ANNUAL REPORT OF THE POST AND TELEGRAPH DEPARTMENT FOR THE YEAR 1928-29.

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1929.

NEW ZEALAND.

POST AND TELEGRAPH DEPARTMENT

(REPORT OF THE) FOR THE YEAR 1928-29.

Presented to both Houses of the General Assembly by Command of His Excellency.

To His Excellency the Right Honourable Sir Charles Fergusson, Baronet; General on the Retired List and in the Reserve of Officers of His Majesty's Army; Doctor of Laws; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George; Knight Commander of the Most Honourable Order of the Bath; Companion of the Distinguished Service Order; Member of the Royal Victorian Order.

MAY IT PLEASE YOUR EXCELLENCY,—

I have the honour to submit to Your Excellency the report of the Post and Telegraph Department for the year ended 31st March, 1929.

RECEIPTS AND PAYMENTS.

On the 1st April, 1928, the Post Office Account was separated from the Treasury, and under the new arrangement the working-expenses are met out of the revenue of the Department, instead of being taken from the Consolidated Fund. Under this method a slight change has taken place in the accounts, and receipts which are considered as legitimate trading returns are now treated as revenue instead of credits in aid to the vote Post Office Account.

The amount of revenue collected during the year was £3,445,545, and the working-expenses amounted to £2,921,736, leaving a balance of receipts over payments of £523,809. This balance has been invested to provide the necessary reserves, for depreciation and other purposes, in accordance with statutory authority. The sum of £428,000 being interest on capital liability which was previously paid out of Consolidated Fund, is included in the working-expenses.

STAFF.

The numerical strength of the staff remains much as it was last year, and I am glad to be able to state that the high standard of efficiency referred to in previous reports has been maintained. When one reflects upon the huge volume of business transacted by the Department throughout the length and breadth of the Dominion (the cash value of all transactions for the year amounted to £219,425,000) one cannot help but appreciate how essential it is that the staff entrusted with the handling of such a volume of business should be highly trained and extremely capable. The Department could not carry on efficiently and without loss if there were drones in the hive. Happily the Service is one in which restriction of output is not known. The spirit of the Service is such that each individual officer—from the lowest to the highest—gives of his best, whether his immediate duty be the delivering of a telegram, the selling of a postage-stamp, the registering of

a motor-vehicle, or the performing of a marriage ceremony. With a view to increasing the efficiency of individual officers, the Department has a series of examinations for testing an officer's ability in various directions. Before a message-boy is appointed to a cadetship he is required to pass an examination which tests his knowledge of English, arithmetic, algebra, geography, and other subjects, as well as his knowledge of purely postal or telegraph work. Before a clerical officer proceeds beyond £155 per annum in salary he is required to pass what is known as the Competency Examination, which tests his knowledge of his particular official duties. Before being promoted to a controlling position each officer is required to pass an examination designed to test his detailed knowledge of the work of the branch in which he seeks promotion and his general knowledge of the activities of the rest of the Service. In this examination, apart from marks for matter, the officer is awarded marks according to his knowledge of the use of the English language. For many of the examinations which they are required to pass officers are able to avail themselves of the valuable assistance given by the departmental Correspondence School, in which are employed an Instructor and ten assistants. The work of the Service as a whole is the sum total of the work of individual officers, and it is by the intensive education of the individual officer that the Department hopes to continue to hold for the Service the very high place it now occupies in the public esteem. It is the Department's aim to meet the public wherever possible, and the need for co-operating with the public is being instilled into the personnel of the Department. Public appreciation of the efforts of the Department is not wanting, and, although complaints are received from time to time, rarely is one made which is of a serious nature. In many cases of complaint inquiry shows beyond all doubt that the fault did not lie with the Department.

For the year 1927–28 the average absence on account of sickness was for men 4·33 days, and for women 10·02 days. For the year 1928–29 the figures are 4·61 and 9·5 respectively. Where it is necessary, as it is in the Post and Telegraph Department, to provide continuous service over the whole twenty-four hours of the day, it is obvious that the maintaining of the staff in good health is of paramount importance. Therefore, while no effort is spared in preparing officers for the efficient performance of their duties, the need for conserving the health of the staff is not overlooked. Moreover, the Department believes that in adhering to its policy of seizing every practical opportunity for improving the conditions of working it is not only acting in the interests of the members of the staff, but is also giving increased opportunity for the rendering of efficient service to that great public with which it is so intimately concerned.

OVERSEAS MAILS.

Mails for the United Kingdom, United States of America, and Canada continue to be despatched with regularity by the Vancouver and San Francisco contract steamers. Practically no interruption occurs in the ordered precision of the running of the mail-steamers, and invariably the mails reach Vancouver and San Francisco in time for despatch overland by the express trains connecting with the fast Atlantic steamers.

The presence of Mail Agents on the vessels enables mails for the Dominion to be sorted and ready for despatch to destination immediately on arrival at New Zealand ports.

INLAND MAIL-SERVICES.

The contracts for the performance of mail-services in the South Island were re-let during the latter part of 1928. The number of mail-services in the South Island is approximately only half the number in the North Island. Competition for the South Island services was not so keen as it was in connection with the re-letting during the previous year of the contracts for the North Island services, but a feature of the South Island re-letting was the number of "block" tenders received. Owing in some measure to this fact, a saving of £2,100 was effected in the cost of the services in operation as at the 1st January, 1929, compared with the cost of those in existence on the 31st December, 1928. Considerable changes were effected in many routes, enabling a greater number of settlers to participate in the services at little or no increase in cost to the Department.

The various mail-services and rural deliveries have throughout the year been carried out to the Department's satisfaction, and little trouble has been experienced in regard to the ability of contractors to fulfil their obligations. It would seem that contractors generally are satisfied with the subsidies they receive.

RURAL DELIVERIES.

The rural-mail-delivery system is recognized as one which assists in the development of the country. Nevertheless, a strict watch is kept to ensure that services are not established unless the prospective revenue approximates the subsidy payable.

An outstanding feature of the year has been the activity in the Southland District in replacing small country post-offices by the more modern rural-delivery service. This activity denotes the popularity of the rural delivery with the Southland farming community.

The Department continues to extend the rural-delivery system to serve the less thickly populated areas; and it may be mentioned that, even with the payment by the box-holder of a fee, a relatively heavy loss still has to be borne by the Department.

MONEY-ORDERS.

The money-orders issued exceeded those of the previous year, but there was a slight decrease in value.

The total number of orders issued was 807,885, and the value £4,977,522, as against 803,481, valued at £4,995,090, for the previous year.

The commission amounted to £24,883 16s. 6d., an increase of £108 10s. 3d. over the previous year.

SAVINGS-BANK.

Although the withdrawals for the year exceeded the deposits by £859,559 7s. 9d., a comparison with the business of 1927–28 indicates that there has been an improvement of over £2,000,000. The deposits amounted to £27,252,381 and the withdrawals to £28,111,940, as against £27,611,066 and £30,584,997 respectively, for the previous year.

The interest credited to depositors was £1,745,050, and the amount standing at credit on the 31st March totalled £48,644,217, an increase of nearly £900,000 over the previous year.

DECENTRALIZATION OF POSTMEN AT WELLINGTON.

In the larger cities a certain amount of time is spent by postmen in travelling to and fro between the post-office and the starting and finishing points of their walks in distant suburbs. As an experiment, it has been decided to bring into operation at Wellington a decentralization scheme, under which twenty-four postmen will be transferred from the Chief Post-office—twelve to the Kilbirnie Post-office, and twelve to the Wellington South Post-office. It is expected that the change will result in a substantial saving in salaries and tram fares. If the scheme proves a success it will be extended both in Wellington and to other centres.

IMPERIAL WIRELESS AND CABLES CONFERENCE.

The development of radio science has focused attention upon the possibilities of radio communication supplanting in a great degree the use of the cable services as the main vehicle of communication between the countries of the world. In particular, the operation of the beam wireless system between Great Britain, Canada, and Australia, has made serious inroads in the revenue of cable administrations. The state of affairs became so serious that a conference of representatives of the Governments of Great Britain and her dominions, colonies, and protectorates, was convened to review the position, and, if possible, to find some means of co-ordinating the wireless and cable systems with a view to obviating the destructive competition. As a result, certain conclusions were arrived at, and recommendations were made for the merging of the wireless and cable interests under one control.

The particular interest of New Zealand in the recommendations which are likely to be adopted by the Governments concerned lies in the fact that the Dominion is a partner in the Pacific cable. The recommendations are outlined at page 27.

INTERNATIONAL TELEGRAPH CONFERENCE.

At the International Telegraph Conference held at Brussels in September, 1928, the Dominion was represented by Mr. F. Strong, a senior officer of the British Post Office. The conference dealt solely with the question of the use of code language in international telegraph correspondence, and its decisions must be deemed satisfactory both to cable-users and to the Department. A full report on the conference appears at page 18.

CONFERENCE OF ENGINEERS.

Telegraph and Telephone Engineers from all parts of the Dominion assembled in Wellington from the 9th to the 18th October, 1928, for the purpose of discussing in conference the matters coming within the province of the Engineering Branch of the Department. The conference was attended by twenty-eight Engineers, and was the most representative of its kind yet held. The main purpose of the conference was to discuss the technical bulletins issued by the Chief Telegraph Engineer in connection with the subjects investigated by him on his recent tour abroad. In addition, the activities of the Engineering Branch were fully covered by papers and discussions, and Engineers were made acquainted with pending developments in the New Zealand communication services.

TELEPHONE AND TELEGRAPH DEVELOPMENT.

The steady development of telephone communication is being maintained. It is the aim of the Department to bring the telephone within reach of all, and, to this end, no effort is spared in keeping telephone communication in the highest state of efficiency and at the lowest possible cost to the users. That the trend towards greater use of the telephone is world-wide is indicated by the great extensions of telephone-lines in recent years in various countries of the world. In particular, constant additions are being made to the countries with which telephone communication is available by the American-Anglo-Continental telephone services. New Zealand, of course, is not favourably placed geographically in respect of establishing communication with other countries, but the Department is doing everything possible to extend the scope of long-distance telephone communications within the Dominion. It is clear that the telegraph is being supplanted to a great extent by the telephone. This is due to the growing ease with which a message may be conveyed by telephone. But, while the telegraph has no doubt suffered a permanent check, it is likely, where long distances are concerned, to remain the main avenue of communication.

CARRIER-CURRENT TELEPHONY.

The Department's Engineers are ever on the alert to adapt to New Zealand telephone conditions any new system or method of operation which is likely to prove beneficial from the point of view of economical and efficient working. As the result of the tour abroad in 1927 of the Chief Telegraph Engineer, there has been adopted in New Zealand telephone practice a system known as "carrier-current" telephony. Application of the new system constitutes perhaps the most remarkable change and progressive move that has taken place in telephone practice for many years. To the layman the working of the system is something akin to sending a wireless message along a wire which is already being used for transmitting other messages without interfering with such messages. Wireless energy is released, but instead of being broadcast it is directed along a telephone circuit. Under carrier-current principles

a circuit is capable of carrying at the one time several different radio-frequency bands, and each frequency band provides a channel for a separate conversation. The several conversations, although carried on simultaneously, are delivered separately at the distant end. By the use of the system, therefore, the carrying-capacity of a telephone circuit may be increased several times. That is to say, the application of carrier current enables several persons to hold conversations over the one circuit at the one time. Not only is the carrying-capacity of the circuit increased, but the volume of speech over long distances is considerably improved. Thus, in addition to enabling the Department to defer for many years the erection of additional toll circuits, the advent of carrier current gives to the public the direct benefit of greater ease in making long-distance communications. In the near future carrier current will enable a person in Auckland to converse with a person in Dunedin at any hour of the day or night with the same facility as if he were in the same city.

A detailed and technical description of the working of the carrier-current system is given at page 42.

INCREASE IN TOLL CALLS.

The outstanding feature of telephone business during the year was the increased use of the telephone for toll purposes, the total number of calls being over 10,000,000, representing an increase on the previous year's traffic of approximately 10 per cent. The toll revenue amounted to £442,896, an increase of over 11 per cent. While this greater use of the toll lines was stimulated to some extent by greater commercial activity and by the more extensive use of the telephone in the social life of the community, probably the largest contributing factors were the increased speed of service, the improved quality of speech, and the greatly extended range of service that has been provided during recent years. The toll revenue for the year exceeded the revenue derived from telegrams, the relative figures being—Toll, £442,896; telegrams, £404,565. Ten years ago the corresponding figures were—Toll, £169,550; telegrams, £316,099.

WIRELESS.

Long-distance Transmission.

While there has been no remarkable development in wireless communication, the year has been notable for the steady progress in perfecting long-distance communication, particularly in regard to short-wave working. Outstanding instances of highly successful short-wave communication were the reception and rebroadcasting in New Zealand of news of the world's heavy-weight boxing championship in New York on the 27th July, 1928; the broadcasting of news of the Pacific and Tasman flights; and, most arresting of all, the establishment in January, 1929, of two-way communication between a New York station and an aeroplane flown by Commander Byrd in the Antarctic regions. Regular reception continues to be had at Awarua-radio of the transmissions from the Rugby high-power station. This is referred to at page 31. Except for occasions of atmospheric interference, there is little break in the continuity of reception of these signals.

Broadcasting.

The service of broadcasting established by agreement with the Radio Broadcasting Co. of New Zealand, Ltd., continues to function satisfactorily, and is steadily developing as the public learns to appreciate the advantages of this modern branch of science.

A very interesting feature of broadcasting is the part that the earlier telephone art has played in the development of the broadcasting service. It may truthfully be said that much that passes for the triumph of radio is actually a product of the art of telephony. As broadcasting progresses, it is clear that the use of toll telephone-lines for relay purposes is bound to become more general. It is becoming obvious that much of the entertainment radio-listeners receive can be brought a considerable part of the way by land lines.

Broadcasting and Copyright.

With the acceptance by the public of wireless broadcasting as a regular means of education and entertainment, serious consideration has had to be given to the question of copyright. Prior to the advent of broadcasting, copyright legislation dealt mainly with the protection against piracy of literary and artistic works, and performances of musical and other classes of work in public halls. Claims have now been made by the Performing Right Association, purporting to represent the owners of copyright, for payment in respect of items transmitted by broadcasting stations. The position has been met temporarily by the enactment of the Copyright Amendment Act, 1928, which provides for payment of a percentage of license fees received from listeners.

TRANS-TASMAN FLIGHT.

The pioneering flight of the "Southern Cross" in June, 1928, across the Pacific from the United States of America to Australia by way of Honolulu and Fiji was followed by the crossing of the Tasman Sea from Sydney to New Zealand in September, 1928, and the recrossing from New Zealand to Sydney a month later. The "Southern Cross," with Captain C. Kingsford Smith and Lieutenant C. P. Ulm (co-commanders), and Messrs. H. A. Litchfield and T. H. McWilliams, navigator and wireless operator respectively, left Sydney for New Zealand on the 10th September, 1928, at 7.11 p.m., New Zealand standard time, and landed at Christchurch next day at 9.21 a.m. On the return flight the "Southern Cross" left Blenheim Aerodrome on the 13th October, 1928, at 4.54 a.m., New Zealand summer time, and landed at the Richmond Aerodrome (Sydney) next day at 4.17 a.m., New Zealand summer time.

The Department spared no effort in ensuring that the aviators received the vital information, regarding weather and other conditions, necessary for the achievement of the venture. It co-operated with the Meteorological Office with the object of obtaining and co-ordinating weather reports from essential points on the west coast of the South Island and in the vicinity of Cook Strait. Liberal arrangements were made for attendance at various offices during the course of the flights, vigilant watch for messages from the aeroplane was kept at all radio-stations, and every facility was afforded for enlightening the public regarding the progress of the "Southern Cross."

WORK PERFORMED FOR OTHER DEPARTMENTS.

With its widespread ramifications the Post and Telegraph Department is eminently suited to act as agent for other Departments. It is perhaps correct to say that the Postmaster of every village performs, besides work for the Post Office, a fair amount of work for other Departments. The total volume of such work is considerable. Last year the money handled in this respect amounted to approximately £26,000,000. But, high as it is, this amount represents only a fraction of the cash value of the whole of the transactions of the Post and Telegraph Department, which for the year just closed amounted to £219,425,000. Of the work performed for other Departments the largest sums dealt with are on account of the Pensions, Public Trust, Land and Income Tax, and State Advances Departments. Large sums are also handled on account of motor-registration. In connection with the last-named, the premiums under the Motor-vehicles Insurance (Third-party Risks) Act, 1928, will be collected by the Post and Telegraph Department as from the 15th April, 1929.

REGISTRATION OF MOTOR-VEHICLES.

If the present rate of increase is maintained, motor-registrations will soon reach the 200,000 mark.

The identification-plates for the motor-registration year ending the 31st May, 1930, were manufactured by the Precision Engineering Co., Wellington. The plates, which have white figures on a blue ground, are of neat appearance, and the workmanship is considered to be equal to that of former years.

The Precision Engineering Co. has secured a contract for the manufacture of plates for the three years ending the 31st May, 1932.

MOTOR TRANSPORT.

The control of the Public Service garage system is still a function of the Department.

Mention was made in last year's report of the practice of having departmental motor-vehicles throughout the Dominion inspected at suitable intervals by an officer specially detailed for the work. The results obtained justify a continuance of the arrangement.

During the year a contract was let to a New Zealand firm for the making of two seven-seater saloon and two seven-seater landaulet bodies for four English motor-car chassis. The cars are now in commission, being used for the higher-class service work.

The Department continues to purchase motor-vehicles for other Departments.

BUILDINGS.

The need still exists at many places for new or additional accommodation for the conduct of post and telegraph business. During the year, however, satisfactory progress was made with the building programme. Notable works were the erection of a post-office building at Waverley, the making of extensive additions to the post-office buildings at Hawera and Waipukurau, and the erection of a large garage at Dunedin.

At Napier the erection of a chief post-office building is well under way, and will be completed in 1930.

At Dunedin, the old chief post-office building has been demolished, and the site has been excavated in readiness for the erection of the new building.

At Greymouth extensive alterations and additions are being made to the chief post-office building.

Among other departmental buildings the erection of which is to be proceeded with in the near future are Courtenay Place (Wellington), High Street (Christchurch), and Upper Symonds Street (Auckland). Large additions will shortly be made to the post-office buildings at Masterton, Nelson, Newton, and Whangarei.

During the year a number of sites have been acquired with a view to erecting thereon post-office buildings when required.

The increase in the number of motor-vehicles in use in the Department has necessitated the provision of further garage accommodation. The practice is to erect garages at places at which suitable accommodation for renting is not available or at which the renting of accommodation would be unprofitable.

In order to keep the expenditure on garages as low as possible and to provide accommodation for motor-vehicles at places at which tradesmen are not available for the erection of garages, the Department is, by way of trial, having small movable garages constructed at a centre and forwarded in sections to the places at which they are required.

The maintenance of departmental buildings and fittings involves considerable expenditure. Control of the expenditure was assumed by the Department from the beginning of the financial year 1928–29. Previously such expenditure was controlled by the Public Works Department.

SUGGESTIONS BOARD.

Since the Suggestions Board was constituted in August, 1927, 612 suggestions have been reviewed by the Board. In the case of twenty-five of these suggestions, awards totalling £115 10s. have been made. In the case of the remaining suggestions, the officers concerned have been commended or thanked for the suggestions.

POST AND TELEGRAPH ACT, 1928.

The several enactments of the General Assembly in and since 1908 relating to the Post Office, electric lines, and the Post and Telegraph Department were consolidated in the Post and Telegraph Act, 1928.

POSTMASTER-GENERAL: RELINQUISHING OF OFFICE.

The Hon. W. Nosworthy relinquished control of the Department on the 10th December, 1928, and the report herein is a record of the transactions undertaken principally during his tenure of office. The offices of Postmaster-General and Minister of Telegraphs were assumed by me on the 10th December, 1928.

DETAILS OF REVENUE, ETC.

Matters of detail with reference to the financial operations and business of the Department will be found at length in the statement and tables which follow.

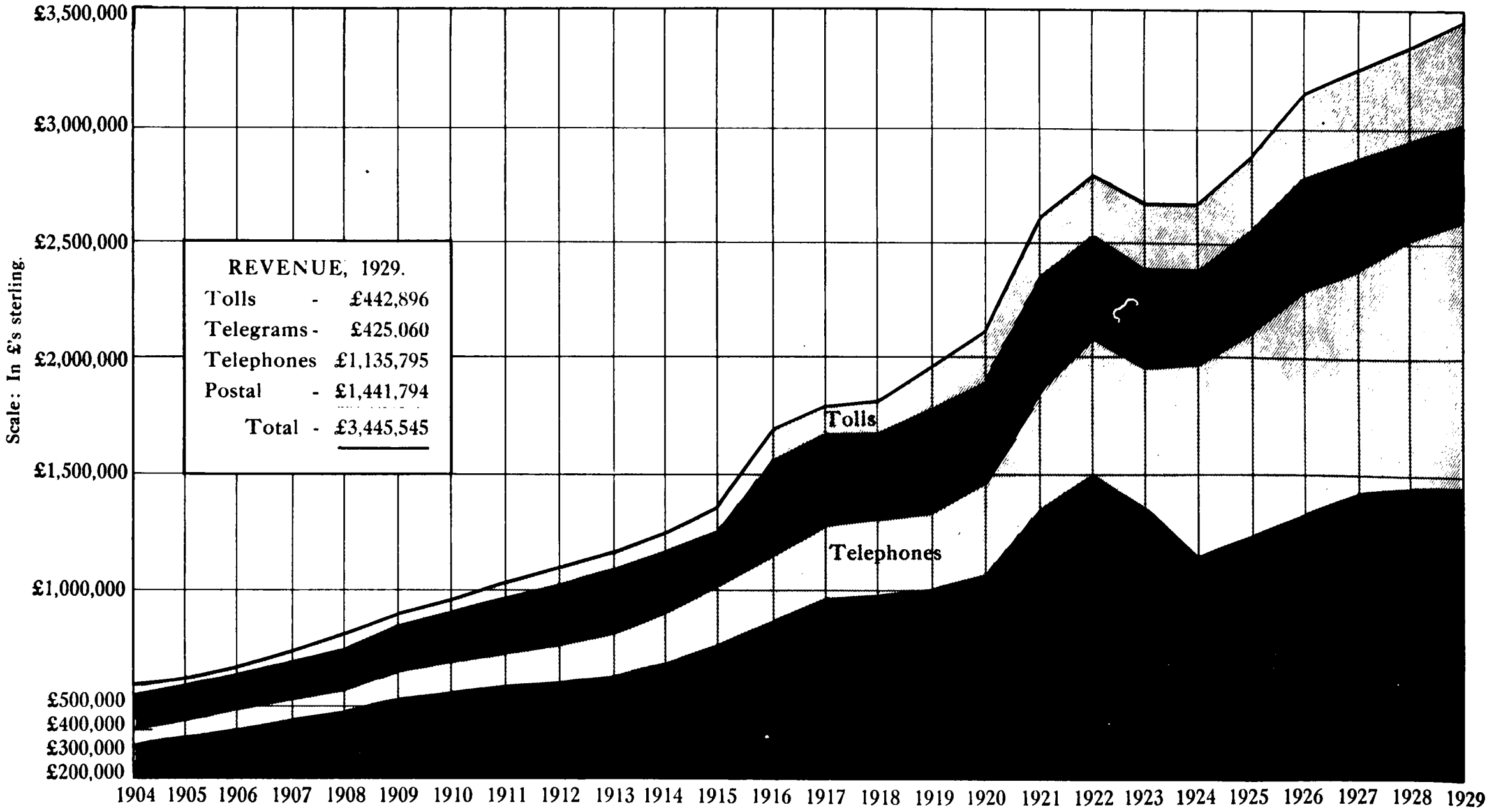
I have the honour to be,

Your Excellency's most obedient servant,

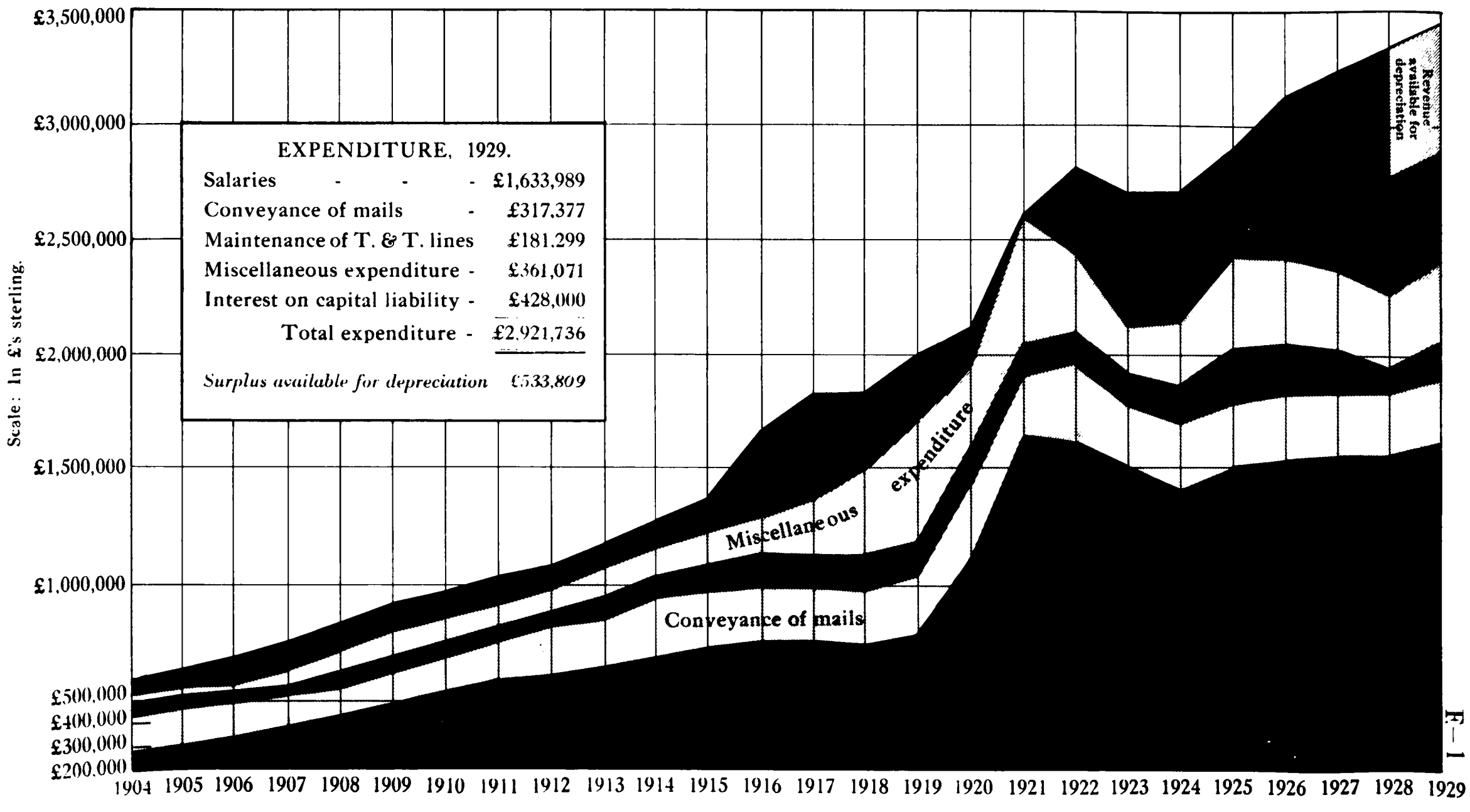
JAS. B. DONALD,
Postmaster-General.

