liverpool, in July, 1909.

Miss MARY ANDERSON, Travelling Supervisor for Ayrshire, was presented with a dressing case by the staff on her leaving to take the position of Senior Operator at Belfast.

Miss MARGARET LILIAN RIPPON, Leeds, who entered the Company's service in April, 1908, has resigned. She was presented with a jewelled pendant and chain by the members of the staff.

Miss HELEN HEWORTH, Leeds, who entered the Company's service December, 1906, has resigned. She was presented with a silver hand mirror by the members of the staff.

Mr. JAMES PARKER GARNER, A.M.S.T., Test Clerk, Manchester, was the recipient of a handsome leather suit case on the occasion of his leaving the service to take up a partnership with Messrs. Hy. Garner, Limited, Midland Motor Works, Birmingham. Mr. G. S. Wallace made the presentation on behalf of the Traffic and Electrical Departments.

Mr. F. C. FRENCH, Cost Clerk, Manchester, has been transferred to Headquarters Inventory staff, and Mr. J. C. MACDONALD, Chief of Rentals Department has been appointed Cost Clerk during Mr. French's absence. Mr. H. WOOD, Rental Clerk, being appointed Chief of Rentals Department *via* Mr. Macdonald.

Mr. B. A. BELL, Acting Chief Inspector at Manchester, has been transferred to the Inventory staff.

Mr. F. A. ROMERIL, Clerk and Collector, Jersey, was presented on Nov. 26 with a handsome kit bag, the gift of the members of the Jersey staff, on his leaving the district to take up clerical duties in the Portsmouth district. Mr. Howard Eady, District Manager, made the presentation in the name of the staff, and wished Mr. Romeril every possible success in his new sphere of labour.

Mr. B. LISTER, Sub-Engineer, Leeds, has been transferred to a similar position in the Liverpool district. Before leaving he was presented by the Engineer on behalf of the staff with a case of toilet articles.

Mr. H. ARGYLE, Learner, has been transferred to Liverpool. He was presented with a case of razors before leaving.

Mr. H. CONSTANTINE, Engineer's Clerk, Leeds, has been transferred to Head Office Inventory staff. Before leaving he was presented by the Engineer on behalf of the staff with an umbrella and other useful articles as a token of their regard and best wishes. Mr. Constantine has been over twenty years at Leeds.

Mr. W. MYERS, Exchange Inspector, City Exchange, Manchester, has been transferred to Exeter on the Inventory staff. He was presented by the electrical staff at City Exchange with a pair of military hair brushes and by the supervising staff with a gold tie pin.

Mr. JOSEPH B. CRAIG, Exchange Manager in Training, Glasgow, has been appointed Exchange Manager, Royal Exchange, Glasgow.

Mr. GEORGE EDWARD, Exchange Manager, Royal Exchange, Glasgow, has been transferred in the same capacity to Hillhead Exchange.

Mr. C. N. CARTER, Exchange Manager, Hillhead Exchange, Glasgow, is being transferred to the Traffic Department temporarily.

Miss JEANIE GORDON, Operator, Tron Exchange, Glasgow, has been promoted to be Travelling Supervisor, Ayrshire district.

Miss ELIZABETH DEWAR, Operator, Royal Exchange, Glasgow, left on Nov. 24 to go abroad. The staff in her exchange presented her with a cabin trunk and writing case.

It will be interesting to the staff who are acquainted with his photographic work—from illustrations and lantern slides which have accompanied his papers on telephone matters in various parts of the country—to learn that Mr. F. H. LANGDON-DAVIES, Acting Local Manager, Reading, has been elected to the Fellowship of the Royal Photographic Society.

Mr. J. MAGGS, Inspector-in-Charge, Ascot, was presented with a silver-mounted walking stick, suitably inscribed, and an illuminated address, by the operators and others connected with the Ascot staff on the occasion of his taking up his new duties on the Company's Inventory staff.

Miss MARY H. FALCONER, Operator, Leith, resigned on Nov. 30 last, owing to her people having removed to London.

METROPOLITAN STAFF CHANGES.

Mr. S. G. OVERALL, Night Operator, Paddington, appointed Inspector, Paddington.

Mr. R. CHARGE, Divisional Construction Electrician's Clerk, West, to Inventory staff.

Mr. A. W. POOLE, Call Office Attendant, Westminster, to Divisional Construction Electrician's Clerk, Gerrard.

Mr. G. A. PAYTON, Divisional Construction Electrician, South-East, to Inventory staff.

Mr. A. J. BARRY, Clerk, Metropolitan Electrician's Office, to Inspector, London Wall.

Mr. W. V. PEDDEN, Inspector New Cross, to Fault Clerk, Battersea.

