

1877.

NEW ZEALAND.

TELEGRAPH DEPARTMENT.

(THIRTEENTH ANNUAL REPORT.)

*Presented to both Houses of the General Assembly by Command of His Excellency.*Office of the Commissioner of Telegraphs,
20th August, 1877.

MY LORD,—

I have the honor to submit to your Lordship a Report as to the operations of the Telegraph Department of New Zealand, during the year ended 30th June, 1877, being the Thirteenth Annual Report of the Department.

I have, &c.,
GEO. MCLEAN,
Commissioner of Telegraphs.

His Excellency the Most Honorable the Marquis of Normanby, K.C.M.G.,
Governor of New Zealand.

REPORT.

THE total earnings of the department for the year 1876–77, exclusive of the value of General Government telegrams, amount to £65,644 15s. 3d., being £2,929 4s. 11d. in excess of the receipts of last year. This amount is £1,355 4s. 9d. less than the estimate, which was set down at £67,000, a circumstance, however, fully accounted for by the fact that no stations of importance have during the year been opened which have proved any great sources of revenue.

The number of telegrams transmitted during the year was 1,124,432, being an increase over the previous year of 73,346. Comparing this increase with that of the increase of the year 1875–76 over the year 1874–75, it will be seen that the increased number transmitted falls short by some 60,612. Taking into account the value of the General Government telegrams, the total earnings of the department for the year amounted to £82,669 4s., and, as will be seen on reference to the debtor and creditor statement, this exceeds the expenditure in maintenance of lines and stations by £1,384 5s. 2d. The cost of maintenance of stations for the year was £63,353 10s. 10d, and of lines £17,931 8s. The former item shows an increased expenditure over the previous year of £1,656 16s. 5d., and the latter a decrease of £3,143 0s. 8d.

The number of telegrams transmitted during the year, as compared with the number of letters posted during the same period, shows that 20·29 telegrams were sent for every 100 letters. The comparative number for the previous year was 22·21. The proportion for the present year is therefore somewhat less, but the fact that the number of letters shows an increase of 809,047 has to be taken into consideration.

The number of money-order telegrams sent during the year was 12,336, representing a value of £55,322 2s. 6d., being an increase of 1,624 messages, and £6,333 5s. 3d., as compared with the previous year.

The commission collected by the Post Office on these transactions amounts to £1,554 12s. 8d.; and after deducting £616 16s., due to the Telegraph Department as fees on telegrams, there remains to the credit of the Post Office £937 16s. 8d., being within a fraction of 1·7 per cent. upon the total amount transmitted. Upon reference to Table C, it will be seen that the largest number of orders were issued in Dunedin, Wellington coming next, and Auckland and Christchurch third in point of numbers; but Auckland's transactions exceeded those of Christchurch by more than £1,500.

During the year, 105 miles of line, carrying 176 miles of wire, have been erected.

The number of stations open to the public on the 30th June was 155, 15 of which were opened during the past year, 7 being in the North Island and 8 in the South Island.

The cost per mile for maintenance of line was £5 12s. 11d., the extent of line maintained being 3,174 miles (85 miles line not included in Maintenance Table—see foot-note, Table G).

On the 30th June, 1877, 3,259 miles of line, carrying 7,423 miles of wire, were in circuit, showing an increased mileage upon the previous year of line, 105 miles; and wire, 176.

Owing to the numerous demands made to the department for establishing telegraph stations, as well as the constantly increasing work, it is found necessary to keep a class of cadets constantly in training. This accounts for the increased nominal strength of the department, which at the 30th June, 1877, was 612, as compared with 567 of the previous year.

Since the date of the last report the new offices at Dunedin have been completed, and afford the greatest satisfaction. It was found necessary to make additions to the Head Office of the department, as well as to the Wellington instrument room. A large and commodious clearing-house has been erected, affording the greatest convenience for the proper checking of the accounts. A new office for the General Manager has been added, as also a workshop for the mechanician. The old clearing-house has been converted into an instrument gallery, and will afford sufficient accommodation for eight additional instruments.

Since the date of the last report, the duplex system of telegraphy has been further extended between Christchurch and Dunedin, Government Buildings and Blenheim, and Blenheim and Dunedin. This latter section is about 500 miles in length, and is one of the longest circuits upon which the system has yet been tried without translation.

The Government Buildings and Blenheim duplex is worked on the No. 2 Cook Strait cable, thus giving the three wires of No. 1 for the work of commerce.

On the 2nd November, 1876, the Blenheim office was totally destroyed by fire. By the strenuous exertions of the officers comprising the staff, all the instruments of value were saved, and the wires joined through until temporary accommodation could be obtained. Little delay was experienced. Temporary offices are still occupied until the completion of new office, for which tenders have been let.

Arrangements are now being made for taking over the whole of the railway telegraphs hitherto worked by the late Provincial Government of Canterbury. At every railway telegraph station telegrams will be accepted from the public for transmission, and at every railway station adjacent to a telegraph station (as in the case of Timaru) telegrams will be received from the public and forwarded to the telegraph office proper for transmission. The details of working of railway wires so as to prove of the greatest advantage to both departments, without impairing the efficiency of either, are now under consideration.

Appended to the report are plans showing the various telegraphic circuits, as also maps showing the geographical position of the various telegraph stations throughout the colony.

The following line, which was in course of construction at the date of the last report, has been completed:—

HAWERA TO NEW PLYMOUTH.

Since the date of the last report this line has been completed throughout, and has since its completion maintained good electrical condition. The direct communication thus established with New Plymouth proves of great advantage to that town, as well as to the colony generally. The total cost of the line is shown in Table K.

LINES AND WORKS PROJECTED AND FINISHED DURING THE YEAR.

REEFTON TO WESTPORT.

This line, which was completed on the 19th June last, is 50 miles in length, 28 miles being new line, and the remaining 22 miles, from the junction of the Inangahua and Buller Rivers to Reefton, the wire is carried along the poles carrying the Reefton and Lyell line. This line will now render that section of line between Westport and Brighton, which has proved very expensive to maintain, useless; and, as the work performed of late years by the Brighton office has been of trifling importance, it is proposed to dismantle that section and close the office at Brighton. This will effect a very considerable saving to the department. The poles on this line are sawn from heart of totara, and for the better protection of the line an extra bush clearing of one chain wide has been made throughout. More than ordinary expense has been incurred in the construction of this line, owing to the rough nature of the country, the expense of delivering material, and the rocky nature of the country making it difficult to sink holes. The cost of this line is shown in Table K.

PALMERSTON NORTH TO FEILDING.

This line was completed and an office opened at Feilding on the 28th March, 1877. The line follows the railway line for its whole distance. The bush has been cleared to a sufficient extent on either side to insure the line against the probability of injury by falling trees. The cost of this line, which is 12 miles in length, is shown in Table K.

WAIWERA LINE FROM WARKWORTH.

A substantial guarantee having been offered for the establishment of a telegraph station at Waiwera, it was decided to extend communication to that place. The line, which is 16 miles in length, was completed and an office opened at Waiwera on the 5th February, 1877. This station will doubtless prove a source of very great convenience to many of the business people and residents of Auckland, who spend several days during the summer months at the Hot Springs at Waiwera.

LINES AND WORKS IN COURSE OF CONSTRUCTION.

KAWAKAWA TO MONGONUI.

From Kawakawa to a point known as the Black Bridge, a distance of 11 miles, the wire will run on the poles carrying the Ohacawai and Hokianga wire. The general direction of

the line will then be from the Black Bridge, crossing the Kerikeri River by the Upper Falls, thence across the Waipapa Stream to Kukuparere, thence down the Kaeo Valley to the head of the navigation of the Kaeo Stream. From this point a loop-line of about 6 miles in length will require to be erected, to connect the Whangaroa Township. Leaving Kaeo the main line will run under Taratara Hill, through the Waihapu settlement, and by the north side of Omaiiti across to the island in Mongonui Harbour, thence round the western side of the harbour to Mongonui Township. The total length of line from Black Bridge, including loop to Whangaroa is 53 miles.

MAINTENANCE AND REPAIRS.

RIVERTON TO BALCLUTHA.

In July last the line between Invercargill and Winton received an overhaul, and the whole of the section extending from Invercargill to Dunedin was gone over by the repairing party; all broken insulators were replaced, and every necessary repair effected. Near Matura it was found necessary to shift about $1\frac{1}{2}$ miles of line from town sections to the main road. The section between Clinton, Tapanui, and Switzers has also been overhauled, but no repairs of any importance were found necessary.

BALCLUTHA TO WAITAKI.

This section has been overhauled, broken insulators being replaced and other minor repairs effected. A new line has been erected on Waitaki Bridge, superseding the old one, which consisted of a few long spans supported by ordinary poles, bolted to piles driven into the river-bed. This alteration will prove advantageous, as it places the line thoroughly safe in the time of floods, as well as giving it a neat and uniform appearance. The wires passing through the Dunedin Botanical Gardens have been heightened by the erection of 30-foot poles. Between Palmerston and Clyde the line has been examined, and sundry alterations and improvements effected. At the exposed parts, where the line is liable to sustain injury from snow, the spans have been shortened, and at the Kyeburn and Manuherikia Rivers precautionary measures have been taken to guard against interruption in the event of floods.

TOKOMAIRIRO TO QUEENSTOWN.

The whole of this section has been gone over, and some alterations made. In and about Lawrence one mile of line was shifted to the line of the streets. Between Lawrence and Alexandra several new poles have been inserted where the angular nature of the line rendered such necessary. Owing to the use of iron poles for nearly the whole of the distance between Queenstown and Lawrence, the casualties on that section are not numerous. The whole of the lines south of Waitaki are now in thorough repair and first-class working order.

CHRISTCHURCH TO HOKITIKA AND GREYMOUTH.