General Post Office, Wellington.

POST AND TELEGRAPH REVENUE for Years 1904 to 1929 in Graphic Form.



POST AND TELEGRAPH EXPENDITURE for Years 1904 to 1929 in Graphic Form.



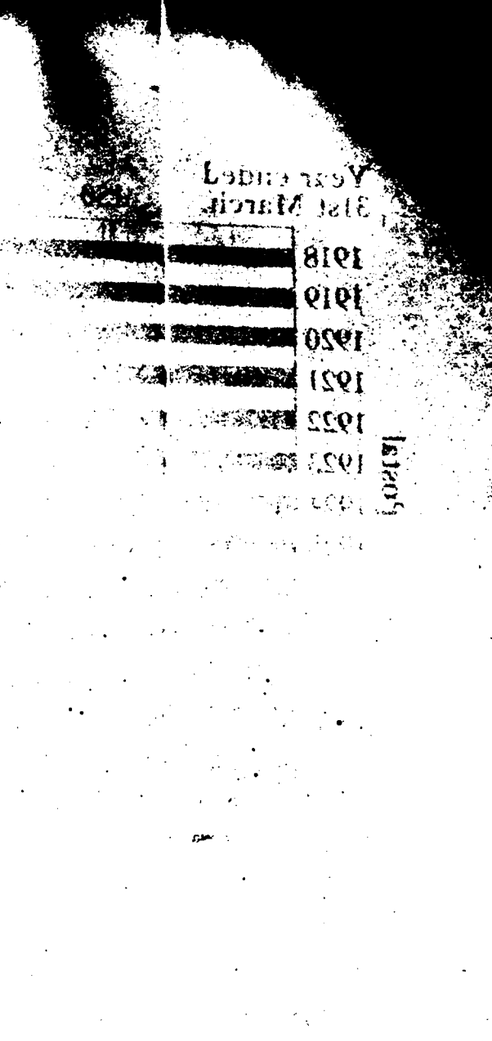
ANNUAL REVENUE.

Postal, Telegraph (including Tolls), and Telephone Branches.

For twelve years ended 31st March, 1929.

F.—1

**Telephone rental received for a period approximately fourteen months.*


1918
1919
1920
1921
1922

STATEMENT OF FINANCIAL OPERATIONS AND BUSINESS OF THE DEPARTMENT FOR THE YEAR ENDED 31st MARCH, 1929.

RECEIPTS AND PAYMENTS.

The receipts and payments of the Department for the financial year 1928-29 are shown in the following table:—

Item.	Postal. £	s.	d.	Telegraph. £	s.	d.	Total. £	s.	d.
Receipts.									
Postages	1,146,761	4	0½	..			1,146,761	4	0½
Money-order and postal-note commission	49,701	12	8	..			49,701	12	8
Private box and bag rents and rural delivery fees	45,137	15	6	..			45,137	15	6
Miscellaneous receipts	200,193	7	3½	20,495	4	11½	220,688	12	3
Paid telegrams	..			404,564	17	1	404,564	17	1
Paid tolls	..			442,895	16	11½	442,895	16	11½
Telephone exchange rentals	..			1,135,795	8	2½	1,135,795	8	2½
Totals	1,441,793	19	6	2,003,751	7	2½	3,445,545	6	8½
Payments.									
Salaries	679,649	8	4	954,339	12	8	1,633,989	1	0
Conveyance of ocean mails	67,508	14	7	..			67,508	14	7
Conveyance of inland mails	135,468	15	4	..			135,468	15	4
Conveyance of mails by rail	114,400	0	0	..			114,400	0	0
Maintenance of telegraph and telephone lines	..			131,299	0	8	131,299	0	8
Renewals and replacements	..			50,000	0	0	50,000	0	0
Motor services and workshops	37,622	0	0	24,856	19	11	62,478	19	11
Miscellaneous	147,949	2	8	150,642	8	6	298,591	11	2
Interest on capital liability	117,235	0	5	310,764	19	7	428,000	0	0
	1,299,833	1	4	1,621,903	1	4	2,921,736	2	8
Balance of receipts over payments	141,960	18	2	381,848	5	10½	*523,809	4	0½
Totals	1,441,793	19	6	2,003,751	7	2½	3,445,545	6	8½

* This balance is required to cover depreciation of the Department's assets, and has been invested.

The total cash value of the transactions of the Department, inclusive of the above, amounted to approximately £219,425,000 for the year.

RECEIPTS AND PAYMENTS FOR THE YEARS 1881-82, 1891-92, 1901-02, 1911-12, 1921-22, AND FOLLOWING YEARS.

Year.	Receipts. £	Payments. £	Balance of Receipts over Payments. £	Excess of Payments over Receipts. £
1881-1882	234,529	233,291	1,238	..
1891-1892	320,058	268,343	51,715	..
1901-1902	488,573	465,756	22,817	..
1911-1912	1,087,710	988,911	98,799	..
1921-1922	2,811,535	2,451,571	359,964	..
1922-1923	2,687,768	2,114,994	572,774	..
1923-1924	2,688,954	2,120,584	568,370	..
1924-1925	2,889,450	2,416,257	473,193	..
1925-1926	3,100,396	2,409,556	690,840	..
1926-1927	3,220,666	2,346,274	874,392	..
1927-1928	3,329,511	2,299,571	1,029,940	..
1928-1929	3,445,545	2,921,736*	523,809	..

* Includes payment of interest on capital liability, which was previously paid out of Consolidated Fund.

STAFF.

Comparative Return of Persons employed in the Post and Telegraph Department.

The total number of persons employed on the 1st April, 1928 and 1929, was as under :—

	1st April, 1928.	1st April, 1929.
Permanent staff—		
Administrative Division	4	4
Clerical and Engineering Divisions	3,519	3,453
General Division	5,041	5,091
	8,564	8,548
Temporary staff	165	159
Casual staff	1,061	1,104
	9,790	9,811
Non-permanent staff—		
Country Postmasters and Telephonists	1,867	1,825
Postmasters who are Railway officers	96	91
	11,753	11,727

Health of Permanent Staff.

The following table gives the average absence of officers on sick leave :—

	Number on Staff.	Average Absence per Sick Officer.	Average Absence for each Officer employed.
Men	7,816	10·09	4·61
Women	732	15·38	9·50

Twenty-one officers died during the year.

Personal.

Mr. G. McNamara, Secretary of the Department, left New Zealand on the 12th March, 1929, to attend the Universal Postal Union Congress to be opened in London on the 10th May, 1929. During his absence Mr. J. Robertson, First Assistant Secretary, will act as Secretary; Mr. M. B. Esson, Second Assistant Secretary, will act as First Assistant Secretary; and Mr. W. J. Gow, Chief Postmaster, Auckland, will act as Second Assistant Secretary.

CHANGE OF STAFF CONTROL.

At Auckland, Christchurch, and Dunedin the positions of Superintendent, Telegraph Office, and Stores Manager have been abolished. The telegraph-offices and the stores branches at the places named are now under the control of the respective Chief Postmasters.

REGRADING REPORT FORM.

For regrading purposes a new form of report on officers in receipt of a salary of £295 per annum and over was brought into use during the year. The form was designed in order that a more comprehensive report might be obtained in respect of each officer's suitability for promotion and a greater degree of uniformity achieved in the assessment of the values of officers in regard to the various positions.

RECLASSIFICATION OF THE SERVICE.

The regulations under the Post and Telegraph Act, 1928, provide for the reclassification of the Service at intervals of not more than five years. The next regrading is effective from the 1st April, 1929. During the year the revaluation of positions was completed. The principle of reclassification applies to positions that have decreased as well as to those that have increased in value.

Arising out of revaluation, 416 positions have been regraded, and appointments thereto, based upon the greatest merit for the particular position, have been made by the Public Service Commissioner on the recommendation of the Departmental Promotion Board.

APPEAL BOARD.

The Post and Telegraph Appeal Board, under the chairmanship of Mr. E. C. Cutten, S.M., sat on three occasions during the year. Ninety-five appeals were dealt with, of which two were allowed.

DEPARTMENTAL CORRESPONDENCE SCHOOL.

Officers continue to make full use of the Departmental Correspondence School, which provides tuition in subject-matter relative to various departmental examinations. There were 1,280 enrolments in 1928. The curriculum is to be extended in the near future to include the subject of automatic telephony.

EXAMINATIONS.

The number of officers who entered for departmental efficiency examinations held during the year was 1,812. The candidates who were either wholly or partially successful numbered 959.

BUILDINGS.

During the year buildings were erected as follows:—

Post-office buildings—

Herekino.	Tokoroa.
Hinds.	Waikaia.
Te Akau.	Waverley.

(The building at Tokoroa was erected by the local settlers, half the cost being borne by the Department.)

Garages—

Dunedin.	*Tokomaru Bay.
Featherston.	Waipu (old stable converted).
Henderson (movable type).	*Waipukurau.
Lumsden (small shed converted).	*Waverley.
Papakura (additional).	

Increased or improved accommodation for departmental purposes has been provided at the following places:—

Ashburton.	Mokauiti.
Ashhurst.	Ohinewai.
Auckland (central telephone exchange, Wellesley Street).	Papakura.
	Paparoa.
Avondale.	Pembroke.
Gore.	Te Teko.
Hanmer Springs.	Waikanae.
Hawera.	Walton.
Kaponga.	Waipukurau.
Matamata.	Wellington (Radio).
Milton.	Wellington (Savings-bank Branch, C.P.O.).

The following works are in progress:—

Greymouth (addition and alterations).
Mercer (new post-office building).
Napier (new chief post-office building).
Ohakune (garage and store, and accommodation for "carrier current" telephone equipment).
Rotorua (addition and alterations).
Shirley (new post-office building).

The erection of new post-office buildings at the following places has been authorized:—

Courtenay Place (Wellington).	New Lynn.
Cust.	Northcote.
Dunedin.	Palmerston (South).
High Street (Christchurch).	

Additions and alterations at the following places have been authorized:—

Cromwell.	Newton.
Invercargill.	Wairoa.
Masterton.	Whangarei.
Nelson.	

SITES.—A site for a post-office building was purchased at Grey Lynn, and sites for storage purposes were bought at Invercargill and Palmerston North.

Additional land for the post-office site at Hastings was taken in March, 1928, under the Public Works Act. Agreement as to compensation has not yet been reached.

The purchase has been authorized of a post-office site at Birkenhead, and storage sites at Dannevirke and Gisborne.

A lease was entered into with the Railway Department for the use of an area of land at Newmarket, with buildings thereon. It is intended to use the buildings as workshops, &c.

In the report for the year 1924-25 reference was made to an exchange of real estate between Government and the Auckland City Council which resulted in the transfer to the Council of the Auckland East (Shortland Street) Post-office building and site. Owing to difficulties which subsequently arose, and on which agreement has not been reached, the exchange has not yet been effected.

* Garage and store.

Miscellaneous.—The separate wooden public-telephone cabinets which had been in use for a number of years outside the chief post-office building, Auckland, were replaced by two sets of cabinets constructed of bronze.

At Dunedin, excavation in connection with building operations on the land adjoining the automatic telephone-exchange building made it imperative to strengthen the foundations of the exchange building.

At Kurow, Lincoln, Little River, Waikari, and Woodlands the postal business was separated from the railway business, separate accommodation for the post-office being provided in each case in the railway-station building. The cost of the necessary alterations to the railway-station premises was borne by the Post and Telegraph Department.

In December the railway-station premises at Kurow, in which the post-office was conducted, were destroyed by fire. Consideration is now being given to the question of erecting a separate post-office building. In the meantime the post-office is accommodated in temporary premises.

Extensive alterations were made to the accommodation occupied by the Savings-bank Branch of the Chief Post-office, Wellington, in order to relieve congestion in the public space and to facilitate the transaction of business.

Improved strong-room accommodation was provided in the General Post Office building.

OVERSEAS MAILS.

The R.M.M.S. "Aorangi" and R.M.S. "Niagara" continue to carry mails under contract between Auckland and Vancouver, and the R.M.S. "Makura" and "Tahiti" continue to carry mails under contract between Wellington and San Francisco.

The average times of transmission of mails during the year were as follow: Auckland to London (via Vancouver), 30·8 days; London to Auckland (via Vancouver), 30·8 days; Wellington to London (via San Francisco), 29·5 days; London to Wellington (via San Francisco), 31·4 days.

The contracts for the two services expired on the 31st March, 1929, but it was arranged with the contractor (the Union Steam Ship Co. of New Zealand, Ltd.) for the contracts to be extended for a further term of one year—*i.e.*, to the 31st March. 1930.

INLAND MAIL-SERVICES.

The South Island mail-service contracts were relet in the latter part of 1928, the services in the Invercargill Postal District undergoing greater change than those in any other part of the South Island. The result has been increased efficiency at a reduced cost.

In July, 1928, the railway-line between Paeroa and Tauranga was completed, connecting the latter place and the districts east thereof with the main railway system. The completion of this work enabled the Department to despatch mails for Tauranga and the Bay of Plenty district the whole distance by train, thus rendering unnecessary the two main trunk road services between Waihi and Tauranga, and Rotorua and Whakatane. With the making of other changes of a minor nature an improvement has been effected in the general mail-service arrangements of the districts concerned.

In November, 1928, floods in the Wairarapa and Manawatu districts dislocated mail-service arrangements to some extent. Interruptions were caused in the service between Levin and Foxton; and, owing to the blocking of the Manawatu Gorge by a large slip, considerable delays occurred in the despatch of mails between the Manawatu and the Wairarapa and Hawke's Bay districts.

In November, 1928, a mail-car engaged in the performance of the Palmerston North – Tangimoana mail-service caught fire. A mail-bag and a number of private bags belonging to settlers were destroyed.

In June, 1928, a separate contract was entered into under which parcels for Wairoa, which were formerly despatched irregularly by sea, usually about once a week, are forwarded overland daily. The new facility removed a certain amount of discontent which had existed in Wairoa because of the lack of a regular parcel exchange.

The schooner "Elsie Mary" while on a trip from Gisborne to Auckland had to be abandoned on the 18th March, 1929, off the Aldermen Islands. Besides general cargo, the vessel carried five hampers of mail-matter. The mails were lost with the vessel.

RURAL DELIVERIES.

Requests for the establishment of rural mail-services have been numerous in the Invercargill Postal District, and the more settled southern areas of the country now have a network of rural deliveries, most of which are daily in frequency. The farmers of Southland fully appreciate the great advantage of being able to transact postal business at or near the gates of their homesteads.

There are now in the Dominion over 19,000 settlers who are rural box-holders.

"HOUSEHOLDER" CIRCULARS.

The revenue from "Householder" circulars posted during the year was £11,511, as against £7,384 for the previous twelve months. The number of "Householder" circulars posted was 5,697,714.

MISSING POSTAL PACKETS.

During the year 6,276 inquiries for missing postal packets were investigated by the Department, with the result that 3,728 of the packets, or approximately 60 per cent. of the total number, were traced or satisfactorily accounted for. The position regarding responsibility for the delay in delivery may be summarized as follows: Sender responsible for delay, 1,086; addressee responsible for delay, 1,329; Post Office responsible for delay, 361; no delay, or responsibility not fixed, 952. In 2,548 cases the manner in which the packets were disposed of could not be ascertained. Compared with the total number of articles posted, this represents a loss of 0·00102 per cent.

As has been mentioned in earlier reports, it is a remarkable fact that postal packets containing bank-notes and other articles of readily negotiable value form a surprisingly large part of the unregistered mail-matter carried by the Post Office. Such unregistered packets constitute a source of continuous temptation to all persons, outside as well as inside the Post Office, through whose hands they pass.

INSPECTION.

Inspectors paid 1,854 visits of inspection to post-offices during the year.

REGISTRATION OF MOTOR-VEHICLES.

During the year ended the 31st March, 1929, 18,739 cars, 4,167 commercial vehicles, and 4,768 cycles—a total of 27,674 vehicles—were registered. The registrations during December, 1928—viz., 2,701 cars, 467 commercial vehicles, and 517 cycles, a total of 3,685—were higher in number than during any other month since the Motor-vehicles Act, 1924, came into operation.

Deputy Registrars of Motor-vehicles were required to collect in the behalf of the Government Statistician returns covering the operations of organized motor-transport services during May and November.

Statements of the number of registrations recorded in the central register at the end of each month are now supplied to the Census and Statistics Office for insertion in the Monthly Abstract of Statistics.

A special return covering the registration of all trucks in the Dominion was prepared for the Transport Department.

The following figures show the number of motor-vehicle registrations (including dormant registrations) as at the 31st March, 1929:—

North Island.		
Cars	82,360	
Commercial vehicles	19,809	
Cycles	21,846	
		124,015
South Island.		
Cars	48,196	
Commercial vehicles	8,970	
Cycles	15,398	
		72,564
Total		196,579

The above figures do not include those vehicles for which 3,200 demonstration-plates were issued to dealers.

Registrations which were cancelled between the coming into operation of the Motor-vehicles Act, 1924, and the 31st March, 1929, are as follow:—

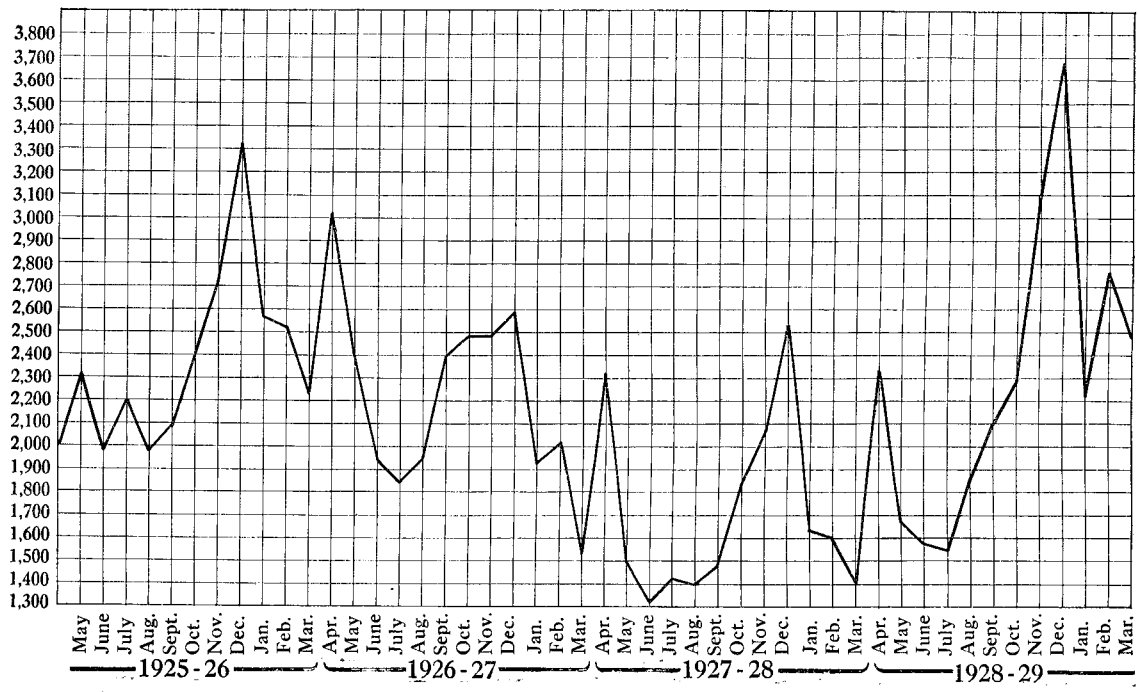
North Island.		
Cars	3,319	
Commercial vehicles	1,426	
Cycles	2,900	
		7,645
South Island.		
Cars	2,302	
Commercial vehicles	811	
Cycles	2,755	
		5,868
Total		13,513

The total number of vehicles registered during the period 1st January, 1925, to 31st March, 1929, was 210,092.

The Motor-vehicles Insurance (Third-party Risks) Act, 1928, which prescribes that Deputy Registrars of Motor-vehicles are to collect the insurance premiums payable under the Act, does not come into operation so far as motor-vehicle owners are concerned until the beginning of the 1929-30 relicensing period, which is to commence on the 15th April, 1929. All the necessary preparatory work in connection with the collection of the premiums is well in hand.

It was found necessary during the year to obtain more commodious accommodation in which to carry out the work of the Registrar of Motor-vehicles. As the additional space required could not be made available in the General Post Office building, Wellington, the central register and staff were accommodated in Nathan's Buildings, Grey Street, Wellington.

GRAPH SHOWING THE TOTAL NUMBER OF MOTOR-VEHICLES OF ALL CLASSES REGISTERED MONTHLY FROM APRIL, 1925.



REFUND OF DUTY ON MOTOR-SPIRITS.

The Motor-spirits Taxation Act, 1927, which prescribes that persons using motor-spirits for purposes other than as fuel for a motor-vehicle in respect of which an annual license fee is payable under the Motor-vehicles Act, 1924, came into operation on the 7th January, 1928. The Act prescribed that all claims for refunds had to be made within a period of ninety days from the date of consumption of the motor-spirit. The experience gained in dealing with refunds during the first two quarters showed clearly that sufficient time in which to lodge applications had not been allowed by the principal Act. In 1928 steps were taken, therefore, to amend the principal Act to provide that claims are to cover the quarterly periods ending respectively on the last days of March, June, September, and December in each year. The time allowed for lodging claims was extended to permit of applications being lodged at any time during the month following the close of a quarterly period. Now that claimants are more fully acquainted with the requirements of the Act, it is hoped that complaints will be reduced to a minimum.

Return showing the Amount of Duty refunded on Motor-spirit consumed during the Year ended 31st December, 1928.

	Number of Claims.	Amount Refunded. £ s. d.
March quarter	2,773	6,902 10 5
June quarter	4,142	14,576 6 11
September quarter	4,186	12,820 5 2
December quarter	5,290	14,828 14 1
Total	16,391	£49,127 16 7

DEPARTMENTAL MOTOR-VEHICLES.

At the 31st March, 1929, there were in use by the Department 116 motor-cars; 432 motor-lorries, trucks, and vans; and 37 motor-cycles—a total of 585 vehicles.

During the year 124 new vehicles were purchased, and 94 vehicles were withdrawn from service for disposal at auction.

WORKSHOPS.

Throughout the year the workshops at the four principal centres and in certain of the smaller towns coped successfully with the upkeep of departmental equipment, which, especially in regard to electrical and mechanical appliances, is steadily increasing both in variety and in extent.

The departmental motor fleet was adequately maintained, practically the whole of the work of overhauling and repairing being undertaken in the Department's workshops. In addition, other Departments largely availed themselves of the facilities afforded by the Post and Telegraph workshops for attending to motor-vehicles. At Wellington and Auckland a number of motor-bodies of the commercial type have been built, including four thirty-seat-bus bodies on account of the Education Department for the conveyance of school-children at Ruawai, North Auckland.

Manufacturing is restricted almost entirely to the Wellington workshops, where the plant is more suitable for this class of work. The principal manufactures during the year consisted of telephone and telegraph equipment, office furnishings, parcel-post boxes, metal rural mail-boxes, wicker parcel-post hampers, and public-telephone cabinets. In addition, rubber stamps were manufactured to meet the requirements of the whole of the Public Service.

The returns of the various workshops show that the value of the work performed during the year amounted to a total of £95,025, of which £9,139 represents the value of services rendered to other Departments.

STORES BRANCH.

The following statement indicates the value of stores received and issued in the Auckland, Christchurch, Dunedin, and Wellington Storekeeping Districts during the year ended the 31st March, 1929, and the value of stocks held at that date. For the purposes of comparison the particulars for the previous year are shown also :—

—	1928–29.			1927–28.		
	Receipts.*	Issues.*	Stock in hand, 31st March, 1929.	Receipts.*	Issues*	Stock in hand, 31st March, 1928.
	£	£	£	£	£	£
Auckland ..	229,089	254,924	100,882	201,514	209,992	126,716
Christchurch ..	151,933	143,869	83,824	163,338	166,310	75,760
Dunedin ..	82,805	101,751	41,051	108,977	111,294	59,997
Wellington ..	376,324	436,499	276,407	507,394	542,047	336,583
Totals ..	840,151	937,043	502,164	981,223	1,029,643	599,056

* Excluding transfers within storekeeping districts.

Purchases.

The total value of stores purchased during the year was £484,218. Of this amount, £186,286 10s. 7d. represented the cost of stores for supply from within the Dominion, while £297,931 represented the cost of stores for supply from overseas. The total value of stores purchased during the previous year was £464,164 9s. 3d.

Particulars of purchases arranged on account of other Departments under the Stores Control Board Regulations are set out hereunder. The figures for the previous year are shown also :—

Year ended	Requisitions.	Items.	Value of Items purchased.		Total.
			On Indent.	Locally.	
			£	£	£
31st March, 1929 ..	3,499	14,097	20,305	81,851	102,156
31st March, 1928 ..	3,301	13,529	22,632	91,587	114,219

The purchase was arranged of 145 motor-vehicles for other Departments, and of 124 motor-vehicles for the Post and Telegraph Department. The figures for the previous year were 95 and 130 respectively.

General Contracts.

Full advantage is taken of the contracts let by the Stores Control Board. Orders placed under such contracts for cement, motor-spirit, and lubricating-oils amounted to £34,941.

At the instance of the Post and Telegraph Department a contract was arranged through the Stores Control Board for the supply of the combined requirements of motor tires and tubes for various Departments. This contract resulted in economy to Government.

Orders for Dominion Products.

Full preference, as provided in the Customs tariff, has been given to goods manufactured in the Dominion, notwithstanding that this action has involved a greater expenditure than would have been the case had some of the orders been placed overseas. An amount of £12,748 was spent in the purchase of insulator-cups manufactured in the Dominion, and £10,847 in the purchase of 19,856 silver-pine poles. Rata and other timber of a value of £2,949 was obtained for cutting into telegraph arms.

Sale of Obsolete and Unserviceable Material.

Auctions of obsolete and unserviceable material, including worn-out motor-vehicles from various Departments, were held at Christchurch, Dunedin, and Wellington.

The total value of property sold on account of the Post and Telegraph Department was £10,831. This sum includes the value of scrap lead, copper wire, and other metals sold by tender.

Marine Insurance Fund.

The value of stores from countries within the Empire and from the United States of America imported under the Marine Insurance Fund was £208,990.

Stores Rules.

Rules relating to the Stores Branch were printed and issued for the guidance of officers concerned in the ordering, receipt, custody, issue, and disposal of stores.

POST OFFICE.

ARTICLES DELIVERED.

The number of articles delivered in the Dominion, including those received from places overseas, during the year 1928, compared with the number in 1927, was as under:—

	1928.	1927.	Increase Per Cent.
Letters	154,922,174	150,112,575	3·20
Post-cards	5,402,400	4,815,581	12·18
Parcels	3,631,800	3,581,632	1·40
All other articles	106,376,061	92,504,917	14·99
	270,332,435	251,014,705	

AVERAGE NUMBER OF LETTERS POSTED PER UNIT OF POPULATION.