Mr. W. L. WOOD, Maintenance Clerk, Battersea, to Inspector, Hop.

Miss BEATRICE BRYANT, Operator, Woolwich, promoted to Supervisor-in-Charge, Erith.

Miss EDITH FULLER, Supervisor, Hop, transferred to Supervisor, Holborn.

On Mr. A. E. ABBOTT'S transfer from the position of Exchange Manager, North, to Central Birmingham, he was presented with a very handsome barometer by the combined traffic and maintenance staffs of the North district. Mr. Abbott leaves London with the best wishes of his late colleagues and staff for continued success in his new position.

On Miss LOUISE REID'S transfer from Dalston to a similar position as Clerk at London Wall, she was presented by the staff, with whom she was very popular, with a silver watch.

MARRIAGE

Miss ANNIE HENDERSON, Operator, Shettleston Exchange, Glasgow, left on Dec. 1 to be married. She was presented with knives and forks by the staff in her exchange.

Miss REBECCA BERRY, Operator, Springburn Exchange, Glasgow, left on Dec. 15 to be married. She was presented with a dinner service by the staff in her exchange, and with a silver fruit stand by the members of the committee of the operators' society and club.

Mr. S. C. SMITH, District Manager, West Kent district, was presented with an electric radiator by the staff of the district on the occasion of his wedding.

Miss NELLIE CUNNINGHAM and Miss MABEL REYNOLDS, members of the operating staff, Middlesbrough Exchange, were presented with dinner services on the occasion of their resigning to be married.

OBITUARY.

We regret to record the death by drowning of Mr. O. S. FLOWER, Service Inspector at Brighton. Mr. Flower had been suffering from nervous breakdown, and after leaving a sanatorium at which he had been resting, is supposed to have drowned himself, under the influence of temporary insanity. Mr. Flower was a most popular man at Brighton, and took the lead in all the arrangements for social functions, outings, etc., and his breakdown was a real calamity to the staff there.

We regret also to record the death of Mr. W. PRICE, Line Foreman, Swansea district, who passed away after a painful illness on Dec. 12. The deceased was an old telephone man, his service dating back to March, 1886, when he joined the Western Counties and South Wales Telephone Company at Newport. A wreath was subscribed for by the members of the Swansea staff, and his colleagues on the line staff carried him to his last resting place.

LOCAL TELEPHONE SOCIETIES.

Bath.—On Dec. 14, at the third meeting, which in view of the inclement weather was well attended, papers were contributed by the following members of the Bath centre operating staff:—Misses M. H. Fryer, I. A. Garlick, D. M. Hall, R. Marchmont and D. A. Owen. A number of useful suggestions were made and an animated discussion ensued.

Birmingham.—The third meeting of the session was held on Dec. 2, at the Mecca Café. "Does it Pay to Specialise" was the topic for debate, which was opened in the affirmative by Mr. M. Bowes and Mr. T. Rooke in the negative. A very good discussion followed, in which everyone took part.

Birmingham Operators.—The third meeting of the session was held on Dec. 8 in the Midland operators' dining room. The meeting took the form of a magazine night, members contributing papers under a *nom de plume*, for which the committee offer three prizes. There were ten papers sent in on the following subjects:—"Hints on 'B' Operators," "Operating Call Offices," "Operating District Calls," "Keyless Ringing," "Two-Lamp Clear," "C. B. Testing (Midland)," "C. B. Testing (Central)," "Subscribers and Their Sorrows," "An Operator's Suggestion," "Telephone Progress." Miss L. Cragg and Miss A. Gye consented to read the papers, which were voted for by the members, and the result will be published later. Mr. L. Creecraft was in the chair.

Bolton.—Three meetings have now been held: the first and general meeting on Oct. 27, for the election of officers, arrangement of syllabus, etc. Mr. King, Contract Officer, Rochdale, gave an interesting and breezy account of the production of the *Daily Mail*, entitled "From Forest to Breakfast Table," illustrated by slides kindly lent by the *Daily Mail*.

On Nov. 24 Mr. Magnall, Engineer, Manchester, gave a paper on "Recent Line Faults, Overhead and Underground." The paper was of great practical value and, illustrated by a number of slides, various points were discussed.

Mr. Leeming, Local Manager, Bury, gave a paper on Dec. 15 on "Electric Light and Power Distribution." The subject was dealt with in an able manner, and ranged from steam plant to electric plant and mains. A series of slides were shown, and an interesting discussion followed.

