1909.

NEW ZEALAND.

POST, TELEGRAPH, AND TELEPHONE BUSINESS IN EUROPE AND AMERICA

(REPORT OF SECRETARY, POST AND TELEGRAPH DEPARTMENT, ON).

Laid on the Table of the House by leave.

REPORT.

SIR,— General Post Office, Wellington, 24th September, 1909.

In obedience to your instructions, I visited the principal post, telegraph, and telephone offices in Europe, the United States, and Canada during my recent absence from New Zealand. I now have the honour to submit a report showing the result of my investigations. I have not referred specially to any differences in practice which did not appear to me to give a better result than our own, but have confined myself as far as possible to the question of economy in working combined with the provision of maximum facilities to the public.

If the proposals recommended in my report are carried out, there should be an annual saving to the Department of, approximately, £10,000 per annum, which I trust will be regarded as satisfactory. The greater part of this saving would be definite—that is to say, the staff could be reduced immediately the new system comes into operation. With the rapid extension of the Department, however, it should be possible to employ most of the displaced officers at other duties within a comparatively short space of time.

I would add that at all the offices I visited I was shown the greatest courtesy, the principal officers not only of Government Departments, but of private companies, devoting to my inquiries much more time and attention than I had any right to expect. It was a pleasure to find that the forward policy of the Postmaster-General and the methods of the New Zealand Post and Telegraph Department were favourably mentioned in quarters where I least expected them to be known.

I have, &c.,

D. ROBERTSON, Secretary.

The Right Hon. Sir J. G. Ward, P.C., K.C.M.G., Postmaster-General, Wellington.

POST-OFFICE BUILDINGS.

I examined a large number of buildings in various countries. In hardly two cases did I find the arrangements for the convenience of the public or the officers alike, the process of arriving at a satisfactory arrangement being apparently subject to the views of the designer. The main point noticeable is, that in America and some other countries, the principle of the wicket—a small square window opening out on to a corridor—is adopted in preference to the open counter. In Great Britain and France the open counter is found in all principal offices, and, as this has proved so successful in New Zealand, I see no reason for recommending any alteration of the system. I was pleased to find that the plans of the Auckland and Wellington offices, which were prepared before I left New Zealand, are, as the result of my inquiries, susceptible of little alteration. Several mechanical appliances, such as conveyers, &c., can with advantage be added, but this, of course, does not affect the general arrangement of the accommodation to be provided in the new buildings. I have referred to conveyers elsewhere.

BACK-STAMPING OF LETTERS.

For some time I have been of opinion that the back-stamping of letters, at any rate at the principal offices, was an unnecessary formality. With the despatch of mails two or three times daily from offices near at hand, and practically daily from one end of the country to the other, the time of posting of a letter as shown on its face is sufficient proof that it should have been received at a certain time. To mark the time of receipt may be a matter of interest to one person

in ten thousand; and in the event of a letter being missent the fact of missending is known. If the date of receipt is of any advantage at all, we should, to be logical, date-stamp a letter on its receipt not only at the office of delivery, but by the letter-carriers' sorter, and the letter-carrier who performs the final operation of delivery.

In the United States and Canada the date-stamping of received letters has ceased at certain offices without any inconvenience to any one; and in London letters for the morning delivery are not back-stamped. In the days when the post was irregular and postages were high it was, no doubt, of advantage to be able to certify to the date of receipt at the delivering offices. This is a useless arrangement when letters occupy so short and so regular a time in transit as they do now.

The process of back-stamping letters is costly, and always results in delay. Moreover, the necessity for back-stamping letters nullifies to a large extent any sorting of transit letters which may be made by the office of despatch. To abolish the date-stamping of transit letters would result in great saving of time at central offices, as it would then be possible for inland offices to sort and despatch forward letters in bundles, which need not be disturbed by the transit office. For example, an office like Palmerston North could without any inconvenience tie letters for Christchurch, Dunedin, foreign places, &c., in separate bundles, which on receipt at Wellington would simply be placed in the proper bags. At present, as letters have to be back-stamped, it is useless attempting any sorting of the kind. Another important advantage is that when no back-stamping is required every bundle of letters tied up can be faced with a slip bearing the name of the despatching officer. As each bundle is being sorted at the office of receipt any missent letters can be directly charged to the officer missending them, and a record thus kept which is of infinitely greater advantage than an unexplainable gap between the date of despatch and receipt, as would be revealed by the back-stamping.

I have no hesitation in recommending that the back-stamping of all letters cease forthwith. This will, I estimate, result in the saving of £1,000 per annum.

Closing of Mail-bags.

In America numberless devices have been tried with the object of closing mail-bags without the use of twine. These range from a bag with a simple leather strap, staple and padlock, to bags which close more or less automatically. The best device intended to be used with a padlock is, without doubt, the simplest one—namely, a leather strap and staple; but, although such bags might be useful in connection with mails made up on railway-trains, their general use is not to be recommended, owing to the trouble and expense of keeping a large supply of padlocks capable of being opened by keys of one pattern. After full consideration I have come to the conclusion that the evil-smelling wax-pot could be dispensed with, and lead seals used by all offices. In London I found that lead seals were being used for all country mails with great satisfaction to the office. The Inspector of Post-offices here has recently gone fully into the question, and, somewhat to my surprise, I find that the adoption of lead seals will not only enable us to do away with the unsatisfactory wax seal, which as often as not arrives at its destination in a broken condition, but there will be a saving of £900 per annum. An initial expenditure of £1,500 will, however, be required for steel punches. The proposal is one which I recommend.