This section has during the year received a thorough overhaul, and all necessary repairs effected. At the Ashburton and Rangitata rivers, improvements have been made at the former by fixing the wires to the bridge, which insures greater safety to the line, and facilitates repairs. At the Rangitata four groups of tubes, carrying poles, have been inserted at the crossing. This precautionary work was rendered necessary by the shifting of streams, and the need of shortening spans, which were formerly too long to carry with safety the number of wires at that particular point.

Between the Christchurch Telegraph Station and Railway Station two wires have been erected in readiness to connect with the railway telegraph system generally, when the amalgamation already referred to has been effected.

BLENHEIM TO WHITE'S BAY.

Upon this section a fourth wire was erected to meet the second Cook Strait cable, and the line was then strengthened throughout. Three miles of wire which had become corroded by proximity to the sea were replaced.

GREYMOUTH TO REEFTON.

The number of interruptions on this section caused through falling timber, owing to the original bush-clearing not being of sufficient width, necessitated further clearing, and all timber liable to endanger the line has been removed. Where the line does not follow the dray road, the track made along the line for purposes of maintenance has at several points been repaired.

REEFTON TO LYELL.

On this section stouter poles have been erected at most of the angles, and at such points where the wires were carried on trees they have been removed to totara poles.

WELLINGTON TO NEW PLYMOUTH.

This section has during the year received attention. Between Wellington and Wanganui the line is now receiving a thorough overhaul, and all necessary repairs are being effected. The advantage of removing the line inland between Paikakariki and Otaki, thereby removing it from the influences of the sea, has, during the past year, been amply proved. Upon this

section, since the date of the last report, stations have been established at Feilding, Waitotara, Sanson, and Manutahi, the three latter of which are guaranteed stations. Owing to the increasing business on this line it will be necessary during the coming year to run an additional wire between Wellington and Wanganui.

WELLINGTON TO NAPIER.

Between Waipukurau and Wainui on this section a working party has carefully examined the line, removing all decayed poles and arms, and replacing broken insulators. The section throughout is in good working order.

NAPIER TO GRAHAMSTOWN.

No casualties of any importance upon this section have occurred during the year. The line has been carefully examined throughout; and between Tauranga and Opotiki, and Tauranga and Grahamstown Swamp, tracks have been improved and repaired, and culverts renewed on those portions of the track made by the department for the purposes of maintenance. The section is now in good order.

AUCKLAND LINES.

All lines in the Provincial District of Auckland have, during the year, with few exceptions, maintained their usual good working order. On the Manukau Heads line a large swamp has been fascined and rendered passable for linemen. Between Newcastle and Hamilton the insulation has been renewed throughout, and at Rangiriri poles have been strengthened where disturbed by the flooding of the Waikato River. During the year the Onehunga line has been seen to; and the sections between Auckland and Drury, and Drury and Mercer, have been overhauled, all broken insulators being replaced, and any other necessary repairs effected. All other lines in this district have been examined, and repairs and alterations made where found necessary. The turrets at the River Thames have been placed in good repair, one being entirely rebuilt.

On the section between Auckland and Hokianga, at all long spans the wire has been carried on single arms, and fern and scrub cleared away from poles. Crossings at various creeks on this line have been made, swamps fascined, and culverts laid, which measures will now render the whole section easy of inspection. The cost of maintenance of this and other sections throughout the colony is shown in Table G.

COOK STRAIT CABLES.

No. 1 Cable.—Since the date of the last report, this cable has been in constant and uninterrupted working order. On reference to the record of tests shown in Table H, it will be seen that Nos. 1 and 3 wires are in good electrical condition; while No. 2 wire maintains its usual low standard. This wire, however, has never given such good results when tested as the other wires in the cable since it was first submerged.

No. 2 Cable.—This cable, referred to in the last year's report, arrived per ship "Zealandia," in September, 1876. Owing to the absence from Sydney of the cable ship engaged repairing the Port Darwin and Java cable, the cable could not be removed from the "Zealandia" until the arrival of the cable ship "Agnes" early in November, and thus a large liability for demurrage became due. An order was sent to England for an additional $7\frac{1}{2}$ miles "shore end," as the original order had not been adhered to. This arrived per "Adamant" in the latter part of February, 1877. In the meantime that portion which arrived per "Zealandia" had been laid, and the shore end was taken out by the "Agnes" and joined, and the laying completed in March, 1877. This cable gives very satisfactory results, as will be seen on reference to the tests shown in Table I. The original contract for the cable was obtained and also manufactured by the Telegraph Construction and Maintenance Company, London, and that for the additional $7\frac{1}{2}$ miles of heavier type for shore end (subsequently ordered) by Messrs. Siemens Brothers, London. Electrical tests were taken both before and after submergence, and both types gave results considerably above the stipulated electrical standard. The department takes this opportunity of thankfully acknowledging the valuable services and assistance rendered by Mr. W. Grigor Taylor, Electrician and Superintendent of the Australian and New Zealand cable, who tested the cable on behalf of the New Zealand Government, and superintended the laying; of Captain Sims, the commander of the cable ship "Agnes;" and of Pilot Holmes, who navigated the vessel during the laying of the cable.

SCHEDULE OF TABLES.

Table A.	—Cash Revenue and Expenditure, Signals Department.
" B.	—Number of Telegrams sent for every 100 Letters.
" C.	—Number of Telegraph Money Orders issued.
" D.	—Value of Government Telegrams.
" E.	—Comparative Quarterly Return, years ending June 1876 and 1877.
" F.	—Annual Comparative Progress of the Department.
" G.	—Cost of Maintenance of Lines.
" H.	—Insulation Tests, Cook Strait Cable.
" I.	—Insulation Tests, No. 2 Cook Strait Cable.
" K.	—Total Cost of Lines.
" L.	—Debtor and Creditor Statement.

TABLE A—continued.

CASH REVENUE derived from Private, Press, and Provincial Government Messages, &c.—continued.