Bradford.—The opening meeting of the telephone society took the form of a smoking concert, held at the "Rawson Hotel," on Oct. 21. The president of the society, Mr. H. B. Sutcliffe, took the chair, and in a few well-chosen words welcomed those present, especially mentioning members of the Inventory staff who are at present in Bradford district. A varied and interesting programme was subscribed by several members of the staff, and altogether a very pleasant evening was spent.

On Nov. 16 Mr. B. S. Cohen, of Head Office, gave a paper on "Telephone Investigation Work." The chair was occupied by the hon. president Mr. J. C. Chambers, who, prior to introducing the lecturer, presented to Mr. Bryant, of Salisbury House (who is at present in Bradford as a member of the Inventory staff), the second prize awarded by the education committee for the best paper in Class 3 of last session's competition. Mr. Cohen then proceeded with his paper which dealt thoroughly with the investigation work in transmission as carried out at Head Office.

A non-technical paper was given before a small but appreciative audience on Dec. 14, Mr. K. Baldwin of the district office staff was the lecturer and took as his subject: "The British Empire." He endeavoured to prove by means of both prophecy and history, that the British race is identical with the lost ten tribes of Israel.

A lecture on "Traffic" was given to the Bradford operating staff by Mr. A. L. May, Traffic Manager, on Nov. 10. There was a good attendance of about 50 members. The following subjects were treated in a lucid manner:—"Manning of Traffic and the Work of a Traffic Department," "Advantages Derived from the Study of Traffic," "The Observation Table," "General Operating Methods and Expressions." Enthusiasm was shown by the manner in which the discussion was taken up by the monitors and supervisors. The lecture has been repeated at Halifax, Huddersfield and Keighley.

Bristol.—The second annual dinner of the Bristol district staff took place at Stuckey's Restaurant on Nov. 12, when a company of about 100 sat down to dinner. The members of the Inventory staff now in the Bristol district were fully represented. Mr. R. A. Dalzell, Provincial Superintendent, presided, and he was supported in the vice-chair by Mr. A. Perkins, District Manager. After dinner a smoking concert was held, which proved to be a most successful one. The talent at the command of the chairman (composed of practically entirely of members of the staff) was exceedingly good, and a most enjoyable evening was spent. The usual toasts and votes of thanks were proposed. The following artistes deserve special commendation: Messrs. J. E. Jones, F. Taylor, W. C. Owen, J. T. Smith, J. Wilkins, A. McNab, A. Mass, L. Saunders, P. Shipp and Miss Dora Bubbear. Mr. W. Romain (Inventory staff) proved an accomplished pianist.

A successful whist drive was held at Lloyd's Cadena Café on Oct. 29, when a party of 128 spent a most enjoyable evening. Practically all members of the Inventory staff who are at present in Bristol were in attendance, and three out of the six prizes awarded went to them. The committee—consisting of the Misses Hagley, Lee, Knowlden, Jarrett, Fox, Rice, Jones and Cann—are to be heartily congratulated upon this their initial attempt, in so far as the staff is concerned, at a gathering of this sort, and at the vote of thanks proposed to them at the close of the meeting the hope was expressed that they would undertake to organise future gatherings of this description. Mr. Perkins, the District Manager, presented the prizes and Mr. Lamb officiated as M.C.

The third meeting was held on Dec. 15, when two papers were read, one by Miss Hagley on "A Month's Routine in the Post Office and Junction Fees Department," and the other by Mr. L. Saunders, entitled, "Humours and Pathos of Wayleaving," both of which were very interesting, that of Mr. Saunders affording considerable amusement, as was to be expected from the title. The information given by Miss Hagley was much appreciated by

all of the members present, especially to those of the Contract Department, who obtained information which will be very useful to them in their canvassing.

Bristol Operators.—The third sessional meeting was held on Dec. 15 when five papers were given by members of the Bath centre operating staff. These papers showed a very high standard of intelligence and contained useful suggestions with regard to expressions, service difficulties and so on. Mr. A. Perkins (District Manager) presided, and there was an attendance of 60 equalling 90 per cent.

Brighton.—On Nov. 28 Mr. W. Jenkins gave a very illuminating lecture on "Routine Testing," illustrated by many charcoal diagrams, lantern slides and blackboard drawings. The whole was very cleverly prepared and proved most interesting. Mr. F. J. Frost was in the chair.

Cardiff.—The second meeting of the session was held in St. John's School-rooms on Nov. 10. Mr. S. F. Whetton was in the chair and there was a good attendance. A paper was read by Mr. W. E. Gauntlett, Swansea, entitled "The Present Position." The paper, which was an interesting one, dealt very lucidly with the organisation and work of the Inventory staff, and was followed by a short discussion.