Stamp-vending Machines.

Considerable interest has been displayed in stamp-vending machines of various patterns which have been submitted to postal administrations. The United States Post Office has not, I understand, yet come to a decision as to the best machine to adopt. In Germany and Belgium I found the Abel machine, a German invention, outside the principal offices. This machine appeared to do its work well whenever I tested it. I did not have an opportunity of seeing the inside mechanism, but, judging from a sample machine of the same make which reached New Zealand two or three years ago, I should say that the mechanism is complicated and delicate. Indeed, it is alleged that if the mechanism gets out of order it is possible to obtain a large number of stamps for one coin. The machine adopted by the British Post Office is that invented by Mr. Dickie, of this Department. In the latest model the mechanism has been reduced to a minimum, and it is difficult to find any fault with the machine.

There is no doubt that the adoption of a reliable stamp-vending machine would materially reduce the work of clerks at the counter, and relieve congestion in the public lobbies of large post-offices. I understand that the proprietors of the Dickie machine are preparing one or two machines suitable for selling New Zealand stamps; but there seems to be too much delay in submitting a practical machine to the Department.

If the proprietors of the Dickie machine are prepared to install the machine within a reasonable time, I would recommend that this type of machine be adopted by the Department. I do not consider that the Department would be warranted in purchasing the machines. It would be better, at any rate at first, to allow the company to install machines in suitable places, a commission being allowed on the sale of stamps. The only objection to the use of the best penny-in-the-slot machine is that it is possible, by making a disc of the exact size and weight of a penny, to obtain stamps by fraud. The selective mechanism of the Dickie machine is, however, now so exact that it would be very unprofitable for any person to attempt to make discs for fraudulent purposes.

Parcel-post.

The very great increase in our parcel-post business within the last two or three years—the business has been more than doubled—naturally made the subject one which I considered to deserve very full inquiry.

When we commenced our parcel-post system a number of years ago we adopted the British system in its entirety, it being overlooked or not considered of consequence that the British Post Office was, owing to the railways being in the hands of private companies, in a very different position to a country which owned its own railways, and where mutual arrangements could be made between the Railway and Post Office Departments which would be satisfactory to both. As instancing the difficulty which the British Post Office has to meet, it may be mentioned that, owing to the attitude of the railway companies, an extensive system of motor and other conveyances is used for carrying parcels between large centres and for overtaking the work between cities which are long distances apart. Nevertheless the office system in use in Great Britain of dealing with parcels is simple and effective. In some way there has, during the past, been added to the system in New Zealand so many checks and records that it has now become cumbrous in the extreme. There has been too great a tendency not only in the parcel-post but in other branches to look upon isolated cases of loss as demanding all-round checks which eventually have cost large sums of money. At present the position is that a parcel in New Zealand is treated almost precisely as a registered letter, records being kept and receipts taken on delivery. The British practice and the practice elsewhere prove that many of these are totally unnecessary, and should be abolished forthwith.

As regards the final adoption of a parcel-post system, however, I came to the conclusion that the German system, where the conditions of State ownership of railways are the same as ours, could with advantage be adopted not only in the office system, but in regard to the facilities afforded to the public in the direction of carrying parcels of considerable weight. Our present maximum weight is 11 lb., and there appears to be no good reason why this should not be extended for offices served by railway or steamer to, say, 20 lb. or 28 lb., or more. At the same time, I think it should be possible without risk of loss of revenue to recast the parcel rates with the object of making a substantial reduction on parcels for delivery within five or ten miles of the office of posting. In the case of our large centres this would attract a class of business which we at present do not handle. A similar arrangement in Germany gives the Post Office a practical monopoly of the city as well as the country parcel business; and if we are to extend our country business materially as suggested, the parcel-post system will no doubt be taken advantage of largely by farmers and others for sending small lots of produce to customers in the cities. This would, in any case, necessitate our providing our own conveyances for the delivery of parcels, instead of the work being carried out by contract as at present. During my absence I find that the question of city deliveries has been raised by the Assistant Postmaster, Auckland, and that his views are in the main those I took after a careful examination of the German system. There is no doubt that the present is a more or less critical period in the history of our parcel-post, and that action taken now in the direction I have indicated will save endless trouble in future years.

Concerning the details of the office system in use in Germany, the arrangements are excellent, and well worthy of adoption by us. No record of parcels is kept in office books, but every person presenting a parcel presents with it a card bearing the name of the sender and the name of the addressee of the parcel. This card is immediately numbered with the same number as the parcel, and forwarded by letter-post to the office of delivery, where it is retained until the parcel itself arrives by goods or other train. When the parcel reaches the office of delivery the card is marked with a coloured pencil, a different colour being used for each day of the week. A slip attached to the card is handed with the parcel to the delivery-cart, and the card itself filed as a record. All book-keeping is thus avoided, while a perfect record of the parcel is kept. No receipts are taken from the addressee, the carter's slip being considered sufficient proof that the parcel was duly handed over. As I have already explained, our system has become unnecessarily cumbrous. It is estimated, apart from any general alteration in the policy of the Department, that the substitution of the German card system and the abolition of receipts and other records, except where specially paid for at the usual registered-letter rate, should result in a saving exceeding £1,000 a year. It is recommended that this detail be brought into force forthwith, and that an early opportunity be taken of considering a change in our general policy. I do not propose that any officers should be removed from the parcels-post branch, as the very rapid increase of business now going on should enable the present staff to be absorbed within a short time.