Name of Station.	Total Cash Revenue derived from Private, Press, and Provincial Government Messages.	Value of General Government Messages.	Total Value of Messages of all Codes.	Total Number of Private, Press, and Provincial Government Messages.	Total Number of General Government Messages.	Total Number of Messages of all Codes.	Amount Paid for Salaries.	Contingencies.	Total Cost of Maintenance of each Station.
	£ s. d.	£ s. d.	£ s. d.				£ s. d.	£ s. d.	£ s. d.
Marton	251 0 0	30 12 3	281 12 3	3,557	402	3,959	154 11 8	87 9 6	242 1 2
Masterton	527 11 1	50 16 9	578 7 10	7,068	574	7,642	210 2 8	65 18 9	276 1 5
Mataura*	97 16 11	12 19 7	110 16 6	1,674	181	1,855	226 13 4	11 10 9	238 4 1
Mercer	98 0 1	15 19 4	113 19 5	1,661	165	1,826	134 11 8	13 13 11	148 5 7
Mosgiel	71 11 2	7 2 6	78 13 8	1,223	86	1,309	128 11 8	7 6 5	135 18 1
Motucka	109 10 9	11 1 7	120 12 4	1,909	137	2,046	140 11 8	10 7 8	150 19 4
Napier	2,043 10 6	573 15 3	2,617 5 4	23,729	5,132	28,861	1,850 9 8	198 8 6	2,048 18 2
Naseby	220 3 9	48 3 6	268 7 3	3,140	659	3,799	104 11 8	37 6 8	141 18 4
Nelson	2,086 8 1	488 2 10	2,574 10 11	29,326	5,576	34,902	1,530 19 11	155 16 10	1,686 16 9
Newcastle	175 15 7	73 19 7	249 15 2	2,791	546	3,337	185 11 0	38 15 1	224 6 9
Newmarket	30 17 9	5 0 2	35 17 11	495	49	544	18 0 0	27 11 2	45 11 2
New Plymouth	831 16 0	271 17 5	1,103 13 5	10,085	2,918	13,003	491 6 8	81 18 10	573 5 6
Oamaru	1,939 19 1	277 9 9	2,217 8 10	24,084	3,452	27,536	614 19 5	105 6 0	720 5 5
Ohacawai	59 7 7	15 7 10	74 15 5	926	92	1,018	96 13 4	9 16 8	106 10 0
Onelunga	183 10 0	78 19 1	262 9 1	3,246	1,252	4,498	233 16 3	26 9 2	260 5 5
Ophir*	67 18 4	5 18 9	73 17 1	1,118	85	1,203	129 11 8	9 9 2	139 0 10
Opotiki*	139 4 7	84 10 11	223 15 6	2,143	818	2,961	162 10 0	13 14 8	176 4 8
Opunake*	26 18 6	33 16 10	60 15 4	417	476	893	140 0 0	28 5 8	168 5 8
Otago Heads	32 19 6	1 3 8	34 3 2	599	21	620	40 0 0	15 8 2	55 8 2
Otahuhu	38 17 0	2 16 7	41 13 7	662	35	697	217 19 7	90 9 0	308 8 7
Otaki*	66 4 2	10 12 4	76 16 6	1,076	82	1,158	125 0 0	10 5 8	135 5 8
Outram	45 3 8	3 1 10	48 5 6	779	46	825	71 13 4	42 8 11	114 2 3
Oxford	46 10 9	3 5 0	49 15 9	768	27	795	131 10 0	62 17 11	194 7 11
Palmerston	293 14 7	28 17 3	322 11 10	4,793	338	5,131	266 16 8	42 10 8	309 7 4
Palmerston North	359 5 4	54 5 5	413 10 9	5,335	614	5,949	264 11 8	36 5 6	300 17 2
Patea	310 18 9	121 8 6	432 7 3	4,463	1,082	5,545	260 16 8	60 15 6	321 12 2
Picton	269 8 9	74 7 5	343 16 2	4,280	1,128	5,408	186 0 0	42 18 6	228 18 6
Porangahau*	94 15 3	14 19 10	109 15 1	1,313	107	1,420	124 11 8	10 9 8	135 1 4
Port Chalmers	443 9 3	357 18 6	801 7 9	8,741	6,199	14,940	482 16 8	32 12 4	515 9 0
Pukorokoro*	10 14 1	5 2 4	15 16 5	154	27	181	140 0 0	9 17 2	149 17 2
Queenstown	382 13 3	46 7 8	429 0 11	5,087	539	5,626	210 16 8	45 14 3	256 10 11
Rakaia	98 3 0	9 4 1	107 7 1	1,651	125	1,776	104 11 9	33 2 11	137 14 8
Rangiora	136 19 6	5 14 4	142 13 10	2,300	89	2,389	142 1 8	19 15 11	161 17 7
Reefton	924 7 8	82 19 11	1,007 7 7	12,280	1,155	13,435	329 11 8	137 4 4	466 16 0
Richmond*	68 12 8	3 14 11	72 7 7	1,152	55	1,207	176 5 0	22 11 11	198 16 11
Riverhead	20 3 0	2 19 10	23 2 10	335	35	370	102 10 0	6 3 8	108 13 8
Riverton	266 5 5	25 16 1	292 1 6	4,052	416	4,468	286 14 11	33 5 6	320 0 5
Ross	163 15 4	11 2 2	174 17 6	2,533	155	2,688	189 11 8	47 12 8	237 4 4
Rotorua*	110 1 0	111 9 1	221 10 1	1,659	679	2,338	152 10 0	33 19 10	186 9 10
Roxburgh*	96 15 0	30 11 4	127 6 4	1,620	493	2,113	233 6 8	15 12 2	248 18 10
Russell	192 12 2	72 17 5	265 9 7	3,164	1,006	4,170	142 10 0	25 10 1	168 0 1
Sanson	6 5 9	1 2 11	7 8 8	93	15	108	11 5 0	47 5 8	58 10 8
Southbridge	109 1 11	8 12 1	117 14 0	1,784	101	1,885	109 0 0	19 5 2	128 5 2
Spit	481 18 7	122 14 0	604 12 7	7,556	1,931	9,487	302 3 4	36 1 9	338 5 1
St. Bathans	66 1 5	5 10 4	71 11 9	1,057	86	1,143	95 0 0	18 5 10	113 5 10
Stirling	1 9 7	1 18 0	3 7 7	29	31	50	...	3 18 0	3 18 0
Tapanui	168 12 11	12 15 8	181 8 7	2,596	159	2,755	126 11 8	34 7 5	160 19 1
Tarawera*	29 6 7	14 11 9	43 18 4	465	145	610	140 0 0	24 15 8	164 15 8
Taupo*	95 6 8	147 13 11	243 0 7	1,396	1,365	2,761	127 10 0	34 16 2	162 6 2
Tauranga	451 8 6	316 16 5	768 4 11	6,590	2,926	9,516	335 0 0	40 16 0	375 16 0
Te Awamutu*	70 14 11	12 8 4	83 3 3	1,130	150	1,280	204 1 8	32 3 10	236 5 6
Temuka	217 3 4	28 12 6	245 15 10	3,635	323	3,958	284 6 8	33 3 2	317 9 10
Timaru	1,854 15 6	242 19 7	2,097 15 1	23,537	3,084	26,621	655 8 4	185 12 7	841 0 11
Tokatea	61 12 4	20 0 5	81 12 9	1,059	341	1,400	127 1 8	23 13 5	150 15 1
Tokomiriro	280 11 8	31 7 7	311 19 3	4,651	361	5,012	197 10 0	25 13 5	223 3 5
Top House*	15 13 7	0 4 1	15 17 8	231	2	233	120 0 0	16 17 0	136 17 0
Turakina	71 17 4	6 19 10	78 17 2	1,189	91	1,280	150 3 4	29 6 8	179 10 0
Upper Hutt	126 17 8	11 2 11	138 0 7	2,183	148	2,331	100 0 0	46 17 10	146 17 10
Waiaru	143 16 2	23 15 0	167 11 2	1,891	207	2,098	105 8 4	11 19 2	117 7 6
Waiholo	36 17 8	2 17 1	39 14 9	649	39	688	60 0 0	21 8 8	81 8 8
Waikanae	66 15 5	6 10 11	73 6 4	1,046	88	1,134	92 0 0	52 3 8	144 3 8
Waikouaiti	145 0 6	13 1 7	158 2 1	2,481	178	2,659	174 11 8	31 9 1	206 0 9
Waimate	387 10 2	36 3 11	423 14 1	5,671	514	6,185	258 11 8	63 11 4	322 3 0
Waimui*	29 17 5	0 2 9	30 0 2	437	2	439	139 11 8	7 5 8	146 17 4
Waipawa	216 6 1	29 18 4	246 4 5	3,521	354	3,875	164 1 8	21 12 4	185 14 0
Waipu*	35 4 6	1 11 8	36 16 2	597	22	619	111 13 4	39 6 8	151 0 0
Waipukurau	243 10 9	65 4 7	308 15 4	3,381	691	4,072	112 10 0	45 13 11	158 3 11
Wairoa	199 19 6	57 12 1	257 11 7	3,347	564	3,911	160 0 0	7 3 8	167 3 8
Waitaki	30 12 8	7 3 6	37 16 2	504	68	572	60 0 0	10 0 8	70 0 8
Waitotara	65 12 11	6 7 3	72 0 2	1,075	68	1,143	72 10 0	102 12 2	175 2 2
Waiuku	12 5 7	0 17 8	13 3 3	203	10	213	9 11 8	27 19 0	37 10 8
Waiwera	42 1 3	1 1 4	43 2 7	659	11	670	38 6 8	17 15 10	56 2 6
Wakapuaka	790 2 9	0 9 11	790 12 8	9,648	4	9,652	297 18 4	383 1 0	680 19 4
Wanganui	1,669 12 3	277 16 2	1,947 8 5	23,088	3,136	26,224	891 5 0	115 14 10	1,006 19 10
Warkworth	60 0 0	6 6 7	66 6 7	916	63	1,009	112 18 4	21 1 2	133 19 6
Waverley	110 12 6	6 11 7	117 4 1	1,864	88	1,952	103 6 8	27 0 8	130 7 4
Wellington	5,251 6 9	1,991 12 1	7,242 18 10	129,111	20,620	149,731	4,636 13 8	323 11 1	4,960 4 9
Westport	827 10 7	278 9 5	1,106 0 0	10,211	3,407	13,618	334 5 0	121 12 4	455 17 4
Whangarei	132 15 3	42 8 9	175 4 0	1,770	577	2,347	144 11 8	21 12 2	166 3 10
White's Bay*	...	...	...	...	...	...	135 0 0	17 8 0	152 8 0
Winton*	96 12 1	10 15 2	107 7 3	1,608	160	1,768	140 0 0	14 2 11	154 2 11
Totals	64,560 15 7	17,100 13 9	81,661 9 4	952,283	172,159	1,124,432	54,041 14 0	9,311 16 10	63,353 10 10

* Operator; also Lineman. † From this amount £76 5s. to be deducted, being cash received from Government Annuities Department.

TABLE B.

NUMBER of Interprovincial Letters forwarded during the Year ended 31st December, 1876; Number of Telegrams despatched in each Province during the Year ended 30th June, 1877; and proportion of Telegrams to every 100 Letters; together with a similar Return for the previous Year.

	1876-77.			1875-76.		
	Number of Letters.	Number of Telegrams.	Proportion of Telegrams sent for every 100 Letters.	Number of Letters.	Number of Telegrams.	Proportion of Telegrams sent for every 100 Letters.
Wellington	926,387	260,449	28.11	817,348	227,356	27.81
Marlborough	143,719	21,016	14.62	124,634	21,598	17.32
Nelson	237,257	57,055	24.04	217,680	63,233	29.04
Canterbury	1,176,688	157,143	13.35	877,558	149,764	17.06
Westland	280,730	90,700	32.3	250,931	68,021	27.1
Otago	1,319,753	223,615	16.94	1,169,431	223,185	19.08
Southland	230,200	38,533	16.73	211,929	41,752	19.7
Hawke's Bay	262,623	65,645	24.99	218,520	41,484	18.98
Taranaki	101,300	23,348	23.04	84,623	37,614	44.44
Auckland	862,263	186,928	21.67	759,219	177,079	23.32

	1876-77.	1875-76.	1874-75.	1873-74.	1872-73.	1871-72.	1870-71.	1869-70.	1868-69.	1867-68.
Total number of Letters ...	5,540,920	4,731,873	4,059,517	3,209,837	2,878,372	2,418,021	2,626,947	2,374,060	2,749,488	1,933,578
Total number of Telegrams ...	1,124,432	1,051,086	917,128	752,899	568,960	411,677	312,874	185,423	146,167	106,104
Proportion of Telegrams to every 100 Letters ...	20.29	22.21	22.59	23.45	19.76	17.02	11.91	7.81	6.12	5.47

TABLE C.

RETURN of the NUMBER and AMOUNT of TELEGRAPH MONEY ORDERS ISSUED within the several POSTAL DISTRICTS during the Year ended 30th June, 1877.

District.	Number.	Commission.	Amount.
Auckland	1,637	£ s. d. 218 10 4	£ s. d. 8,058 3 9
Thames	157	18 3 8	611 16 0
New Plymouth	339	43 12 4	1,550 18 3
Napier	1,077	142 3 8	5,238 19 7
Wellington	2,309	287 2 4	10,212 13 11
Blenheim	361	44 14 4	1,570 14 10
Nelson	333	40 16 4	1,444 8 8
Westport	367	46 13 8	1,663 17 4
Greymouth	788	102 14 8	3,687 17 0
Hokitika	603	71 16 4	2,387 5 6
Christchurch	1,637	191 17 0	6,488 13 7
Dunedin	2,356	302 16 0	10,956 11 11
Invercargill	372	43 12 0	1,450 2 2
Total	12,336	1,554 12 8	55,322 2 6

TABLE D.