Coventry.—At a meeting held at the County Restaurant on Dec. 12, with Mr. F. Alcock in the chair, Mr. L. Meek read a paper on "Electrical Measurements," describing various methods and pieces of apparatus for the measurement of resistances and the location of faults. After a short interval, Mr. F. B. Farrand gave his paper on "The Public's Telephone," in which he dealt with the obstacles that the contract officer had to overcome when in search of new business: phrases, the way they catch the eye and their value. "London to Birmingham in two hours," says the railway company. "London to Birmingham and back in ten minutes," says the telephone. "The Burglar's Waterloo—The Telephone," &c. Each paper was followed by a good discussion.

Cneltenham.—On Nov. 17 a whist drive and social was held to celebrate the opening of the session 1910-11. A very enjoyable evening was passed, about 45 of the members and friends being present.

On Nov. 24 the first meeting of the session was held, when Mr. R. T. McCahay, Chief Inspector, gave an interesting paper on "Transmission." Illustrations in the form of drawings, lantern slides, and experiments greatly added to a very profitable evening.

The second meeting of the session 1910-11 was held on Dec. 8, when Mr. C. Elliott, of Gloucester (District Manager), read a most interesting paper on "Expenditure and Allocation." The whole of the members were present.

Cornwall.—The first meeting was held at Truro on Nov. 16, the vice-president (Mr. R. Harris) being in the chair. The minutes were read and confirmed, and a paper was then read by Mr. E. S. Byng, entitled "Economics," which was greatly appreciated by all present.

Cork.—The third meeting of the session was held on Dec. 8, when Mr. Houghton read a paper entitled "Magnetism." The subject was dealt with in an able manner. At the finish Mr. Roy passed a few remarks on various points mentioned.

Coventry.—The second meeting of the session took place at the County Restaurant on Nov. 24, Mr. R. S. Grosvenor presiding over a good attendance. An excellent paper on "Transmission" was read by Mr. H. P. Lloyd, Engineer, Birmingham, who is to be congratulated on the able way in which he dealt with a very difficult subject. A new feature of the meeting was an interval, during which light refreshments were served, and this interval was taken advantage of by the members of the society for the free discussion of telephone matters generally. It is thought that the good effects growing out of this experiment, which it is proposed to continue, will more than compensate for the expense.

Dover.—In connection with the Dover Telephone Society, a branch meeting was held at Margate on Dec. 7, when Mr. E. J. Woods, Local Manager, Margate, repeated for the benefit of the Thanet centres—viz., Margate and Ramsgate—his paper on "Overhead Faults—How Preventable," which he had already given at Dover. Mr. C. F. Ashby, District Manager, occupied the chair. The paper was greatly appreciated and an interesting discussion followed. There was a good attendance.

The third meeting for this session was held on Dec. 13. Mr. P. C. Langridge (Chief Inspector, Dover) occupied the chair. Two papers were read as follows:—"Notes on Contract Department Work," by Mr. G. T. Baker, Contract Officer, Folkestone; "The Duties of a Wayleave Officer," by Mr. H. S. Gunn, Wayleave Officer, Folkestone. Both were sound, practical papers, and were keenly followed and afterwards discussed by those present.

Dublin.—The opening meeting of the 1910-11 session took place on Nov. 14, when a paper on "The Training of an Operator" was read by the Traffic Manager, Mr. R. Morgan. The subject was exhaustively and interestingly dealt with, and some very instructive questions were asked and answered. The paper was supplemented by an excellent address from the chair, which was occupied by the Superintendent for Ireland, Mr. F. Cowley. The value of telephone societies was enlarged upon, and the members of the staff were urged to take advantage of the facilities offered. A short further address by the District Manager, Mr. P. F. Currall, closed an interesting meeting.

On Dec. 5 the second meeting was held, a paper on "Raw Materials" being read by Mr. W. B. Haynes. In the unavoidable absence of the president, Mr. P. F. Currall, the chair was occupied by the vice-president, Mr. M. E. Connor. An interesting discussion took place at the conclusion of the paper.

Dundee.—The second meeting of the session was held on Nov. 24. In the unavoidable absence of the District Manager, the chair was taken by Mr. M. McEwan. Mr. D. T. Gordon gave a most interesting paper on "Cables," dealing with the processes of manufacture of lead-covered cables, and giving details of the methods of laying and jointing underground. The paper was illustrated by lantern slides, and was followed by a discussion which was taken part in by Messrs. Mackenzie, Riley, Carse, J. McEwan and M. McEwan.

Edinburgh.—The first whist drive of the season was held in Telephone House on the evening of Nov. 4, and was attended by a large and representative

gathering, including Mr. Gilmour, District Manager, and Mrs. Gilmour. After a close finish the prizes, a gold pin and a silver fruit knife, were presented by Mrs. Gilmour to the winners, Miss A. L. Taylor (Supervisor) and Mr. J. B. Conacher (district office). Mr. W. F. Fraser won the booby prize.