1928, 98·66.

NUMBER OF POST-OFFICES IN DOMINION.

Offices opened during the fifteen months ended the 31st March, 1929, 21; offices closed during the fifteen months ended the 31st March, 1929, 79; offices remaining open on 31st March, 1929, 1,897.

UNDELIVERABLE POSTAL PACKETS.

The following is a comparison of letters and other articles (including registered) dealt with as undeliverable during the year 1928, compared with those so dealt with during 1927:—

Year.	Returned direct to Senders from Chief Offices ("Special Request").	Returned direct to Senders from Dead Letter Office.	Returned to other Administrations from Chief Offices ("Special Request").	Returned to other Administrations from Dead Letter Office.	Destroyed (Senders unknown and Contents of no Value).	Total.
			Letters.			
1928..	283,921	280,645	64,781	34,000	29,692	693,039
1927..	306,421	292,897	63,173	44,146	35,542	742,179
			Registered Articles (included in above Totals).			
1928..	11,785	9,639	..	961	..	..
1927..	..	9,675	..	946	..	..
			Other Articles.			
1928..	260,106	11,317	115,596	3,208	..	390,227
1927..	211,056	8,846	121,599	26,571	..	368,072

The proportion of undeliverable letters to the total number of letters delivered was 0·45 per cent. In 1927 the proportion was 0·49 per cent.

MISCELLANEOUS.

	1928.	1927.
Letters and letter-cards posted without addresses	13,888	17,289
Letters imperfectly or insufficiently addressed	23,972	25,348
Letters intercepted on account of libellous addresses	66	204
Newspapers received without addresses	8,016	7,613
Other articles received without addresses	5,099	4,485
Newspapers returned to publishers as undeliverable	42,949	41,447
Articles bearing previously used stamps	80	65

During 1928 there were dealt with in the Dead Letter Office 5,185 packets (other than parcels) the contents of which gave little or no indication of the senders' names or addresses. In a large number of these cases special effort on the part of the Dead Letter Office was successful in tracing either the senders or the addressees. Four hundred and thirty-four letters from overseas bearing insufficient or wrong addresses were specially dealt with, and in the majority of these cases correct delivery was effected.

An auction of unclaimed packets and parcels was held during the year, at which 159 bundles of miscellaneous articles were sold.

PROHIBITED POSTAL PACKETS.

During the year 644 letters addressed to persons or firms the transmission of correspondence for whom is prohibited under section 32 of the Post and Telegraph Act, 1928, were intercepted and forwarded to the Dead Letter Office. (In 1927 the number was 980.) The letters for the most part were addressed to agents of art unions or lotteries in other countries. Some were addressed to recognized quacks, while others were addressed to persons who deal in obscene books or pictures, or are engaged in fraudulent business.

REGISTER OF NEWSPAPERS AND MAGAZINES.

Sixteen newspapers were registered for transmission by post, and twenty-seven were removed from the register. Six magazines were registered, and eight were removed from the register.

The number of registered newspapers on the 31st March, 1929, was 289, and the number of registered magazines 302.

POSTAGE-STAMPS.

In February, 1928, a new centre-plate was made for the 3d. denomination of the postage-due series of stamps, and stamps printed from the new plate were first issued in the following May. The same design is now in use for the whole series, which comprises the denominations ½d., 1d., 2d., and 3d.

Stamp-vending machines continue to render a beneficial service to the public with almost unfailing regularity. During the year four additional machines were installed.

CUSTOMS PARCELS.

The following table shows the declared value of goods received by parcel-post from places abroad and the Customs duty thereon; also the declared value of goods despatched by parcel-post to places abroad. The figures for the years 1928 and 1927 are shown in each case:—

	1928.			1927.		
	£	s.	d.	£	s.	d.
Declared value of received parcels ..	1,523,924	0	0	1,491,441	0	0
Customs duty	351,896	15	4	331,277	8	5
Declared value of forwarded parcels ..	91,651	0	0	88,650	0	0

CUSTOMS EXAMINATION OF POST PARCELS AND PACKETS AT PALMERSTON NORTH.

The Customs Department is about to appoint a Customs officer at Palmerston North for the purpose of assessing Customs duty on post parcels and packets. The assessing of Customs duty at Palmerston North will expedite the delivery of overseas post parcels and packets in Palmerston North and the surrounding district, because it will no longer be necessary for the articles to be held at Wellington until the addressees forward documents for the assessment of Customs duty.

POSTAL NOTES.

The method of remitting small sums to places within the Dominion by means of postal notes continues to be popular, and, although the number of postal notes issued during the year ended the 31st March, 1929, was 38,233 less than in the case of the previous year, the value increased by £42,411. The sales for the year were 3,575,984 postal notes, of a total value of £1,057,624, as against 3,614,217, of a total value of £1,015,213, sold during the previous year.

The commission totalled £24,298 3s. 1d., an increase of £453 12s. 1d. on that for the previous year.

BRITISH POSTAL ORDERS.

British postal-order business shows a slight increase: 155,680 orders, of a value of £87,046 9s. 11d., were sold during the year, as against 153,286 orders, of a value of £86,955 10s. 3d., sold during the previous year. The number of orders paid was 33,652, of a value of £19,904, as against 33,360, of a value of £19,927, paid during the previous year.

HOME SAVINGS-BANK BOXES.

A reduction in manufacturing charges enabled the price of home savings-bank boxes to be reduced from the 1st March, 1929, from 4s. to 2s. 6d. each. The boxes are sold slightly below landed cost, but, having regard to the value of the boxes in the inculcation of the habit of thrift, the slight loss incurred is considered to be justified. Once in a home savings-bank box, money is as good as banked, because the only person who can open the box is an officer of the Post Office Savings-bank.

TELEGRAPH AND TOLL SERVICES.

INTERNATIONAL TELEGRAPH CONVENTION, BRUSSELS, 1928: CODE LANGUAGE.

At the International Telegraph Conference held in Paris in 1925 it was decided that the next Conference should be held at Brussels in 1930. At the Paris Conference a special committee was set up for the study of the conditions of admission in international telegraph correspondence of code language. The Conference was impelled to such action because the rule regarding pronounceability of code language had become a dead-letter, and a practical solution of the problem was urgently desired. In reporting the result of its deliberations the Committee stated that, notwithstanding a spirit of conciliation and mutual concessions, agreement could not be reached on the matter. Under Article 88 of the regulations annexed to the International Telegraph Convention, which provided that the date selected for an International Telegraph Conference might be advanced upon demand by at least ten of the contracting administrations, initiative was taken by the French Administration, resulting in the holding of the Conference in September, 1928, instead of in 1930. The scope of the Conference was limited to consideration of the question of code language. New Zealand was represented by Mr. F. Strong, of the British Post Office.

At the Conference there were two opposing points of view—one that the existing regulations should be maintained, and the other that code language should be reduced from ten to five letters, without regard to pronounceability. By way of compromise it was decided to maintain the ten-letter code system with the exceptions that (*a*) the rule requiring code words to be pronounceable is abandoned; (*b*) a new rule is made requiring code words of six, seven, or eight letters to embody at least two vowels, and code words containing nine or ten letters to contain three vowels. A five-letter code system is to be instituted at reduced rates without conditions as to vowels or pronounceability. The date fixed for the coming into operation of the new order is the 1st October, 1929. It is considered that the new provisions represent a satisfactory compromise on the subject of code language, and will solve what has been an exceedingly difficult problem in connection with international telegraph correspondence.

GENERAL ELECTION, 1928.

The general election held on the 14th November, 1928, caused as usual a great amount of extra work for the Department. Arrangements were made throughout the Dominion for the speedy handling of election returns and of the multitude of other telegrams incidental to the occasion. It is gratifying to record that the work was handled with accuracy and promptitude. The staff responded cheerfully despite the long hours of duty and the arduous conditions which are inevitable upon such occasions.

NEW ZEALAND RUGBY FOOTBALL TEAM: TOUR OF SOUTH AFRICA.

During the tour of South Africa by the New Zealand Rugby football team arrangements were made for the results of the matches to be communicated to all telegraph and telephone offices and telephone exchanges in the Dominion. Result notices were exhibited at all offices immediately upon receipt of the news, and the information was also made available to telephone-exchange subscribers upon request. Result news received on Sundays was disseminated by telephone exchanges, while result news received on week-days was circulated by telegraph. Evidence of public appreciation of the Department's action in thus keeping the public apprised of the results was not lacking. The Department is indebted to the United Press Association, Ltd., for permission to utilize messages from the Association's correspondent with the team.

TELEGRAPH ARRANGEMENTS AT PLACES AT WHICH RACE MEETINGS ARE IN PROGRESS ON SATURDAYS.

At places at which race meetings are held on Saturday afternoons, and at which the telegraph-offices normally close at 5 p.m., it has been arranged for the telegraph-offices to remain open until the result of the last race is reported by the agent of the Press Association. This course was adopted to meet the wishes of the Press Association.

PRESS TELEGRAPH ATTENDANCE AT FOUR CHIEF CENTRES ON DEPARTMENTAL HOLIDAYS.

Attendance from 9 a.m. to 4 p.m. for press purposes is now observed on departmental holidays at Auckland, Wellington, Christchurch, and Dunedin. The cost of the additional attendance is made a charge against the Press Association.

TELEGRAPH AND TELEPHONE OFFICES OPEN FOR BUSINESS.

During the year eighteen offices were opened and forty-seven closed. The number of offices remaining open at the 31st March, 1929, was 2,139, classified as follows:—

Telephone-offices and toll stations combined	1,760
Morse telegraph-offices and toll stations combined	350*
Telephone-offices (no toll station)	7
Morse telegraph-offices (no toll station)	4†
Toll-station (no telephone-office)	9
Radio-telegraph stations (including coast stations, Auckland, Awanui, Awarua, Chatham Islands, and Wellington)	9
	2,139

* Six converted from telephone to morse, and two from morse to telephone. † Mangahao-Hydro closed.

TELEGRAPH AND TOLL TRAFFIC.

The figures which follow show the position in regard to telegraph and telephone traffic. Fuller information is contained in Table 10.

TOTAL OF ALL CLASSES OF MESSAGES AND VALUE THEREOF.

—	1928–29.	1927–28.	Increase.	Increase per Cent.
Number	17,560,372	16,567,514	992,858	5·65
Value	£851,159*	£805,560	£45,599	5·35

* Includes £3,698 representing the value of franked Government telegrams and urgent marine telegrams.

SCHEDULE OF PAID TELEGRAMS, CABLE MESSAGES, AND TOLL COMMUNICATIONS.

	Number.	Value. £
Ordinary	5,646,947	484,386
Urgent	234,102	22,722
Press	577,327	77,590
Letter	402,517	17,895
Toll communications	10,655,450	442,896
	17,516,343	1,045,489
Less net amount paid to other Administrations on cable and radio messages	..	198,028
Net total for paid messages of all codes, 1928–29	17,516,343	847,461
Net total for paid messages of all codes, 1927–28	16,523,004	801,946

UNIVERSAL-BATTERY SYSTEM AT PALMERSTON NORTH.

The universal-battery system of telegraph operation was installed at Palmerston North on the 2nd May, 1928, some 1,500 primary cells being replaced by 160 secondary cells. In consequence a considerable reduction in maintenance costs has been effected and a better and more efficient service obtained.

In connection with the above-mentioned installation, a system was introduced whereby small neighbouring towns having a community of interest are given direct telegraph communication with each other, thus obviating re-transmission by Palmerston North.

MACHINE-PRINTING TELEGRAPHS.

Machine-printing telegraph circuits continue to function satisfactorily. Several local modifications and improvements have been made which have increased still further the efficiency and reliability of the system.

TOLL COMMUNICATIONS: REDUCTION OF RATE FOR URGENT CALLS BETWEEN 8 P.M. AND 8 A.M.

The rates for urgent toll communications between the hours of 8 p.m. and 8 a.m. were reduced from the 24th September, 1928, to one-half the urgent rates ruling between 8 a.m. and 8 p.m., except that the minimum charge for an urgent call is fixed at 8d. The effect of the change is to make the urgent rate at all times double the rate applicable at the time the call is made.

LISTS OF TOLL STATIONS IN TELEPHONE DIRECTORIES.

In addition to the list of exchanges with which communication may be obtained, each telephone directory will in future contain a list of toll stations in the postal district in which the directory is distributed.

TOLL SERVICE: IMPROVED METHODS OF OPERATION.

The speeding-up the time of completion of toll calls and reducing to a minimum the number of uncompleted calls were given attention during the year.

The system of direct dialling between exchanges, to which reference was made in last year's report, was extended, and resulted in a much speedier toll service being provided between the various exchanges concerned without involving any increase in the toll operating staff.

The provision of facilities for direct dialling enables the toll operator at a calling station to dial the wanted subscriber at a distant automatic exchange without invoking the assistance of the operator at the distant exchange. Thus in the case of a toll communication from Wellington to Blenheim the toll operator at Wellington is able to dial the wanted subscriber at Blenheim direct, while in the case of a Blenheim subscriber wanting a toll conversation with Wellington the Blenheim toll operator is able to dial the number of the subscriber required at Wellington.

Direct dialling between exchanges is now in operation between Lower Hutt and Wellington (six circuits); between Paekakariki and Wellington; between Wellington and Blenheim (two circuits), both ways; between Wellington and Masterton, both ways; between Napier and all exchanges which have direct access to Napier, including Gisborne, Wairoa, and Hastings; between Dannevirke and Napier, both ways; and between Palmerston North and Dannevirke, both ways. Further extensions are being arranged, and ultimately all exchanges which can communicate direct with automatic exchanges will be able to dial the subscribers at such exchanges direct.

Another and an even more marked improvement in the speed of toll service was effected by the introduction between Napier and Hastings, and between Lower Hutt and Wellington, of the combined line and recording method of operating (commonly known as the C.L.R. method), the aim of which is to complete as many toll calls as possible while the calling party remains at the telephone. The adoption of this method of operating has resulted in a greatly improved and faster service.

In ordinary toll practice at the larger exchanges particulars of toll calls required by subscribers are recorded by one operator, and the actual line work (*i.e.*, the establishing of the connections) is done by another operator. This practice entails the dismissal of the subscriber after particulars of the call have been recorded, and the recalling of the subscriber when the attention of the station required is secured. Under the C.L.R. method of operating the special recording operator is eliminated, and the recording and line work is done by the line operator. This enables a toll call to be completed at the time of application.

The C.L.R. method saves toll-line and operating time. The subscriber also benefits in that he either obtains his toll connection or receives a definite report in connection therewith before hanging up his receiver.

In countries where the C.L.R. method of operation has been extensively applied a very large majority of the toll calls are completed while the calling subscriber remains at the telephone. Owing to toll-line limitations, such extensive application of the system is not practicable in New Zealand. It is the intention, however, to install the system between a number of places which have a large community of interest.

In order that the maximum efficiency under these two new methods of operation may be obtained, it is essential that the calling subscriber should furnish the toll operator with the telephone-number as well as the name of the wanted subscriber. The Department has intimated to frequent users of the toll lines that if they will furnish the names of the persons with whom they often communicate by toll the Department will supply lists showing the telephone-numbers of such subscribers. Already a number of toll users have availed themselves of the opportunity of obtaining such numbered lists. Toll operators are being required, at the time a call is being established, to furnish the called telephone-number to the calling party, in order that the calling party may note the number for future use.

By the introduction of these and other improvements in the methods of operating, all of which have been effected with due regard to economy, the average length of time involved in completing toll calls has been substantially reduced and the toll service still further popularized.

RETURN OF TOLL-CALL DELAYS AND CANCELLATIONS.

With the development of the telephone service and the growing tendency to resort to the telephone for long-distance communication, it is necessary that requests for toll communications should be satisfied with the least possible delay. It is satisfactory to record that the efforts made to obtain the highest possible efficiency in this direction are meeting with good results. The following return taken over a short period illustrates the number and percentage of calls satisfied within certain times after the receipt of the applications. It indicates also the percentage of calls cancelled, and the reasons for the cancellations.

Calls.

	Full Rate.		Half Rate.	
	Number.	Per Cent.	Number.	Per Cent.
Calls connected with less than 5 minutes' delay..	238,529	77·9	30,635	57·2
,, ,, 10 ,, ..	39,465	12·9	8,068	15·1
,, ,, 15 ,, ..	14,085	4·6	4,372	8·2
Calls connected with more than 15 minutes' delay	14,038	4·6	10,418	19·5
Totals	306,117	100·0	53,493	100·0

Total number of calls during the period, 359,610.

Cancellations.	Number.	Per Cent.
Line out of order	1,044	0·29
Unable to wait	1,444	0·4
Crossed call	564	0·16
Miscellaneous	753	0·21
Totals	3,805	1·06

RELAY LINES FOR RADIO BROADCASTING PURPOSES.

With the increasing use by the Radio Broadcasting Co. of New Zealand, Ltd., of programmes received over land lines from distant sources, the provision of suitable lines for temporary use in this connection has become a matter of some importance. The faithful transmission of music, with its comparatively wide frequency-spectrum, requires lines of much greater transmission efficiency than are necessary for ordinary speech. It is gratifying to report that whenever called upon the Department's telephone-lines have given excellent service under such exacting requirements.

EXTENSION OF TOLL AND TELEGRAPH FACILITIES.

Not the least important of the Department's engineering operations during the year was the extension of the network of toll and telegraph lines, and the replacement of plant which had become worn out or inadequate for present-day traffic requirements. In almost every part of the country some additional facility was provided for the purpose of relieving congestion of traffic or for giving service to some backblock settlement that had not previously enjoyed the privileges or conveniences of the telephone. In addition, the speech efficiency of toll circuits and the physical condition of the lines were considerably improved by a large amount of reconstruction work, which comprised the re-erection of pole-lines, the replacing or respacing of poles, the strengthening of existing poles, the regulation of wires, the rearranging of transpositions, the substitution of copper for iron wires, and the re-erection of circuits on the twist system.

The cost of the year's operations in effecting improvements and in making extensions to the toll and telegraph facilities throughout the Dominion amounted to £88,998. In addition, an expenditure of £17,586 was involved in renewing or replacing plant and equipment which had become worn out, inadequate, or obsolete.

As indicated elsewhere in this report, traffic-congestion between certain places where there is a large volume of toll traffic was relieved by the superposing of the "carrier current" system over existing circuits without entailing the erection of any additional wire. Between other places, however, for economical and other reasons, this method of relieving traffic-congestion was either impracticable or unwarranted. In such cases rearrangements were made to existing circuits or additional circuits erected.

The various rearrangements of the toll and telegraph lines, and the new circuits erected during the year, are detailed hereunder:—

Traffic-congestion between Maungakaramea on the one hand and Whangarei and Waipu on the other was relieved by the erection of a metallic circuit between Maungakaramea and the direct line connecting Whangarei and Waipu.

By a rearrangement of circuits and the utilization of a spare pair of wires between Auckland and Waiwera, Matakana was given a direct line to Auckland. The effect of this rearrangement was to relieve congestion at Warkworth and at the same time to give Matakana speedier communication with Auckland.

By dividing at Wellsford the two Helensville–Dargaville metallic circuits, Wellsford was given direct communication with both Helensville and Dargaville. The over-all efficiency of the two metallic circuits referred to was also improved by establishing Wellsford as a switching-station.

The toll facilities from Kaeo to Mangonui, Ohaeawai, and Kaikohe were considerably improved by dividing at Kaeo an existing circuit connecting Mangonui and Ohaeawai.

The Hokianga Heads line, which serves several stations, was appreciably relieved of congestion by converting from earth-working to metallic the section of line between Opononi and a point four miles from Rawene.

The toll facilities at Towai were improved by placing that station across a trunk circuit connecting Whangarei and Kawakawa.

The stations on Waiheke Island were provided with an additional circuit to Auckland. This involved the laying of a new submarine cable (3·766 nautical miles in length) between Maraetai and Awaroa.

Traffic-congestion between Te Aroha and Hamilton was considerably relieved by the erection between those places of a new metallic circuit.

As a result of the reconstruction of the Cambridge–Napier line (to which reference was made in last year's report) a new direct telephone circuit was obtained between Hamilton and Taupo. The extension of the Wairakei circuit to Oruanui also enabled all the small toll stations to be removed from

the Rotorua–Taupo circuit. This rearrangement, together with the erection of a new circuit between Rotorua and Atiamuri, resulted in a clear trunk circuit being obtained between Rotorua and Taupo.

Toll and telegraphic facilities between Gisborne and Wairoa were improved by the erection of a new metallic circuit between Gisborne and Morere. The new circuit, together with those previously existing between Morere and Wairoa, enabled a redistribution of lines to be made which greatly assists the handling of toll communications in the area Gisborne–Morere–Nuhaka–Wairoa. The rearrangement of circuits also provided an additional telegraph-channel between Gisborne and Wairoa.

The telegraph circuits extending northwards from Gisborne were improved by the substitution of intermittent for constant current working, and by transferring one of the circuits to the more accessible inland route between Ruatoria and Tokomaru Bay. Both the toll and telegraph circuits were made more secure from damage by flood at Tikitiki by the provision of a more substantial means of supporting the wires where they cross the Waiapu River.

A reconstruction of the main line between Eskdale and Rangitaiki was carried out, copper wires being erected throughout the section and the toll circuits re-erected on the twist system. As a result, speech-transmission between the Napier district and Taupo, Rotorua, and Hamilton was considerably improved.

A direct circuit was obtained between New Plymouth and Inglewood by the removal of the Tarurutangi, Lepperton, and Centre Hill toll stations to the Inglewood–Waitara circuit. A direct circuit was obtained also between New Plymouth and Eltham by a rearrangement of the existing wires.

A new metallic circuit was erected between Palmerston North and Wanganui, and a number of the existing wires rearranged. As a result, one additional toll circuit was obtained between Palmerston North and Wanganui, one additional circuit between Marton and Wanganui, and another between Bulls and Marton. The toll facilities between Marton and Palmerston North were also improved, and the delay on toll traffic from the Taihape and Hunterville districts to the Wanganui and Taranaki districts was considerably reduced.

The Wellington–Auckland metallic circuit was diverted into Palmerston North by running two pairs of wires between Sanson and Palmerston North. This work was carried out as a preliminary to the installation of the three-channel carrier system between Palmerston North and Hamilton, over which the Wellington–Auckland toll traffic is to be handled.

The toll switching facilities at the Palmerston North Exchange were improved by the installation of a new record position on the switchboard, the original record position being utilized to provide an additional toll position.

Improved telephone facilities were provided between Carterton and Greytown, and between Carterton and Featherston; in the former case by the erection of a new metallic circuit, and in the latter case by a rearrangement of the existing wires to form a phantom circuit.

An additional toll outlet was provided between Dannevirke and Woodville by joining together at Maharahara two circuits which were no longer required by that office for communication with Dannevirke and Woodville respectively.

The number of telephone circuits between Blenheim and Seddon was increased from four to five by the conversion of two existing telegraph circuits to a metallic circuit.

A new telephone-line was erected from Te Namu to Wangapeka Valley in order to provide outlying settlers with telephone facilities.

The congestion on the toll lines between Darfield and Coalgate, Christchurch and Leeston, and Rangiora and Oxford was eliminated by the erection of new metallic circuits.

The facilities for toll communication between Tokarahi and Duntroon were greatly improved by the erection between those places of a new metallic circuit.

The efficiency of the Duntroon – Maerewhenua, Lawrence – Clydevale, Kurow – Omarama, and Kurow–Wharua toll circuits was improved and their traffic-carrying capacity increased by their conversion from earth to metallic-circuit working.

The toll-line system was extended to Motumote and Waitaki Hydro, and new toll stations were established at those places.

Other improvements to the plant and equipment used in connection with the toll and telegraph services included the following:—

An extension of the toll switchboard at Auckland by the installation of two additional operator's positions.

The re-erection on the twist system of the Greatford – Marton, Levin – Foxton, and Wellington–Porirua sections of the Wellington-Auckland main-trunk telephone circuit.

The rearrangement of the telegraph and toll leading-in cables, &c., at a number of offices, and the rewiring of several telegraph operating-rooms.

The installation of lamp-signalling circuits between Wellington and Christchurch, and between Seddon and Christchurch, for the purpose of improving the facilities for handling inter-Island toll traffic.

The substitution of electric motors for petrol-engines at Blenheim and Seddon for driving the battery-charging plant.

Reconstruction of Lines.

The following table shows the sections of line reconstructed or partly reconstructed during the year :—

Section.	Miles of Pole-line reconstructed.	Miles of Wire replaced.
Auckland Engineering District—		
Thames–Turua	8¼	6½
Turua – Netherton – Ngatea Junction	11½	..
Ngatea–Waitakaruru	8½	..
Hikutaia–Kopu	9½	½
Paeroa–Netherton	5½	..
Rotorua–Atiamuri	28	84
Otahuhu–Mercer	30	270
Miranda–Kaiau	5	..
Miranda–Pokeno	21¾	..
Makarau branch line	2	4
Rawene–Opononi	10¾	14¾
Warkworth–Wayby	4	12
Waipu–Ruakaka	12	..
Taupo - Atiamuri Junction	25½	191
Taupo–Rangitaiki	30	157½
Taumarunui–Houseboat	9¼	9¼
Otorohanga–Otewa–Maihiihi	7¼	17½
Mercer–Rangiriri	1¼	35
Taupiri–Rangiriri	12	322
Raglan – Te Akau – Ngaruawahia	25½	37½
Te Awamutu–Kawhia	1	4
Te Hoe – Hapuakohe toll line	14¾	29½
Hamilton–Eureka	..	14½
Ongarue–Matiere–Tapuiwahine	7	14
Wellington Engineering District—		
Napier–Rangitaiki	29	112
Raetihi–Kakatahi	20	40
Levin – Foxton Junction	..	11
Palmerston North – Sanson	14¾	..
Marton–Turakina	..	16
Waverley–Moeawatea	2	..
Douglas–Huiroa	2	..
Waitara–Urenui	2	2
Dannevirke–Norsewood	1	1
Wellington–Porirua	13	29
Wellington–Oteronga Bay	3	9
Lower Hutt – Wainuiomata	3¼	3¼
Takaka – Upper Takaka	13½	40½
Waka–Hira	2	16
Picton–Onauku	6	6
Canterbury Engineering District—		
Christchurch – Tai Tapu	9	92
Sockburn–Leeston	22	153
Sockburn–Hornby	3	66
Mendip Hills Junction – Oaro	15¼	30½
Darfield–Hororata	12	40
Rangiora–Oxford	21	108
Kaiapoi–Rangiora	7	84
Rakaia–Ashburton	1	125
Otago Engineering District—		
Riverton – Gummie's Bush	2¾	..
Lawrence–Clydevale	12¾	..
Kurow–Duntroon	14	44
Dunedin–Portobello	½	..
Kurow–Omarama	..	4
Tokarahi–Duntroon	2	..
Winton – Centre Bush	7	..
Tuatapere–Pukemaori	6¾	..
Kurow–Wharua	..	5½
Pembroke–Cromwell	2¾	8¼
Heriot–Dunrobin	1	..

MAINTENANCE OF LINES.

