

1860-1.

VICTORIA.

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# REPORT

OF THE

GENERAL SUPERINTENDENT

OF

# ELECTRIC TELEGRAPH,

ON THE

ADVANCEMENT AND CONDITION OF HIS DEPARTMENT,  
FOR THE YEAR ENDING 31<sup>ST</sup> DECEMBER, 1860.

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PRESENTED TO BOTH HOUSES OF PARLIAMENT BY HIS EXCELLENCY'S COMMAND.

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By Authority:

JOHN FERRES, GOVERNMENT PRINTER, MELBOURNE.

# REPORT.

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Department of Electric Telegraph,

Office of the General Superintendent,

Melbourne, 21st January, 1861.

At the date of my concluding Report for the year 1859, the several extensions of lines and works in active progress during that year had been completed and opened for communication. The short line from Maryborough to Creswick *via* Back Creek and Clunes was opened with Back Creek on the 21st ultimo, and will probably be opened with Clunes on or about the 5th proximo; this line would have been opened at a much earlier date but for the delay occasioned through there being no provision for stations at the time of its completion, (the vote having been previously exhausted).

The line to Cape Schanck is still unopened owing to a decision communicated to me by the Honorable the Postmaster-General in the month of July last, apprising me that no further charges on account of the work alluded to, could be incurred until such time as it might be required for actual use, either in time of war, or by the settlement of inhabitants in the vicinity. On further consideration of the matter at a more recent date, it was, however, eventually decided that communication should be opened with Snapper Point and Cape Schanck, and offices at those localities are in course of erection. Communication will be available, I hope, by the middle of February.

The short extension from Dunolly to Tarnagulla (Sandy Creek) was opened on the 1st November last, but the decease of the late manager at Tarnagulla occasioned a temporary interruption to the business of the office, which was not fairly opened until the 18th November, since which date the communication has been regularly maintained.

The branch line extending from Beechworth, and connecting with Yackandandah, Chiltern, (Indigo) and Wahgunyah was completed on the 1st ultimo, but owing to the limited amount available under the vote for stations it has been found that the erection of permanent structures must be deferred until after the Estimates for 1861 may have been voted; in the meantime temporary wooden buildings are now being provided, and the communication will probably be made available during the ensuing month.

The line from Portland to Hamilton was reported completed on the 15th ultimo, but from there being no funds for the erection of the requisite station building, it will be necessary to make some provisional arrangements for opening the communication; these I hope to complete, and to have the line available within about six weeks.

## LINES PROPOSED FOR CONSTRUCTION IN 1861.

The extensions contemplated during the ensuing year are considerably reduced from my original recommendation, owing to the general reductions now being effected in nearly every branch of Governmental expenditure.

Provision has been made upon the Estimates for the erection of a second or *through* wire between the eastern and western boundaries of the colony for facilitating the intercolonial business. The requisite amount has also been introduced for providing an extension between Ararat and Pleasant Creek, and for effecting alterations and improvements generally to existing lines. The necessity for the provision of the second wire is specially alluded to in the seventh page of my last Report, and in now reiterating the remarks made therein, I can only express my regret that the necessary amount could not have been availed of at an earlier period, as I am fully convinced from personal observation that had this facility been in existence during the past year the revenue of the department would have shown an increase of nearly (£1500) one thousand five hundred pounds over the amount actually received. In other words the absence of the provision alluded to has occasioned a loss to the service amounting to about the sum I have named, during the year 1860.

I was desirous of securing the extension of a line to Sale and Port Albert, Gipps Land, and also the extension of the Sandy Creek line to Swan Hill, on the Murray, during the present year, but I was informed that the exigencies of the public service would not admit of the necessary provision (£15,500) being made during 1861. I therefore did not press my proposition, further than to give expression to the opinion which I still hold, that the extensions alluded to might be rendered self-supporting, or in any case, that they would form no permanent charge on the resources of the Government, beyond the first cost for establishment, &c.

## TASMANIA (INTERCOLONIAL) COMMUNICATION.

I regret to have to report that since the 28th of April last, the submarine section of this line between Sea Elephant Bay, King Island, and West Bay, Three Hummock Island (49 miles) has been interrupted. The damage is of an extensive nature, and has been found to exist at a point about eight to ten miles south-east of Sea Elephant Bay. Full details connected with the attempted repair of the cable will be found in the report of the Superintendent of the submarine line, together with full particulars relative to the same subject, contained in the documents annexed to this Report, (Appendix A).