Rural Deliveries.

Probably no postal question has created more public interest in the United States during the last few years than that of rural deliveries. While the United States at one time lagged considerably behind most other countries in the matter of letter-carriers' deliveries even in fairly populous places, the other extreme has now been reached, and deliveries are being made in more or less sparsely populated country districts. Rural deliveries as arranged comprise, as a rule, delivery into special boxes at cross-roads and other convenient places, and collection from the same boxes. In addition, the schedule of the rural letter-carriers is so arranged that settlers who may attend at the cross-roads can do other postal business with the carrier. The cost of rural deliveries in the United States last year amounted to about £7,000,000. As the system develops it is difficult to estimate what the ultimate cost will amount to. Most of the more populous country districts are now in the enjoyment of rural-delivery facilities, and it is only natural to suppose that sparsely peopled places will gradually be given the same privileges.

Notwithstanding the great cost of the system as compared with the revenue derived, it is contended that the introduction of rural delivery has materially improved the social and economic conditions of rural settlers. It is estimated, for example, that the value of land in rural-delivery districts has risen 35 to 45 per cent. This seems to be a somewhat optimistic estimate, but I was assured by a high official in Washington that his inquiries had proved the estimate to be an

accurate one. Moreover, the actual or potential saving to farmers, who formerly had to lose, say, a half-day's work of themselves and teams to visit the market town once or twice a week for letters, is calculated at £120,000,000 ($600,000,000).

It must be observed that in considering the question the distribution of post-offices in the United States was scarcely on the same liberal scale which has contributed so much to the success of the Post Office in New Zealand. It would be impossible for us, for example, to close post-offices on the establishment of a rural-delivery route, as is done in the United States, as so many of our offices are also telephone-offices, which must be kept open.

While the stage at which the United States rural delivery has arrived is interesting, I am more or less doubtful whether the same effect could not have been largely attained by the establishment of post and telephone offices at short distances apart, as has been done in New Zealand, with the addition of boxes as used in Canada, as described hereafter. The system, as adopted in the United States, would not, I am convinced, suit New Zealand requirements, but an important modification is in force in Canada, and is well worth considering. Instead of appointing special letter-carriers, the services of the ordinary mail contractors or couriers are made use of. Like many other important developments this has only been rendered possible by what at first sight might seem unimportant. On the rural deliveries in the United States settlers are required to provide their own collection and delivery boxes, which are usually erected in groups at cross-roads. As the system extended, boxes of various patterns were introduced, with the result that there is great diversity in the style of the boxes, which results in loss of time in clearing them. In Canada nothing was done in the direction of rural deliveries until the new rural-delivery box referred to, which is spoken of as an ideal one by officers of the United States Post Office, was invented. This box is so contrived that it can be cleared and letters deposited by a mail contractor without his getting off his horse or leaving his vehicle. The box is erected at the side of the road away from traffic. It normally rests at the end of a long arm, and, if letters are in the box, is placed at right angles to the arm. When letters are ready to be cleared, the arrangement of the arm enables the box to be drawn forward by the mail contractor by the end of his whip. After the box is cleared the arm automatically runs back, and reassumes its position parallel to the road. I have obtained samples of these boxes, which seem to me to be admirably adapted to our requirements. As in Canada, the invention of this box appears to make rural deliveries possible in New Zealand without excessive cost to the Department. In Canada mail-carriers are paid 4s. per annum in addition to the amount of their contract for each box on their line of route. The settlers pay the cost of the box. So far the Canadian rural deliveries have been very successful, and highly appreciated by settlers, who have taken the matter up heartily.

As practically all our mail routes are under contract, the Canadian system is one which I would recommend for adoption in New Zealand. The cost of clearing the boxes might be fixed at the same rate as in Canada, at which the cost would be £200 for each one thousand boxes, against which it is to be anticipated that business would materially increase. Considering the great advantages to country settlers, who would, by means of this box, practically have a post-office near their doors, the cost must be reckoned as slight.

Halfpenny City Post.

The most important recent innovation is the establishment of a halfpenny city post in Canada —*i.e.*, for a letter for delivery within the city where posted. While Germany has preceded Canada in this reduction of postage, the action of Canada is particularly interesting from a New Zealand point of view, as the question is one that has been under discussion from time to time, and the experience of Canada will be of particular value. When I was in Ottawa the new postage-rate had been in force for a little over a year, and it appeared to be the general impression that the revenue was not likely to suffer. In confirmation of this the Postmaster-General kindly supplied me with the return of stamp-sales at a few of the larger offices for three months before the reduction of rates and for the corresponding period of the succeeding year, when the 1-cent rate was in force. Notwithstanding the depression in trade, I found that the stamp-sales for the latter period were practically equal to those of the period before the reduced rates came into force. The Canadian office will no doubt continue to supply this Department with comparative returns, and, if the result continues to be as favourable, the Postmaster-General may later on consider the desirability of modifying our city rates. The question is, however, one that should be considered with caution. While I am inclined to think that, in conjunction with the greatly extended city deliveries I have elsewhere recommended, there would be no ultimate loss of revenue in reducing our city rate to ½d., I estimate the loss of revenue, allowing for a reasonable increase in the volume of correspondence, at £45,000 for the first year, £30,000 for the second, and £15,000 for the third year, after which the revenue would recover itself. It should be remembered in this connection that a great proportion of matter which would fall into the letter-post in other countries, such as invoices, &c., has already in New Zealand the advantage of a halfpenny post.