CASH VALUE of Shipping Telegrams and Amount chargeable to each Department of the General Government for Telegrams transmitted during the Year ended 30th June, 1877.

Colonial Secretary	£ s. d. 2,005 10 9
Customs	521 17 0
Defence	2,330 5 0
Government Annuities	220 9 0
Judicial	1,730 12 0
Postal	2,192 10 0
Registrar-General	81 7 0
Shipping Reports	1,362 11 0
Treasury	1,362 8 0
Weather Reports	940 2 0
Works	4,353 2 0
	17,100 13 9
Less amount paid by Government Annuities	76 5 0
Total	17,024 8 9

TABLE E.

ORDINARY, PRESS, and PROVINCIAL GOVERNMENT TELEGRAMS despatched during each Quarter of the Years ended 30th June, 1876 and 1877 respectively, and the Revenue derived from each Class.

1875-76.

	September Quarter.		December Quarter.		March Quarter.		June Quarter.		Totals.	
	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.
Ordinary Telegrams	178,669	12,150 16 6	196,005	13,142 2 7	210,400	13,924 18 3	226,439	15,013 15 5	811,533	54,231 12 9
Press Telegrams	15,543	2,313 12 6	14,617	1,808 14 1	15,023	1,314 6 1	18,083	1,496 12 10	63,266	6,933 5 6
Provincial Government Telegrams	3,467	365 2 6	3,639	388 3 0	4,079	388 5 2	4,398	429 1 5	15,583	1,550 12 1
Totals	197,699	14,829 11 6	214,261	15,318 19 8	229,502	15,627 9 6	248,920	16,939 9 8	890,382	62,715 10 4

1876-77.

	September Quarter.		December Quarter.		March Quarter.		June Quarter.		Totals.	
	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.	No. of Telegrams.	Revenue derived. £ s. d.
Ordinary Telegrams	197,156	13,168 6 10	217,573	14,442 13 8	226,151	14,378 16 6	227,726	14,910 1 5	868,606	57,399 18 5
Press Telegrams	18,282	2,049 9 1	16,985	1,441 12 9	21,181	1,457 11 9	19,345	1,385 18 11	75,793	6,334 12 6
Provincial Government Telegrams	4,515	478 11 0	3,369	347 13 8	...	...	...	...	7,884	826 4 8
Totals	219,953	15,696 6 11	237,927	16,232 0 1	247,332	16,336 8 3	247,071	16,296 0 4	952,283	64,560 15 7

TABLE F.

COMPARATIVE TABLE showing the Progress of the TELEGRAPH DEPARTMENT during the Financial Years ended 30th June, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, and 1877.

Year ended	Number of Miles of Line.	Number of Miles of Wire.	Number of Stations open.	Number of Telegrams forwarded during the Year.		Revenue derived from		Value of General Government Messages.		Total Value of Business done during the Year.		Cost of Maintenance of Stations.		Cost of Maintenance of Lines.		Total Expenditure.		Cost of Maintenance of Lines per mile.		Tariff in Operation.					
				Private, Press, and Provincial Government.	General Government.	Private, Press, and Provincial Government Messages, and Incidental Receipts.	General Government Messages.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.										
30th June, 1866	699	1,390	13	24,761	2,476	27,237	5,561	19	2	483	3	2	3,934	3	4	2,443	2	11	6,377	6	3	3	9	10	} Mileage tariff.
"	757	1,498	21	55,621	15,331	70,952	9,070	10	1	3,770	4	8	8,017	14	7	2,541	4	11	10,558	19	6	3	7	1	
"	1,110	2,223	31	72,241	26,244	98,485	11,652	3	7	6,672	0	3	9,489	17	10	5,406	7	3	14,896	5	1	4	17	4	} Mileage tariff in operation up to 1st Sept., 1869; uniform 2s. 6d. tariff from 1st Sept., 1869, to 31st March, 1870; and 1s. tariff from 1st April, 1870.
"	1,329	2,405	45	106,070	50,097	156,157	18,520	10	4	13,430	11	9	14,266	12	7	8,547	4	9	22,813	17	4	6	8	6	
"	1,661	2,897	56	122,545	62,878	185,423	17,218	1	4	12,252	6	0	16,417	7	4	14,120	4	10	30,537	12	2	8	9	11	} Mileage tariff in operation up to 1st Sept., 1869; uniform 2s. 6d. tariff from 1st Sept., 1869, to 31st March, 1870; and 1s. tariff from 1st April, 1870.
"	*1,976	3,247	72	253,582	59,202	312,874	22,419	8	8	9,876	17	6	21,254	4	3	11,344	3	8	32,598	7	11	5	19	6	
"	†2,185	3,823	81	344,524	67,243	411,767	28,121	10	0	11,043	3	9	23,593	9	9	8,858	19	7	32,452	9	4	4	2	3	} From 1st November, 1873, address and signature given in free.
"	‡2,356	4,574	93	485,507	83,453	568,960	39,680	18	9	11,105	2	0	27,040	18	10	9,479	5	4	36,520	4	2	4	1	11	
"	§2,530	5,782	105	645,067	107,832	752,899	46,508	18	10	12,618	11	6	38,801	19	4	15,021	17	11	53,823	17	3	6	3	11	
"	||2,986	6,626	127	786,237	130,891	917,128	55,301	12	3	13,679	10	9	45,814	11	4	14,240	19	7	60,055	10	11	4	16	4	
"	¶3,154	7,247	142	890,382	160,704	1,051,086	62,715	10	4	16,154	6	0	61,696	14	5	21,074	8	8	82,771	3	1	5	18	10	
"	**3,259	7,423	155	952,283	172,159	1,124,432	65,644	15	3	17,024	8	9	63,353	10	10	17,931	8	0	81,284	18	10	5	12	11	

* From this mileage 78 miles to be deducted before computing the cost per mile for maintenance.
 † From this mileage 32 miles to be deducted before computing the cost per mile for maintenance.
 ‡ From this mileage 42 miles to be deducted before computing the cost per mile for maintenance.
 § From this mileage 106 miles to be deducted before computing the cost per mile for maintenance.
 || From this mileage 31 miles to be deducted before computing the cost per mile for maintenance.
 ¶ From this mileage 174 miles to be deducted before computing the cost per mile for maintenance.
 ** From this mileage 85 miles to be deducted before computing the cost per mile for maintenance.

TABLE G.
 COST OF MAINTENANCE OF TELEGRAPH LINES FOR THE FINANCIAL YEAR ENDED 30TH JUNE, 1877.

Section.	No. of Miles.	Salaries of Linemen and Inspectors.	Travelling Expenses of Linemen and Inspectors.	Extra Labour.	Cost of Material used for Repairs.	Total Cost of Maintenance.	Cost per Mile.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Riverton to Balclutha, including Winton and Switzer's Line	200	283 6 8	213 1 3	70 5 10	12 3 8	578 17 5	2 17 10
Tokomairiro to Queenstown	140	440 8 4	241 17 6	47 5 0	38 15 10	768 6 8	5 9 9
Balclutha to Waitaki, including Naseby, Ophir, St. Bathian's, Kaitangata, Outram, and Otago Heads Lines	293	527 1 8	227 12 7	237 1 1	77 12 8	1,069 8 0	3 12 11
Waitaki to Christchurch, including Akaroa, Geraldine, Lyttelton, and Oxford Lines	231	384 3 4	197 2 9	147 11 2	116 8 6	845 5 9	3 13 2
Christchurch to Greymouth, including Ross Line from Hokitika	196	496 1 0	488 8 9	298 11 1	160 17 9	1,443 18 7	7 7 4
Greymouth to Westport, including Reefton and Lyell Lines	149	280 16 8	563 12 9	252 17 8	33 14 0	1,131 1 1	7 11 9
Christchurch to Blenheim, including Rangiora Line, 8 miles, Southbridge Line, 30 miles, and Waiau Line, 37 miles	283	887 14 0	352 5 6	163 19 8	123 18 2	1,527 17 4	5 7 11
Blenheim to Nelson, including White's Bay Line	92	270 0 0	325 1 6	125 4 7	52 4 4	772 10 5	8 7 11
Nelson to Lyell, including Motueka Line	150	221 5 0	241 14 7	61 14 8	34 9 4	559 3 7	3 14 6
Wellington to Opunake and New Plymouth, including Line to Palmerston North from Foxton, 25 miles, and from Palmerston to Feilding, 12 miles	279	501 5 0	526 18 6	430 9 2	133 19 3	1,592 11 11	5 14 1
Wellington to Napier	221	486 2 3	343 4 7	140 12 0	126 8 4	1,096 7 2	4 19 2
Napier to Tauranga, including Gisborne and Opotiki Lines	361	696 12 4	551 9 4	407 2 11	35 13 9	1,690 18 4	4 8 1
Tauranga to Grahamstown	73	629 3 4	336 7 4	525 6 11	308 6 9	1,799 4 4	24 12 11
Auckland to Coromandel and Alexandra, including Manukau, Tokatea, and Waiwera Lines	286	704 11 8	636 10 9	358 13 6	86 3 4	1,785 19 3	6 4 10
Auckland to Bay of Islands and Hokianga	220	575 9 4	609 13 1	67 12 2	17 3 7	1,269 18 2	5 15 5
Totals	3,174	7,384 0 7	5,855 0 9	3,384 7 5	1,357 19 3	17,931 8 0	*5 12 11

* Total average cost of maintenance per mile.
 NOTE.—Cargill's Line from Roxburgh (2 miles), Wellington Signal Station Line (4 miles), Reefton to Westport Line (28 miles), Hawera to New Plymouth *via* Mount Egmont (49 miles), and Ohinemutu Line (2 miles), not included in this table.