Subsequent to the date of my Report of the 13th September, 1860, the Honorable the Treasurer for Tasmania visited this colony on behalf of the Government of Tasmania in order to negotiate as to further proceedings respecting the repair of the line, when it was determined, that as it was inadvisable under existing circumstances to incur the expense of engaging a steamer, the most suitable sailing vessel for the work available at this port should be procured, and duly despatched with the requisite equipment of men, boats, grappling lines, spare cable, &c.; this decision was carried into effect, and the party under the charge of the superintendent started in the schooner *Tommy*, 59 tons, on the 11th ultimo, provided with such lengths of spare cable as could be rendered available (in all about five miles), with the view of raising and re-connecting the severed ends of the cable; but, although the expedition has succeeded, notwithstanding the unusual prevalence of inclement and unseasonable weather recently experienced, in weighing and buoying the inner end of the broken portion, about seven (7) miles from the landing, the attempt to

recover the outer end of the cable has up to the present period proved unsuccessful. Every effort is now being made, as I am assured by telegraphic reports from Mr. Savage, to discover and raise the sea end of the cable, but the constant recurrence of unfavorable weather greatly retards operations, which, under less adverse circumstances, would, ere this, I have no doubt, been attended with success.

The remaining sections of the line continue to test perfectly; and for all practical purposes are now in a thoroughly efficient condition; constant communication is maintained with Cape Otway and King Island on the one hand, and between Launceston and Circular Head on the other; the line between the latter point and West Bay, Three Hummock Island, being still in efficient order, although of course unemployed pending the repair of the broken section seaward of West Bay.

As the line was laid down in four sections in preference to adopting the more direct route from Heads to Heads, with the express view of affording to the Governments interested a greater insurance against total loss in carrying out, what, under any circumstances, could only be considered as a really hazardous undertaking, it may eventually become a matter for the consideration of the Governments of Victoria and Tasmania whether, in case the present attempt to remove the existing interruption be unsuccessful, it would not be advisable to relay the entire single section between King Island and Three Hummock Island; afterwards recovering so much of the original portion of cable as might be rendered available for future repairs, &c. The cost of effecting the renewal alluded to would not exceed (£10,000) ten thousand pounds (or £5000 for either colony), and as the remaining sections of the line continue in a condition of entire integrity, after an expenditure upon the whole work of more than (£53,000) fifty-three thousand pounds, I consider that strong arguments could be adduced to warrant the additional expenditure, if found to be necessary, for re-establishing and perfecting the communication between Tasmania and Victoria.

#### COMBINATION OF THE OFFICE OF MANAGER OF THE ELECTRIC TELEGRAPH WITH THAT OF POSTMASTER.

The duties of the Postal Service are now combined with those of the Electric Telegraph at (21) twenty-one stations, viz:—Hexham, Streatham, Beaufort, Longwood, Benalla, Belvoir, Belfast, Warrnambool, Gisborne, Avoca, Daylesford, Maldon, Dunolly, Tarnagulla, Heathcote, Wangaratta, Creswick, Kyneton, Back Creek, Sandridge, and Echuca. At most of the places named, the combined services are conducted in a satisfactory and efficient manner; but I beg to state that I still hold the same opinion with reference to the offices at Belfast, Warrnambool, and Kyneton, as that expressed on page 10 of my last Report. I cannot approve of the changes effected at those stations, as the practical result has been to deteriorate the value of this branch of the service, owing to the frequent pre-occupation of the attention of the manager with other duties; and although no positive decrease may be observable in the amount of the receipts, at the places last named, yet this service has been less satisfactorily rendered than was the case previous to the combination, and future experience will not, I fear, tend to improve existing facilities at the stations to which I allude.

#### INTERRUPTIONS TO THE COMMUNICATION.

The annexed Return (Appendix B) will afford full particulars as to the cause and duration of the several interruptions which have occurred during the year; falling trees and the clearing of roads by the road contractors, being among the most prolific sources of

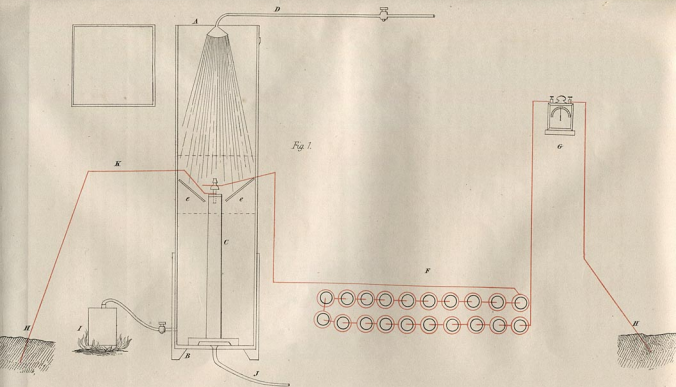
damage. I need scarcely remark that in each instance the least possible delay was allowed to intervene in effecting the requisite repairs, and that when the several road works now in progress may have advanced toward completion and permanency, one of the present leading causes of interruption will have been to a great extent removed.