Collection of Letters from Posting-boxes.

A postal officer visiting Germany cannot fail to be impressed with the great facilities offered in the larger cities for the posting of letters. Little attempt is made, as in England, to provide pillar boxes which will accommodate newspapers as well as letters; but a letter-box of a special pattern, adapted to be fixed to any convenient wall, is to be found every few yards. These boxes are contrived so that the clearance is effected by a messenger without his handling the letters. This is accomplished by means of a special collection-bag. The mouth of the bag is pushed into a device at the bottom of the box, the letters falling down into the bag. At the same time provision is made for indicating the time of the next clearance on the box. The box is simple, well adapted for its purpose, and of good design. A sample is being obtained. The use of similar boxes will be

a convenience to the public, and will no doubt at the same time result in increased correspondence being posted. There is no reason why a person in a populous city should have to walk more than a few yards to find a receptacle for letters. Pillar boxes for newspapers can still be provided at suitable places.

In addition to providing letter-boxes in the streets, it is noticeable that in America and Europe hotels and places of public resort are usually supplied with letter-boxes, which are cleared by the Post Office. There also exists an arrangement in England under which, for a small annual fee, any firm posting a reasonable number of letters is provided with a letter-box, which is cleared by the Post Office at frequent intervals. An extension of posting-boxes in this direction might conveniently be made in New Zealand, and is recommended.

Registered Letters.

In New York a system of dealing with registered letters has been adopted which in some respects differs from that elsewhere. In the receipt given to the public, instead of entering the name of the addressee and the name of the sender, a receipt is given for the letter, which is described as bearing a number. Attached to the receipt is a label similar to that used in the international system. This label is detached and affixed to the letter, which thereafter follows the usual course. This system has the advantage over others of a great saving in time, as the giving of the receipt involves no more time than is required to impress it with the date-stamp. The receipt bears a printed serial number which corresponds to a similar serial number appearing on the label affixed to the letter, giving ample identification so far as the counter-clerk is concerned; and, as every serial number has necessarily to be accounted for, no failure of entry can occur. Generally the system is much on the same principle as the checking of baggage on the American railroads. Any system which results in the saving of time at the counter, while affording proper checks, is worthy of adoption; and I would recommend that the New York practice be followed at each of the principal offices. Its adoption should result in a saving of staff, which before long may be estimated at £400 a year.

Dead Letters.

Letters bearing the name and the address of the sender are returned unopened by Chief Postmasters. We go to a great deal of unnecessary trouble and expense by enclosing such letters in envelopes. In Canada and the United States no envelopes are used, the letters being marked with a special stamp, usually representing a finger pointing to the address of the sender, and the words "Returned to sender." This is perfectly understood by postal officers, and gives no trouble. I would recommend this for adoption. The saving would be about £200 a year.

Undeliverable Letters.

In Toronto I found a system in force under which undeliverable letters, except those addressed *poste restante*, are immediately returned to the sender, instead of being kept for any specified time in the hope of securing delivery to some other address. This appears to be a common-sense method of dealing with letters, particularly for those addressed to the large centres which cannot be delivered to the address given. It is considered that it is of more consequence to the sender of a letter to know without delay that delivery has failed than to suppose that the Post Office will somehow or other succeed in delivering a misaddressed or faultily addressed letter. The adoption of the system in Toronto had, I was informed, met with the appreciation of senders of letters. A trial might with advantage be given in the four principal centres, the system being restricted to inland letters.

Organization of City Deliveries.

In most new countries there is a proneness to excessive centralisation of Post Office work in cities. This is best exemplified in the fact that the letter-carriers' deliveries in such extensive cities as Wellington and Auckland commence from the central office. Although suburban offices have for many years been in existence, they are practically all on the footing of receiving-offices only. The effect of this is that a letter posted in a suburb for delivery in the same suburb has to make a journey to the central office, whence it is carried by a letter-carrier over the same ground. I have for some time been of the opinion that our practice might with advantage be amended with great satisfaction to the Department and the public. The question has been which was the best method to adopt, and with a view to ascertain this I have taken careful note of the systems in use in Europe and America. These are somewhat varied. In America the use of pneumatic tubes of large diameter enables letters to be handled with great rapidity. In two important cities in Germany the central system still applies, but in Berlin and other large cities a system of district offices is in force.

All these, however, have to give place to the simple and perfect district system of London, where the district office has complete control over all sub-offices in its particular division, and performs the work of clearing its own pillar boxes and exchanging mails with other district offices. So splendidly is this work organized that it is the rule to drop a letter into a pillar-box in expectation of receiving a reply from any other district in two hours, or from any place in the district itself within about an hour. The radius of the districts being comparatively short, it is possible to make many collections of letters by foot or bicycle messenger.

It is well known to the Department that a great deal of post-office business is local—*i.e.*, about 33 to 40 per cent. of the letters posted are for places within a radius of a few miles from the office of posting. With few deliveries in populous parts this business languishes, but with frequent deliveries the volume of business is capable of rapid increase. Any excessive centralisation naturally increases the time of post, and thus restricts the business done.