Although there were no severe snowstorms during the year, gales of exceptional severity, accompanied by heavy rain, were frequent, and the stability of the lines in almost every part of the country was tested to the utmost. As a result the number of minor dislocations of traffic owing to trees being blown down and to wires contacting was much greater than usual. In only one or two cases, however, were the interruptions of more than twenty-four hours' duration, and these were due not so much to the extent of the damage as to the flooded state of the country severely hampering the operations of the line-repair parties. The fact that there was a complete absence of major breakdowns, notwithstanding the frequency and severity of the gales experienced, testified to the stability of the lines, and fully justified the Department's past policy of carrying out regular and systematic overhauls of its lines and of using only those classes of poles which had been proved equal to withstanding the severity of the elements. It also proved that although the initial cost of a line having a factor of safety adequate to meet local conditions may be high compared with that of one having an insufficient factor of safety, the extra initial outlay is more than recouped over a period of years by the saving in maintenance charges and by the reduction to a minimum of service interruptions.

In connection with the construction and maintenance of its lines of communication, the Department has always to keep in mind the important fact that telegraph and telephone facilities are most needed in times of emergency, when it frequently happens that its communication system is called upon to stand the severest stresses of the elements.

Owing to the presence of cobwebs and to the adhesion to the insulators of salt spray, much difficulty has been experienced in the past in maintaining satisfactory insulation on some of the highly exposed coastal routes. During the year this trouble was alleviated on the Napier-Hastings section by the adoption of a method of periodically cleaning the insulators by means of high-pressure steam generated by a portable boiler. As it is recognized that the periodical cleaning of insulators is a palliative only, exhaustive tests are being carried out with a view to determining the type of insulator least affected by salt spray.

POLES AND WIRE.

During the year 103 miles of pole-line and 938 miles of wire were erected for telegraph and telephone (toll) purposes, while 146 miles of pole-line and 548 miles of wire were dismantled, or, in localities where no longer required by the Department, sold to settlers for use as private telephone-lines.

The lengths of pole-line and wire in use for telegraph and telephone toll purposes on the 31st March, 1928 and 1929, respectively, were as follow:—

Pole-line and Wire.	Year ended 31st March, 1928.	Year ended 31st March, 1929.
Miles of pole-line	12,771*	12,728
Miles of wire	62,602*	62,992

* Revised figures.

The telegraph and telephone wire in use on the 31st March, 1929—viz., 62,992 miles—is classified as under:—

	Miles.
Used exclusively for telephone toll traffic	4,509
Used exclusively for telegraph traffic	9,567
Used simultaneously and (or) conjointly for telegraph and telephone toll traffic	48,916

The total length of wire that may be used for telephone toll traffic is 53,425 miles; the total length that may be used for the transmission of telegrams, 58,483 miles; and the length of telephone toll-lines over which telegrams may be transmitted by telephone, 23,088 miles. The total length of Morse circuit derived from the superimposing of telephone circuits is 13,615 miles, and the total length of additional telephone toll circuit improvised from the existing wire circuits by the use of subsidiary apparatus associated therewith (so-called phantom working) is 6,755 miles.

TELEGRAPH INSTRUMENTS AND BATTERIES.

The following table shows the class and number of telegraph instruments and batteries in use at telegraph-offices for the year ended 31st March, 1929:—

Return of Telegraph Instrument Sets and Batteries as at the 31st March, 1929.

Engineering District.	Telegraph Instrument Sets.												Universal Battery Systems.	Storage Batteries other than those used for Universal Battery System Working.	Primary Batteries.				
	Simplex.			Duplex.		Quadruplex.	Split Quadruplex Repeater	"A" Side relayed Duplex.	Forked Quadruplex.	Murray Multiplex Sets (Quadruple Duplex)	Concentrators.				Number of Cells.				
	Constant Current	Intermittent Current.	Central Battery Omnibus	Single Current	Double Current						Number.	Capacity.		Number of Cells.	Leclanche. No. 1.	Leclanche. No. 0.	Leclanche. No. 2.	Gordon Burnham.	Daniel.
Auckland	39	85	41	16	7	18	1	4	11	4	2	20	1	135	5,010	1,786	2,339	..	..
Wellington	62	148	22	6	23	14	6	4	10	10	2	20	2	350	8,749	229	5,249	205	78
Canterbury	36	85	..	6	8	6	4	1	..	3	2	20	1	6	3,197	404	1,642	127	..
Otago	41	80	..	1	3	5	1	1	..	1	1	10	..	47	4,087	412	1,043	..	..
Totals	178	398	63	29	41	43	12	10	21	18	7	70	4	538	21,043	2,831	10,273	332	78

NEW ZEALAND SUBMARINE CABLES.

Cook Strait Cables.

For many years there had been a perceptible weakness in one of the Cook Strait telegraph-cables (No. 3 Oteronga Bay), but it was so slight that it did not seriously affect the traffic-carrying capacity of the cable. Towards the end of 1927, however, the fault developed to such an extent that it was deemed advisable to take preliminary action with a view to effecting repairs. Electrical tests from the shore located the fault at a point approximately two and a quarter nautical miles from the White Bay cable-hut (White Bay is the landing-point on the South Island for five of the Cook Strait telegraph-cables). The work of repairing this cable presented unusual difficulties. It was not practicable to grapple in the locality of the fault, owing to the proximity of the four other cables entering the bay; nor was it possible to underrun the cable from the beach, owing to the fact that other cables crossed over the faulty one at several points between the fault and the beach, and it was known that all cables were buried deeply in sand for some distance from the shore. In November-December, 1926, when the Pacific Cable Board's steamer "Iris" spent a considerable amount of time searching for a faulty cable in the locality situated about eight nautical miles from White Bay, it was found that the cables were so deeply buried that they were beyond the reach of any grapnel. The only alternative, therefore, to prolonged grappling in the hope of hooking the cable at a spot where it might chance to be within reach of the grapnels (which might have proved a very costly undertaking) was to hook the cable at a point twelve to fourteen nautical miles out to sea, to pick up as much of it as practicable, and to relay it after cutting out the faulty section. This procedure, however, appeared to involve serious risk of damage to other working-cables, because it was known to the Department that one cable at least was incorrectly charted for a distance of some ten nautical miles from White Bay, and it was feared that some of the others also might have been incorrectly plotted. In the circumstances, it was essential that a means be devised of tracing out the routes followed by the respective cables in the Cloudy Bay area, so that they could be correctly charted before an attempt to repair the faulty cable was made. It was considered that the "trailing electrode" method would prove effective for this purpose, and in April, 1928, it was decided to charter the Government steamer "Janie Seddon" to undertake the work and to endeavour to effect repairs to the faulty cable. The vessel, suitably fitted up for cable-repair work and provided with the necessary electrical equipment, left Wellington for Port Underwood on the 11th April, with Captain Whiteford, of the Marine Department, in command.

In tracing the cables by means of the "trailing electrode" gear excellent results were obtained. The positions of all working-cables were definitely located to about twelve miles out from the White Bay beach, thus permitting the Department to place absolute reliance on the accuracy of its records covering the routes followed by the cables on the southern side of Cook Strait. The survey disclosed that No. 1 O.B. cable was from one and a half to two and a half miles to the south of its charted position over a distance of nine miles; that No. 3 O.B. cable was over a mile out of position in the same direction over a distance of six miles; and that cables Nos. 2 O.B., 4 L.B., and 5 L.B. were appreciably out of position over distances varying up to three and a half miles, but not to the same extent as were Nos. 1 O.B. and 3 O.B.

A few days were spent in grappling for No. 3 O.B. cable where the survey showed it to be lying clear of the other cables, but all attempts to hook the faulty cable proved unsuccessful, showing that the cables were deeply buried in silt in localities which had not previously been explored.

The *modus operandi* in tracing the cable by the "trailing electrode" may be stated in the following few words: An alternating current of audible frequency was passed through the cable which was to be traced. A twisted pair of insulated wires, suitably weighted, with each wire terminated in a suitable electrode so as to make good electrical contact with the water, and with one of the conductors cut about 30 ft. shorter than the other, was dropped over the stern of the ship and towed obliquely across the cable. The electrode system trailing across the cable was acted upon by the alternating cable field. The signals sent into the cable were thus detected on the ship, the trailer wires being connected through a suitable transformer to a three-valve amplifier so that the signals might be recorded with suitable volume. By towing the electrodes obliquely across the track of the cable and changing course each time the signals reached maximum intensity, the ship could tack along the cable and record its location as it proceeded.

In February, 1929, the Pacific Cable Board's cable-steamer "Iris" was chartered for the purpose of repairing No. 3 Oteronga Bay – White Bay cable and No. 4 Lyall Bay - White Bay cable.

The survey work undertaken by the "Janie Seddon" had shown that if No. 3 cable were hooked at a point about twelve nautical miles from White Bay no risk of damage to other cables would be incurred in attempting to pick up No. 3 cable to a point about four miles from the beach, where it crossed underneath another working-cable. It was, therefore, hooked at the twelve-mile point, and the ship heaved in towards shore until seven and a quarter nautical miles had been recovered. The lifting proved to be a very difficult undertaking. The strain on the cable while it was being picked up proved conclusively that it was buried several feet in the silt, and demonstrated finally that in Cloudy Bay, within about ten miles of the White Bay beach, it was not practicable to pick up with the grapnels any cables which had been lying undisturbed over a long period of years. It is worthy of note that the cable picked up, although laid thirty-one years ago, was in such excellent condition that it was relaid on the following day about two miles to the northward of the original track. The relaying of this section of cable and the laying of a new shore end into White Bay completed the repairs to No 3 cable. This cable has for many years past been the weakest of all the Cook Strait telegraph-cables, but since the recent repairs its insulation resistance has increased considerably above that of any of the other cables.

The interruption to No. 4 L.B. cable was first reported on the 30th April, 1927. At that time it existed as an "earth fault," but a few weeks later the cable parted, the break being located at a point about two and a quarter nautical miles from Lyall Bay. Later in the year it was found that a second break had developed in the cable, and this one was located at a point 11·4 nautical miles from Lyall Bay. While the ship was engaged on repair work this cable was found to be in very bad condition throughout its whole length from Lyall Bay to the outer break, and it was necessary, therefore, to lay 11·848 nautical miles of new cable. This total includes a length of 2·544 nautical miles of heavy shore-end cable, which was laid from the auxiliary scow "Wanderer" with the assistance of the "Janie Seddon."

For the repairs to Nos. 3 and 4 L.B. cables, the "Iris" was under charter by the Department for a period of twenty-four days. The vessel sailed from Auckland on the 23rd February, 1929, and returned to that port on the 19th March, 1929.

Miscellaneous.

A single-core cable 3·766 nautical miles in length was laid between Maraetai (mainland) and Awaroa (Waiheke Island) in November, 1928. The cable will be utilized as an additional telephone circuit between Waiheke Island and the mainland.

A break in the Motuihi Island – Waiheke Island cable was reported and repaired in October, 1928.

CABLE SERVICES.

IMPERIAL WIRELESS AND CABLES CONFERENCE.

The Conference of representatives of the British Government, the British Dominions, colonies, and protectorates, which was set up to examine the situation that has arisen as the result of the competition of beam wireless with cable services, formulated certain recommendations for the consideration of the Governments concerned.

These recommendations were briefly as under:—

(1) That a merger company be formed to acquire all the ordinary shares of the Eastern Extension and Western Telegraph Companies, and all the ordinary and preference shares and debentures of the Marconi Wireless Telegraph Company.

(2) That a Communications Company be formed to which the cable and Marconi companies would sell their assets in exchange for shares.

(3) The Communications Company to take over the Pacific Cable Board's cables, the West Indian cable and wireless system worked by the Pacific Cable Board, the Imperial Atlantic cables, and the lease of the British Post Office beam services.

(4) The Communications Company to meet the annual service of the outstanding debt on the Pacific Cable Board, and to pay in addition a capital sum of £517,000 for the Pacific cable, £300,000 for the West Indian cable, and £450,000 for the Imperial cables.

(5) A standard net revenue of £1,865,000 to be allowed to the Communications Company, and any excess over that revenue to be allotted, 50 per cent. to the company and 50 per cent. to the disposal of an advisory committee comprising representatives of the Governments concerned.

(6) This committee to consist of representatives of the Governments concerned, and to be consulted by the Communications Company upon matters of policy and rates.

(7) British control of all companies to be guaranteed, and Governments to assume control of cable and wireless systems in war-time or national emergency.

The recommendations of the Conference have since received the approval of the British Government and other Governments concerned. With the consummation of these highly important proposals the purely proprietary interest of New Zealand in the Pacific cable will come to an end.

Briefly, the Pacific cable had its genesis in the vision and imagination of Sir Sandford Fleming, of Canada, who first conceived the Imperial importance of a cable system connecting Great Britain and His Majesty's Dominions in the Pacific without touching foreign soil. The idea developed in the minds of statesmen in Great Britain and the dominions concerned, and in the year 1902 the cable was laid. The share of New Zealand in the undertaking was one-ninth. The other countries concerned were Great Britain, Canada, and Australia. The capital cost of the cable was borrowed from the Government of Great Britain, the amount being repayable by annuities spread over fifty years. Up to the year 1915 there was a deficiency on the working of the cable, but since that date there has been a surplus upon the operation.

Since the opening of the beam wireless system between Great Britain, Canada, and Australia competition for traffic has become a serious matter. In view of the great success of the beam system it is not unreasonable to conclude that serious inroads will continue to be made into the revenue of cable administrations. As a partner in the Pacific cable, New Zealand is obliged to give serious consideration to any scheme which offers a solution of the problem attached to the future of the cable services. The recommendations as outlined are considered to meet the position, and their adoption will ensure the continuance of cable services enjoyed by this country and will prevent foreign interests gaining a control of the communication systems with which this country is concerned.

INTERNATIONAL MONEY-ORDER TELEGRAMS: SUPPLEMENTARY TELEGRAPH FEE.

From the 1st May, 1928, a supplementary telegraph fee of 1s. is charged on all international money-order telegrams. This charge was instituted to meet the cost of the work at Auckland in transferring such messages to the cable administration.

DAILY LETTER-TELEGRAM SERVICE.

Austria.

A daily letter-telegram service has been made available from the 1st March, 1929, between New Zealand and Austria, via Eastern, London, and Marconi, at the rate of 9d. per word, with a minimum of 15s.

Germany.

A daily letter-telegram service between New Zealand and Germany was introduced on the 1st April, 1928. The rate is 9d. per word, with a minimum charge of 15s.

Luxemburg.

A daily letter-telegram service was inaugurated between New Zealand and Luxemburg on the 1st September, 1928. The rate is 9d. per word, with a minimum charge of 15s. for twenty words.

Morocco.

A daily letter-telegram service was made available from the 6th March, 1929, between New Zealand and Tangier, Morocco (via Eastern), at the following rate: 9d. per word, with a minimum of 15s. for twenty words.

WEEK-END LETTER-TELEGRAM SERVICE.

Holland.

Week-end letter-telegrams for Holland are now accepted for transmission by ordinary cable to the Dutch Indies and thence by radio to Holland. Such messages require to be specially inscribed by the senders "via Eastern Java radio." The service was inaugurated on the 25th May, 1928.

Germany.

A week-end letter-telegram service is now in operation between New Zealand and Germany. The rate is 7½d. per word, with a minimum charge of 12s. 6d.

France, Algeria, and Tunis.

A week-end letter-telegram service has been established between New Zealand and France, Algeria, and Tunis. The rates are as follow: (*a*) To France, 8d. per word, with a minimum charge of 13s. 4d.; (*b*) to Algeria and Tunis, 9d. per word, with a minimum charge of 15s.

DAILY LETTER-TELEGRAM AND WEEK-END TELEGRAM SERVICE.

Sweden.

From the 1st October, 1928, a daily letter-telegram and week-end telegram service was instituted between New Zealand and Sweden. The rates are 9d. and 7½d. per word respectively, with a minimum charge for letter-telegrams of 15s. and for week-end telegrams of 12s. 6d.

Denmark.

A daily letter-telegram and week-end telegram service was inaugurated between New Zealand and Denmark from the 1st December, 1928. The rate for daily letter-telegrams is 9d. per word, with a minimum of 15s., and for week-end letter-telegrams 7½d. per word, with a minimum of 12s. 6d.

DAILY LETTER-TELEGRAMS AND WEEK-END TELEGRAMS FOR CONTINENT OF EUROPE: POSTING FROM LONDON.

Daily letter-telegrams and week-end telegrams for places on the Continent of Europe not admitting such services are now accepted for transmission to London by telegraph and thence to destination by ordinary post. The alteration took effect from the 1st May, 1928. In addition to the ordinary charges, such messages are subject to a postage fee of 4d., and they must contain in the address the words "post London," which are charged at the ordinary rate.

CABLE RATES.

New Zealand – Union of South Africa, etc.

The ordinary cable rates between New Zealand and the Union of South Africa, South-west Africa, Southern Rhodesia, Northern Rhodesia, and British Central Africa (Nyassaland), were reduced from the 1st June, 1928, by 7d. per word for ordinary traffic, 3½d. per word for deferred traffic, and 4½d. per word for British Government messages.

From the same date the daily letter-telegram rate was reduced by 1s. 8d. for twenty words or less, and by 1d. per word on additional words.

NEW ZEALAND – EGYPT, CYPRUS, PALESTINE, ETC.

The ordinary cable rates between New Zealand and Egypt, Cyprus, Palestine, Abyssinia, Italian Somaliland, Erythrea, Syria, Transjordania, and the Hedjaz were reduced from the 1st May, 1928, by amounts varying from 9d. to 11d. per word. To those of the places named which admit the deferred service the relative rate became automatically applicable. From the 1st May, 1928, the daily letter-telegram service from New Zealand was extended to include Egypt and Palestine, the rate being fixed at approximately a quarter of the ordinary rate.

CABLE TRAFFIC.

The number of cable messages, excluding Press, sent from New Zealand to international offices shows an increase of 5·02 per cent. on the number sent during 1927–28, and the number sent to Australian offices shows a decrease of 0·72 per cent. Messages received from international offices increased by 5·96 per cent., and messages from Australia decreased by 0·21 per cent.

The proportion of cable messages sent "via Pacific" was greater than that sent by the same route during the previous year, the percentages being 66·5 and 66·07 respectively.

The following table shows the total number of cable messages, excluding press, forwarded by each route during each of the past five years; also the percentage of such traffic falling to each.

Pacific.			Eastern.		
Year.	Messages.	Percentage of Total.	Year.	Messages.	Percentage of Total.
1924–25	185,680	65·3	1924–25	98,571	34·7
1925–26	204,586	65	1925–26	110,146	35
1926–27	204,051	64·29	1926–27	113,355	35·71
1927–28	210,662	66·07	1927–28	108,167	33·93
1928–29	217,033	66·5	1928–29	109,308	33·5

Press messages numbering 5,102 were sent via Pacific and 2,381 via Eastern, compared with 4,925 and 2,929 respectively during 1927–28. The number received via Pacific was 9,003 and via Eastern 3,708, compared with 7,731 and 3,266 respectively during the previous year.

The following table shows the total number of each class of message, excluding press, dealt with during 1928–29, as compared with the number dealt with during 1927–28:—

	1928–29.		1927–28.	
	Forwarded.	Received.	Forwarded.	Received.
Full-rate international cable messages	90,114	83,701	85,911	81,215
Deferred international cable messages	24,461	26,186	23,378	24,761
Daily letter-telegrams	35,215	27,353	33,921	24,622
Week-end telegrams	29,609	18,875	27,608	16,727
Australian cable messages	81,926	78,398	84,504	81,908
Australian night-letter telegrams	65,016	62,199	63,507	58,991
Totals	326,341	296,712	318,829	288,224

(For further statement of cable business see page 44.)

WIRELESS SERVICES.

INTERNATIONAL RADIO-TELEGRAPH CONVENTION, 1927.

An instrument of ratification of the International Radio-telegraph Convention held at Washington, U.S.A., in October, 1927, was signed by His Excellency the Governor-General on the 3rd September, 1928.

The Convention came into operation on the 1st January, 1929, the necessary alterations in operating frequencies and procedure at the various radio-stations, both ashore and afloat, being effected without inconvenience.

The New Zealand regulations for the different classes of radio services are at present under revision, in order to give full effect to the International Convention Regulations.

In consequence of the requirements of the Convention in the matter of minimizing radio transmissions on the frequency of 500 kilocycles (600 metres), which is now reserved for calling and for distress and other urgent signals, the frequency of 375 kilocycles (800 metres) has been assigned to the general traffic service between ships and the coast stations of New Zealand. As an alternative wave, the frequency of 425 kilocycles (705 metres) also is permitted.

The frequencies allotted under the Convention Regulations for the use of amateur experimentalists in New Zealand are as follow: 1,750–2,000 kilocycles (150–172 metres), and 3,500–4,000 kilocycles (75–85 metres). In addition, the use of the following bands is approved in special cases: 7,000–7,300 kilocycles (41–42·8 metres), 14,000–14,400 kilocycles (20·8–21·4 metres), 28,000–30,000 kilocycles (10–10·7 metres), and 56,000–60,000 kilocycles (5–5·35 metres).

Since the 1st January, candidates for mobile-station operator's certificates have been examined as prescribed by the Convention, the requirements of which necessitated the preparation of a new examination syllabus. By passing before the 31st December, 1931, an oral examination in the additional subjects, operators holding certificates issued under the provisions of the 1912 Convention may exchange them for the new certificates.

PATENT RIGHTS IN RESPECT OF RADIO APPARATUS.

The question has arisen from time to time during recent years whether the use of the apparatus installed for radio purposes in New Zealand has constituted an infringement of the patent rights registered in the Dominion in favour of Amalgamated Wireless (Australasia), Ltd. Although claims were made by Amalgamated Wireless (Australasia), Ltd., in respect of patents connected with wireless apparatus, the claims were not recognized until it appeared that they were actually valid in law. An agreement reached between the Commonwealth Government and the company established a precedent which could be regarded as setting a standard. Following protracted negotiations between the company and the New Zealand Government, an agreement was signed on the 30th October, 1928. The agreement provides for payment to the company of a percentage of the revenue accruing from a portion of the commercial traffic handled by New Zealand radio-stations. In return the company will make all its New Zealand patent rights available for wireless services owned and operated exclusively by the Government of New Zealand. The company has also been paid the sum of £10,852 in satisfaction of all past claims in respect of patent rights. Provision is made in the agreement for the use of the company's patent rights in broadcasting-apparatus in return for a payment of 3s. in respect of each radio receiving license. The agreement concluded is practically on the same basis as that made between the company and the Commonwealth Government.

NEW ZEALAND RADIO STATIONS: EQUIPMENT, OPERATION, ETC.

Awanui Radio.

Operation.—Owing to the displacement of long-wave high-power radio-working by the more economical high-frequency (short-wave) working on low power, this station, with its comparatively high-power plant, is now maintained solely for emergency purposes, no regular service being conducted. The staff has been correspondingly reduced, and the attendance curtailed to the hours of 9 a.m. to 5 p.m. daily, except Sundays and holidays.

Auckland Radio.

Operation.—In consequence of the curtailment of the services at Awanui Radio, Auckland Radio is now the sole station handling medium-wave ship traffic in northern New Zealand waters. Requests from ships for the operation of the radio beacon station at Cape Maria Van Diemen are now handled by Auckland Radio.

Masts.—Owing to deterioration, it has been necessary to replace the aerial masts at this station.

Remote Receiving-station.—The remote receiving system referred to in last year's report has been improved by the addition of a tuning-control. This apparatus is now established as part of the permanent plant of Auckland Radio and is in daily use.

Wellington Radio.

Erection of Separate Receiving-station.—The erection of a separate building to house the receiving equipment has been completed. It is the intention to operate the transmitting plant from the receiving-station by remote-control methods.

Awarua Radio.

Operation.—The service at this station has been characterized by smooth running throughout the year. The plant has given good service, and no stoppage or breakdown of any consequence has occurred.

Communication with the Antarctic.—As in the previous year, all traffic to and from the whaling-ships in the Antarctic was handled on frequencies between 8,500 and 10,000 kilocycles (wave-lengths between 30 and 35 metres). The amount of traffic exchanged with these ships during the year fell considerably owing to the vessels concerned having more modern radio apparatus which during certain hours of the day is capable of effecting two-way communication with the Norwegian head-quarters. The traffic handled by Awarua Radio was confined almost exclusively to private messages from New Zealand members of the various crews, and to messages to and from the ships while at their base at Stewart Island.

In addition to the whaling-ships, the presence in the Antarctic of the Byrd Expedition caused a heavy increase in the traffic handled by this station.

High-power Plant.—In consequence of the advances in short-wave signalling, the high-power spark transmitter at Awarua Radio now serves only as an emergency unit, and will shortly become obsolescent.

Traffic.—Notwithstanding the fact that last year's operations created a record for the station, the number of messages handled during the year just closed greatly exceeded previous annual figures. The number of words handled was more than 50,000 in excess of the previous record.

Apia Radio.

This station is controlled by the External Affairs Department, for which the Post and Telegraph Department acts in a consultative capacity.

Removal of Station.—It is proposed in the near future to move the Apia radio-station into the township of Apia, where power from the hydro-electric system will shortly be available. The change of location will also enable other economies to be effected.

Short-wave Working.—Consideration is now being given to the installation of a short-wave transmitter of higher power than that at present used, with a view to improving the already high-grade service between Samoa and New Zealand.

Rarotonga Radio.

This station is under the control of the Cook Islands Department, for which the Post and Telegraph Department acts in a consultative capacity.

Mast and Aerials.—The stability of the aerial system has been increased by the erection of supporting-stays.

Battery.—The battery has been fitted throughout with new plates, and is now in first-class order.

Low-power Stations.

The radio-station at Salailua, Samoa, was closed on the 4th October, 1928, owing to staff difficulties. In view of the small amount of traffic handled, it is probable that the station will not be reopened in the near future.

Owing to the death of the Native operator, the Fakaofo Station, in the Tokelau Islands, has been closed since the 9th September, 1928. Another Native has now been trained, and the station will be re-opened shortly.

With the foregoing exceptions, the low-power stations engaged in fixed point-to-point working have given almost uninterrupted service throughout the year. Although these stations are operated by comparatively inexperienced personnel, particularly in the outer Pacific islands where they are manned by Natives, a very satisfactory service has been maintained.

BRITISH OFFICIAL WIRELESS NEWS.

The British official press news transmitted from the radio-station at Rugby, England, continues to be received daily in New Zealand.

The news is transmitted simultaneously on short and long waves, thus affording distant stations an opportunity of receiving on one wave signals which through atmospheric or other causes might be lost on the other. By this means almost the whole of the news transmitted has been successfully received.

A noticeable improvement in reception was occasioned by the adoption during the last three months of the frequency of 16,840 kilocycles (wave-length of 17·81 metres), in place of 13,465 kilocycles (22·28 metres) previously used for the short-wave transmission at 11.30 p.m. New Zealand standard time. The total number of words received direct from Rugby during the year reached over 270,000.

RADIO COMMUNICATION BETWEEN NEW ZEALAND AND PACIFIC ISLANDS.