Imperfections in the insulation of a section of the Western Line having rendered it necessary to renew the insulators between Warrnambool, Belfast, Portland, and the terminal of the line, near the Glenelg River, I was led into an extended consideration of the subject generally, as to the most perfect form of insulator and the best material for securing the greatest permanency in its effect. I procured five (5) samples of the ordinary earthenware insulators, taken from the posts where they had been exposed to the weather for about three years. On testing these insulators for absorption, I found that one of the number had, in twenty-eight days, increased its weight by nearly three (3) grains. This in itself would have sufficiently explained the cause of the great waste of battery current on the particular section from which the insulators had been taken, as although the defection specially noticeable in the case in point is apparently unimportant, still, when it is considered that in fifty (50) miles of line, there are fifteen hundred (1500) insulators, (or 1500 points at which, should there be a defect, the current may diverge from the wire and pass to the posts and the earth) it may readily be understood to what extent even a comparatively small number of defective insulators may affect the efficient working of the communication.

In order more fully to test the qualities of the various descriptions of insulators commonly used, and also their relative value under certain tests, I devised the appliances detailed in the accompanying sketch [*Plate I.*], of which the following is a brief description:—

- A.B.*, figure 1. Is a watertight chamber, six feet high by nineteen inches square, its sides being fitted with plate glass panels, twelve inches square, at about the centre of its height.
- C.* Is an upright wooden shaft, of the same proportions and in other respects resembling the head of a telegraph post, with insulator and pin as shown in position.
- D.* Is a water pipe fitted with showering apparatus as shown.
- E.E.* Are adjustable hinged slides, which may be so arranged as to cause the falling particles of water to strike the top of the post, or the insulator and pin at any desired angle.
- F.* Is the battery from which the testing current is derived.
- G.* Is the galvanometer.
- H.H.* Are the earth connections; the red lines show the course of the circuit, and the interposing insulation at its connection in the inside of the chamber, and *K.* the continuation of the circuit from the insulating pin to the earth.
- I.* Is a closed metal vessel, partially filled with water, under which a fire is applied; a small pipe conducts the steam so generated to the interior of the chamber, the supply being regulated by a tap cock as shown.
- J.* Is a waste pipe to carry off the water collected in the bottom of the chamber.

The general arrangements for testing each insulator are as shown; the earth wire is attached to the pin immediately below the insulator and passing thence to the earth; the leading wire from the battery passes clear of all woodwork or substance of any kind directly to the outside of the insulator; the other pole of the battery is conducted through



| Description of Insulator.   | Battery Power.                  | Deflection of<br>Torsion Galvanum. | Deflection of<br>Henley's Galvanum. |
|---|---------------------------------|------------------------------------|-------------------------------------|
| <p>N<sup>o</sup>1.</p> <p>Single umbrella.</p> <p>(Earthenware.)</p>   | <p>Groves.</p> <p>20 cells.</p> | <p>20°</p>                         | <p>0.50°</p>                        |
| <p>N<sup>o</sup>2.</p> <p>Double umbrella.</p> <p>(Earthenware.)</p>   | <p>d°</p>                       | <p>4°</p>                          | <p>nil.</p>                         |
| <p>N<sup>o</sup>3.</p> <p>Single umbrella.</p> <p>(Porcelain.)</p>   | <p>d°</p>                       | <p>nil.</p>                        | <p>d°</p>                           |
| <p>N<sup>o</sup>4.</p> <p>Double umbrella.</p> <p>(Porcelain.)</p>   | <p>d°</p>                       | <p>d°</p>                          | <p>d°</p>                           |
| <p>N<sup>o</sup>5.</p> <p>Double umbrella.</p> <p>(Porcelain) with<br/>ruin shield and<br/>new flange pin.</p>  | <p>d°</p>                       | <p>d°</p>                          | <p>d°</p>                           |
| <p>N<sup>o</sup>6.</p> <p>Double cone.</p> <p>(Earthenware.)</p>   | <p>d°</p>                       | <p>5°</p>                          | <p>d°</p>                           |

the galvanometer to the earth. The water having been turned on and the hinged slides adjusted so as to give to the falling particles of water a direction similar to that of "driving rain," it will be found on applying the battery power that any loss from imperfect insulation will soon be apparent on the dial of the galvanometer; the usual duration of each test being about one hour.