Ampere Golf Club.—The annual supper and presentation of prizes was held on Oct. 21 in Bisset's Rooms, Haymarket. Mr. R. Gilmour, hon. president, presided over a large gathering, and during the evening several members of the Company provided a most enjoyable programme of music. A telegram, to which a suitable reply was sent, was received from the Edinburgh staff engaged on inventory work in Bristol, for whom hearty cheers were given.

The telephone society held its second meeting on Dec. 5. Lectures were given by the following members:—Mr. D. McIntosh, Engineer, "Routing of Local and Trunk Junctions"; Mr. J. Mathieson, Traffic Department, "Elements of Traffic"; Mr. J. Gilbert, Electrical Department, "Electricity as a Factor in the World's Progress." All the lectures were illustrated with lantern slides. There was a good attendance.

Gloucester.—The second meeting of the session took place on Dec. 14, Mr. C. Elliott, District Manager, occupying the chair. A very instructive paper, illustrated by several diagrams, was given by Mr. A. E. Coombs, Traffic Manager, Bristol, entitled "Telephone Traffic and its Study." Interesting discussion followed, and several questions were asked, to which Mr. Coombs replied in an excellent manner.

Greenock.—The session opened on Nov. 17 with a splendid attendance under the chairmanship of Mr. J. A. Swanson. Mr. A. Ramsay Lamb gave a very instructive paper on "Staff Prospects." A discussion followed.

The second meeting of the session took place on Dec. 8, when Mr. J. V. Elliott read a paper on "Wayleave Records and Route Diagrams," illustrated by various diagrams. The paper was greatly appreciated. Mr. A. Ramsay Lamb occupied the chair.

Isle of Man.—The fifth meeting was held on Nov. 25, Mr. W. Kelly, Chief Clerk, occupied the chair, and explained that the District Manager having contracted a severe cold, was unable to give his paper. A paper was read by Lineman Inspector T. Clucas on "Switchboard Connections." The paper was most interesting, and showed that great care had been taken in the preparation of the subject, and that he had a good grasp of his work.

The sixth meeting was held on Dec. 9, Mr. W. Kelly, Chief Clerk, occupying the chair. A paper was read by Mr. G. Gillmore, District Manager, on "Main Principles of Dynamals, Motors and Magnetism." By means of blackboard diagrams and electrical apparatus the main principles of the various apparatus set out in the paper were made very clear to all the staff.

Leicester.—At the second meeting of the society, held on Nov. 11, at the Foresters Institute, Mr. C. H. Lucas (Collector) read a short paper on "Automatic Boxes," describing in general terms the boxes in use and the faults which are common to them. Arising out of the various points mentioned by the lecturer, some useful discussion evolved. Mr. P. V. Sansome, secretary of the society, occupied the remaining portion of the evening with a paper called "Transmission and its Relation to Traffic." Sending and receiving allowances of various portions of the apparatus were briefly outlined, and the method of conducting a transmission test was shown, the curves and diagrams introduced by Mr. Sansome being much appreciated. Mr. F. Lucas, president, was in the chair, and at the conclusion of the lectures and discussions, Mr. J. Ashton, District Manager, made a short statement regarding the policy of the joint board recently formed.

Leeds.—Some 80 members and visitors gathered together on Dec. 14 to listen to Mr. G. F. Staitte, of Manchester, who delivered an able and much appreciated lecture on "Traffic," illustrated with lantern views.

Liverpool and Birkenhead.—The second meeting was held on Nov. 17, Mr. E. S. Francis, Traffic Manager, presiding. A paper on "Telegraph and Telephone Work by the Territorial Forces" was read by Mr. S. J. Lown (Exchange Inspector). The paper dealt with the application of telegraphy and telephony in the British army generally, and particularly with the arrangements at the recent Hornby Camp. An interesting discussion followed, which further emphasised the appreciation of the paper.

Luton.—Mr. Henry G. Smith, Inspector-in-Charge, St. Albans, on Nov. 21 read a paper entitled "Overhead Work." That the subject was an interesting one was evinced by the fact that the subsequent discussion on points mentioned in the paper extended well into three hours. Mr. Smith interposed his remarks with a number of clear and well-drawn illustrations. In accordance with custom the paper was repeated at Watford a few days later.

Manchester.—The third paper of the session was read by the Engineer, Mr. A. Magnall, on Nov. 25, the subject being "Recent Line Troubles." Mr. Magnall dealt very minutely with D.C.-L.C. aerial cables, and afterwards with lightning troubles on L.C. A. cables. The paper was a most enjoyable and instructive one, and was followed by an interesting discussion, in which the following took part:—Messrs. Weatherby (H.O.), Caldecott, Smith, Godfrey and Wallace.