TABLE H.
INSULATION TESTS OF THE COOK STRAIT CABLE FOR THE YEARS ENDED 30th JUNE, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, and 1877 respectively, showing the Resistance per knot after Two Minutes' Electrification in Megohms (British Association Units of Resistance).

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.	Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.	Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.	Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1867— Sept. 1	473	71	554	1869— Nov. 8	582	5	1,253	1871— April 24	508	185	1,003	1872— Nov. 20	763	208	1,556
Sept. 30	634	102	634	Dec. 3	638	25	1,159	May 23	489	208	955	Dec. 30	867	220	1,561
Oct. 14	547	179	620	1870— June 24	717	128	1,288	June 24	717	220	1,561	July 24	682	75	1,365
Nov. 1	598	326	667	July†	...	...	...	July†	...	...	...	Aug. 29	771	580	1,564
Nov. 14	574	106	643	Aug. 25	751	3	865	Jan. 24	642	103	1,307	Sept. 24	643	69	1,483
Dec. 2	608	105	709	Sept. 25	517	34	707	Feb. 24	578	181	1,271	Oct. 26	644	11	1,308
1868— June 7*	930	55	1,094	Oct.†	...	...	967	March 25	611	248	1,420	Nov. 24	849	18	1,882
Sept. 11	630	225	946	Nov. 23	641	265	1,481	April 23	585	210	1,272	Dec. 23	650	84	1,060
Sept. 17	637	635	1,000	Dec. 28	570	998	1,079	May 23	505	297	1,231	Jan. 23	883	94	1,695
1869— March 27	467	26	729	1872— Jan. 27	579	829	981	June 23	611	500	1,203	Jan. 23	764	44	1,274
April 19	483	30	748	Feb. 27	596	95	1,073	Aug. 23	609	572	1,193	Feb. 23	719	304	1,277
May 11	522	31	950	March 31	676	185	938	Sept. 23	609	572	1,193	March 24	636	376	1,139
May 17	531	14	963	April 25	553	391	979	Oct. 21	569	1821	1,214	April 23	636	417	1,274
June 22	522	15	931	May 28	649	444	1,173	Nov. 22	695	3475	1,429	May 22	712	419	1,064
July 27	649	9	1,104	June 22	687	496	1,146	Dec. 24	554	3895	1,312	June 24	562	419	1,064
Aug. 24	667	7	1,200	July 23	826	656	1,476	1874— Jan. 24	592	3143	1,438	July 24	749	120	1,453
Sept. 27	754	13	1,275	Aug. 19	818	885	1,735	Feb. 24	551	2807	1,217	Aug. 24	679	165	1,251
Oct.†	...	...	...	Sept.†	...	...	...	March 25	559	3715	1,106	Sept. 24	812	161	1,781
				Oct. 22	709	173	1,331	April 24	579	3564	1,303	Oct. 23	692	187	1,264
				...	...	...	...	...	...	...	...	Nov. 24	622	205	1,391
				...	...	...	...	...	...	...	...	Dec.†	...	...	...

* This test was taken with zinc to earth; all the others with copper to earth. † No tests taken. ‡ Cable broken.

TABLE I.
INSULATION TESTS OF SECOND COOK STRAIT CABLE FOR THE YEAR ENDED 30th JUNE, 1877, showing the Resistance per knot after two Minutes' Electrification in Megohms (British Association Units of Resistance).

LENGTH OF CABLE LAID—44-315 KNOTS.

Date.	Dielectric Resistance per Knot.		Copper Resistance per Knot in Ohms.	Inductive Capacity per Knot in Microfarads.	Remarks.
	Five Cells.	Fifty Cells.			
1877— March 12	...	2,870	115085	3885	First test taken immediately after laying.
" 24	3,341	2,141	...	...
April 24	4,000	2,857	...	3851	
May 24	...	2,347	...	...
June 23	2,689	2,674	...	...

TABLE K.

TOTAL COST of the LINES of TELEGRAPH throughout New Zealand and of the Cook Strait Cable.

Section of Line.	Length of Section in Miles.	Cost of Clearing Bush.	Total Cost of Poles, including Delivery.	Cost of Wire, Arms, Insulators, &c., including Carriage.	Cost of Erection.	Total Cost of Section.	Cost per Mile.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Riverton to Invercargill ...	24	...	547 2 10	96 10 11	262 12 7	906 6 4	37 15 3
Bluff to Invercargill ...	19	...	...	...	812 15 6	812 15 6	c42 15 6
Invercargill to Mataura ...	32	...	1,199 0 0	739 1 4	469 11 0	2,407 12 4	75 4 9
Mataura to Waitaki ...	189	...	8,353 18 0	3,034 7 9	1,720 13 3	13,108 19 0	69 7 0
Waitaki to Hurunui ...	218	...	6,554 8 8	3,427 13 6	3,760 19 0	13,743 1 2	b63 0 7
Hurunui to Nelson ...	241	1,229 3 3	5,213 14 0	3,953 3 4	3,661 6 0	14,057 6 7	c58 6 0
White's Bay Line ...	7	...	...	...	503 12 6	503 12 6	d71 18 11
Port Chalmers Line ...	8	...	...	...	800 0 0	800 0 0	e100 0 0
Christchurch to Greymouth ...	176	...	...	...	3,808 0 0	3,808 0 0	f21 12 9
Greymouth to Westport ...	67	1,951 7 6	1,070 16 5	960 15 4	3,019 17 9	7,002 17 0	104 10 5
Blenheim to Woodend, reconstruction (including White's Bay Line), 194 miles ...	...	100 0 0	5,136 12 5	2,022 15 4	3,484 12 0	10,743 19 9	55 7 7
Palmerston to Naseby ...	54	...	754 14 10	247 2 2	435 19 9	1,437 16 9	26 12 6
Tokomairiro to Queenstown ...	140	...	...	...	4,432 1 4	4,432 1 4	g31 13 2
Tokomairiro to Queenstown, reconstruction, 140 miles ...	...	...	...	...	2,247 3 10	2,247 3 10	16 1 0
Third Wire from Dunedin to Oamaru (including loop line to Kakanui, 4 miles), 94 miles ...	4	...	264 12 0	830 16 11	426 15 9	1,522 4 8	16 3 10
Christchurch to Hokitika, reconstruction, 146 miles ...	...	...	1,881 16 5	446 13 5	873 12 11	3,202 2 9	21 18 8
Christchurch to Akaroa ...	50	65 10 0	805 2 6	721 5 8	817 18 5	2,409 16 7	48 3 11
Nelson to Motueka ...	32	10 10 0	872 13 2	375 5 8	321 11 2	1,580 0 0	49 7 6
Greymouth to Reefton ...	50	2,649 0 0	1,440 14 0	1,101 6 7	1,795 9 11	6,986 10 6	139 14 7
Leithfield to Waiiau ...	37	...	801 12 4	688 2 5	847 4 6	2,336 19 3	63 3 2
Invercargill to Winton ...	14	...	295 2 0	156 4 11	209 1 0	660 7 11	47 3 5
Hokitika to Ross ...	20	401 3 0	172 12 6	208 11 6	200 12 6	982 19 6	49 2 11
Kaipoi to Bangiora ...	8	...	207 0 0	48 2 8	37 17 6	293 0 2	36 12 6
Greymouth to Westport, reconstruction, 67 miles ...	...	...	675 14 3	69 16 9	1,216 9 1	1,962 0 1	29 5 8
Invercargill to Balclutha, reconstruction, 70 miles ...	...	...	1,221 3 0	113 15 5	706 12 3	2,041 11 5	29 3 3
Havelock to Nelson, reconstruction, 25 miles ...	...	...	379 18 6	17 15 0	144 5 2	541 18 8	21 13 6
Third Wire, Oamaru to Christchurch, 161 miles ...	...	...	936 2 10	1,935 7 2	1,077 10 8	3,949 0 8	24 16 6
Second Wire, Christchurch to Hokitika, 146 miles ...	...	...	290 6 0	1,286 7 0	518 13 6	2,095 6 6	14 7 0
Second and Third Wires, Hokitika to Greymouth, 60 miles ...	...	...	...	499 7 0	216 2 5	715 9 5	11 18 5
Fourth Wire, Palmerston to Dunedin, 33 miles ...	...	...	15 0 0	335 11 3	212 13 10	563 5 1	17 1 4
Reefton to Lyell ...	32	3,863 3 6	898 5 6	799 15 9	503 11 0	6,064 15 9	189 10 5
Tapanui and Switzer's Line, from Clinton ...	48	...	615 13 4	669 9 5	393 13 4	1,678 16 1	34 19 6
Fourth Wire, Blenheim to Christchurch (completed from Christchurch to Leithfield), 29 miles ...	...	...	...	286 9 7	131 17 6	418 7 1	14 8 6
Naseby to Clyde Line ...	56	...	2,351 10 3	3,311 11 6	632 19 9	6,296 1 6	112 8 7
Southbridge Line ...	30	...	649 9 2	353 8 0	217 6 10	1,220 4 0	40 14 8
Cargill's Line from Roxburgh ...	2	...	16 4 0	157 1 0	24 0 10	197 5 10	98 12 11
Geraldine Line from Temuka ...	12	...	30 11 9	324 1 10	33 17 3	388 10 10	32 7 6
Fourth and Fifth Wires, Christchurch to Bluff (completed from Christchurch to Dunedin and from Bluff to Clinton), 307 miles ...	...	...	1,041 7 8	6,339 19 6	1,768 14 10	9,150 2 0	29 16 1
Christchurch to Hokitika, reconstruction, 146 miles ...	...	2,610 0 6	252 11 0	462 2 0	1,294 5 3	4,618 18 9	31 12 8
Tokomairiro to Queenstown, reconstruction, 140 miles ...	...	...	685 8 0	41 12 9	110 15 0	837 15 9	5 19 8
Greymouth to Hokitika, reconstruction, 30 miles ...	...	1,181 9 0	789 19 1	451 6 5	1,757 9 1	4,180 3 7	139 6 9
Blenheim to Christchurch, reconstruction, 206 miles ...	...	101 18 1	1,099 17 6	1,885 12 3	1,645 9 7	4,732 17 5	22 19 5
Nelson to Lyell ...	118	4,210 5 8	5,429 8 3	2,649 19 1	2,435 2 9	14,724 15 9	124 15 8
Second Wire, Greymouth to Lyell, 82 miles ...	...	...	405 7 6	654 1 0	619 5 4	1,678 13 10	20 9 5
Fourth and Fifth Wires, Christchurch to Dunedin, and Third and Fourth Wires, Dunedin to Bluff, completion of (79 miles double wire) ...	...	...	150 12 0	405 11 2	539 3 7	1,095 6 9	13 17 3
Second Wire, Tokomairiro to Lawrence, 34 miles ...	...	...	20 0 0	37 8 5	137 6 1	194 14 6	5 14 6
Otago Heads Line ...	14	...	345 10 6	174 15 3	374 0 2	894 5 11	63 17 6
Kaitangata Line ...	6	...	184 16 2	73 6 10	139 19 1	398 2 1	66 7 0
Rangiora to Oxford ...	21	...	663 14 10	197 7 5	95 14 11	956 17 2	45 11 3
Outram Line ...	7	...	151 4 8	55 0 6	92 4 4	298 9 6	42 12 9
Reefton to Westport ...	28	1,189 17 0	602 7 0	502 17 7	636 1 10	2,931 3 5	104 13 8
Railway Wires,—							
Dunedin to Tokomairiro, 33 miles ...	...	...	104 12 2	522 2 9	231 9 10	858 4 9	26 0 1
Hampden to Waitaki, 35 miles ...	...	...	66 0 0	190 12 4	135 11 10	392 4 2	11 4 1
Totals, South Island ...	1,764	19,563 7 6	55,644 7 9	43,861 11 4	52,991 15 1	172,061 1 8	97 10 9