For the last year or two the district-office buildings approved by the Postmaster-General have been designed of sufficient size to admit of greatly increased work, and I consider that it would be to our advantage to increase the powers of such offices as Te Aro and Wellington South in Wellington, and Newmarket, Ponsonby, Parnell, and Upper Symonds Street in Auckland, Sydenham in Christchurch, Dunedin North in Dunedin, and others as may be decided upon from time to time. The principal cities should be divided into postal divisions, and the public encouraged to address their letters to such divisions. As an example of how the system would apply, Wellington South would control, say, a district extending to the Basin Reserve on the one hand and Island Bay on the other. Instead of letters posted in the Wellington South district being collected by a messenger from the main office, they would be collected by a Wellington South collector; those for delivery in Wellington South would be delivered by a Wellington South letter-carrier, and others forwarded to the Te Aro district office or the main office. I do not anticipate that this method would entail more than a very slight increased cost at first, while at the same time the course of post would be greatly facilitated and the business correspondingly increased.

Another important advantage would be that letters addressed to districts could be made up in separate bags by travelling post-offices, &c., and transmitted at once to the proper district without requiring to be sorted at the central office. The Department would thus be prepared for almost any emergency in the way of a large mail.

Generally, I am of opinion that the time has come for an hourly delivery of letters in the populous parts of the four principal cities, with a thrice-daily delivery in the suburbs, and this can only be effected with economy and satisfaction by adopting the district-office system. The increased frequency might be tried first in Wellington and Auckland.

For postal work I cannot recommend pneumatic tubes. The large-diameter tubes necessary are very costly to install and to work. Elsewhere I am recommending pneumatic tubes of small diameter for transmitting telegrams to and from district and suburban offices, and for express letters.

Office Appliances.

Sorting-cases.

In the United Kingdom and New Zealand, and possibly in one or two of the British colonies, the sorting-cases for letters are of the open-table pattern; in the other countries I have visited the sorting-cases are of the upright pigeon-hole pattern: and, after carefully watching the sorting of letters in both ways, I am convinced that the pigeon-hole sorting-cases are not only superior as facilitating sorting and thus saving time, but that their use results in a great economy of space. On reaching London I found that the Controller of the London Postal Service, who had recently visited America, was evidently impressed by the advantage of the pigeon-hole cases, and had erected trial sections of such cases. There is some diversity of opinion as to the precise form of the pigeon-holes. In New York the apertures are just large enough to take a letter of ordinary size, the larger letters being sorted in a separate set of pigeon-holes. By the New York method the operation of primary sorting or inland letters is dispensed with, thus saving one handling of letters. The restriction of size of the pigeon-holes makes a compact case into which a division of 150 to 200 post-offices can easily be made. In most other places where a primary sorting is made, the pigeon-holes for secondary sorting are generally large enough to take all sizes of letters. I am inclined to think that there is much to be said for the New York system, which could be applied to several of our New Zealand offices with a saving of time, and in some instances a saving of staff, and would recommend that it be given a trial. In any case, I am satisfied that no more of the old-style open sorting-tables, which are more costly than the pigeon-hole cases, should be supplied to our offices. I obtained plans of all standard cases in use in the United States and Canada for use when required. The cases in Germany and France were much like those in use in America. In France the horizontal partitions are made of glass, but I prefer the Canadian system of thin steel partitions. An ingenious arrangement of mirrors in the pigeon-holes above the level of the eye was found in Canada, and is worth mention as obviating the possibility of letters being overlooked. In Berlin many of the large-sized pigeon-holes for primary sorting are provided with doors at the back to enable letters to be removed without disturbing the primary sorters.

Facing-up Tables.

One of the most tedious operations in connection with postal work is the facing-up of letters taken from the posting-boxes. At certain times of the day a large number of men is employed in arranging letters so that they can be passed through the postmarking-machine. I am glad to be able to report that, after long experiments, facing-up tables have been introduced into the Chicago Post-office which are said by the officials of that office to result in a saving of time of about 50 per cent. The plan of the table provides an endless belt travelling at its side. Into this, facing-up clerks drop letters on their edge—ordinary letters in one channel and large letters in another. The letters rapidly travel to a point alongside the postmarking-machine, where they are stacked in a convenient way for the operation of stamping. The advantage of the system is that the facing-up clerk uses both hands for picking up and dropping letters into the channels, instead of one hand for picking up and one hand for holding the letters. After personally trying the operation I am satisfied that one man can with these tables face-up as quickly as two by the old method. The tables are arranged for six or eight men to work at the same time. A further modification of the system provides for letters running into the postmarking machine instead of being stacked prior to this; but so far the modification is not a success.

The cost of the tables should be inconsiderable, and if necessary they can be made in New Zealand.

Conveyers.

Great attention has been paid in the United States and United Kingdom to the advantages of conveyers in large offices. In Chicago the system of conveyers, of which various kinds are provided to carry and distribute letters in small quantities, and to handle full mail-bags, &c., is very complete. In New York there is an excellent equipment, and in London the system is to be extended. Conveyers must of necessity be planned to suit the particular building in which they are to be used. As will readily be understood, they consist principally of travelling bands, with suitable devices for discharging letters at prearranged points. In Chicago one form of conveyer is provided with stations with selective stops, which arrest boxes at any point fixed upon by the despatcher. This is accomplished by providing the box with a stop or arm which is set to be operated upon by a corresponding device at its particular station.

The principal officers in the United States and the United Kingdom speak very highly of the conveyers, and generally appear to look upon them as solving a difficult problem.

The majority of the conveyers in use in America are made by the Lamson Company, who have had great experience at this class of work.

For lifting bags from one floor to another the best device I have seen is that in Chicago. It consists of a series of scoop-like shelves large enough to take one bag. The shelves are attached to an endless chain. The bags are loaded and conveyed with great rapidity, and discharged without hesitation at the proper point.