For a number of years past the only method of telegraphic communication between New Zealand, Samoa, and the Cook Islands has been by means of long-wave radio transmission via Apia and Rarotonga. The technical developments that have taken place in recent years in radio communication have enabled arrangements to be made to replace the costly long-wave system by modern short-wave apparatus. During the past year the whole of the traffic between New Zealand and Samoa has been handled on short-waves direct from Wellington to Apia by the use of experimental apparatus. As a result the heavy maintenance expenditure on the high-power spark stations has been very considerably reduced. Now that the technical features of the short-wave service have been fully investigated, commercial short-wave apparatus of standard and improved design and having a suitable reliability factor will be permanently installed at Wellington. The new transmitter will have an output of 1,000 watts, and this increased power will be of value in overcoming atmospheric and inductive interference, which under the existing low-power conditions occasionally results in periods of unreliable service. Certain Pacific island Administrations are giving consideration to the question of installing similar apparatus, and when the stations concerned are so equipped they will have reliable and direct communication with Wellington at any hour of the day or night.

EXPERIMENTS IN RADIO TELEPHONY FROM ORDINARY TELEPHONE-STATIONS.

The possibility of establishing a telephone service by radio between the mainland of New Zealand and adjacent islands which cannot be economically served by submarine cable has been the subject of investigation during the year. By means of an experimental radio-telephone plant connected with a city automatic-telephone-exchange system it was demonstrated that good-quality radio-telephone communication, involving simultaneous transmission and reception, was possible between any local telephone subscriber's station and a radio-station established on one of the islands. The experiments also illustrated that the necessary apparatus can be made automatic in its operation.

INSTALLATION ON SHIPS OF AUTOMATIC ALARM APPARATUS.

During the year automatic alarm apparatus for the detection of distress-signals was installed on the trans-Pacific cargo-steamers "Hauraki," "Waiotapu," and "Wairuna," and also on the Nelson ferry-steamers "Arahura" and "Ngaio."

SHIPS OPERATED BY WIRELESS SIGNALLERS: RESTRICTIONS UPON CLASSES OF MESSAGE HANDLED.

In view of the number of small vessels which are engaged entirely in the New Zealand coastal trade, and which in consequence never proceed far from land, the New Zealand Administration was, by special resolution of the International Radio-Telegraph Convention, 1927, conceded the right to issue to operators employed on such ships a special certificate (known as a wireless signaller's certificate) of a standard somewhat lower than that required for general international working. The condition attaching to such special concession is that ships manned by operators possessing this certificate participate only to a limited extent in the international service of public correspondence. With a view to enforcing this condition, the classes of message permitted to be handled by such ships have been restricted to the following: (1) matters of maritime urgency; (2) time of arrival of vessel; (3) berthing arrangements; (4) working of cargo; (5) notification of transfer of officers of ships' companies.

WEATHER REPORT AND FORECAST: ADOPTION OF NEW FORM.

A new form of weather forecast and report for broadcasting from the Wellington radio-station to ships at sea was brought into use on the 1st November, 1928. The new form of message, which gives more complete information regarding weather conditions throughout the Dominion, is also sent to the Radio Broadcasting Co. of New Zealand, Ltd., for dissemination from the Auckland, Christchurch, Dunedin, and Wellington broadcasting-stations. The broadcasting of such messages from the Auckland Radio-station has ceased, the service from the Wellington Radio-station and that from the stations of the Radio Broadcasting Co. being considered sufficient for ordinary purposes. The special weather-report messages forwarded to the radio-stations at Auckland and Wellington for the purpose of answering inquiries by ship stations were discontinued from the same date, the new form of message being sufficient to meet such inquiries. The charge for the new service is at the rate of £663 17s. 6d. per annum. The charge for the previous service was £66 13s. 4d. per annum. The increased charge is the result of a more comprehensive arrangement, and is a closer approximation to the actual cost of rendering the service. The discontinuance of the special weather reports to Radio-Wellington and Radio-Auckland for the purpose of answering inquiries of ships at sea has resulted in the abolition of the charge of £22 10s. per annum previously paid for the service.

BROADCASTING OF PRESS MESSAGES TO SHIPS AT SEA.

Press messages from the Wellington Radio-station to ships at sea previously broadcast at 10·15 p.m. daily are now broadcast at 10·30 p.m. The change was made in order to avoid clashing with other services.

POST-RADIOGRAM SERVICE FROM SHIPS AT SEA TO NEW ZEALAND COAST STATIONS.

A post-radiogram service was inaugurated on the 1st December, 1928, for the transmission of messages from ships at sea to New Zealand coast stations. The rate of 3d. per word is made up as follows: Ship-station charge, 1d.; coast-station charge, including postage, 2d. The minimum charge is 2s. 6d., equal to the cost of a message of ten words. Messages are posted to addressees immediately upon receipt at coast stations.

BROADCASTING.

On the 31st March, 1929, there was a total of 44,609 receiving licenses throughout the Dominion. Of this total, 18,016 licenses were held in the Wellington District, 15,008 in the Auckland District, 8,478 in Canterbury, and 3,107 in Otago. The increase in the number of licenses has enabled the Broadcasting Co. to extend in several directions the service given. It is understood that the company is contemplating further proposals for extending the scope of its stations, particularly in regard to the development of the relay system of broadcasting.

At the Wellington station, in addition to the usual afternoon, children's, and evening sessions, a programme of dinner music is provided between the hours of 6 and 7 p.m. At the Christchurch station, a Sunday afternoon session from 3 to 4.30 o'clock has been instituted. At the Dunedin station the silent nights were altered from Mondays and Thursdays to Mondays and Wednesdays. It is understood that the Radio Broadcasting Co. is considering the abolition of the silent night on Mondays at this station, thus bringing it into line with other centres.

Two low-power private broadcasting-stations were opened during the year. Station 2ZK was opened at Wanganui on the 20th June, 1928, and station 4ZO was opened at Dunedin on the 19th October, 1928.

Following a period of inactivity, private broadcasting-station 2ZM has been reopened at Gisborne.

While there is no reason to believe that much surreptitious use is made of radio receiving without payment of the prescribed license fees, the Department has been actively engaged throughout the year in detecting illicit sets and bringing offenders to book. The prosecutions for the year totalled 228, and the fines inflicted amounted in all to £191 4s. 6d.

The Department, in pursuance of its policy of ensuring to listeners the best service possible, continues to undertake an active campaign against the operation of sets which cause interference with reception by other licensees.

BROADCASTING AND COPYRIGHT.

The New Zealand legislation on the subject of copyright is mainly embodied in the New Zealand Copyright Act, 1913. Under this Act the holder of copyright has the sole right of communicating his work for publication.

Before the advent of broadcasting, copyright legislation was principally concerned with the protection against piracy of literary and artistic work as expressed in print, musical sheets, engravings, photographs, &c., and public performances of musical, dramatic, and similar classes of works by performers in the actual presence of their audiences. The service of broadcasting had not long been in vogue, however, before broadcasting bodies found themselves in conflict with the Performing Right Association, which claimed to control the public performance of practically all copyright matter suitable for that purpose. A provisional settlement upon a percentage basis of the revenue received from receiving licenses was made in 1926 between the Radio Broadcasting Co. of New Zealand, Ltd., and the Performing Right Association.

It has, however, become increasingly obvious that broadcasting is reaching the point of being regarded as a public utility, and should be as free as possible from harassing restrictions upon the matter broadcast. It may safely be said that the service is merely on the threshold of its full development, and the enjoyment by any one of absolute rights without regulation over the matter transmitted is fraught with the possibility of abuse, with a consequent hindrance to the full and useful operation of the service of broadcasting.

Uniformity of copyright laws as between nations is largely assured by an International Convention. Prior to 1928 New Zealand was not a member of the International Copyright Union, but in view of the peculiar problems which have arisen in recent years it was deemed advisable that New Zealand should be represented at the International Copyright Conference held at Rome in 1928 and be associated with any decisions reached.

At the Rome Conference the following article, having special relation to broadcasting, was adopted as part of the Convention :—

"(1) Authors of literary and artistic works shall enjoy the exclusive right to authorize the communication of their works to the public by radio communication.

"(2) The national legislation of the countries of the Union may regulate the conditions under which the right mentioned in the preceding paragraph shall be exercised, but the effect of those conditions will be strictly limited to the countries which have put them in force. Such conditions shall not in any case prejudice the moral rights (*droit moral*) of the author, nor the right which belongs to the author to obtain an equitable remuneration, which shall be fixed, failing agreement, by the competent authority."

Pursuant to this international agreement, the position in New Zealand has been met by the enactment of the Copyright (Temporary) Amendment Act, 1928. This measure empowers the Minister of Telegraphs to fix by agreement the proportion of listeners' fees (not, however, to exceed 7½ per cent.) to be paid to any authenticated association or body of persons representing the holders of copyright, or, if such agreement cannot be reached, or if the Minister is unable to satisfy himself regarding the existence of any representative body, then such percentage (not, however, exceeding 7½ per cent.) as is deemed to be just.

There is no desire to abrogate the sacred rights of property, but it is necessary to guard against the new utility of broadcasting being made the target of unreasonable demands by bodies or associations purporting to control copyright.

RADIO-DEALERS' LICENSES: AMENDED FEES.

Following upon the legal establishment of the claim of Amalgamated Wireless (Australasia), Ltd., in respect of patent rights in radio broadcasting-apparatus in New Zealand, and the consequent payment to the company of 3s. in respect of each radio receiving license, it has become necessary to amend the fees for radio-dealers' licenses, for the purpose of recouping the Department in some degree for the payments to be made to the holders of patent rights. The amended fees, which take effect from the 1st April, 1929, are as follows :—

	£	s.	d.
For a Class I license, being—			
(*a*) Licenses of dealers carrying on business in any of the four main cities—viz., Auckland, Christchurch, Dunedin, Wellington—and within ten miles by the nearest practicable route of the chief post-office at those cities	15	0	0
(*b*) (Portable) licenses of dealers without any fixed place of business who are not representatives of Class I (*a*) or Class II licensees	15	0	0
For a Class II license, being the licenses of dealers carrying on business in all other areas	7	10	0
For a Class III license, being (portable) licenses of dealers without any fixed place of business who are the representatives of Class I (*a*) or Class II licensees ..	2	0	0

AMATEUR RADIO RECEIVING-STATION LICENSE: SPECIAL LICENSE FEE FOR SETS INSTALLED IN PUBLIC PLACES.

The Radio Regulations have been amended to provide that the special receiving license fee of £5 shall apply only in cases in which a radio receiver is installed in a hall or other place which is licensed to charge for admission.

WIRELESS RECEIVING-STATION LICENSE: INSTALLATIONS IN HOSPITALS AND SIMILAR INSTITUTIONS.

It has been arranged to permit one license fee to cover all radio receiving-sets in any hospital, home, and similar institution which are installed for the benefit of patients or inmates.

AMATEUR RADIO RECEIVING-STATION LICENSES: FORM OF APPLICATION.

Applicants for amateur radio receiving-station licenses are no longer required to furnish information regarding the date and place of birth.

TELEPHONE-EXCHANGE SERVICES.

PUBLICATION OF LISTS OF SUBSCRIBERS TO TELEPHONE EXCHANGES.

By Order in Council dated the 6th August, 1928, an addition was made to the Telephone Regulations providing that, except with the authority of the Minister of Telegraphs, no person shall—(*a*) Publish any list of subscribers to the telephone with the appropriate telephone numbers; or (*b*) supply or use any cover or other device which has the effect of obscuring any advertisement in or on any official telephone directory or other official publication of the Department. Any person committing a breach of this regulation is liable to a fine not exceeding £50.

COMMERCE TRAIN: TELEPHONE FACILITIES.

Telephone facilities were provided on the "commerce train" which traversed part of the North Island in October, 1928. A telephone-office was opened for business on the train, and this was connected with the departmental system at the various stopping-places. The Railway Department, at whose request the facilities were given, bore the cost of establishing the service. It also provided suitable accommodation and an officer to conduct the business.

WEATHER FORECASTS: FURNISHING OF INFORMATION FREE OF CHARGE.

Offices which receive the daily weather-forecast telegram are now permitted to furnish meteorological information free of charge to telephone-exchange subscribers or private-telephone-line owners making occasional inquiries on the subject. The regulation charge now applies only in those cases in which information regarding weather conditions is furnished regularly.

INSTALLATION OF MISCELLANEOUS TELEPHONE EQUIPMENT.

In regard to the installation charge and annual rate set out in the Telephone Regulations in respect of battery-gong, annunciator-drop, and battery, it was represented to the Department that gongs are unsuitable for some establishments, and that subscribers have recourse to the use of sirens, horns, &c. As the Department is not in a position to supply the various devices required to meet special conditions, it has been decided to provide for the supply and maintenance of an annunciator-drop only and to permit subscribers to make their own arrangements, subject to departmental approval, for the supply and maintenance of the particular device and power required.

DEVELOPMENT OF TELEPHONE-EXCHANGE SYSTEMS.

The steady expansion and growth of the local-exchange systems which characterized telephone development in New Zealand during recent years has been continued, the number of new connections (main stations) being 12,119, compared with an average of 12,112 per year during the preceding five years. Taking into consideration telephones of all kinds relinquished as well as new telephone stations connected, 8,196 additional telephones were put into service, making the total number at the end of the year 147,936. If to this number are added the telephones (4,605) connected with toll stations and non-departmental exchanges, the number of telephones in service on the 31st March, 1929, was 152,541, which represents 10·3 telephones for every 100 of the population, a telephone density exceeded only by the United States of America and Canada.

One of the factors contributing to the steady progress of the local-exchange systems during the year was the development which took place in intercommunicating systems in business houses, the increase for the year in that and other classes of extension stations being 7·7 per cent., as compared with an increase of 4·9 per cent. in subscribers' main stations. The local intercommunicating system in most popular demand during the year was the key-box interphone type, large numbers of which were installed in business establishments where the requirements in intercommunicating facilities did not exceed twenty positions. Next in order of demand were private branch exchanges of the full automatic type with capacities varying from twenty intercommunicating stations upwards.

Local intercommunicating systems are likely to become an integral part of the telephone facilities of all modern business establishments in future, and the intensive development that will probably take place in that respect during the next few years will more than offset any slackening in the rate of expansion in main stations or trunk lines.

The cost of the year's operations in extending telephone-exchange systems throughout the Dominion for the purpose of connecting new subscribers and making provision for future growth amounted to £689,073. The year's operations in this respect included the opening of new exchanges at Wellsford, Towai, Waimamaku, Mangapai, Kirikopuni, and Tokanui; the installation at thirty-seven exchanges of additional switching equipment for 3,940 exclusive lines and 200 party lines; the establishment of sixty-six new public call offices (coin-in-the-slot telephones); the laying of 2,772 chains

of underground ducts and 10,160 chains of underground cable containing 39,381 miles of wire; the erection of 5,260 chains of overhead cable containing 5,918 miles of wire; and the erection of 747 miles of pole-line and 7,333 miles of open wire.

In addition, £51,568 was expended in renewing or replacing plant and equipment which had become worn out, inadequate, or obsolete.

EXTENSIONS TO CABLING AND SWITCHING SYSTEMS.

The table below shows the exchanges at which extensions to the cabling and switching systems were completed during the year, as well as particulars of the extensions made.

Name of Exchange.	Additions to Cabling Plant.				Additions to Switching Equipment.		
	Underground Ducts added.	Underground Cable added.	Overhead Cable added.	Miles of Cable Wire involved.	Exclusive Line Equipment.	Party-line Equipment.	
						Two-party.	Four-party.
Auckland Engineering District—	Chains.	Chains.	Chains.		Units.	Units.	Units.
Aria	..	60	..	37	..	..	..
Auckland	461½	1,654	302½	8,751	..	..	..
Avondale	..	14	..	35	..	..	..
Cambridge	..	½	..	¼	..	..	..
Clevedon	..	4	..	3	..	..	..
Devonport	..	..	..	..	40	100	..
Hamilton	..	308	128	295	100	100	..
Helensville	..	54	..	92	..	..	..
Henderson	..	107¾	237	449	..	..	..
Herekino	..	5¾	..	7	..	..	..
Hikurangi	..	56	..	83	..	..	..
Howick	..	..	..	..	50	..	..
Manurewa	..	12	..	6	..	..	..
Matamata	..	..	2	15	..	..	..
Ngaruawahia	..	10	..	6	..	..	..
Ngatea	..	11½	..	16	..	..	..
Ohaupo	..	216	..	230	..	..	..
Ohura	..	42½	..	28	..	..	..
Ongarue	..	5	..	3	..	..	..
Otahuhu	..	..	2	½	..	..	..
Otorohanga	..	274½	..	313	..	..	..
Paeroa	..	..	5	3	..	..	..
Papakura	..	4	..	11	..	..	..
Papatoetoe	..	41¾	..	28	100	..	..
Piopio	..	114	..	71	..	..	..
Putaruru	..	..	..	..	75	..	..
Tauranga	..	..	..	..	100	..	..
Te Akau	..	2	..	1	..	..	..
Te Kuiti	..	..	179	111	..	..	..
Te Puke	..	2	..	2	100	..	..
Towai	..	½	..	¼	..	..	..
Turua	..	3½	..	2	..	..	..
Waipu	..	3	..	1	..	..	..
Waitakaruru	..	..	50¼	1	..	..	..
Waiuku	..	29	2	34	90	..	..
Wellsford	..	11¼	..	12	..	..	..
Whakatane	..	470	..	1,040	..	..	..
Whangarei	..	2½	..	2	50	..	..
Wellington Engineering District—							
Blenheim	..	47½	321½	748	100	..	..
Collingwood	..	13½	..	25	..	..	..
Feilding	..	3	..	3	140	..	..
Foxton	..	..	1½	1	..	..	..
Gisborne	..	202	233	2,154	40	..	..
Hastings	..	10½	32	24	90	..	..
Hawera	160	67½	72	525	..	..	..
Kaponga	..	1½	..	5	100	..	..
Kelburn	..	..	..	..	400	..	..
Lower Hutt	37	72	58	200	200	..	..
Marton	..	79	61	620	..	..	..
Masterton	..	..	..	..	200	..	..
Miramar	..	..	..	..	200	..	..
Napier	..	..	59½	62	..	..	..
Nelson	..	..	..	..	450	..	..
New Plymouth	..	..	70½	103	..	..	..
Nuhaka	..	4½	92	86	..	..	..
Okato	..	..	..	..	10	..	..
Otane	..	58	..	72	..	..	..
Palmerston North	..	17¼	162	705	200	..	..
Plimmerton	..	..	..	..	20	..	..
Rai Valley	..	..	..	..	15	..	..
Richmond	..	..	..	..	50	..	..
Taradale	..	5½	58	55	..	..	..
Tolaga Bay	..	109½	..	130	..	..	..
Waipukurau	..	1	..	7	..	..	..
Wanganui	..	8	110	149	..	..	..
Waverley	..	5¾	..	20	..	..	..
Wellington	279½	1,643½	101½	8,550	..	..	..
Wellington South	..	..	..	..	100	..	..

EXTENSIONS TO CABLING AND SWITCHING SYSTEMS—*continued.*

Name of Exchange.	Additions to Cabling Plant.				Additions to Switching Equipment.		
	Underground Ducts added.	Underground Cable added.	Overhead Cable added.	Miles of Cable Wire involved.	Exclusive Line Equipment.	Party-line Equipment.	
						Two-party.	Four-party.
Canterbury Engineering District—	Chains.	Chains.	Chains.		Units.	Units.	Units.
Amberley	..	20½	..	25	..	..	..
Ashburton	..	17	..	10	..	..	..
Cheviot	..	7	..	4	..	..	..
Christchurch	606	1,725½	1,928¼	10,032	80	..	..
Culverden	..	..	..	..	20	..	..
Cust	..	..	..	..	50	..	..
Dunsandel	..	..	..	..	20	..	..
Greymouth	..	124½	237	508	..	..	..
Hinds	..	1½	..	1	..	..	..
Kaiapoi	..	112	23½	173	..	..	..
Leeston	..	104	141	295	..	..	..
Little River	..	3½	..	2	..	..	..
Mayfield	..	77½	..	48	..	..	..
Methven	..	271	..	176	..	..	..
Temuka	..	51½	48	288	..	..	..
Timaru	..	216	298	2,375	..	..	..
Springburn	..	..	..	..	20	..	..
Waimate	97	10	184	221	..	..	..
Otago Engineering District—							
Balclutha	..	..	..	..	100	..	..
Bluff	..	41	..	25	..	..	..
Dunedin	214	190½	20	625	..	..	..
Dunedin South	..	..	..	..	400	..	..
Invercargill	917	1,113	40	4,340	40	..	..
Kurow	..	22	..	25	50	..	..
Mosgiel	..	39	..	24	..	..	..
Oamaru	..	..	..	..	100	..	..
Pembroke	..	13½	..	8	20	..	..
Port Chalmers	..	2½	..	1	..	..	..
Queenstown	..	10	..	6	..	..	..
Riversdale	..	11	..	6	..	..	..
Thornbury	..	11½	..	7	20	..	..
Tokanui	..	23½	..	15	..	..	..
Waikaia	..	2	..	2	..	..	..
Winton	..	69½	..	86	..	..	..
Woodlands	..	1	..	½	..	..	..
Adjustments—							
Fractions of miles of wire not accounted for	..	..	..	38½	..	..	..
Totals	2,772	10,160	5,260	45,300	3,940	200	..

EXTENSIONS NOT COMPLETED DURING YEAR.

In addition to the extensions enumerated in the foregoing table, a number of extensions to the switching and cabling portions of local telephone-exchange systems were commenced but not completed during the year. These are as follow:—

Auckland Central Exchange: Extension of switching equipment by 3,100 lines; additions to inter-office trunking equipment.
Mount Eden: Extension of switching equipment by 900 lines.
Remuera: Extension of switching equipment by 900 lines.
Onehunga: Extension of switching equipment by 200 lines.
Ponsonby: Extension of switching equipment by 600 exclusive lines and 100 two-party lines.
Hawera: Extension of switching equipment by 100 exclusive lines and the installation of an underground-cable system.
Courtenay Place: Extension of switching equipment by 1,200 exclusive lines, 100 two-party lines, and 200 P.B.X. lines.
Timaru: Extensions to cabling system.
Waimate: Extensions to cabling system.
Oamaru: Extension of switching equipment by 100 exclusive and 10 rural lines.
South Dunedin: Extension of switching equipment by 400 lines.
Invercargill: Installation of underground-cable system.
Kaiapoi: Extensions to cabling system

OPEN-WIRE SYSTEMS RECONSTRUCTED.

In consequence of cabling operations, and in order to improve the system of overhead distribution, reconstructions of the open-wire systems were carried out at the undermentioned exchanges:—

Auckland Engineering District: Aria, Hamilton, Henderson, Huntly, Kumeu, Piopio, Taumarunui.
Wellington Engineering District: Hastings, Hawera, Marton, Picton, Taihape, Tikitiki.
Canterbury Engineering District: Kaiapoi.
Otago Engineering District: Dunedin, Gore, Port Chalmers, Invercargill, Mosgiel, Riverton.

MISCELLANEOUS IMPROVEMENTS.

Other improvements to the telephone-exchange equipment during the year included the following:—

The installation of new secondary batteries at the Remuera and Ponsonby Automatic Exchanges.

The installation of main distributing-frame equipment at Ohaupo, Te Kauwhata, and Piopio.

The replacement in the Auckland and Gisborne Districts of a large number of privately-owned earth-working lines by departmentally-owned metallic circuits.

The installation of additional trunking equipment at the Napier Automatic Exchange.

A thorough overhaul of the switching equipment at Feilding, and the provision of additional facilities for the handling of toll traffic.

The installation of answering-jacks on the New Plymouth branching multiple switchboard for the purpose of facilitating the work of the operators.

The replacement of the switching equipment at Patea by switchboards of a more modern type.

The installation of a pole-changer at Greytown Exchange for the purpose of improving the ringing facilities at that place.

The installation at Lower Hutt of a 900-line branching multiple switchboard as a temporary measure pending the conversion of that exchange to automatic operation.

The installation at Wellington Central Exchange of special final-switch equipment to provide for direct incalling to some of the larger private automatic exchanges; also the installation of additional equipment for relieving congestion on the regular private-branch section of the exchange switching equipment.

The overhaul of the switching equipment at the Blenheim Automatic Exchange, the rearrangement of the jack and lamp field, and the installation of a third toll position.

The installation of a frequency-converter ringing-set at Blenheim, and a motor-driven ringing-set at Picton.

The installation at Timaru and Waimate of new distributing-frames.

The extension of the main distributing-frames at Greymouth and Temuka.

The installation at the Dunedin Central Automatic Exchange of an automatically operated crude-oil burner for heating purposes in connection with the air-conditioning plant.

EXTENSION STATIONS PER 100 MAIN STATIONS.

Appended hereunder are two interesting tables showing the number of extension telephones per 100 main stations (business and residential respectively) at some of the principal exchanges, as well as the average figures at all exchanges, on the 30th September, 1928. Extension-telephone service in *business* premises is most highly developed at Wellington, Christchurch, and Napier, the smallest development being at Whangarei, Masterton, Gisborne, Palmerston North, Nelson, New Plymouth, Timaru, and Hastings, at all of which places the figures are below the average for the Dominion. Extension-telephone development in *residential* premises is comparatively low generally, the average figures for the Dominion being only three extensions per 100 main stations, the highest development being at Hastings, Christchurch, Masterton, Timaru, Auckland, Gisborne, Napier, and Wellington. The fact that only one out of every thirty-three residential subscribers has an extension telephone seems to indicate that subscribers generally, and more particularly those who occupy two-storied houses or houses with a comparatively large number of rooms, do not appreciate the fact that an additional telephone can be obtained for £1 10s. per annum.

TABLES SHOWING THE NUMBER OF EXTENSION TELEPHONES PER 100 BUSINESS AND RESIDENTIAL STATIONS RESPECTIVELY.

Exchange.	Number of Extension Telephones per 100 (Main) *Business* Stations.			Exchange.	Number of Extension Telephones per 100 (Main) *Residential* Stations.		
	Number of Business Stations.	Number of Extension Telephones in *Business* Premises.	Number of Extension Telephones per 100 Business Stations.		Number of Residential Stations.	Number of Extension Telephones in *Residential* Premises.	Number of Extension Telephones per 100 Residential Stations.
Wellington ..	4,953	4,635	94	Hastings ..	1,592	117	7
Christchurch ..	3,215	2,628	82	Christchurch ..	5,234	311	6
Napier	736	601	82	Masterton ..	1,227	77	6
Dunedin ..	2,172	1,597	74	Timaru	1,010	61	6
Auckland ..	5,955	4,026	68	Auckland ..	7,731	381	5
Invercargill ..	835	569	68	Gisborne ..	1,626	80	5
Hamilton ..	731	394	54	Napier	1,239	56	5
Wanganui ..	1,000	542	54	Wellington ..	7,885	359	5
Hastings ..	546	260	48	Dunedin ..	3,963	170	4
Timaru	636	301	47	Palmerston North	1,569	56	4
New Plymouth ..	573	260	45	Wanganui ..	2,050	78	4
Nelson	438	190	43	Hamilton ..	1,644	43	3
Palmerston North	951	406	43	Invercargill ..	1,211	39	3
Gisborne ..	668	273	41	Nelson	877	26	3
Masterton ..	445	179	40	New Plymouth ..	1,043	16	2
Whangarei ..	368	127	35	Whangarei ..	847	5	1
Other exchanges ..	13,440	2,884	21	Other exchanges ..	40,296	424	1
Dominion figures ..	37,662	19,872	53	Dominion figures..	81,044	2,299	3

TELEPHONE STATISTICS.