The next and most severe test is for aqueous vapor, or fog; the water having been shut off, the tap cock in the pipe leading to the hot water vessel is opened, and the chamber is soon filled with a dense steam, but as it would be contrary to natural conditions to apply any test with the air in the chamber at more than 65° or 70° of temperature, a thermometer is introduced, and when a sufficiently low reading has been observed the battery power is again applied; the result is with an imperfect insulator, instantly noticeable, as the steam having become partially condensed on both the inside and the outside of the insulator, admits of the conduction of a portion of the current to the earth wire attached to the pin, and so to the earth.

I have tested the insulators Nos. 1 to 6 shown in the accompanying table [*Plate II*], and the results have been as indicated in the third and fourth columns.

No. 1 being the insulator most commonly in use on the lines in this colony was first tried, when within thirty (30) minutes the torsion galvanometer showed 20° loss, and a very delicate vertical galvanometer by "Henley" showed 0.50°; these results were not appreciably increased under the fog test.

No. 2, an improved form of earthenware insulator, showed 4° of loss under all tests.

Nos. 3, 4, and 5 showed no loss under each test, but as Nos. 3 and 4 exhibited a faintly perceptible vibration in the needle, and as No. 5 did not show the same indication, I give the highest degree of merit to the latter, although I believe that its apparent superiority is due in some degree to the new form of pin used; the flange of the pin being only ( $\frac{3}{4}$ ) three quarters of an inch below the lip of the inner hollow section of the insulator, and projecting slightly beyond it protects the interior chamber against the intrusion of the "driving" rain, or rain beating up from the top of the post while forced against it at an angle during the prevalence of storms.

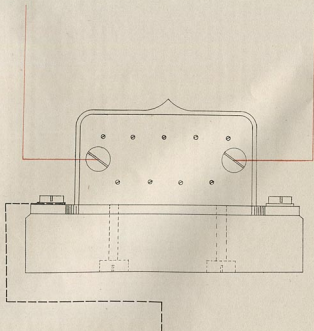
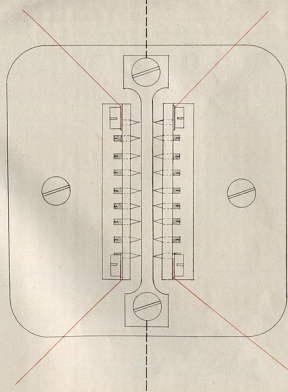
No. 6 showed the most active loss under the fog test, and although proving itself to be superior to No. 1, yet the relative merits of the two insulators would I believe possess little dissimilarity during the fogs, which have so frequently interrupted the working of our coast lines.

In carrying out the tests above detailed, it was of course scarcely possible to secure entirely every condition of atmospheric change to which the insulation of the lines is commonly subjected; but so far as the means referred to would admit, I believe the results to have been obtained with the nearest artificial approach to the usual state of the atmosphere in rainy and foggy weather; a larger per centage of loss might have been shown by employing a more powerful battery, but the force applied being in excess of that which each insulator would under ordinary circumstances be required to resist, I did not consider it requisite to use a battery of higher intensity. I purpose making many more experiments on various other descriptions of insulators and insulating material, as soon as present demands upon my time will allow me to pursue the investigation. A supply of the No. 5 insulators and pins has already been contracted for, to be imported from England, and it is expected that they will arrive in time to admit of their being used in the erection of the second wire between Albury and Mount Gambier.