For the purpose of transferring bags from an upper to a lower floor the ordinary lift has been discarded in the larger offices in the United States, in Berlin, and in Paris, in favour of a spiral shoot.

Our new offices at Auckland and Wellington should be fitted with such conveyers as will result in a saving of time, and we should adopt the spiral shoot for conveying mail-bags from upper to lower stories.

A conveyer of much interest is one in use in the Berlin Parcel-post Office. This consists of an endless chain travelling up a slope. At intervals the chain is provided with projections which engage with corresponding depressions or suchlike on the bottom of the parcel-post baskets. Full baskets of parcels are by this means taken from one floor to another.

Postmarking-machines.

I carefully examined all the principal postmarking-machines in use in the offices I visited. In the United States the favourite machine is the Hey-Dolphin, for which is paid an annual rental of £83 6s. 8d. This machine is not so fast as those in use in New Zealand, which are purchased outright for about the cost of one year's rental of the Hey-Dolphin. In Germany a machine much like ours is in use; but it costs more, and is no more efficient, if it is equally so. As our machines are made in New Zealand, and are cheap, and equal to the best in use elsewhere, there is no need at present to consider foreign manufactures of the kind.

Adding-machines.

An interesting development of a mechanical appliance is the use by the Canadian Post Office of a number of adding-machines, which are used at Ottawa to check the money-order accounts of the Dominion. By means of these machines an independent totalling of the amounts of the actual paid orders is made, and the result compared with the total on the Postmaster's accounts. A check is, in effect, made against totals of totals and totals of details, the arrangement generally being for the totals of one section of the Money-order or Accountant's Office being balanced with another section. There is, of course, nothing very novel in the general method; but the novelty of using adding-machines in the way they are used is considerable. It is said by the Canadian Post Office that the results are very satisfactory from every point of view, including that of economy, and after seeing the working of the Department I am satisfied that there is a good deal in the statement. The machine in use in England and America is the Burroughs, an English invention, and the head office of the company in London, which I saw, has offered to send one of the machines to Wellington on free trial. This I recommend should be accepted, as I am convinced that the use of the machines in a systematic way would lead to economy in the Accountant's office. One particular advantage of the machine is that it is specially adapted for the use of women or junior clerks, whose special forte may not be that of checking the additions of others with accuracy. With the machine there are no half-measures, as the work must be accurately done.

I may add that the United States Post Office is much impressed with the machine, and is adopting it largely. The cost of the latest improved machine is £90 each.

I have full details of the Canadian system of checking, which it is not necessary to describe here.

ABOLISHING USE OF ENVELOPES FOR TELEGRAMS.

As the Postmaster-General is aware, I have been endeavouring for a long time to devise a system under which it would be possible to do away with the use of envelopes for telegrams, in order to avoid the risk of error in addressing by a second clerk after the message leaves the telegraph-instrument. Our experiments have not been on satisfactory lines. When in Germany I went thoroughly into the system which has been in force there for very many years, and am satisfied that no better method of closing the telegram without the use of an envelope can be devised. Under the German system there is no marring of the form in opening, and when opened the address is clearly visible as part and parcel of the face of the form itself. Moreover, the form being rectangular, it is superior to those of grotesque shapes which are so frequently submitted to this Department. After the careful and exhaustive inquiry I made I have no hesitation in recommending the adoption of the system, which, owing to the reduction of despatch- and addressing-clerks

which would be possible, should result in a saving of about £3,500 a year. Another advantage of the system will be that, owing to the message passing through fewer hands, greater secrecy will be maintained, while at the same time it is estimated that a saving of about three minutes should take place in the despatch of the telegram from the office.

Office Copies of Telegrams.

For many years we have been keeping office copies of telegrams, using the office copies as accounting vouchers, which were eventually paired with the forwarded telegrams. This is a satisfactory check, but a very costly one, to say nothing of the fact that the messages must pass through so many hands that the secrecy of messages is not so perfect as it might be. The system, I may mention, follows that in use in Great Britain, where, as in New Zealand, the check is an intermittent one only. In other countries, however, I find that office copies are not kept. After examining the system in use in Germany, I am convinced that we can, without the slightest difficulty or accounting-danger, dispense with the office copies. The method of accounting will be greatly simplified, being made by the original telegrams without the labour of searching for their copies, and there will be a large saving in stationery. The main point, however, is that a considerable number of officers in the Clearing-room will no longer be required for the work of pairing telegrams.

The present staff of the Inland Clearing-room is a Clerk in Charge at £260, and 35 officers. The total salaries amount to £3,415. Under the proposed new arrangement the Clerk in Charge of the Foreign Clearing-room will be able to supervise the Inland Room, and it is anticipated that 17 clerks in place of 35 will overtake the work required, in addition to which 9 boy sorters at local offices can be dispensed with at a saving of £540. These together will show a saving of about £2,480. There will also be a saving in printed forms of £900, and carbonic paper £180, in addition to which, storage accommodation, labour removing bags of telegrams, &c., will probably be less by £200 per annum. In all, a saving of £3,700 per annum can safely be set down as within the mark.

Delivery of Telegrams.

Our method of paying boys a fixed salary for the delivery of telegrams has many disadvantages, especially in the larger cities. In all the principal countries I visited I found that payment for this work is made by results; and I would recommend that we adopt a similar system. Payment by results naturally induces the boy to use his best endeavours to make smart deliveries, and no injustice need be done to any boy. A fair number of messages, giving a minimum day's pay, can be decided upon before the system commences. In all cases a minimum payment can be fixed irrespective of the number of messages delivered.