The steady growth of the telephone system is exemplified in the following table, which shows annually since 1920 the number of exchanges, the total wire-mileage, the revenue, and the total number of telephone-stations, together with the number of telephones for each 1,000 of population of the Dominion :—

Year.	Number of Exchanges.	Miles of Wire.	Revenue.	Number of Telephone-stations.	
				Total.	Per 1,000 Population.
			£		
1920	291	177,509	419,318	80,723	65·26
1921	296	192,027	533,535	88,439	69·80
1922	301	207,529	614,367	94,683	72·78
1923	320	229,882	595,967	107,036	80·78
1924	327	269,421	830,470	111,441	82·67
1925	340	331,453	867,218	120,097*	87·09
1926	341	402,433	980,281	130,186*	94·40
1927	342	440,253	995,071	137,307*	95·48
1928	344	463,356	1,057,177	144,552*	99·40
1929	351	495,470	1,135,795	152,541*	103·72

* Includes approximately 5,000 non-exchange stations.

The manner in which the exchanges are classified, the number of exchanges in each class, and the number of stations connected therewith on the 31st March, 1929, are shown in the following table :—

——	Class I. Exchanges or Networks observing Continuous Attendance and having more than 3,500 Paying Subscribers' Main Stations connected therewith.	Class II. Exchanges or Networks observing Continuous Attendance and having 1,001 to 3,500 Paying Subscribers' Main Stations connected therewith.	Class III. Exchanges or Networks observing Continuous Attendance and having 201 to 1,000 Paying Subscribers' Main Stations connected therewith.	Class IV. Exchanges or Networks where the Attendance is restricted.	Dominion Totals.
Subscribers' Main stations ..	41,581	24,019	27,962	26,712	120,274
Toll and service stations ..	663	494	933	1,855	3,945
Public call offices	445	105	57	5	612
Extension stations—					
P.B.X.	7,177	1,673	575	81	9,506
Ordinary	7,523	3,244	1,993	839	13,599
Telephone-stations : Class totals..	57,389	29,535	31,520	29,492	147,936
Number of exchanges in each class	4	12	59	276	351
Percentage of new connections made with each class of exchange during the year	38	15	19	28	..

In addition to the stations shown in the preceding table there were 4,181 stations connected by private telephone-lines directly or indirectly with departmental toll stations, and 424 stations not connected in any way with the departmental system, making a grand total of 152,541 telephone-stations on the 31st March, 1929.

The following table shows the number of telephone-stations in each engineering district on the 31st March, 1928 and 1929, respectively, and the percentage of increase in each case :—

Engineering District.	Number of Telephone Stations on 31st March,						Percentage of Increase.
	1928.			1929.			
	Main Stations.	Extension Stations.	Total.	Main Stations.	Extension Stations.	Total.	
Auckland	35,584	5,472	41,056	37,631	6,046	43,677	6·4
Wellington	49,286	9,315	58,601	51,690	10,176	61,866	5·6
Canterbury	17,884	3,760	21,644	18,724	4,045	22,769	5·2
Otago	15,751	2,688	18,439	16,786	2,838	19,624	6·4
Totals ..	118,505	21,235	139,740	124,831	23,105	147,936	5·9

The number of telephone stations (main and extension) connected with each of the fourteen principal exchanges on the 31st March, 1929, was—Auckland, 18,860; Wellington, 18,539; Christchurch, 11,811; Dunedin, 8,179; Wanganui, 3,757; Palmerston North, 3,133; Hamilton, 2,901; Invercargill, 2,763; Gisborne, 2,706; Napier, 2,697; Hastings, 2,589; Timaru, 2,045; New Plymouth, 1,987; Masterton, 1,967.

The number of party and rural lines on the 31st March, 1929, was 10,266 to which were connected 40,583 main stations—an increase of 758 and 3,204 respectively on the figures for the previous year.

The following table shows, for each class of exchange, the respective percentages of business and residential stations, also the respective percentages of individual- and party-line stations, on the 31st March, 1929:—

Percentage of	Class I Exchanges.	Class II Exchanges.	Class III Exchanges.	Class IV Exchanges.	Dominion Percentages.
Business stations	39	33	28	21	30
Residential stations	61	67	72	79	70
	100	100	100	100	100
Individual-line stations	89	75	55	37	64
Party- and rural-line stations ..	11	25	45	63	36
	100	100	100	100	100

The length of various items of telephone-exchange plant in existence on the 31st March, 1928, and 1929, respectively, was as follows:—

	Pole-line.	Single Duct Line.	Cable.		Wire.			
			Underground.	Aerial.	In Underground Cable.	In Aerial Cable.	Open Aerial.	Under all Headings.
	Miles.	Chains.	Chains.	Chains.	Miles.	Miles.	Miles.	Miles.
In existence on 31st March, 1928	12,947	35,252	71,225	48,440	308,357	65,633	89,366	463,356
Erected during year	746	2,772	10,160	5,260	39,381	5,919	7,332	52,632
Dismantled during year	35	21	1,775	6,633	10,134	9,379	1,005	20,518
In existence on 31st March, 1929	13,658	38,003	79,610	47,067	337,604	62,173	95,693*	495,470

* Includes 122 miles of earth-working circuit.

The percentages of the total wire-mileage in underground and aerial cables and open aerial wire respectively for the year ended 31st March, 1929, are as under:—

Telephone-exchange wire in underground cables .. .. .. 68 per cent.
Telephone-exchange wire in aerial cables .. .. .. 13 „
Telephone-exchange open aerial wire .. .. 19 „

WORLD TELEPHONE STATISTICS.

The official figures for world telephone development (compiled on 31st March, 1927) show that in the matter of telephone density America led the world, with 15·3 telephones per 100 of population; Canada was second, with 12·6 telephones; while New Zealand was third, with 9·5 telephones. Australia and Great Britain occupied sixth and tenth places respectively, with 6·7 and 3·3 telephones per 100 of population. The number of telephones per 100 of population of the world was 1·6.

AUTOMATIC-TELEPHONE EXCHANGES.

Specifications have been prepared and tenders called for complete automatic exchanges for installation at Gisborne, Whangarei, and Marton. Tenders have been received from a number of firms, and these are now under consideration. They disclose some very interesting technical developments, and represent the very latest automatic-telephone engineering practice.

Christchurch Telephone Exchange: Conversion to Automatic Operation.

The Christchurch Telephone Exchange, to which over 11,000 stations are connected, is one of the largest in New Zealand to be converted to full automatic operation, and will increase by approximately 14 per cent. the number of automatic telephones in use in the Dominion. But for some unfortunate delays in the delivery of the equipment, the conversion to automatic working would have taken place many months ago. Notwithstanding the delays, however, the actual time occupied in the work of installation compares favourably with that for similar exchanges of like capacity in this

and other countries where machine switching methods have been introduced. With practically all the essential equipment now in sight, an intensive effort is being made to hasten completion of the work, additional skilled labour from other parts of the Dominion having been concentrated at Christchurch to assist in the construction of the internal switching system, as well as in the installation of subscribers' telephones and subsidiary apparatus. If the outstanding items of equipment for subscribers' stations come to hand according to schedule time, as is confidently expected, the whole of the Christchurch metropolitan area will be completed and converted to automatic working in a few months.

One indirect advantage arising from the delay that has occurred is that the Christchurch area, being the last of the large centres to receive full automatic treatment, will have the benefit of a number of the very latest developments in machine switching equipment.

As soon as the cut-over takes place attention will be directed to the installation of a further 2,000-line extension, so that no unnecessary delay will arise in meeting the growth that is expected to follow the introduction of automatic methods.

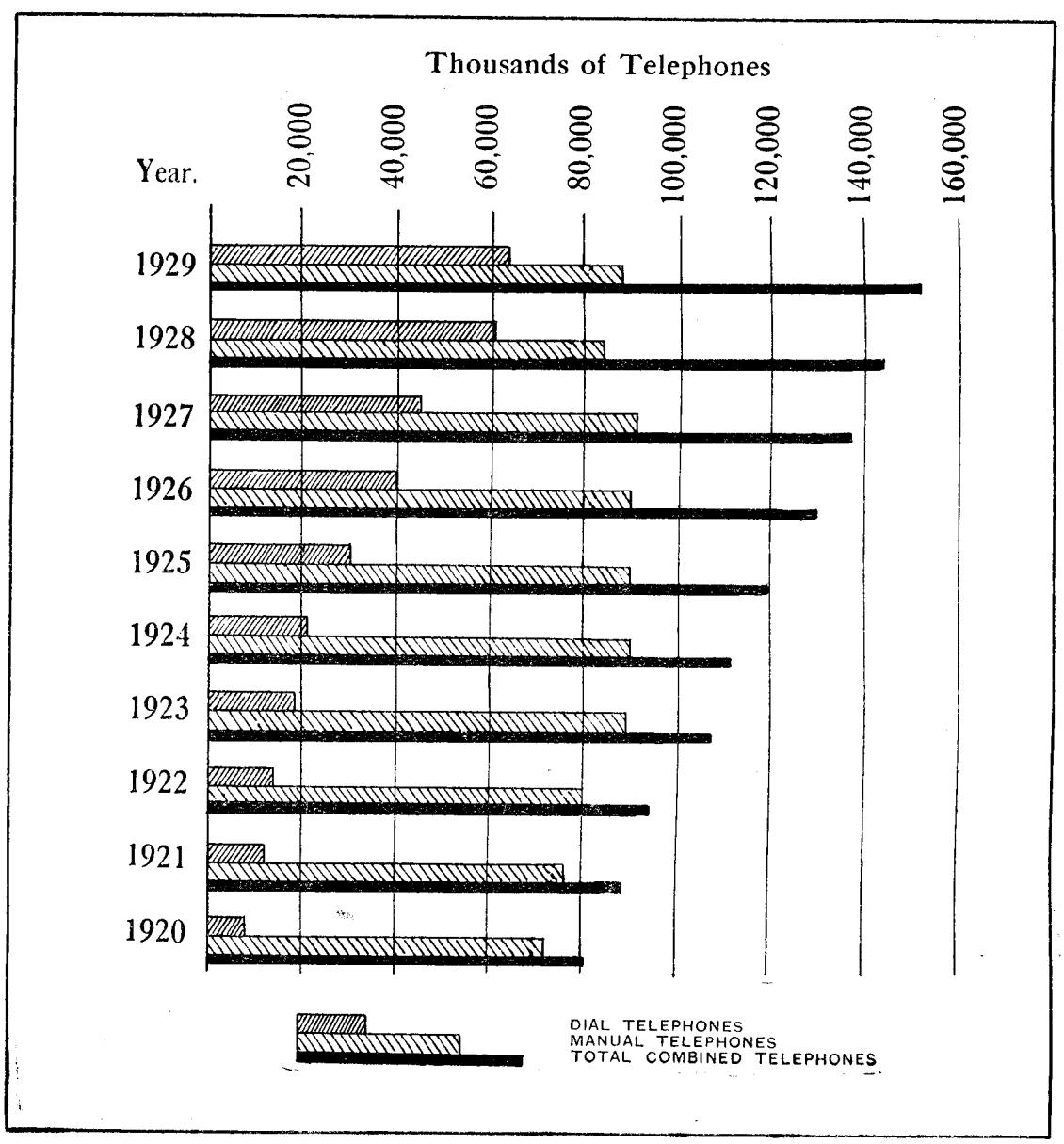
Automatic Switching Equipment for Small Telephone Communities.

During the year experimental work was carried out in the Department's laboratory on a small type of automatic exchange system. The equipment was obtained primarily for experimental purposes with a view to testing its suitability in actual practice for the special conditions met with in rural exchanges in New Zealand where twenty-four-hour service under manual conditions would be economically prohibitive. The experimental work has now been completed, and arrangements are being made to install this system in a suitable rural locality preparatory to its more general adoption should it be found to meet the somewhat exacting conditions encountered in such localities.

Automatic Telephones in New Zealand.

Of the total number of telephones in use on the 31st March, 1929, about 42 per cent. were automatic (dial) telephones, 5 per cent. common battery, and 53 per cent. magneto instruments. With its large quota of automatic telephones, New Zealand probably possesses a greater percentage of automatically operated subscribers' stations than any other country in the world. An interesting graph hereunder depicts the steady increase in the number of dial telephones in New Zealand since 1920.

GRAPH SHOWING PROPORTION OF DIAL AND MANUAL TELEPHONES IN NEW ZEALAND FROM 1920 ONWARDS.



Return showing the Equipment installed and the Equipment in Use at Automatic Exchanges on 31st March, 1929.

Name of Exchange or Branch Exchange.	Existing Capacity of Exchange Equipment installed.					Number of Units of Equipment in Use.					Number of Main Stations in Existence irrespective of the Number of Units of Equipment in Use.								Number of Extension Stations connected.		Total Number of Telephone Stations connected.	
	Automatic Lines.				Magneto Lines.	Automatic Lines.				Magneto Lines.	Automatic Stations.					Magneto Stations.	Totals.					
	One-party.	Two-party.	Four-party.	Multi-party.		One-party.	Two-party.	Four-party.	Multi-party.		One-party.	Two-party.	Three-party.	Four-party.	Multi-party.		Auto Stations.	Magneto Sstions.	Auto.	Magneto.	Auto.	Magneto.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Auckland Exchange Area—																						
Wellesley Street	7,200	..	100	..	..	6,150	..	100	..	..	6,150	90	54	148	..	..	6,442	4	2,829	..	9,271	4
Remuera	1,800	100	100	..	..	1,894	71	88	..	..	1,894	142	66	264	..	..	2,366	..	210	..	2,576	..
Mount Eden	2,200	..	100	..	..	2,046	..	99	..	..	2,046	26	72	248	..	..	2,392	..	137	..	2,529	..
Ponsonby	1,560	..	100	..	..	1,345	..	91	..	..	1,345	54	90	136	..	..	1,625	..	122	..	1,747	..
Onehunga	400	..	..	..	..	400	..	..	..	..	400	..	..	..	..	..	400	..	50	..	450	..
Devonport	600	100	..	..	..	576	5	..	..	..	576	10	..	..	..	..	586	..	33	..	619	..
Takapuna	400	..	..	..	..	352	..	..	..	..	352	..	..	..	..	..	352	..	27	..	379	..
Christchurch Exchange Area—																						
Hereford Street*	1,500	..	..	..	..	1,491	..	..	..	..	1,491	..	..	..	..	..	1,491	..	238	..	1,729	..
St. Albans*	500	..	..	..	..	487	..	..	..	..	487	..	..	..	..	..	487	..	70	..	557	..
Sydenham*	300	..	..	..	..	289	..	..	..	..	289	..	..	..	..	..	289	..	37	..	326	..
Dunedin Exchange Area—																						
Dowling Street	4,000	100	100	..	100	3,559	39	37	..	31	3,559	78	86	36	..	111	3,759	111	1,590	44	5,349	155
Roslyn	1,000	..	..	..	..	890	..	..	..	..	890	..	..	..	..	..	890	..	62	..	952	..
South Dunedin	1,800	100	..	..	..	1,373	95	..	..	..	1,433	70	..	..	..	..	1,503	..	109	..	1,612	..
Wellington Exchange Area—																						
Courtenay Place	3,800	100	100	..	..	3,738	93	25	..	..	3,754	184	18	12	..	..	3,968	..	1,115	..	5,083	..
Wellington South	2,100	100	100	..	..	2,012	96	93	..	..	2,022	268	111	32	..	..	2,433	..	178	..	2,611	..
Kelburn	1,600	..	100	..	..	1,293	..	55	..	..	1,298	64	36	24	..	..	1,422	..	90	..	1,512	..
Khandallah	200	100	100	..	..	194	54	68	..	..	229	60	69	136	..	..	494	..	11	..	505	..
Stout Street	7,400	100	100	..	..	4,381	47	87	..	..	4,392	116	84	148	..	..	4,740	..	3,586	..	8,326	..
Miramar	400	..	..	..	..	398	..	..	..	..	398	..	..	..	..	..	398	..	11	..	409	..
Single-office exchanges—																						
Blenheim	800	..	100	..	50	734	..	64	..	32	734	82	24	60	..	135	900	135	106	6	1,006	141
Dannevirke	700	..	100	50	50	590	..	27	43	..	590	34	9	20	281	..	934	..	124	..	1,058	..
Hamilton	1,700	100	100	..	100	1,628	1	100	..	87	1,628	84	57	160	..	510	1,929	510	394	58	2,323	568
Hawera	900	..	100	50	..	760	..	37	24	1	760	34	18	56	177	9	1,045	9	157	..	1,202	9
Masterton	1,200	100	100	..	220	997	90	99	..	137	1,089	154	42	24	..	390	1,309	390	257	8	1,566	398
Napier	2,200	100	..	..	100	1,841	39	..	..	28	1,858	44	..	..	..	98	1,902	98	678	4	2,580	102
Oamaru	800	..	100	..	20	731	..	94	..	8	794	18	36	40	..	59	888	59	116	4	1,004	63
Palmerston North	2,200	..	100	..	110	2,176	..	92	..	35	2,182	68	36	160	..	180	2,446	180	343	131	2,789	311
Stratford	500	..	100	50	..	425	..	21	23	..	425	22	18	16	184	..	665	..	70	..	735	..
Wanganui	2,500	200	100	..	100	2,318	63	78	..	63	2,318	146	48	208	..	358	2,720	358	618	14	3,338	372
Totals	52,260	1,300	1,900	150	850	45,068	693	1,345	90	422	45,383	1,848	974	1,928	642	1,850	50,775	1,854	13,368	269	64,143	2,123

* Auxiliary apparatus.

Columns 8 and 9 include a number of two and four party lines which are being used for other than two and four party stations.

PUBLIC CALL OFFICES (COIN-IN-THE-SLOT TELEPHONES).

The public call office telephone (familiarly known as the "slot telephone") continues to prove remunerative in business and densely populated residential areas.

During the year 66 additional public call offices were provided, bringing the total number in use up to 612.

CARRIER-CURRENT TELEPHONE SYSTEMS.

One of the most interesting developments of modern telephone practice is that known as the "carrier-current" system by which existing channels of communication can be multiplied without increasing the wire plant. The method consists in the application of high-frequency currents to existing telephone-lines, thereby increasing the number of telephone speech channels without increasing the number of wires carried upon the pole-lines. This advance in the telephone art has been made possible largely by the invention and development of two devices now indispensable to the communication engineer—the thermionic valve and the electrical filter.

In an ordinary telephone circuit, each frequency component in the voice of the speaker is transmitted by an electric current of the same frequency, but generally the electrical equipment is not called upon to transmit frequencies above 3,000 cycles per second. In carrier-current operation the voice-frequency currents are caused to modulate a high-frequency current, which thus serves as a carrier for the message. In this way an additional telephone channel is obtained using frequencies entirely above those transmitted along the ordinary voice-frequency channel. By using other high-frequency carriers several additional conversations can take place simultaneously over the one pair of wires. Each channel occupies a certain range of frequencies included in a band extending approximately from 4,000 to 30,000 cycles per second. The words of one speaker may, for example, be conveyed by a channel employing frequencies of from, say, 23,500 to 26,000 cycles per second. At the receiving end the various incoming groups of high-frequency currents are separated by electrical filters. Then by demodulation the original voice-frequency currents are reproduced and transmitted over voice-frequency circuits, such as subscribers' lines, the speech transmitted over each channel thus reaching the proper listener.

This is one of the subjects that received attention by the Chief Telegraph Engineer during his trip abroad in 1927. In 1928 it was decided that the carrier-current system should be adopted by the Department for the purpose of improving its long-distance telephone system and for increasing the number of telephone channels between centres where the use of the system would prove economical. Accordingly, in July of that year a contract was let for the supply of five carrier-current telephone systems, to be installed in various parts of the Dominion, as under:—

(1) Three short-distance single-channel systems for use between Auckland and Hamilton.
(2) One long-distance single-channel system (the terminal equipment of which will be installed at Christchurch and Seddon respectively), for supplementing the South Island land-line section of the Wellington–Christchurch telephone circuit, and for improving the quality of speech between Wellington and the principal centres south and west of Christchurch.
(3) One three-channel system (the terminal equipment of which will be installed at Hamilton and Palmerston North respectively) for providing a single channel between Hamilton and Palmerston North and two channels between Wellington and Auckland.

Auckland–Hamilton Systems.—The three single-channel systems for use on the Auckland–Hamilton section are to be operated over three of the existing metallic circuits between those places. The installation of these three systems will obviate the erection of four additional wires over this section of line. The cost of the three carrier circuits will be considerably less than the estimated cost of erecting the additional lines that would have been required to provide the same facilities; and the carrier circuits will be more efficient than any of the existing physical circuits. Two of these systems have been in operation since November, 1928, and the third is now being installed.

Auckland–Wellington Three-channel System.—In this system three additional speech circuits will be obtained by the transmission of six groups of high-frequency currents over the existing metallic circuit. The system has necessitated the installation of equipment at Hamilton, Ohakune, and Palmerston North. It was found necessary to erect a new building at Ohakune for the accommodation of the carrier "repeating" or "amplifying" equipment. The terminal apparatus at Hamilton and Palmerston North is now being installed; but in consequence of delay in completion of the building at Ohakune it is unlikely that the complete system will be brought into commission before September, 1929, although a modified system may be made available when the terminal equipment is completed.

This system will enable the Department to provide two high-grade direct telephone circuits between Wellington and Auckland, and one direct circuit between Palmerston North and Hamilton. These new circuits will show an improvement of over 300 per cent. in efficiency (loudness or volume of speech) as compared with the existing circuits. The Department is confident that these improved facilities will bring about a rapid increase in the traffic handled over this section of line. Besides creating additional and more efficient circuits between the centres named above, this three-channel carrier system will form the first link in a high-grade long-distance telephone network in the North Island.

Christchurch–Seddon Long-distance Single-channel System.—The bulk of the equipment for this system has been delivered, and the remainder is due for delivery in April, 1929. It is expected that the system will be in operation about the end of June, 1929. At present there is only one direct circuit between Christchurch and Seddon (Marlborough). The additional circuit to be provided by the installation of the carrier system will minimize the delay that is at present incurred on Christchurch–

North Island traffic during certain hours of the day. It will also enable the Department to give subscribers at Timaru, Oamaru, Dunedin, and the principal exchanges on the West Coast facilities for communicating throughout the twenty-four hours of the day with subscribers in the principal centres of the North Island, while Invercargill and Gore will be able to communicate with almost all the principal exchanges in the North Island between the hours of 10 p.m. and 7 a.m., and all day on Sundays.

It has already been decided to install several additional carrier-current telephone systems during the next financial year, with a view to effecting still further improvements in the long-distance telephone system of the Dominion.

CHECKING OF TELEPHONE TRANSMITTERS AND RECEIVERS.

A very important factor in telephone communication is the maintenance of the subscriber's telephone in a high state of speech efficiency. This subject has received considerable attention by telephone administrations abroad, and there has been established a Standardization Group for the preparation and supply of standard apparatus with which the corresponding components of subscriber's telephone apparatus may be compared.

Arrangements have been made for the Department to be admitted to the Standardization Group referred to. It is anticipated that this will be of material assistance in maintaining the quality and efficiency of telephone communication in New Zealand.

PROPOSED ESTABLISHMENT OF DOMINION BUREAU OF STANDARDS.

With the rapid development of the higher phases of radio frequency and telephonic transmission generally, the need for the formation of a body having the custody of national physical standards is becoming of increasing importance. The recent movement in this direction by the Department of Scientific and Industrial Research will be of material assistance to the Department, and will furnish a means whereby the delicate testing-instruments necessary for the proper functioning of the Department's telegraph and telephone apparatus can be periodically related to and checked against reliable physical standards.

DEPARTMENTAL LABORATORY.

Owing to the expansion of the Department's activities and the growing need for accurate investigations into developments in communication engineering, it was necessary to seek larger quarters for the Telegraph and Telephone Laboratory. Possession of the new quarters was taken on the 17th July, 1928. The work of the laboratory has been divided into three main sections—telegraph and telephone, field, and radio—each directed by a qualified Engineer acting in conjunction with the Engineer-in-Charge. In order to deal with the increased volume and scope of laboratory work, provision was made for considerable additions to the testing and experimental apparatus, and the staff was strengthened. Accommodation has been provided on the roof of the building for the weathering and testing of all items of line and cable plant which under working-conditions are subject to the effects of climatic exposure. Suitable radio telegraph and telephone apparatus has also been installed for the testing of radio equipment and for experimental work relating to the various phases of radio engineering undertaken or controlled by the Department.

In addition to the more routine work of preparing specifications for telegraph and telephone materials and of testing such materials before issuing for use, considerable investigation is undertaken which is of great value in increasing the efficiency of the engineering service generally.

Technical publications from all parts of the world bearing on the work of the Department are carefully scrutinized with a view to the application of new methods to New Zealand requirements.

In order to take full advantage of the rapid progress being made in the science and practice of radio telegraphy and telephony, it has been found necessary to extend the operations of the radio branch of the Department's service. With the removal of the laboratory to new premises, all radio-inspection activities carried out in the Wellington metropolitan area have been concentrated at the laboratory.

During the past twelve months the radio-inspection staff has done some valuable work in connection with the elimination of power interference in Wellington City and environs, a large number of cases being investigated. On each occasion the source of the trouble has been located, and with the co-operation of the power authority concerned an improvement duly effected. In this connection a van which has been fitted up with radio apparatus for the purpose of tracing and localizing sources of interference has been of great service.

The radio section has also been engaged in connection with the purchase of apparatus required by the various stations for the new short-wave channels referred to elsewhere. Design-work has also been carried out in connection with the supply of a low-power transmitting-set suitable for communication between the main radio stations in the island groups and outlying points in the groups.

APPENDIX.

DESIGNATION OF OFFICES CHANGED.

Postal District.	Changed from	Changed to
Thames	Waiomio	Puru.
Christchurch	Spreydon*	Hillmorton.

* New office opened under name of Spreydon.

CABLE BUSINESS.

The Dominion's outward International and Australian cable business, excluding press, for the years 1928–29 and 1927–28 was as follows:—

INTERNATIONAL.

	Number of Messages.	Value. £
1928–29	179,399	188,851
1927–28	170,818	178,091
Increase	8,581 = 5·02 per cent.	Increase 10,760 = 6·04 per cent.

AUSTRALIAN.

	Number of Messages.	Value. £
1928–29	146,942	29,747
1927–28	148,011	29,464
Decrease	1,069 = 0·72 per cent.	Increase 283 = 0·96 per cent.

There was a total increase of 7,512 messages, and an increase in value of £11,043. Of the total revenue received on forwarded cable messages—viz., £218,598—£205,145 was paid to other Administrations, and £13,453 was retained by New Zealand.

RECEIVED CABLE MESSAGES.

The number of cable messages received in New Zealand during the years 1928–29 and 1927–28, exclusive of press, was as follows:—

	International.	Australian.
1928–29	156,115	140,597
1927–28	147,325	140,899
Increase	8,790 = 5·96 per cent.	Decrease 302 = 0·21 per cent.

The total revenue earned by New Zealand on received cable messages during the year 1928–29 was £11,224, as compared with £10,674 for 1927–28.