Middlesbrough.—On Oct. 15 a party of Middlesbrough staff and friends visited Newcastle, and engaged in a friendly game of football with the Newcastle staff. After a very evenly contested game the Middlesbrough team retired victors by two goals to one. Out of five matches played with the Newcastle team this is the first win Middlesbrough have recorded. After the contest the Newcastle friends entertained the visitors at the Vegetarian Café. Hearty votes of thanks and expressions of good fellowship concluded a very pleasant outing.

Newcastle.—The second meeting was held on Nov. 14, in the engineer's room, when there was a good attendance, Mr. J. P. Urwin occupying the chair. An excellent paper on the subject of "Works Orders" was submitted by Messrs

T. Hall and F. Vernon. A second paper on "Instrument and Exchange Faults" was also submitted at short notice by Mr. H. A. Sadler, the subject being handled in a practical manner and the diagrams fully explained. The papers were much appreciated and were freely discussed by Messrs. A. Drummond, E. T. Payne, J. P. Urwin and other members of the staff present.

Nottingham Factory.—A tug-of-war on roller skates took place on Oct. 26 at the Princess Skating Rink, Nottingham, between members of the Factory staff and the Rink staff, resulting in an easy win for our "boys" by three pulls to one.

On Nov. 19, Mr. G. Goodhand gave a very interesting paper on "Electrical Signalling on Railways," in the course of which attention was called to the important part played by electrical apparatus in the working of railways. By means of lantern illustrations and by experiment, the various apparatus used were described in detail, together with their methods of operation.

The third meeting of the session was held on Dec. 16, when Mr. J. W. Faulkner gave a paper on "Early Telephones," illustrated by lantern slides. After reviewing the early history of telephones, slides were shown of obsolete instruments which had come under the author's notice during the process of repair, each slide being briefly explained.

Paisley.—The first meeting was held on Nov. 23; Mr. Wm. Leithead, president, being in the chair. Mr. A. Ramsay Lamb gave a very interesting address entitled "Staff Prospects," and the lecture was enjoyed by everyone present. Everything points to the society having a successful session.

Sheffield Operators.—The third meeting was held on Dec. 15, and took the form of a competition night. For this purpose the operators were divided into "Senior" and "Junior" divisions, the senior division consisting of operators who have had four years service and over. Six papers were read by the following operators in the "Senior" division:—Misses N. Betts, E. M. Bradshaw, E. A. Close, V. Hebden, C. Hemmingway and N. Kaynor. The first or president's prize, a lady's hand-bag, was awarded to Miss N. Betts, the second, or committee's prize, *Thelma* (by Marie Corelli), being won by Miss E. M. Bradshaw. There was a good attendance of traffic staff, including the Exchange Manager, all of whom thoroughly enjoyed the papers. The chair was taken by the Traffic Manager (president), who also presented the prizes.

Southern (London).—The monthly meeting of this society took place on Dec. 14, when two interesting papers were read on "The Slide Rule," and "Our Ideals," by Messrs. T. M. Inman and H. G. Corner respectively. The attendance was disappointing, doubtless due to unfavourable weather. An invitation was issued to the traffic staff of the district.

Sunderland and Shields.—The second meeting was held on Nov. 23 at Sunderland, Mr. W. J. Douglass presiding. The minutes of the previous meeting were read and confirmed. It was agreed that the next meeting be held on Dec. 14. The rest of the evening was devoted to a visitation of the Sunderland C.B. system, and matters of interest were discussed.

Another meeting was held on Dec. 14. A paper on "General Stores" was given by Mr. J. Gilroy, on which discussion followed and points were raised regarding inventory matters. Another paper was given by Mr. W. H. Abbott on "Expenditure." The next meeting will be held on Jan. 25, Mr. M. Byrne will give a paper on "Wireless Telephony."

Swansea Operators.—The third sessional meeting was held on Dec. 14, when a general debate on traffic matters constituted the principal portion of the evening's programme. Mr. W. J. Hodgetts, Engineer, occupied the chair. A number of points relative to operating were raised by various members and an excellent discussion was participated in by practically all who were present. Useful information was brought to light and considerable powers of argument on the part of the speakers were indicated, the general interest being shown by the keenness with which the debate was followed. Mr. W. H. Crook, Chief Clerk, afterwards gave an excellent short lecture "On a Tour through the Midlands," which was illustrated by some excellent lantern views of English Midland scenery including the Peak district, the slides being kindly lent by the Midland Railway Company.