a Purchased from Southland Government. b Includes £450, purchase of Lyttelton Line. c Approximate cost. d Approximate cost of poles, &c. e Purchased from private firm. f Purchased from Canterbury Government. g Purchased from Otago Government; total cost includes £2,047 18s. 10d. for new material.

TABLE K—continued.
TOTAL COST of the LINES of TELEGRAPH, &C.—continued.

Section of Line.	Length of Section in Miles.	Cost of Clearing Bush.		Total Cost of Poles, including Delivery.		Cost of Wire, Arms, Insulators, &c., including Carriage.		Cost of Erection.		Total Cost of Section.		Cost per Mile.	
		£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Lyell's Bay to Wellington	4	...	...	123	5 0	104	6 0	57	15 0	285	6 0	71	6 0
Wellington to Patea	180	67	18 6	4,647	12 7	2,315	9 5	3,062	11 9	10,093	12 3	56	1 6
Wellington to Masterton	60	264	4 6	...	...	839	4 4	2,357	6 3	3,460	15 1	57	18 4
Masterton to Castlepoint	36	22	15 1	...	...	388	18 6	1,267	9 1	1,679	2 8	46	19 6
Castlepoint to Porangahau	53	176	9 4	2,362	10 0	722	18 6	1,105	16 10	4,367	14 8	82	8 2
Porangahau to Napier	68	74	0 0	2,459	15 6	918	9 8	1,252	10 2	4,704	15 4	69	3 9
Napier to Tauranga	200	153	18 6	9,404	12 6	5,763	13 7	5,767	18 5	21,090	3 0	105	9 0
Auckland to Alexandra	152	...	...	...	...	...	...	3,256	0 0	3,256	0 0	21	8 5
Auckland to Newcastle, reconstruction, 70 miles (including new line from Hamilton to Cambridge, 12 miles)	12	...	...	1,393	14 6	841	15 9	1,453	3 8	3,688	13 11	44	19 8
Mercer to Thames, including four towers for spanning Thames and Piako Rivers	36	...	...	2,158	8 10	1,386	13 10	1,492	7 5	5,037	10 1	139	18 7
Second Wire from Napier to Tauranga, 200 miles	...	793	19 9	31	17 0	2,607	9 1	880	11 1	4,313	16 11	21	11 4
Tauranga to Katikati	30	...	...	1,041	3 0	530	5 9	1,266	0 10	2,837	9 7	94	11 8
Katikati to Grahamstown	43	1,584	1 3	2,521	19 5	1,461	8 6	1,482	15 3	7,050	4 5	163	19 2
Third Wire from Auckland to Mercer, 40 miles	...	...	...	...	...	234	0 9	383	18 5	617	19 2	15	9 0
Third Wire from Auckland to Grahamstown, 76 miles	...	...	...	173	1 6	816	9 7	1,136	6 11	2,125	18 0	27	19 5
Third Wire from Wellington to Masterton, 60 miles; from Napier to Waipukurau, 43 miles	...	...	...	146	17 6	188	17 2	1,020	11 10	1,356	6 6	13	5 10
Grahamstown to Coromandel	30	1,108	13 6	605	6 3	414	6 9	2,076	12 0	4,204	18 6	140	3 3
Patea to New Plymouth, 90 miles; less 28 miles not yet erected	62	...	...	4,026	17 10	1,144	11 3	2,002	5 9	7,173	14 10	*115	14 1
Onehunga to Junction, reconstruction, 5 miles	...	...	...	40	5 0	4	6 0	36	19 10	81	10 10	16	6 2
Third Wire, Napier to Grahamstown, 270 miles	...	...	...	37	18 8	3,680	10 4	1,844	11 4	5,563	0 4	20	12 0
Manukau Heads Line	36	...	...	833	17 8	340	5 8	1,057	15 7	2,231	18 11	61	19 11
Cambridge to Alexandra, reconstruction, 50 miles	...	...	...	844	7 6	349	5 8	643	4 7	1,836	17 9	36	14 9
Maketu to Opotiki	54	...	...	1,959	8 3	1,238	9 10	1,301	4 6	4,499	2 7	83	6 4
Wellington Signal Station Line and Lunatic Asylum	4	...	...	62	6 0	90	9 8	34	18 6	187	14 2	46	18 6
Second Wire, Wellington to Wanganui, completed from Wanganui to Bull's, 26 miles	...	...	...	54	0 0	385	4 3	202	16 6	642	0 9	24	13 10
Poverty Bay Line	107	23	15 0	3,524	10 0	5,610	4 0	4,519	6 3	13,677	15 3	127	16 7
Kaipara and Bay of Islands Line	220	5,323	6 8	4,993	15 0	2,685	16 0	5,256	0 6	18,258	18 2	82	15 4
Masterton to Waipukurau, Third Wire, 115 miles	...	...	...	96	5 6	1,542	9 0	555	6 5	2,194	0 11	19	1 6
Foxton to Palmerston	25	...	...	653	12 3	283	13 0	241	10 2	1,178	15 5	47	3 0
Fourth Wire, Wellington to Masterton, and Waipukurau to Napier, 102 miles	...	...	...	138	7 6	932	5 2	677	2 5	1,747	15 1	17	2 8
Tokotea Line	4	...	...	83	1 10	27	12 5	91	5 8	201	19 11	50	9 11
Thames Alteration, including Pukorokoro Line, 9 miles	...	49	9 0	...	...	420	8 4	811	8 3	1,281	5 7	142	7 3
Second Wire, Wanganui to Hawera, 58 miles	...	...	...	19	7 0	693	16 0	211	16 0	924	19 0	15	18 11
Second Wire, Wellington to Wanganui, completed from Wellington to Otaki and Bull's to Foxton, 82 miles	...	...	...	551	0 3	2,875	4 4	1,937	6 5	5,363	11 0	65	8 2
Fourth Wire, Waipukurau to Porangahau, 18 miles	...	...	...	321	17 0	216	16 3	354	7 11	893	1 2	49	12 3
Second Wire, Wellington to Wanganui, completion of, 32 miles	...	...	...	187	14 6	328	1 6	976	10 9	1,492	6 9	46	12 8
Ohinemutu Line	2	...	...	9	12 0	109	13 0	21	16 0	141	1 0	70	10 6
Rangiriri to Mercer, reconstruction, 9 miles	...	...	...	...	...	26	17 6	66	16 3	93	13 9	10	8 2
Hawera to New Plymouth via Mount Egmont	49	25	0 0	1,236	3 6	946	10 4	1,629	10 6	3,837	4 4	78	6 2
Palmerston to Fielding	12	...	...	235	6 0	93	19 0	111	3 9	440	8 9	36	14 0
Waiwera Line from Warkworth	16	499	6 6	426	1 3	178	3 3	616	19 2	1,720	10 2	107	10 7
Railway Wires,— Auckland to Penrose, 8 miles	...	...	...	...	...	33	13 11	43	19 6	77	13 5	9	14 2
Totals North Island	1,495	10,166	17 7	47,405	18 1	43,772	12 10	54,565	17 5	155,911	5 11	† 104	5 9
Totals South Island	1,764	19,563	7 6	55,644	7 9	43,861	11 4	52,991	15 1	172,061	1 8	† 97	10 9
	3,259	29,730	5 1	103,050	5 10	87,634	4 2	107,557	12 6	327,972	7 7	...	...
No. 1 Cook Strait Cable, including freight from London and expenses of laying	...	...	...	...	...	...	...	...	...	29,864	0 0	...	...
No. 2 Cook Strait Cable, including freight from London, expenses of laying, and demurrage of ship "Zealandia"	...	...	...	...	...	...	...	...	...	13,248	6 8	...	...
Five miles spare No. 1 Cable, including freight from London	...	...	...	...	...	...	...	...	...	2,822	4 3	...	...
Total Expenditure, exclusive of Lines in progress	...	...	...	...	...	...	...	...	...	£ 373,906	18 6	...	...