RADIO-TELEGRAMS.

The radio business transacted by the New Zealand coast stations during the years 1928–29 and 1927–28 was as follows:—

Year.	Forwarded.				Received.		
	Number of		Amount earned by New Zealand.	Total Value.	Number of		Amount earned by New Zealand.
	Messages.	Words.			Messages.	Words.	
			£	£			£
1928–29	14,345	204,857	3,847	6,523	25,559	290,137	5,059
1927–28	14,440	169,987	2,906	5,688	25,361	290,933	4,846
Increase ..	..	34,870	941	835	198	..	213
Decrease ..	95	..	..	..	..	796	..

Table No. 1.

TABLE SHOWING THE NUMBER AND AMOUNT OF MONEY-ORDERS ISSUED AND OF MONEY-ORDERS PAYABLE IN NEW ZEALAND SINCE THE YEAR 1863.

Issued in the Dominion.

Year.	Commission received.	Where payable.								Total.	
		In the Dominion.		United Kingdom.*		Australia and other British Possessions.		Foreign Countries.†			
		No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
	£		£		£		£		£		£
1863	1,057	2,201	9,614	4,740	21,944	4,645	24,145	..	..	11,586	55,703
1873	3,562	34,288	142,642	11,913	48,548	6,150	28,068	..	..	52,351	219,258
1883	9,023	132,232	402,559	26,211	91,634	14,113	46,940	..	..	172,556	541,133
1893	10,249	146,133	576,359	29,616	86,545	35,208	88,025	..	..	210,957	750,929
1903	15,882	273,535	1,108,067	63,309	157,790	59,468	150,368	..	..	396,312	1,416,225
1913	16,872	516,536	2,821,624	100,634	336,992	73,575	199,158	..	..	690,745	3,357,774
1923	28,357	545,605	3,849,423	54,461	223,143	68,044	284,778	16,869	32,815	684,979	4,390,159
1924	28,542	580,569	4,113,813	57,175	232,436	75,743	312,624	18,024	34,056	731,511	4,692,929
1925	28,843	610,972	4,406,461	64,777	259,439	72,519	278,050	18,421	33,280	766,689	4,977,230
1926	24,746	635,678	4,453,878	67,570	273,758	70,774	270,065	19,688	35,426	793,110	5,033,127
1927	24,775	639,889	4,416,182	69,764	276,747	73,021	265,752	20,807	36,409	803,481	4,995,090
1928	24,884	642,136	4,406,187	69,366	266,072	73,786	267,411	22,597	37,852	807,885	4,977,522

Drawn on the Dominion.

Year.	Where issued.								Total.	
	In the Dominion.		United Kingdom.*		Australia and other British Possessions.		Foreign Countries.†			
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£		£
1863	2,067	9,169	415	1,824	558	3,078	..	..	3,040	14,071
1873	34,288	142,642	1,482	6,626	1,668	7,689	..	..	37,438	156,957
1883	132,23	402,559	3,725	15,553	5,697	23,300	..	..	141,654	441,411
1893	146,133	576,359	8,746	32,617	10,679	40,929	..	..	165,558	649,905
1903	273,535	1,108,067	13,035	49,181	17,777	68,340	..	..	304,347	1,225,589
1913	516,536	2,821,624	12,693	70,084	31,450	110,487	..	..	560,679	3,002,194
1923	545,605	3,849,423	11,042	63,313	26,042	123,703	1,813	8,669	584,502	4,045,108
1924	580,569	4,113,813	8,310	60,862	28,543	127,350	2,348	10,309	619,770	4,312,334
1925	610,972	4,406,461	9,857	69,098	27,318	119,073	2,140	8,391	650,287	4,603,023
1926	635,078	4,453,878	10,047	70,948	28,935	124,952	2,334	10,326	676,394	4,660,104
1927	639,889	4,416,182	11,646	80,015	32,791	136,763	2,428	9,301	686,804	4,642,261
1928	642,136	4,406,187	10,607	70,151	32,650	138,068	2,636	9,358	688,029	4,623,764

* Includes foreign offices to year 1915. † In previous years included in United Kingdom and foreign offices.

Table No. 2.

TABLE SHOWING THE NUMBER AND VALUE OF POSTAL NOTES SOLD FROM 1ST JANUARY, 1886—THE DATE UPON WHICH POSTAL NOTES WERE FIRST ISSUED IN NEW ZEALAND—TO 31ST MARCH, 1929.

Year.	Number of Postal Notes sold.												Total.	
	At 1s.	At 1s. 6d.	At 2s.	At 2s. 6d.	At 3s.	At 5s.	At 7s. 6d.	At 10s.	At 12s. 6d.	At 15s.	At 17s. 6d.	At £1.	At £5.	Number.	Value.
															£
Quarter ended Mar. 31, 1886	3,019	2,046	..	1,012	..	2,039	969	2,379	695	992	425	2,866	..	16,442	6,910
1886-87	16,605	12,283	..	6,647	..	11,566	5,729	13,103	4,090	5,187	2,375	14,961	..	92,546	37,659
1887-88	22,467	17,167	..	9,162	..	15,553	7,671	17,487	5,278	6,940	2,952	17,578	..	122,255	47,729
1888-89	27,428	21,900	..	11,912	..	19,741	9,477	21,149	6,618	8,243	3,633	19,778	..	149,879	56,842
1889-90	32,754	25,387	..	14,478	..	23,550	10,894	24,011	7,809	9,386	4,158	22,596	..	175,023	65,484
1890-91	35,915	28,559	..	16,092	..	25,204	12,229	25,906	7,969	10,172	4,366	23,503	..	189,915	69,722
1891-92	42,416	33,722	..	19,383	..	29,550	14,019	30,132	9,058	11,611	4,953	25,839	..	220,683	79,326
1892-93	48,612	38,849	..	22,038	..	33,012	16,072	32,747	9,904	12,330	5,369	28,969	..	247,902	87,857
1893-94	56,761	44,706	..	25,461	..	37,771	18,096	37,687	11,016	13,800	6,156	33,935	..	285,389	101,002
1894-95	62,306	49,846	..	28,975	..	43,829	20,423	43,167	11,864	15,567	6,790	36,601	..	319,368	112,308
1895 96	68,454	56,185	..	32,801	..	49,204	22,802	47,787	13,601	17,191	7,020	33,390	1,192	349,627	123,368
1896-97	74,534	62,056	..	35,322	..	54,219	24,871	51,963	14,365	18,102	7,406	32,868	1,090	376,796	129,012
1897-98	81,958	69,981	..	38,617	..	60,843	26,968	55,748	15,463	19,477	7,904	32,179	728	409,866	134,378
1898-99	86,529	72,710	..	41,991	..	64,386	28,448	59,631	16,202	19,990	8,193	32,696	673	431,449	139,957
1899-1900	93,762	77,431	..	44,384	..	70,416	30,680	63,787	16,957	21,393	8,539	33,491	607	461,447	147,686
1900-1901	85,478	68,068	13,834	52,691	14,702	80,630	24,497	71,001	13,304	23,875	6,799	35,067	560	490,506	154,436
1901-1902	49,529	30,255	62,285	70,683	65,467	109,663	..	92,708	..	32,128	..	43,042	556	556,316	173,317
1902-1903	54,268	33,409	70,122	76,613	75,700	119,593	..	102,641	..	34,508	..	48,852	558	616,264	191,905
1903-1904	61,379	37,514	85,909	86,626	89,276	134,270	..	114,755	..	38,030	..	58,629	656	707,044	220,070
1904-1905	65,484	40,263	86,711	96,228	99,739	154,281	..	130,430	..	42,317	..	69,206	688	785,347	250,123
1905-1906	74,389	45,358	98,503	108,493	114,411	167,430	..	143,216	..	46,228	..	76,508	788	875,324	276,279
1906-1907	82,417	54,375	106,311	120,321	128,384	187,083	..	159,045	..	51,559	..	91,193	954	981,642	314,053
1907-1908	89,906	58,202	124,052	136,392	143,854	205,500	..	171,951	..	57,637	..	104,714	423	1,092,631	347,300
1908-1909	97,285	59,484	153,925	162,588	146,148	227,471	..	188,677	..	62,916	..	123,786	..	1,222,280	389,143
1909-1910	113,825	67,406	181,791	195,168	166,486	261,045	..	214,453	..	70,967	..	143,611	..	1,414,752	447,619
1910-1911	130,645	79,792	211,298	244,941	201,569	301,707	..	242,854	..	82,253	..	171,900	..	1,666,959	524,943
1911-1912	141,504	85,130	236,665	263,829	215,984	337,338	..	261,600	..	88,693	..	190,823	..	1,821,566	574,980
1912-1913	154,201	92,342	264,844	279,311	220,109	367,942	..	283,206	..	95,535	..	213,153	..	1,970,643	636,473
1913-1914	172,400	103,753	298,669	324,417	256,231	418,712	..	312,870	..	106,560	..	245,230	..	2,238,842	721,743
1914-1915	182,733	107,483	307,934	346,011	263,522	444,427	..	325,071	..	107,506	..	229,640	..	2,314,327	725,118
1915-1916	186,873	114,570	319,115	364,086	267,383	461,137	..	334,277	..	111,095	..	211,543	..	2,370,079	723,314
1916-1917	184,873	112,639	322,946	343,031	260,956	440,215	..	301,825	..	108,978	..	211,000	..	2,286,463	695,819
1917-1918	187,005	115,867	316,266	337,418	258,421	401,696	..	252,396	..	103,348	..	194,180	..	2,166,597	638,246
1918-1919	181,824	114,553	299,791	326,398	253,728	381,202	..	238,337	..	102,467	..	192,751	..	2,091,051	619,605
1919-1920	196,327	121,037	310,105	339,341	268,032	396,994	..	246,688	..	110,819	..	208,177	..	2,197,520	655,910
1920-1921	217,553	120,888	309,649	342,040	266,119	410,584	..	254,868	..	123,917	..	234,601	..	2,280,219	705,027
1921-1922	239,187	120,780	314,035	352,681	259,372	445,995	..	269,863	..	137,192	..	238,517	..	2,377,622	739,783
1922-1923	262,172	130,275	331,376	348,779	236,877	475,947	..	276,650	..	138,621	..	233,809	..	2,434,506	747,025
1923-1924	285,065	145,277	366,241	385,307	247,915	528,178	..	299,987	..	151,288	..	243,519	..	2,652,777	804,343
1924-1925	297,019	154,406	397,666	428,707	253,311	577,873	..	316,947	..	162,281	..	258,123	..	2,846,333	860,029
1925-1926	318,454	159,549	448,307	458,634	254,038	607,000	..	339,864	..	170,376	..	284,500	..	3,040,722	922,873
1926-1927	394,853	165,278	482,600	545,182	260,844	650,226	..	340,646	..	181,164	..	308,845	..	3,329,638	987,687
1927-1928	601,143	186,961	497,760	518,248	278,844	688,004	..	352,524	..	192,363	..	298,370	..	3,614,217	1,015,213
1928-1929	389,074	186,302	519,908	535,803	326,953	733,585	..	369,777	..	203,906	..	310,676	..	3,575,984	1,057,624

Table No. 3.

TABLE SHOWING THE NUMBER AND VALUE OF TRANSACTIONS AT MONEY-ORDER OFFICES DURING THE YEAR 1928, AND AT SAVINGS-BANK OFFICES DURING THE YEAR 1928–29.

Postal District.	Money-orders.					Savings-banks.				
	Issued.			Paid.		Number of New Accounts opened.	Deposits.		Number of Accounts closed.	Withdrawals.	
	Number.	Commission.	Amount.	Number.	Amount.		Number.	Amount.		Number.	Amount.
		£ s. d.	£ s. d.		£ s. d.			£ s. d.			£ s. d.
Auckland	140,641	4,577 17 9	789,263 8 5	191,409	1,154,305 18 11	15,368	267,909	4,649,545 18 7	13,389	243,477	4,898,092 2 9
Blenheim	9,333	278 10 6	54,577 0 7	4,760	34,266 1 7	975	16,046	280,649 15 10	727	13,387	301,624 6 3
Christchurch	71,873	2,325 7 3	442,133 0 3	73,812	614,612 2 4	11,301	255,595	4,388,234 11 3	7,773	219,139	4,504,916 18 5
Dunedin	66,707	2,057 3 9	372,664 9 0	62,168	407,102 8 5	5,766	113,046	1,997,199 2 5	5,308	93,659	2,255,471 8 5
Gisborne	19,788	636 2 9	122,939 3 10	9,530	79,016 5 1	2,426	37,478	611,889 1 5	1,638	28,554	633,115 3 11
Greymouth..	21,358	640 10 3	121,924 6 11	9,966	62,612 16 7	1,271	17,737	312,503 16 9	1,032	12,011	319,881 18 9
Hamilton	80,013	2,261 3 6	472,218 0 11	39,016	240,848 6 8	7,634	93,741	1,393,815 13 11	4,992	61,705	1,414,026 12 10
Invercargill	34,748	1,011 18 0	187,631 12 4	24,017	145,164 7 5	3,209	38,655	716,796 7 0	2,563	32,054	787,539 13 7
Napier	38,469	1,197 4 9	244,563 8 7	25,286	206,588 7 8	4,867	73,684	1,305,861 2 7	3,534	59,331	1,334,108 2 7
Nelson	18,193	567 6 0	108,493 19 3	12,479	86,312 9 3	1,679	28,630	491,432 7 10	1,057	20,846	453,179 13 2
New Plymouth	34,844	1,039 11 6	208,920 11 7	21,981	158,780 9 0	3,805	58,641	1,127,962 0 2	2,903	43,820	1,099,113 13 9
Oamaru	10,674	290 12 6	99,885 18 3	4,637	31,368 6 10	1,153	17,210	366,914 16 10	795	14,621	363,550 3 3
Palmerston North	43,246	1,166 4 3	279,158 16 1	28,115	180,462 19 6	5,744	84,462	1,472,081 4 10	3,562	62,514	1,426,151 2 4
Thames	30,689	885 16 0	178,812 12 2	12,523	82,247 15 0	3,111	35,652	524,596 15 2	2,386	20,226	560,601 8 11
Timaru	21,140	583 3 3	230,493 9 9	10,741	74,157 9 8	2,459	42,430	907,335 10 0	1,879	34,190	882,359 4 4
Wanganui	40,099	1,064 3 3	238,693 2 8	22,332	144,374 18 5	4,301	67,550	1,047,399 16 1	3,235	51,821	1,076,711 8 7
Wellington	108,501	3,703 17 9	715,891 13 5	128,700	880,991 18 8	16,839	356,197	5,451,802 14 7	11,983	265,070	5,595,774 9 4
Westport	14,023	410 0 3	70,726 1 7	4,209	24,551 12 2	712	10,088	155,017 0 3	469	5,695	152,087 17 8
Western Samoa	2,327	116 0 6	22,740 19 3	249	1,550 14 10	290	2,647	38,108 8 10	267	1,879	42,475 19 11
Rarotonga	1,219	71 2 9	15,790 4 10	418	10,703 13 8	201	1,258	13,235 4 8	48	1,257	11,159 8 0
Grand totals, 1929 ..	807,885	24,883 16 6	4,977,521 19 8	686,348	4,620,019 1 8	93,111	1,618,656	27,252,381 9 0	69,540	1,285,256	28,111,940 16 9

Table No. 4.

POST OFFICE SAVINGS-BANK.—GENERAL STATEMENT.

TABLE SHOWING THE BUSINESS OF THE POST OFFICE SAVINGS-BANK IN THE VARIOUS POSTAL DISTRICTS OF NEW ZEALAND DURING THE YEAR ENDED 31ST MARCH, 1929.

Postal Districts.	Number of Branches of the Post Office Savings-bank Open at the close of the Period.	Number of Deposits received during the Period.	Total Amount of Deposits received during the Period.	Average Amount of each Deposit received during the Period.	Number of With-drawals during the Period.	Total Amount of Withdrawals during the Period.	Average Amount of each Withdrawal during the Period.	Excess of Deposits over Withdrawals during the Period.	Excess of Withdrawals over Deposits during the Period.	Interest for the Period.	Number of Accounts opened during the Period.	Number of Accounts closed during the Period.	Number of Accounts remaining Open at Close of the Period.	Total Amount standing to the Credit of all Open Accounts, inclusive of Interest to the Close of the Period.	Average Amount standing to the Credit of each Open Account at Close of the Period.
			£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.				£ s. d.	£ s. d.
Auckland	187	267,909	4,649,545 18 7	17 7 1	243,477	4,898,092 2 9	20 2 4	..	248,546 4 2	281,046 16 5	15,368	13,389	141,979	7,882,956 7 0	55 10 7
Blenheim	16	16,046	280,649 15 10	17 9 10	13,387	301,624 6 3	22 10 7	..	20,974 10 5	21,763 15 10	975	727	10,904	600,400 1 2	55 1 5
Christchurch ..	73	255,595	4,388,234 11 3	17 3 5	219,139	4,504,916 18 5	20 11 2	..	116,682 7 2	282,297 15 7	11,301	7,773	123,388	7,798,616 5 0	63 4 1
Dunedin	78	113,046	1,997,199 2 5	17 13 5	93,659	2,255,471 8 5	24 1 8	..	258,272 6 0	164,012 4 5	5,766	5,308	72,920	4,397,558 18 2	60 6 2
Gisborne	26	37,478	611,889 1 5	16 6 7	28,554	633,115 3 11	22 3 5	..	21,226 2 6	40,027 0 7	2,426	1,638	21,307	1,124,606 5 5	52 15 8
Greymouth	24	17,737	312,503 16 9	17 12 5	12,011	319,881 18 9	26 12 8	..	7,378 2 0	29,164 19 3	1,271	1,032	13,478	794,179 11 6	58 18 6
Hamilton	90	93,741	1,393,815 13 11	14 17 5	61,705	1,414,026 12 10	22 18 4	..	20,210 18 11	83,880 6 5	7,634	4,992	41,478	2,389,059 2 5	57 12 0
Invercargill ..	38	38,655	716,796 7 0	18 10 11	32,054	787,539 13 7	24 11 5	..	70,743 6 7	63,541 2 5	3,209	2,563	30,195	1,715,583 1 1	56 16 5
Napier	39	73,684	1,305,861 2 7	17 14 5	59,331	1,334,108 2 7	22 9 8	..	28,247 0 0	81,224 10 3	4,867	3,534	39,882	2,286,297 8 7	57 6 7
Nelson	32	28,630	491,432 7 10	17 3 4	20,846	453,179 13 2	21 14 9	38,252 14 8	..	36,094 18 0	1,679	1,057	17,481	1,017,336 7 7	58 5 0
New Plymouth ..	37	58,641	1,127,962 0 2	19 5 9	43,820	1,099,113 13 9	25 1 8	28,848 6 5	..	66,672 13 6	3,805	2,903	31,350	1,930,727 1 6	61 11 10
Oamaru	12	17,210	366,914 16 10	21 6 5	14,621	363,550 3 3	24 17 4	3,364 13 7	..	24,398 17 4	1,153	795	10,002	671,921 17 4	67 3 8
Palmerston North ..	41	84,462	1,472,081 4 10	17 4 7	62,514	1,426,151 2 4	22 16 3	45,930 2 6	..	84,618 10 3	5,744	3,562	33,767	2,438,424 2 0	72 4 3
Thames	39	35,652	524,596 15 2	14 14 3	20,226	560,601 8 11	27 14 4	..	36,004 13 9	38,532 9 11	3,111	2,386	23,652	1,067,499 16 5	45 2 8
Timaru	18	42,430	907,335 10 0	21 7 9	34,190	882,359 4 4	25 16 2	24,976 5 8	..	60,692 18 3	2,459	1,879	23,788	1,700,732 7 10	71 9 11
Wanganui	42	67,550	1,047,399 16 1	15 10 1	51,821	1,076,711 8 7	20 15 7	..	29,311 12 6	69,414 12 1	4,301	3,235	36,914	1,949,265 12 11	52 16 1
Wellington	60	356,197	5,451,802 14 7	15 6 1	265,070	5,595,774 9 4	21 2 3	..	143,971 14 9	301,149 5 8	16,839	11,983	146,758	8,430,325 15 4	57 8 11
Westport	20	10,088	155,017 0 3	15 7 3	5,695	152,087 17 8	26 14 1	2,929 2 7	..	13,802 4 5	712	469	6,627	378,035 3 1	57 0 11
Western Samoa ..	2	2,647	38,108 8 10	14 7 11	1,879	42,475 19 11	22 12 1	..	4,367 11 1	1,911 18 0	290	267	1,451	48,147 5 5	33 3 9
Rarotonga	5	1,258	13,235 4 8	10 10 5	1,257	11,159 8 0	8 17 7	2,075 16 8	..	803 6 9	201	48	975	22,544 10 9	23 2 6
Totals for year ended 31st March, 1929	879	1,618,656	27,252,381 9 0	16 16 9	1,285,256	28,111,940 16 9	21 17 6	..	859,559 7 9	1,745,050 5 4	93,111	69,540	828,296	48,644,217 0 6	58 14 7

Table No. 5.

POST OFFICE SAVINGS-BANK.—GENERAL STATEMENT.

TABLE SHOWING THE BUSINESS OF THE POST OFFICE SAVINGS-BANK IN NEW ZEALAND, BY TEN-YEAR PERIODS, FROM 1868 TO THE 31ST DECEMBER, 1918, AND YEARLY PERIODS THEREAFTER TO THE YEAR ENDED 31ST MARCH, 1929.

Year.	Number of Branches of the Post Office Savings-bank Open at the Close of the Year.	Number of Deposits received during the Year.	Total Amount of Deposits received during the Year.	Average Amount of each Deposit received during the Year.	Number of With-drawals during the Year.	Total Amount of Withdrawals during the Year.	Average Amount of each With-drawal during the Year.	Excess of Deposits over Withdrawals during the Year.	Excess of Withdrawals over Deposits during the Year.	Interest for the Year.	Number of Accounts opened during the Year.	Number of Accounts closed during the Year.	Number of Accounts remaining Open at Close of the Year.	Total Amount standing to the Credit of all Open Accounts, inclusive of Interest to the Close of the Year.	Average Amount standing to the Credit of each Open Account at Close of the Year
			£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.				£ s. d.	£ s. d.
Year ended 31st Mar., 1929	879	1,618,656	27,252,381 9 0	16 16 9	1,285,256	28,111,940 16 9	21 17 6	..	859,559 7 9	1,745,050 5 4	93,111	69,540	828,296	48,644,217 0 6	58 14 7
Year ended 31st Mar., 1928	870	1,570,493	27,611,066 5 1	17 11 7	1,274,906	30,584,997 14 4	23 19 10	..	2,973,931 9 3	1,747,155 13 9	93,331	72,433	804,725	47,758,726 2 11	59 6 11
Year ended 31st Mar., 1927	875	1,509,909	29,456,383 2 7	19 10 2	1,224,764	30,149,628 17 3	24 12 4	..	693,245 14 8	1,767,426 2 8	97,713	72,041	783,827	48,985,501 18 5	62 9 11
Year ended 31st Mar., 1926	870	1,446,530	31,833,621 9 5	22 0 1	1,197,985	32,602,505 17 2	27 4 3	..	768,884 7 9	1,731,577 17 2	104,447	81,440	758,155	47,911,321 10 5	63 3 11
Year ended 31st Mar., 1925	855	1,371,009	29,582,897 2 9	21 11 7	1,108,291	30,413,609 3 11	27 8 10	..	830,712 1 2	1,680,919 10 10	95,595	70,604	735,148	46,948,628 1 0	63 17 3
Year ended 31st Mar., 1924	846	1,261,141	29,598,372 4 8	23 9 4	1,075,037	29,510,320 19 6	27 9 0	88,051 5 2	..	1,649,976 4 8	92,465	73,098	710,157	46,098,420 11 4	64 18 3
Year ended 31st Mar., 1923	840	1,175,104	26,682,426 11 4	22 14 2	1,081,300	27,769,262 16 3	25 13 8	..	1,086,836 4 11	1,605,525 1 10	78,490	66,630	690,790	44,360,393 1 6	64 4 4
Year ended 31st Mar., 1922	831	1,227,591	29,195,997 10 0	23 14 6	1,119,662	30,236,231 6 5	27 0 0	..	1,110,233 16 5	1,599,907 2 0	89,859	75,748	678,930	43,841,704 4 7	64 11 6
*Fifteen months ended 31st March, 1921	819	1,664,206	44,302,852 5 4	26 12 5	1,458,008	41,162,486 9 10	28 4 8	3,140,365 15 6	..	1,818,534 5 2	152,930	118,894	664,819	43,352,030 19 0	65 4 2
Totals for 1919 ..	794	1,289,161	29,758,448 9 7	23 1 8	994,247	25,962,378 2 6	26 2 3	3,796,070 7 1	..	1,178,935 6 6	118,109	77,531	630,783	38,393,130 18 4	60 17 4
„ 1918 ..	786	1,213,353	18,101,104 18 1	14 18 4	727,729	14,938,841 10 0	20 10 7	3,162,263 8 1	..	1,059,471 17 8	76,869	53,015	590,205	33,418,125 4 9	56 12 5
„ 1908 ..	593	706,101	9,674,075 4 0	13 14 0	484,672	9,417,820 10 3	19 8 8	256,254 13 9	..	379,808 6 7	80,133	57,829	342,077	12,159,293 18 1	35 10 11
„ 1898 ..	409	281,749	3,279,611 7 5	11 12 10	196,764	3,194,893 16 7	16 4 9	84,717 10 10	..	128,128 16 6	37,265	26,628	169,968	4,957.771 5 5	29 3 5
„ 1888 ..	290	145,355	1,544,747 7 11	10 12 6	96,204	1,387,471 1 10	14 8 5	157,276 6 1	..	78,080 6 0	21,307	16,543	84,488	2,048,441 10 9	24 4 10
„ 1878 ..	147	69,908	762,084 12 0	10 18 0	42,746	742,053 14 3	17 7 2	20,030 17 9	..	31,664 12 9	13,005	9,634	32,132	819,071 8 2	25 9 9
„ 1868 ..	55	13,014	194,535 11 6	14 18 11	6,365	107,094 17 3	16 16 6	87,440 14 3	..	4,880 7 3	3,282	1,186	4,252	163,518 15 7	38 9 1
†Totals from 1st Feb. to 31st Dec., 1867	46	6,977	96,372 7 10	13 16 3	1,919	26,415 18 9	13 15 3	69,956 9 1	..	1,241 5 0	2,520	364	2,156	71,197 14 1	33 0 5

* Termination of Savings-bank year altered from 31st December to 31st March, with effect from 31st March, 1921.

† The Post Office Savings-bank was established in the Dominion in February, 1867.

Table No. 6.

TABLE SHOWING THE ESTIMATED NUMBER OF LETTERS AND LETTER-CARDS, POST-CARDS, BOOK-PACKETS, NEWSPAPERS, AND PARCELS POSTED AND DELIVERED IN THE SEVERAL POSTAL DISTRICTS OF NEW ZEALAND DURING THE YEAR ENDED THE 31ST DECEMBER, 1928.