Telegraph Apparatus.

While in Europe I had an opportunity of examining the latest telegraph apparatus. Recent developments calling for remark are the invention of the Murray multiplex (an adaptation of certain principles of the Baudot machine to the Murray device), which has the good points of the original Murray machine with the advantages of the multiplex working on one wire. The instrument is a fascinating one to watch, but when I saw it at work it did not appear to be sufficiently perfected to insure its being worked for any long time without mechanical troubles intervening.

The Baudot multiplex instrument continues to be highly favoured, and is generally acknowledged to be the best printing-instrument yet devised.

I made a special trip to Paris to see the Pollak-Virag apparatus at work. So far this instrument has not been adopted by any Telegraph Administration, mainly on account of its requiring two wires. It is also stated that the induction is so great as to affect telephone-wires. I was only able to see the machine working on short circuit, but its performance was most remarkable. The message is punched on a ribbon of paper by a machine with a typewriter keyboard, and is transmitted at the rate of speed of forty thousand words an hour. By a pair of mirrors and other mechanism controlled by the electric impulses the message is printed, or, rather, reproduced by photographic process, in a perfectly legible style of script. This instrument has great possibilities. In Great Britain the Wheatstone system was some years ago much used; but, although the transmitter was very fast, it was found that the number of clerks required to punch the messages on tape and write up from the Morse characters printed at the receiving end was so great as to render the system too costly to work except in cases of pressure. Recently, however, the invention of the Gell perforator with which one clerk can punch from eighty to one hundred messages an hour has enabled the number of clerks at the transmitting end to be much reduced. At the same time it occurred to the Edinburgh office that, instead of writing up from the receiving-tape, it would be sufficient if the tapes of messages for retransmission were pasted on sheets, the retransmitting operator working from the Morse characters. As probably 50 to 60 per cent. of telegrams received in the large offices are for retransmission, a considerable saving of staff was thus effected at the receiving end of the wire. On the whole the Controller in Edinburgh informed me that he considered that the Wheatstone instrument with the Gell puncher and the pasting of tape actually resulted in a saving of staff as compared with the Morse instrument. In London I was informed that the new method of working Wheatstone had given the instrument a fresh lease of life. One great advantage of the combination of the Gell perforator with the Wheatstone is that the perforating can be performed by persons having a knowledge of the typewriter but no knowledge of manipulating the Morse instrument, while the translating of the Morse characters at the receiving end can be acquired by any intelligent person in a few days. We have a couple of the Gell perforators in New Zealand, with which we might give a trial to the system between Auckland and Wellington.

I also saw an instrument called a telewriter, by means of which a message written by any person is reproduced in fac-simile at the receiving end. This instrument is combined with the

telephone, and is only useful for short distances at present. I understand it is to be further perfected, when, if satisfactory, we could make very good use of it for the transmission of messages between suburban and chief offices.

Telephone Exchanges.

On my arrival at Vancouver I was astonished to find that the number of telephone-exchange connections was about twice as many as those in Wellington, although the cities are about the same size, and Wellington rates are considerably cheaper. I was unable to account for this at the time, and could get no satisfactory explanation. In Europe I obtained information which I considered rendered it advisable that I should revisit America, where I went thoroughly into the question, and endeavoured to ascertain why the proportion of telephones to population was so much greater in cities of the size of Wellington than in Wellington. A favourite answer to inquiries was that the Americans had the telephone "habit"; but it took some time to resolve a general statement of the kind into useful information. Eventually I came to the conclusion that extraordinary exertions have been made in the last few years to increase the number of telephone connections. In some cities, for example, it was considered that a new era in telephone-extension had begun when party wires, some of them carrying as many as twenty subscribers, were pushed in preference to single connections. As telephone-rentals on party lines were much lower than for individual lines, there was an extraordinary development, which eventually resulted in a more or less inefficient service. At the same time, the result of educating the people to the use of the telephone had been attained, and telephone companies are rapidly inducing their subscribers to take connections on party lines carrying no more than the number of subscribers which the best authorities now consider the maximum which offers a perfect service. These numbers are,—On city lines, 2 subscribers; on suburban lines, 4 subscribers.

The next method of increasing the number of subscribers was the facilities offered for the installation of branch exchanges, which now reach a large proportion of the total connections. It is very noticeable in Canada and America that in even comparatively small hotels a telephone is provided in every room. No charge is made to guests of the hotel for telephoning within the building or for incoming calls from outside, but all connections with the exchange are charged at a rate of 2½d. to 5d. each. Similar branch exchanges are to be found in nearly every business house.

The two headings, party lines and branch exchange, are really responsible for the great use of the telephone. At the same time, unceasing efforts are made to increase the number of subscribers by personal canvass and otherwise, it being recognised that, notwithstanding the great development of the telephone within the last few years, the field is still comparatively an open one.

In the exploitation of the business the telephone companies are assisted by the almost universal system of the measured-rate charge—*i.e.*, a charge for each call made over a certain number. For branch exchange work this is the only method that can well be employed, as no hotelkeeper is likely to go to the expense of paying a flat rental for 100 or 200 telephones for the use of his guests. In such cases telephone-calls are purchased by the hotelkeeper at per thousand, and retailed by him at a price which will give him a reasonable profit and pay for the cost of his exchange-attendant.