Torquay.—The second meeting was held on Oct. 24, when Mr. D. J. Mickleham, Contract Manager, read a paper entitled "Some Phases of Contract Work." He illustrated with diagrams the growth of subscribers' service with the introduction of private branch exchange system. An interesting discussion ensued.

The third meeting was held Nov. 14, when Mr. W. H. Robnett, Chief Inspector, read a paper entitled "Instrument Faults: Cause and Remedy." The paper was very interesting. Numerous parts of instruments were shown and a good discussion followed.

The fourth meeting was held on Dec. 5, when a paper was read by Mr. G. F. Brough entitled "Improvements in Construction." The essayist described the improvements in certain portions of construction work brought about by the improved material used, samples of which were shown. The question of damage to poles by climbing was raised and a good discussion followed.

Tunbridge Wells.—The second meeting of the session was held at Ralph's Restaurant on Dec. 5, when Mr. P. W. Whibley read a paper, which was illustrated with drawings, on the "Tunbridge Wells System." The lecturer dealt at some length with the peculiarities of the Tunbridge Wells system, and gave full and lucid explanations of the whole working. A brief discussion followed.

Western Metropolitan.—The second meeting of the session was held at Gerrard Exchange on Dec. 6, on which occasion Mr. J. H. Patman (Electrophone Manager) read a paper entitled "The Electrophone of To-day." Lantern slide illustrations were shown and various electrophone apparatus was also on view. Following the reading of a very interesting and instructive paper, the company

adjourned to the electrophone reception room and took part in a trial hearing of the service.

Wolverhampton.—The second meeting was held on Dec. 2, Mr. Terras, of the Inventory staff, being in the chair. Mr. C. W. Piggott, Traffic Manager, Birmingham, read a paper entitled "Past and Present," which gave an interesting account of the evolution of operating methods during the last 25 years. The paper was illustrated by a series of good lantern slides. In the discussion which followed the question of the precise definition of a "team" was debated. Notwithstanding very bad weather, there was a good attendance of members, the operating staff especially being well in evidence.

STAFF GATHERINGS AND SPORTS.

Bradford.—On Nov. 30, under the auspices of the telephone society, a very successful whist drive, social evening and dance was held. Whist occupied the earlier part of the evening, and after supper dancing was indulged in until the early hours of morning. A very good concert was provided by members of the staff in a separate room, for the benefit of those who did not care to dance. In addition to the local staff there was present a large number of the Inventory staff, who also contributed largely to the concert programme, the humorous songs provided by Messrs. Scott and Kenworthy being a special feature of the evening.

Brighton.—The second whist drive of the season was held on Dec. 14, when 48 were present at Smith's "Bon-Bon Shop," Preston Street. The result of the play was as follows:—Ladies: First prize (biscuit box), Mrs. Prudden; second prize (rose bowl), Miss Huxtable. Gentlemen: First prize (leather wallet), Mr. Ockenden; second prize (metal cigarette case), Mr. W. Davis. Consolation prizes, Miss Rose and Mr. O. J. Archer. At the end of the drive dancing was indulged in and continued till 1 a.m. M.C.: Mr. E. J. Clarke, assisted by the Misses Trott, Webb and Agutter and Messrs. H. Drury, O. J. Archer and W. Jenkins.

Cardiff.—The annual whist drive and dance was held at the Whitehall Rooms, Park Hotel, on Dec. 18 from 8 p.m. until 2 a.m., when about 180 of the staff and their friends spent a most enjoyable evening. Dancing and whist were indulged in, and the two first staff prizes were won by Miss Coates and Mr. Thorn. First lady's prize, Miss Spearing; second lady's prize, Miss Lates. First gentleman's prize, Mr. Harbidge; second gentleman's prize, Mr. G. D. Bateman. Mrs. Waite very kindly presented the prizes. The M.C.'s for dancing were the Misses Williams, Osborne and Hockey, and Messrs. Whetton and Riley. For the whist, the M.C.'s were Messrs. Marsh and Ryland.

Edinburgh.—The annual general meeting of the Edinburgh Telephone Thrift Club was held on Dec. 12, Mr. R. C. Wilson, vice-president, being in the chair. That the past year has been a most successful one was shown by the following:—Membership, 186; balance in bank, £127; amount of deposits during the year, £544. In place of Mr. A. McNab, now on Head Office Inventory staff, Mr. W. Wilson was appointed secretary.

The Edinburgh staff football club—National Amateurs—held a smoking concert in the "Imperial Hotel," Market Street, on Dec. 9. Mr. Robertson, Electrician, presided over a large gathering of the staff and their friends. An excellent programme of vocal and instrumental music was provided by the members of the Company.