Postal District (1928).	Posted in the Dominion.					Delivered in the Dominion.					Total posted and delivered.				
	Letters and Letter-cards.	Post-cards.	Books, &c.	Newspapers.	Parcels.	Letters and Letter-cards.	Post-cards.	Books, &c.	Newspapers.	Parcels.	Letters and Letter-cards.	Post-cards.	Books, &c.	Newspapers.	Parcels.
Auckland ..	31,050,544	879,580	19,110,828	5,344,099	905,222	33,063,199	1,062,516	15,987,478	5,024,734	621,784	64,113,743	1,942,096	35,098,306	10,368,833	1,527,006
Blenheim ..	1,927,245	29,328	512,282	301,639	19,682	1,953,328	53,079	653,484	490,672	69,901	3,880,573	82,407	1,165,766	792,311	89,583
Christchurch ..	17,146,558	745,212	10,831,760	1,564,360	441,046	20,642,180	1,050,595	11,284,871	2,976,571	354,671	37,788,738	1,795,807	22,116,631	4,540,931	795,717
Dunedin ..	12,437,793	478,335	7,583,156	1,795,327	328,687	11,600,732	603,902	7,095,777	2,262,247	308,480	24,038,525	1,082,237	14,678,933	4,057,574	637,167
Gisborne ..	2,987,906	55,796	896,595	615,920	45,734	3,394,222	59,241	1,617,616	1,142,882	122,317	6,382,128	115,037	2,514,211	1,758,802	168,051
Greymouth ..	1,752,754	39,091	510,469	297,830	36,608	2,055,092	52,793	682,760	509,106	84,071	3,807,846	91,884	1,193,229	806,936	120,679
Hamilton ..	9,696,410	261,274	2,654,356	1,024,221	98,445	9,650,407	369,967	4,810,351	2,034,786	314,535	19,346,817	631,241	7,464,707	3,059,007	412,980
Invercargill ..	6,327,277	177,411	3,151,185	678,852	84,318	6,698,783	256,490	3,571,516	1,187,277	154,804	13,026,060	433,901	6,722,701	1,866,129	239,122
Napier ..	6,601,745	113,035	2,808,086	751,643	84,760	7,557,485	189,215	3,887,689	1,600,378	195,013	14,159,230	302,250	6,695,775	2,352,021	279,773
Nelson ..	2,262,159	58,539	828,274	213,782	45,877	2,734,888	71,890	1,198,509	614,302	114,205	4,997,047	130,429	2,026,783	828,084	160,082
New Plymouth	4,661,811	125,970	2,145,728	598,153	68,757	5,700,838	206,063	3,377,361	1,199,575	172,939	10,362,649	332,033	5,523,089	1,797,728	241,696
Oamaru ..	1,484,722	47,463	552,597	165,529	18,902	1,693,601	89,219	1,015,300	368,706	48,243	3,178,323	136,682	1,567,897	534,235	67,145
Palmerston N.	6,142,937	112,775	2,914,749	658,248	88,517	8,082,646	268,866	4,937,894	1,341,418	194,272	14,225,583	381,641	7,852,643	1,999,666	282,789
Thames ..	2,948,780	51,584	1,017,992	320,546	35,321	3,529,019	154,544	2,094,456	738,842	133,289	6,477,799	206,128	3,112,448	1,059,388	168,610
Timaru ..	3,510,822	194,220	1,425,515	389,449	40,209	3,811,626	139,685	1,974,921	674,739	95,576	7,322,448	333,905	3,400,436	1,064,188	135,785
Wanganui ..	5,896,633	129,558	2,794,482	819,684	89,167	5,490,355	160,043	3,291,119	1,093,261	192,738	11,386,988	289,601	6,085,601	1,912,945	281,905
Wellington ..	25,884,951	533,751	15,897,969	4,947,914	901,769	25,922,576	588,260	10,928,599	3,973,428	398,865	51,807,527	1,122,011	26,826,568	8,921,342	1,300,634
Westport ..	776,841	10,998	126,444	123,201	13,624	1,167,179	24,726	322,465	308,815	48,061	1,944,020	35,724	448,909	432,016	61,685
Rarotonga ..	42,232	984	1,784	776	2,088	47,352	664	6,760	10,736	2,720	89,584	1,648	8,544	11,512	4,808
Western Samoa	86,070	3,164	3,384	14,934	552	126,666	642	6,048	78,612	5,316	212,736	3,806	9,432	93,546	5,868
Totals, 1928	143,626,190	4,048,068	75,767,635	20,626,107	3,349,285	154,922,174	5,402,400	78,744,974	27,631,087	3,631,800	298,548,364	9,450,468	154,512,609	48,257,194	6,981,085
Totals, 1927	147,365,719	4,067,202	70,020,863	20,763,048	3,321,903	150,112,575	4,815,581	66,178,313	26,326,604	3,581,632	297,478,294	8,882,783	136,199,176	47,089,652	6,903,535

Table No. 7.

REGISTERED ARTICLES.

The number of registered articles dealt with in 1928 compared with the number in 1890, 1910, and 1927, was as follows:—

	1890.	1910.	1927.	1928.
From places beyond the Dominion ..	26,374	132,493	215,625	388,700
Registered in the Dominion	169,321	993,675	1,873,374	2,202,600
Totals	195,695	1,126,168	2,088,999	2,591,300

Table No. 8.

PARCEL-POST.

The following shows the number and weight of parcels posted during the years 1890, 1900, 1910, 1927, and 1928:—

—	1890.	1900.	1910.	1927.	1928.
Number ..	121,292	199,413	1,190,711	3,321,903	3,349,285
Weight ..	336,643 lb. 12 oz.	682,104 lb. 7 oz.	3,953,284 lb. 15 oz.	16,719,107 lb.	..

The following table shows the number and weight of parcels exchanged with other countries during the years, 1927 and 1928:—

Places.	Received.				Despatched.			
	1927.		1928.		1927.		1928.	
	Number.	Weight.	Number.	Weight.	Number.	Weight.	Number.	Weight.
		lb.		lb.		lb.		lb.
Great Britain and Ireland and foreign countries *via* London	189,267	1,627,080	204,214	1,797,145	28,033	109,668	27,350	118,590
United States of America and Possessions	64,819	419,248	64,612	419,854	5,343	21,435	4,789	19,806
Canada	10,348	71,949	11,549	86,920	1,723	5,714	1,805	5,844
New South Wales ..	29,089	108,952	32,814	126,223	11,816	40,315	12,027	39,192
Victoria	17,710	77,625	18,125	82,917	5,776	20,276	5,599	18,677
Queensland	1,151	2,753	1,338	2,696	1,302	4,201	1,289	4,019
South Australia	961	2,645	948	2,674	868	2,962	884	3,073
Tasmania	445	1,331	465	1,634	788	2,505	730	2,067
Western Australia ..	583	1,466	608	1,453	840	2,774	798	2,628
Cape Colony	1,196	3,215	1,119	2,793	117	312	145	394
Natal	..	..	..	..	505	1,527	438	1,270
Egypt	268	1,754	263	1,719	80	358	70	487
Aden	577	4,492	391	2,759	..	..	..	..
India	2,972	20,135	4,667	36,164	982	5,178	1,094	5,982
Ceylon	539	2,786	482	2,266	130	550	124	505
Straits Settlements ..	342	1,031	531	1,463	363	1,890	417	1,880
Hong Kong	1,274	8,842	1,727	12,353	374	1,790	467	2,538
Fiji	1,084	2,373	1,041	2,293	2,128	7,374	2,177	7,241
Tonga	69	219	86	315	1,358	6,974	1,587	8,297
Tahiti	97	797	77	671	240	1,321	240	1,278
Norfolk Island	42	102	90	258	266	821	544	1,753
Uruguay	..	..	..	..	68	374	45	200
Others	1	9	..	..	5	12	13	42
Totals ..	322,834	2,358,804	345,147	2,584,570	63,105	238,331	62,632	245,763

Table No. 9.

COMPARATIVE TABLE SHOWING THE DEVELOPMENT IN THE TELEGRAPH, TOLL, AND TELEPHONE-EXCHANGE SERVICES DURING THE TEN-YEAR PERIODS ENDED 30TH JUNE, 1866 AND 1876, THE 31ST DECEMBER, 1886, THE 31ST MARCH, 1896. 1906, 1916; AND THE PAST FIVE YEARS.

Year.	Telegraph and Toll.			Number of Telegrams and Toll Messages forwarded during the Year.							Revenue in respect of Telegraph, Toll, and Telephone-exchange Services.									
				Telegrams.							Telegraph.									
	Number of Miles of Pole-line.	Number of Miles of Wire.	Number of Offices opened.	Ordinary.	Urgent.	Press.	Letter-telegrams.	Government.	Total Number of Telegrams.	Total Number of Toll Messages.	Ordinary.	Urgent.	Press.	Letter-telegrams.	Government.	Miscellaneous Telegraph Revenue.	Total Telegraph Revenue.	Toll Revenue.	Telephone Exchange Revenue.	Total Telegraph, Toll, and Telephone-exchange Revenue.
											£	£	£	£	£	£	£	£	£	£
30th June, 1866	699	1,390	13	*24,761	..	..	..	2,476	27,237	..	*5,562	..	..	..	483	..	6,045	..	..	6,045
,, 1876	3,154	7,247	142	*890,382	..	..	..	160,704	1,051,086	..	*62,716	..	..	..	16,154	..	78,870	..	..	78,870
31st Dec., 1886	4,546	11,178	412	*†1,583,717	..	..	..	252,549	1,836,266	..	*†88,385	..	..	..	27,281	..	115,666	..	‡18,254	133,920
31st Mar., 1896	6,245½	15,764¼	743	†1,553,232	59,038	198,108	..	224,579	2,034,957	89,254	†73,160	7,510	9,508	..	25,844	4,889	120,911	2,110	25,934	148,955
,, 1906	8,355	25,116	1,312	3,995,998	211,571	379,185	..	289,135	4,875,889	764,330	133,204	12,807	18,095	..	24,168	3,895	192,169	16,368	89,542	298,079
,, 1916	13,684	48,052	2,413	6,062,131	299,823	383,155	..	127,841	6,872,950	3,963,801	223,843	22,770	27,557	..	9,085	163,488	446,743	111,969	287,547	846,259
,, 1925	12,938	56,415	2,264	5,827,745	292,885	461,875	215,473	61,560	6,859,538	8,612,412	300,426	30,145	63,601	10,535	4,420	15,190	424,317	344,393	867,218	1,635,928
,, 1926	13,052	59,791	2,221	6,043,563	317,021	488,487	317,484	58,460	7,225,015	8,976,859	310,039	32,385	67,481	14,738	4,992	17,158	446,793	358,037	980,283	1,785,113
. 1927	13,158	61,732	2,199	5,725,008	279,957	555,638	426,816	55,790	7,043,209	9,329,017	291,316	28,658	76,770	19,133	4,607	36,220	456,704	372,612	995,071	1,824,387
,, 1928	12,771	62,602	2,165	5,541,205	240,540	589,896	418,213	44,510	6,834,364	9,733,150	283,493	24,682	77,876	18,661	3,614	30,802	439,128	397,234	1,057,177	1,893,539
,, 1929	12,728	62,992	2,139	5,646,947	234,102	577,327	402,517	44,029	6,904,922	10,655,450	289,807	22,722	74,141	17,895	3,698	35,353	443,616	442,896	1,135,795	2,022,307

*Includes private, Press, and Provincial Government messages. † Includes "delayed" telegrams. ‡ Includes miscellaneous telegraph revenue.

NOTE.—Inland Telegram Tariff: Prior to the 1st September, 1869, inland telegrams were charged for on a mileage basis. From that date a uniform rate was fixed of 2s. 6d. for ten words and 6d. for each additional five words. From the 1st April, 1870, the minimum charge was reduced to 1s. From the 1st November, 1873, the rate was further reduced to 1s. for ten words and 1d. for each additional word, address and signature, hitherto charged for, being free up to ten words. From the 1st July, 1877, there was introduced the "urgent" code, at double the ordinary rate. From the 1st July, 1878, a "delayed" system was introduced, the rate being fixed at 6d. for ten words, exclusive of address and signature up to ten words, and ½d. for each additional word. From the 1st February, 1892, the number of words allowed for the minimum charge in each case was increased to twelve, with free address and signature up to six words. From the 15th August, 1892, the ordinary rate was fixed at 1s. for eighteen words, including address and signature. From the 1st June, 1896, the rate was fixed at 6d. for twelve words, including address and signature, and 1d. for each additional word; and "delayed" telegrams were abolished. From the 1st November, 1906, the charge for additional words was reduced to ½d. each. From the 23rd September, 1915, the ordinary rate was increased from 6d. to 8d. for twelve words ("urgent" 1s. 2d.); and on the 1st August, 1920, it was further increased to 1s. for twelve words and 1d. for each additional word; ("urgent" 2s., and 2d. for each additional word); Sundays and holidays, double rates. From the 1st November, 1920, there was introduced a system of letter-telegrams, to be delivered by post on the morning following the day of presentation. The rate (since altered) was 1s. 6d. for thirty-six words and ½d. for each additional word. From the 1st February, 1923, the rate for ordinary telegrams was reduced to 9d. for twelve words, the charge for each additional word remaining at 1d. ("urgent" 1s. 6d., and 2d. for each additional word). From the same date the letter-telegram rate was reduced to 9d. for twenty-seven words and 1d. for each additional three words.

Table No. 10.

TABLE SHOWING THE NUMBER FORWARDED AND THE REVENUE DERIVED FROM TOLL CALLS AND PAID TELEGRAMS OF ALL CODES AND THE VALUE OF FRANKED GOVERNMENT TELEGRAMS IN THE UNDERMENTIONED POSTAL DISTRICTS DURING THE TWELVE MONTHS ENDED 31ST MARCH, 1929

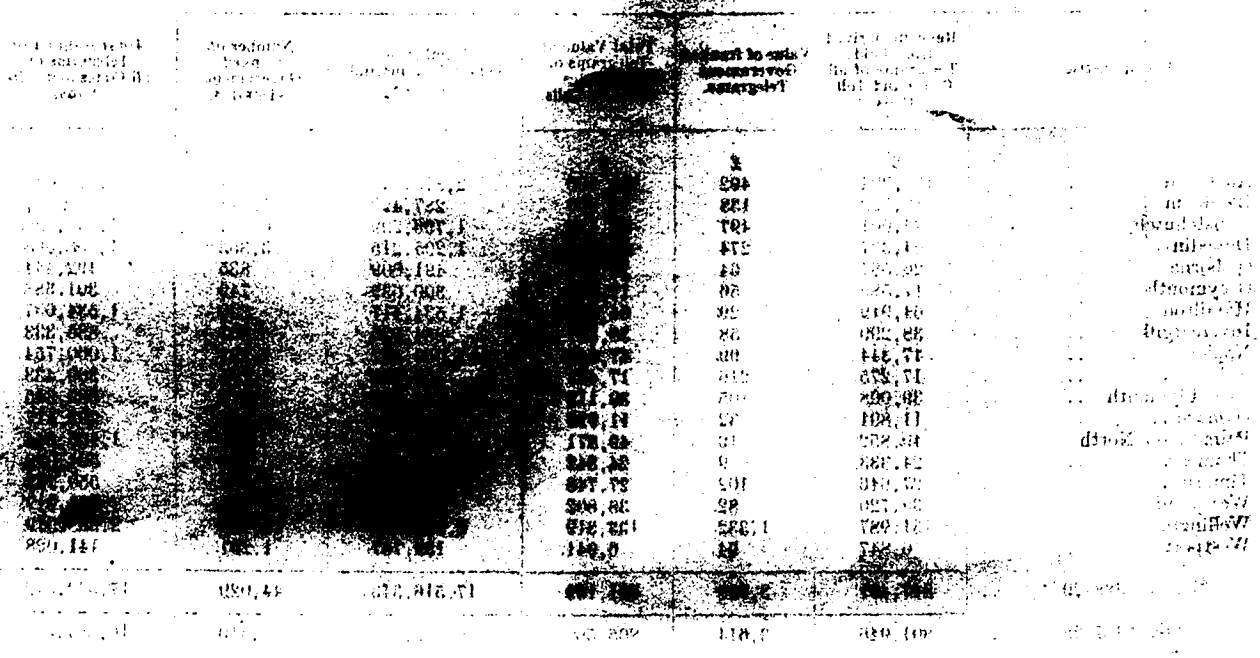
Postal District	Revenue derived from Paid Telegrams of all Codes and Toll Calls.	Value of franked Government Telegrams.	Total Value of Telegrams of all Codes and Toll Calls.	Number of Paid Telegrams and Toll Calls	Number of franked Government Telegrams.	Total Number of Telegrams of all Codes and Toll Calls.
	£	£	£			
Auckland	134,304	492	134,796	2,873,553	5,487	2,879,040
Blenheim	13,522	138	13,660	287,429	1,848	289,277
Christchurch ..	93,001	497	93,498	1,796,299	6,657	1,802,956
Dunedin	64,337	274	64,611	1,295,215	3,353	1,298,568
Gisborne	26,587	64	26,651	491,609	835	492,444
Greymouth	17,589	56	17,645	300,639	749	301,388
Hamilton	64,919	29	64,948	1,534,417	220	1,534,637
Invercargill	38,299	58	38,357	884,526	807	885,333
Napier	47,344	99	47,443	1,059,462	1,292	1,060,754
Nelson	17,275	216	17,491	366,639	2,794	369,433
New Plymouth	39,008	105	39,113	884,066	1,279	885,345
Oamaru	11,891	32	11,923	202,984	433	203,417
Palmerston North ..	49,852	19	49,871	1,106,106	238	1,106,344
Thames	24,333	9	24,342	594,856	123	594,979
Timaru	27,646	102	27,748	549,349	1,384	550,733
Wanganui	38,720	82	38,802	765,247	1,070	766,317
Wellington	131,987	1,332	133,319	2,384,180	14,199	2,398,379
Westport	6,847	94	6,941	139,767	1,261	141,028
Totals, 1928–29 ..	847,461	3,698	851,159	17,516,343	44,029	17,560,372
Totals, 1927–28 ..	801,946	3,614	805,560	16,523,004	44,510	16,567,514

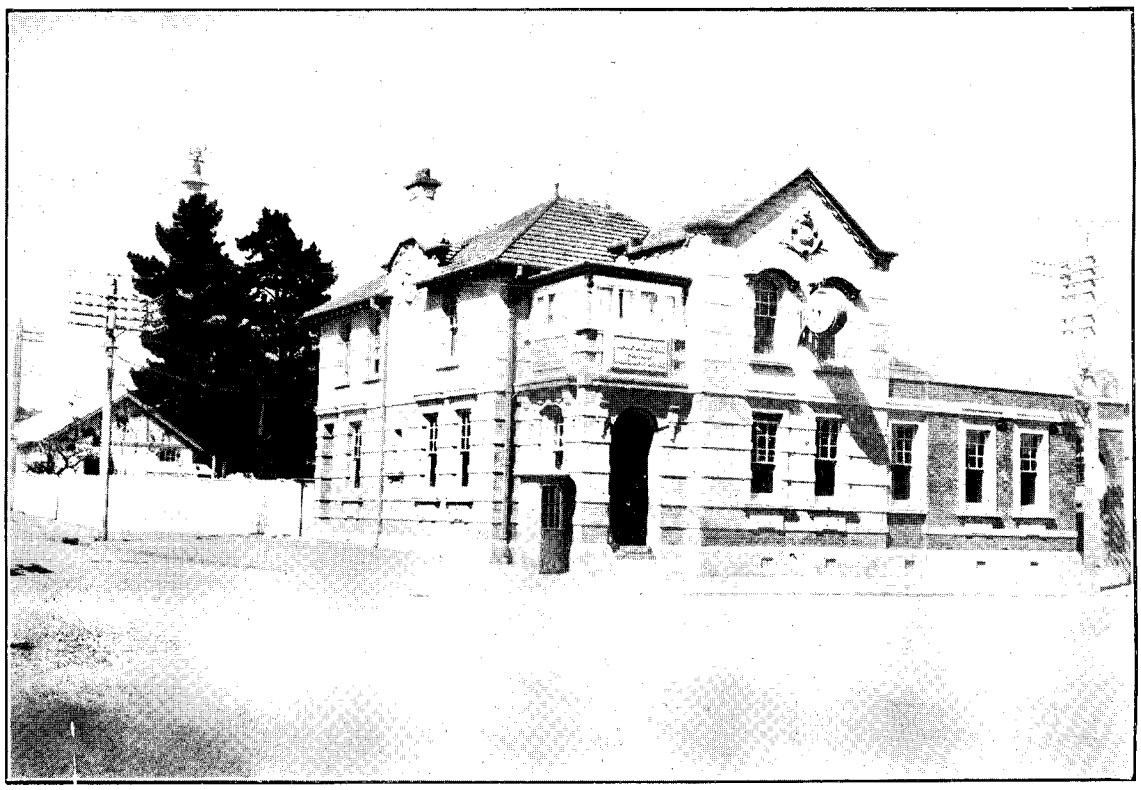
Approximate Cost of Paper.—Preparation, not given; printing (1,165 copies, including graphs and illustrations), £124.

By Authority: W. A. G. SKINNER, Government Printer, Wellington.—1929.

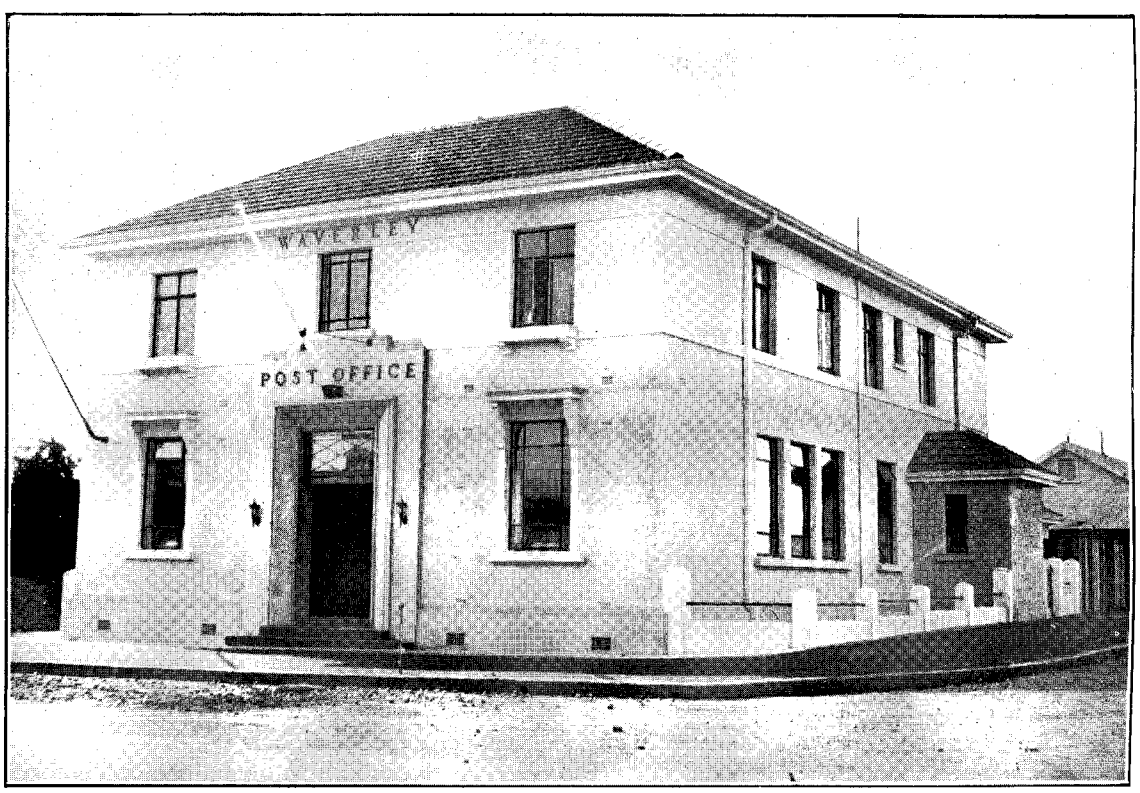
Price 1s. 9d.]

Table No. 10.

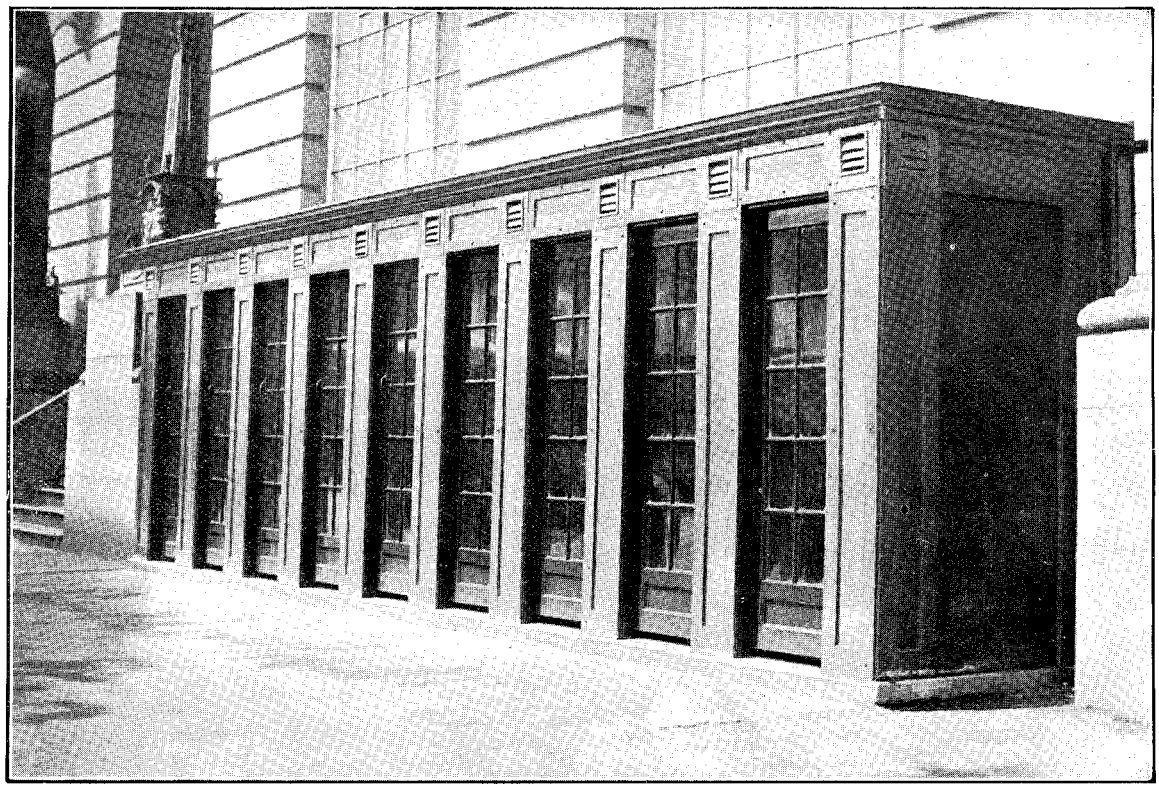




Waipukurau Post-office Building. (Showing Recent Addition.)



The Post-office Building, Waverley. (Erected 1928.)



Public Telephone Cabinets (in Bronze) which have been erected in front of the Chief Post-office Building, Auckland.

Auckland: Central Telephone Exchange (including Recent Addition).