Similarly, to make party lines attractive it is advisable to charge only a nominal rental, the calls being paid for.

While I am not convinced that the measured-rate system should be adopted in its entirety, I think it is likely that the rigid flat rate, as in use in New Zealand, is largely responsible for our failure to develop on the lines I have indicated, and it would be well to consider whether a measured rate could not be adopted for branch exchanges, &c., which would give satisfaction alike to the Department and telephone-users: that is to say, the present flat rate to be maintained for single connections, particularly with private residences, and a measured rate introduced for branch exchanges and party lines.

If this were done, and a reasonable canvass made, I believe we should increase our exchange connections by 50 per cent.

Pneumatic Tubes.

It is some time since I brought up the question of the installation of pneumatic tubes in the principal centres for the purpose of conveying telegrams and express letters to and from suburban offices. The only point in doubt was the best form of tube. With the exception of the pneumatic tubes in London, which have been installed for many years, practically all the modern pneumatic tubes of any value seem to have been erected by the Lamson Company. This firm has representatives in New Zealand, and is prepared to supervise the installation and guarantee its work. While the installation of pneumatic tubes can conveniently stand over until the new buildings at Auckland and Wellington are ready, it would be well to begin the preparation of plans of the routes proposed. The installation of the tubes should result not only in a great saving in time, but in a considerable reduction of staff in suburban offices. At present telegrams have to be transmitted by Morse instrument, which necessitates the employment of Morse operators at many suburban offices. When messages can be transmitted by tube these operators will not be required. As the tubes proposed will be of sufficient diameter to carry single letters, a fair business will probably result from the sending of express letters, which can be transmitted from point to point as speedily as telegrams.

Sanitation.

Post-office work is as a rule very dusty, but it was only in London that I found any satisfactory method of overcoming this, by the application of a preparation which appeared to be of a

slightly oily nature, named dustolio. Any dust rapidly settles on the floor, and does not again rise. The absence of dust in the London office was remarkable. Anything of the kind which can conduce so far to the health of postal officers as to eliminate the nuisance caused by dust is worthy of adoption; and I recommend that a quantity of the preparation be obtained for use wherever necessary. This particular preparation improves the look of the floor, and facilitates sweeping operations, which can be carried on at any time without raising the dust.

In San Francisco I saw a very complete suction plant for cleaning the building. This consisted of a central pump and reservoir, with metal tubes throughout the building, having standpipes at convenient places, to which hose-pipes can be affixed. A similar plant could with great advantage be installed in our new buildings at Auckland and Wellington. The cost of the installation should not be great, and would soon be recouped by the saving of cleaners and the rapidity with which the work of cleaning can be accomplished. Too much attention cannot be paid to the question of making office-cleaning really sanitary, instead of using methods which disturb dust and dirt without effectually removing it.

Great attention is paid in Europe and Great Britain to the physical comfort of the staff. In all large offices airy dining-rooms and well-equipped kitchens are provided, where officers can obtain light meals at a very moderate rate. Provision has been made in the plans of the Auckland and Wellington offices for such refectories, which I hope will favourably compare with those in Europe.

Time-clocks.

There is nothing new in the principle of time-clocks throughout a building, which are controlled by a master-clock; but the difficulty has been to find the most suitable kind. As it will be advisable to install such clocks in the new offices in Wellington and Auckland, I ascertained from the London Post Office that the most suitable master-clock is made by the Magneta Time-clock Company. The use of this system of clocks will effect a considerable saving of labour and expense, while the initial cost will probably not exceed that of individual clocks in each room.

The matter of a system of clocks of the kind has often been considered in the Department; but I have been so far unable to recommend any suitable pattern, most of those previously brought under notice being only partially effective. I am assured that the Magneta Time-clock is the survival of the fittest.

Motor-cars for Mails.

After looking into the question of the use of motor-cars for clearing letter-boxes in the larger cities and their suburbs, I have been compelled to come to the conclusion that until these vehicles are more reliable it is not advisable to alter the present system. So far as I could learn, cars are successful in places like London, where the roads are asphalted, and where there are few hills, and where spare parts and repairs are instantly available. In London the Post Office work is performed by contract, and there are comparatively few self-propelled vehicles in use. It is recognised that the petrol-car is faster than horse-drawn vehicles, and it is the intention to require a greater proportion of cars to be used when tenders are called for the next contract. In Berlin a few cars are in use, and appear to do their work well, but the Post Office relies principally on horse-drawn vehicles.

This Department has been experimenting for some time with motor-cars; but the frequent breakdowns have rendered the service very unsatisfactory. I would recommend that there be no further experimenting at present, and that the cars now in possession of the Department be disposed of. In calling for tenders for the city work at Auckland, Dunedin, and Christchurch, alternative offers might be invited for the use of motor-cars. We at present perform our own work at Wellington.

Summary of Estimated Savings per Annum.

Abolition of back-stamping	1,000
Use of lead seals	900
Parcel-post	1,000
Registered letters	400
Dead letters	200
Use of self-addressed telegram form	3,500
Abolition of office copies of telegrams	3,700
	£10,700

Note.—Experience will probably show that the last item is underestimated by about £1,000. There will be a saving, not shown above, of from £600 to £1,000 per annum by the installation of facing-up tables of the Chicago pattern.

Approximate Cost of Paper.—Preparation, not given; printing 1,550 copies), £7 8s.

By Authority: John Mackay, Government Printer, Wellington.—1909.

Price 6d.]