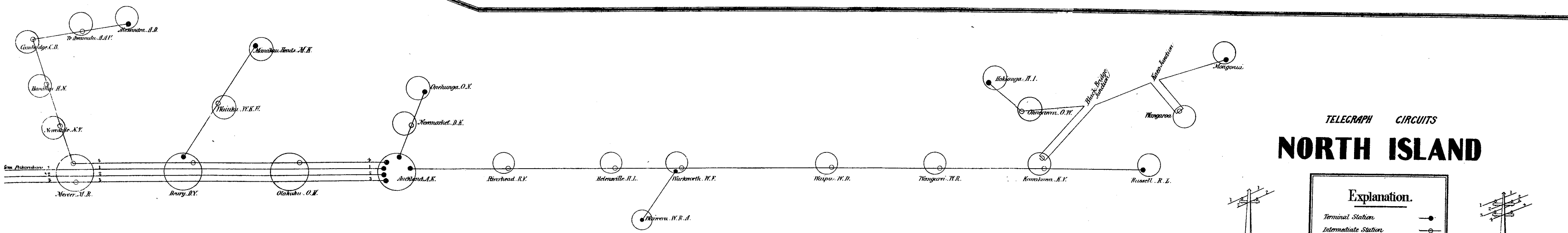
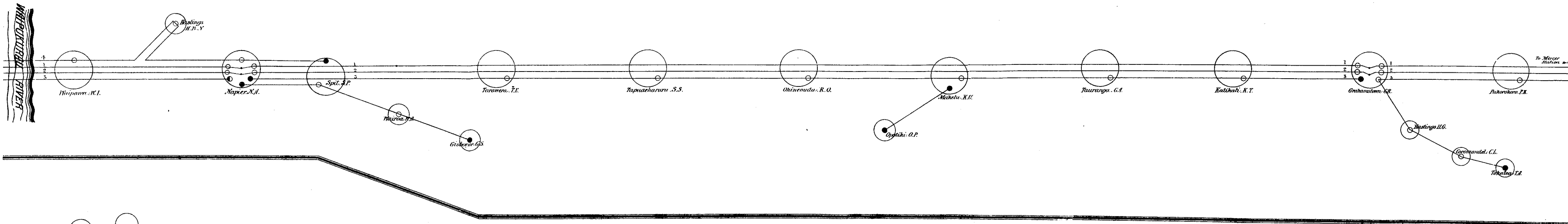
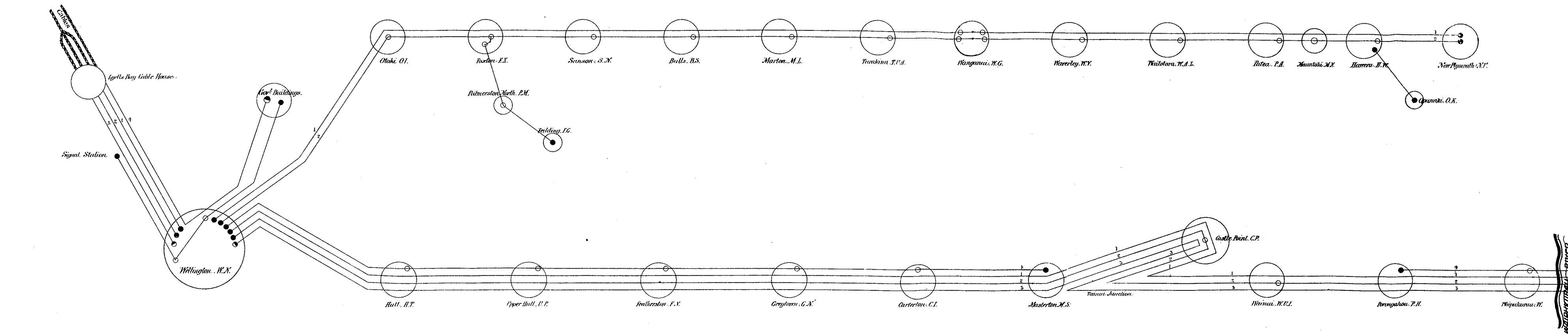
Total number of miles of Line, 3,259. Total number of miles of Wire, 7,423.

* This line now dismantled from Stony River, and new one substituted. † Average cost per mile.

TABLE L.
DEBTOR and CREDITOR STATEMENT.

DR.	£	s.	d.	£	s.	d.	CR.	£	s.	d.	£	s.	d.
To Total Cost of Maintenance of Stations ...	63,353	10	10				By Cash Receipts as under:—						
„ Total Cost of Maintenance of Lines ...	17,931	8	0				Ordinary, Press, and Provincial Government Telegrams *	64,560	15	7			
				81,284	18	10	„ Incidental Receipts not included in Tables,—						
							Excess on Ordinary Telegrams ...	77	8	6			
							„ Amount collected from Government Annuities Department for Telegrams transmitted ...	76	5	0			
							„ Collections for Copies of Telegrams ...	19	19	2			
							„ Amount collected by Postal Department for Money Order Telegrams	616	16	0			
							„ Proceeds of sale of condemned line horses, sundry material, articles of furniture, &c....	293	11	0			
„ Balance, being Receipts in excess of Expenditure...				1,384	5	2	„ Value of General Government Telegrams ...				65,644	15	3
											17,024	8	9
				£82,669	4	0					£82,669	4	0

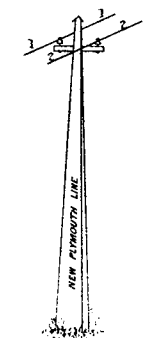
* Of this amount, £875 19s. 3d. was collected in postage stamps.



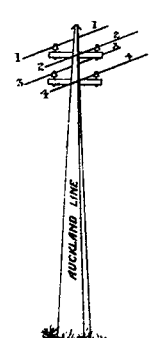
TELEGRAPH CIRCUITS
NORTH ISLAND

Explanation.

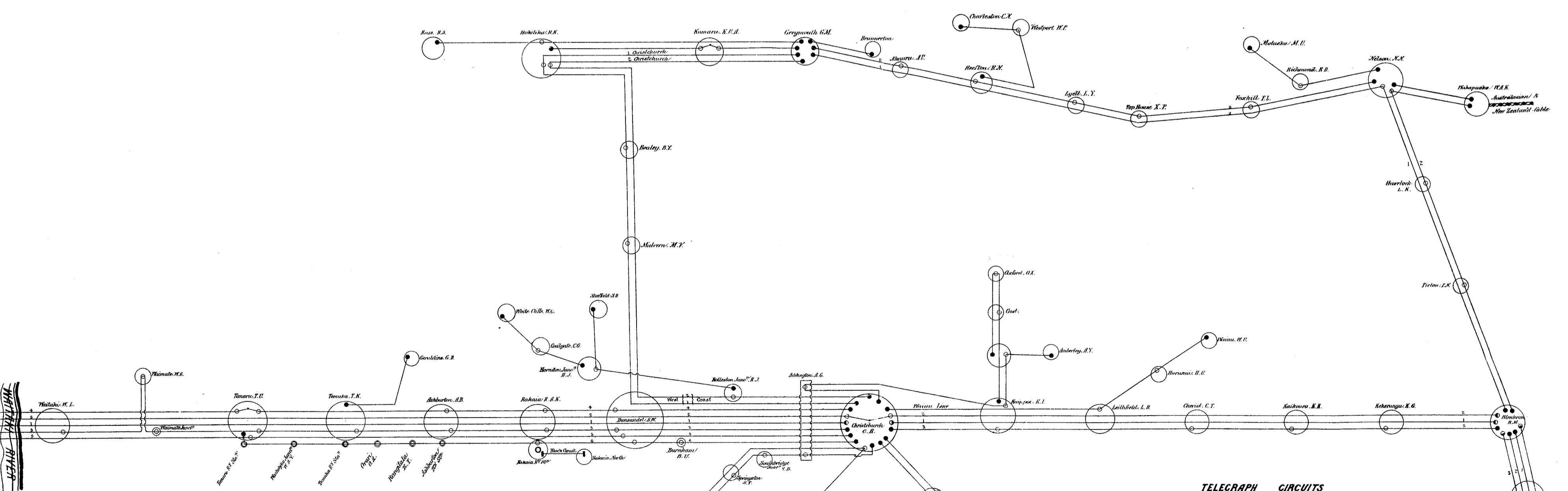
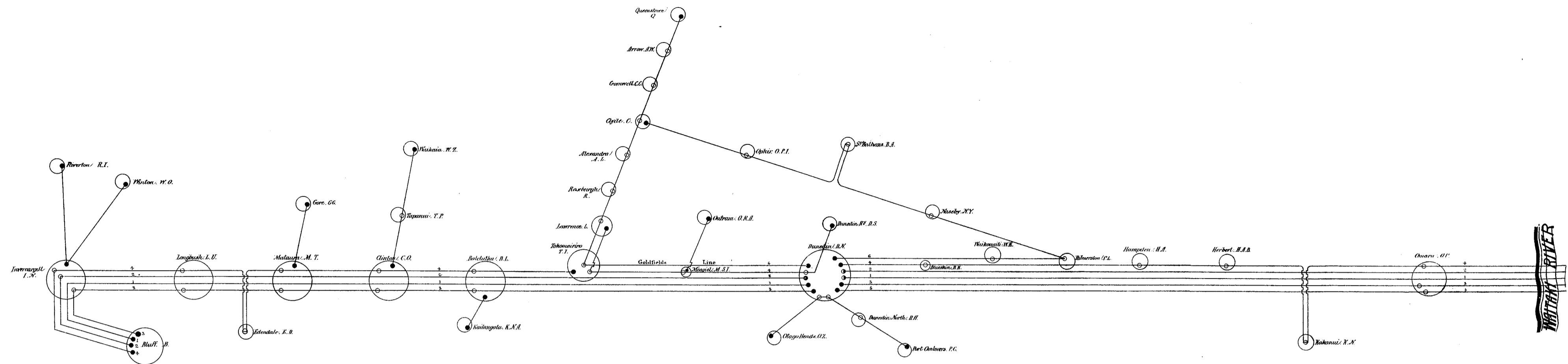
Terminal Station	●
Intermediate Station	○
Terminal, Intermediate, or cut out altogether.	○
Duplex line	—



Standing at foot of pole looking North. 1 is on the left, 2 & 3 are on the right.