Leicester.—Those members of the Leicester Telephone Society who took advantage of the opportunity afforded them to visit Nottingham, desire to place it on record, how very much the visit, in all its phases, was enjoyed. It was unfortunate that circumstances would not allow more than 22 of the members to accept the kind invitation of the combined Nottingham societies. The Leicester contingent were met at Nottingham Station on Nov. 19 by the secretary of the Nottingham Factory Society (Mr. Bowman) and proceeded under his direction by train to Station Street, where Mr. Fenton, the Factory Manager, personally welcomed each member of the party. Each department was inspected and a representative from each department was at hand to facilitate the efforts of Mr. Fenton to make the demonstration as complete as possible. Messrs. Macadie, Briggs and Baxter were untiring in their explanations, which were in great requisition, while Mr. Bone's practical experiments were much appreciated. After the visit to the Factory, the combined members of the District and Factory Telephone Societies entertained the party to tea. Calvert's was the rendezvous and the repast most excellent. In responding to the thanks of Leicester Society, expressed by the president (Mr. F. Lucas) on their behalf, Mr. Sibley, the District Manager, heartily welcomed the Leicester staff to Nottingham. Afterwards a visit was made to the exchange where Mr. Sibley was ably supported by the heads of departments, who all combined to make the visit of interest. Under the guidance of Mr. Morris, the Electrician, an inspection was provided of all the interesting details a C.B. exchange affords, not forgetting the rock cellar, after which the party scattered for a time, some to renew old friendships, others possibly to make new.

Manchester.—The December meeting of the C.D. (Manchester) club was held on the 12th, when a most interesting lantern lecture was given by Mr. Hayward on "Amongst the Lakes and Fells of Cumberland with a Camera." There was a capital attendance of members and friends who thoroughly enjoyed the many excellent scenes thrown on the screen.

The proceedings afterwards terminated with the usual musical and elocutionary programme.

Portsmouth.—On Nov. 26 last, the operating staff held their whist drive at the Cadena Café, Southsea. Twenty-seven tables were occupied, Mr. S. J. Smith, District Manager, being present, and amongst the guests were the Corporation Tramway Manager, Mr. W. R. Spaven, Councillor Timpson and Mr. W. S. Foale, Chief Electrician of Portsmouth Corporation Electric Light

Works. A very enjoyable evening was spent and the prizes were distributed by Mrs. S. J. Smith.

Wolverhampton.—A successful dinner was held by the North Midland district staff at the "Victoria Hotel" on Dec. 1. A large number of guests and visitors from the Inventory Departments, National and Post Office, at present in the district, also took part. The chair was taken by Mr. Archer Smith, the District Manager, who in the course of his remarks in proposing "Our Guests and Visitors," referred to the cordial and amicable working that had characterised the relations between the Company's district and Inventory staffs, and the pleasure it had been to welcome them to the Company's building in North Street. He also paid a tribute to the unvarying courtesy, during the inventory, extended by the Department's officers. This was warmly responded to by Mr. Richard Johnson on behalf of the Post Office, and by Mr. J. Sinclair Terras on behalf of the Company's Inventory staffs. Other toasts were proposed by Messrs. G. Richardson, E. J. Jarrett, and W. W. Gould, and included "The National Telephone Company," "The British Post Office," and "The Chairman," and responded to by Messrs. C. H. Redhead and — Hook, jun. Musical contributors to the success of a most enjoyable evening were Messrs. F. W. A. Clutterbuck, E. B. Cooper, W. W. Gould, R. W. Lloyd, T. Pettigrew, W. Roth, B. C. Saxton, G. Taylor and J. Sinclair Terras. The arrangements, admirably carried out, were in the hands of Mr. P. W. Lloyd.

A VETERAN OPERATOR.

WE have pleasure in publishing the portrait of Mrs. Brown who entered the Company's service as operator and caretaker at Barrhead in the West of Scotland district when the telephone system was introduced there in 1887, so that she has over 23 years of a telephone career to look back upon. In 1887 there were only twelve subscribers in Barrhead, whose connections were worked by means of the old-fashioned slipper-jack switch-board. This board served for a short time only, however, and was replaced by a more up-to-date one which served until 1908, when the system was metallic circuited and the outside wires placed underground.



MRS. BROWN.

The whole responsibility of the operating duties rested upon Mrs. Brown's shoulders until last year when, owing to the greatly increased traffic, it was decided to appoint a day operator, Mrs. Brown continuing to act as caretaker and night operator.

The subject of our sketch has served under seven district managers and ten local managers. Mrs. Brown knows and is known to every subscriber in Barrhead personally, and she has by her unflinching courtesy and attention gained the respect of each of them.