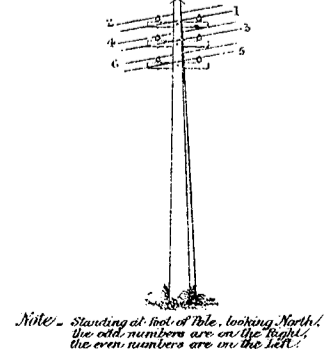


Standing at foot of pole looking North. 2 & 3 are on the right, 1 & 4 are on the left.



Explanation.

Terminal Station	●
Intermediate Station	○
Intermediate, Terminal, or Cut out altogether	○
Duplex	○
Revolving Stations containing Instruments	○
Block Instruments in Circuit	—
South sent. Copper North to key.	—



TELEGRAPH CIRCUITS
MIDDLE ISLAND

WHITE RIVER

WHITE RIVER

White Bay W. B.



174°

176°

178°

C. Maria van Thermen

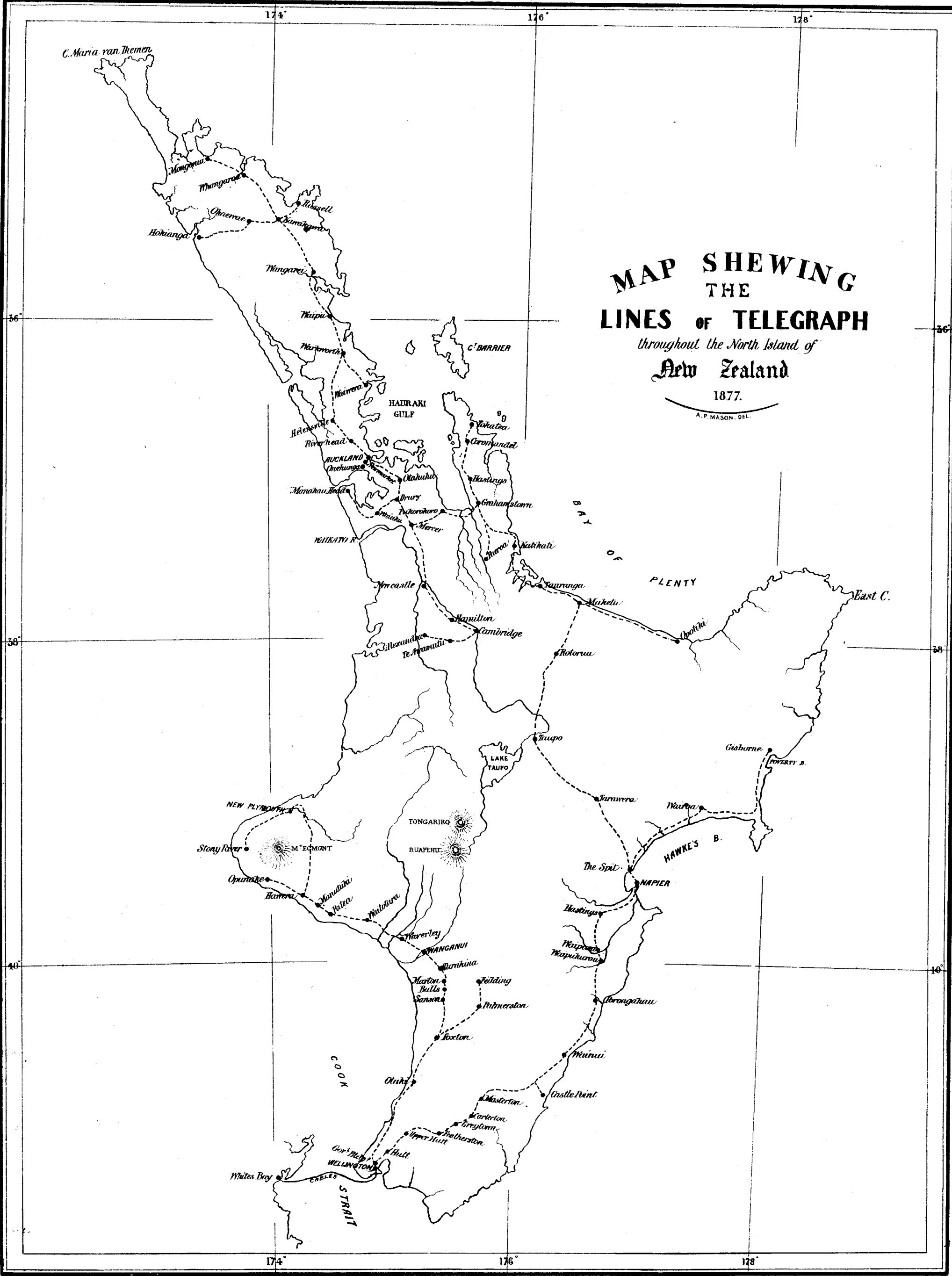
MAP SHEWING THE LINES OF TELEGRAPH

throughout the North Island of

New Zealand

1877.

A. P. MASON. DEL.



36°

36°

38°

38°

40°

40°

174°

176°

178°

168°

170°

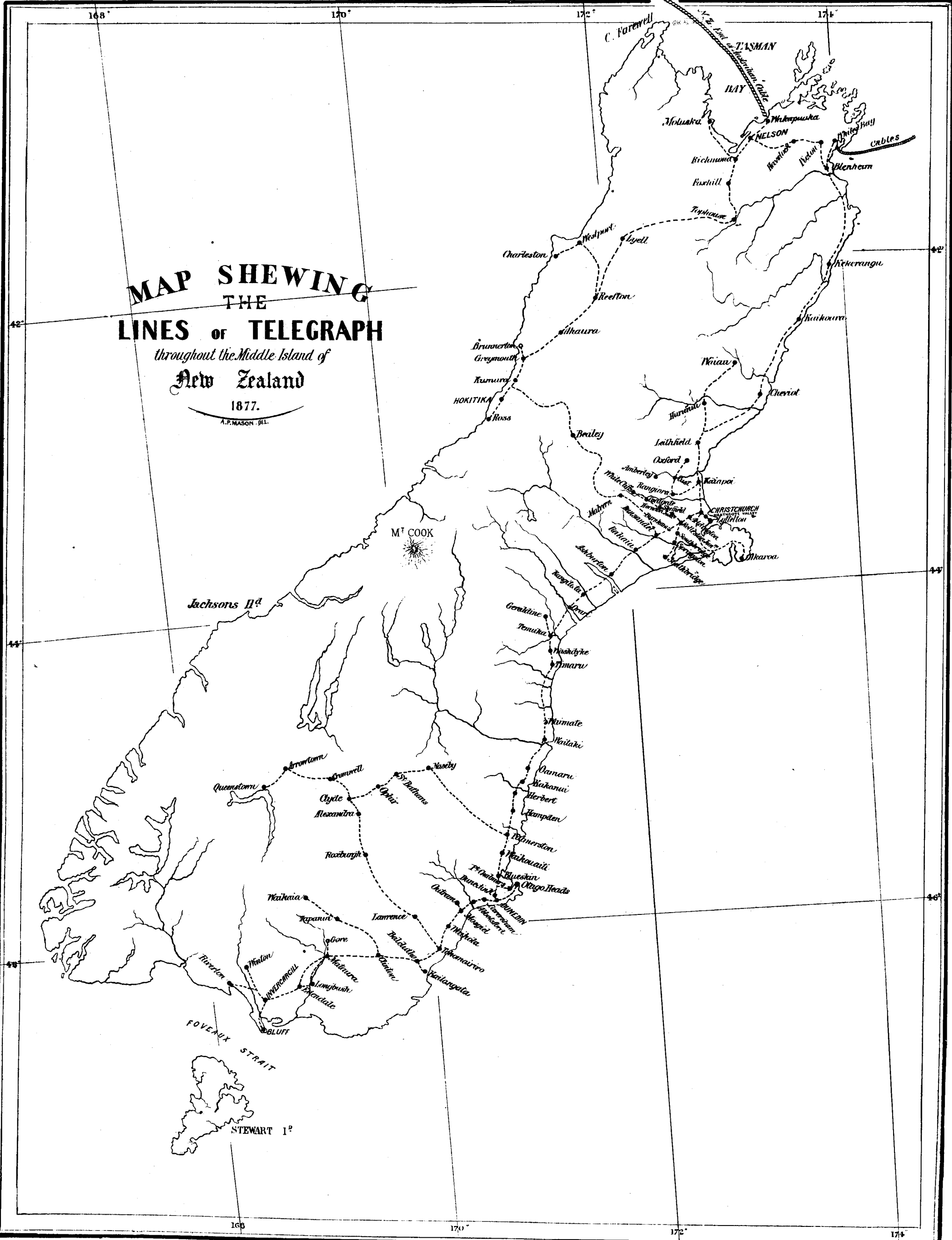
172°

174°

**MAP SHEWING
THE
LINES OF TELEGRAPH
throughout the Middle Island of
New Zealand**

1877.

A.P. MASON DEL.



FOVEAUX STRAIT

STEWART I^d

168°

170°

172°

174°

42°

44°

46°

42°

44°

46°