Frequent injury to the instruments occasioned by atmospheric electricity and the numerous interruptions resulting from such a cause, led me to adopt the form of "lightning arrester" or conductor shown in the accompanying sketch [*Plate III.*], most of the stations being now supplied with this particular instrument or with others of the old form. A detailed description of the instrument is unnecessary, as the sketch is of the full size, the red lines show the main circuit and the line thus — — — — — the earth connections respectively. The base plate is formed of marble in preference to wood, the latter being liable, through contraction, warping, &c., to affect the efficiency of the arrester. The plates and screws are of brass, the centre or earth plate is carefully electro-plated with gold in order to preserve its surface from oxydization; the points are all set with adjustable screw bearings, so that, in the event of one becoming fused, it may be removed, re-pointed, and replaced; the instrument is adjusted by screwing each point sufficiently near to the surface of the centre plate to allow only of the passage of a slip of thin paper between the point and the plate. It is found in practice that atmospheric electricity, which is generally of high intensity, will readily pass (when present) from the points in the side or conducting plates to the centre or earth plate, without materially affecting the working of the line, and as the arresters are connected with the instruments on the *in* or *office* side by No. 28 copper wire, the risk of damage from lightning is greatly decreased, if not almost entirely removed. I have no instance on record of any instruments having been destroyed at offices where this form of arrester has been employed.

The following statement shows the financial condition of the department up to the 31st December, 1860. The returns have been prepared in full detail, and in the most careful manner from the books and documentary records under the charge of the accountant attached to my office.



*Sketch showing form of Lightning Arrester in use in the lines of Electric Telegraph in Victoria.*

**STATEMENT showing the actual CASH REVENUE derived from each Electric Telegraph Station in Victoria during the Year 1860.**

| MONTHS.         | Melbourne.   | Standridge. | Willes-<br>town. | Geebung.   | Queenscliff. | Ballaarat. | Creswick. | Baglan.  | Ararat.   | Stretton. | Honham. | Warrnam-<br>bool. | Bellset.   | Portland. | Echuca.   | Sandhurst.  | Avoca.   | Wahatun-<br>yah.* | Albury.† |
|-----------------|--------------|-------------|------------------|------------|--------------|------------|-----------|----------|-----------|-----------|---------|-------------------|------------|-----------|-----------|-------------|----------|-------------------|----------|
| January .. ..   | £ 1,095 17 4 | £ 2 13 6    | £ 12 10 8        | £ 139 18 5 | £ 17 3 1     | £ 145 4 10 | £ 19 4 4  | £ 8 2 5  | £ 41 18 6 | £ 3 1 8   | £ 6 4 4 | £ 43 0 8          | £ 24 19 11 | £ 53 6 3  | £ 26 18 1 | £ 197 11 11 | £ 31 5 6 |                   |          |
| February .. ..  | 1,101 14 1   | 2 7 10      | 10 15 6          | 148 8 3    | 14 2 10      | 147 2 2    | 27 1 10   | 9 10 10  | 37 1 5    | 2 13 9    | 6 6 1   | 41 9 8            | 24 4 6     | 63 16 5   | 31 8 11   | 103 16 11   | 26 19 1  |                   |          |
| March .. ..     | 1,083 6 1    | 5 17 10     | 18 2 3           | 150 0 1    | 13 3 1       | 137 12 10  | 30 13 1   | 6 7 0    | 34 8 2    | 3 19 9    | 8 18 1  | 68 5 11           | 30 1 1     | 45 17 10  | 18 12 8   | 127 1 10    | 73 8 4   |                   |          |
| April .. ..     | 1,037 19 10  | 3 19 4      | 7 18 5           | 145 16 1   | 13 1 1       | 124 11 4   | 21 0 1    | 4 8 3    | 28 13 0   | 6 7 5     | 5 3 0   | 61 3 7            | 38 15 2    | 60 6 9    | 15 5 6    | 114 6 3     | 22 19 8  |                   |          |
| May .. ..       | 1,077 2 2    | 3 3 5       | 8 18 4           | 119 11 9   | 6 10 6       | 116 12 6   | 28 16 4   | 8 17 7   | 29 6 6    | 5 4 5     | 3 17 1  | 59 0 3            | 38 15 8    | 56 16 11  | 12 3 4    | 131 6 7     | 14 14 9  |                   |          |
| June .. ..      | 1,161 18 6   | 4 18 9      | 11 13 8          | 196 3 10   | 7 12 3       | 105 2 9    | 20 15 8   | 6 19 11  | 27 9 3    | 3 10 6    | 8 10 3  | 60 8 10           | 29 7 4     | 41 13 3   | 8 15 0    | 132 19 9    | 18 10 2  |                   |          |
| July .. ..      | 1,005 0 3    | 5 7 11      | 11 7 7           | 125 12 10  | 7 3 9        | 128 2 0    | 15 8 4    | 8 8 8    | 25 10 5   | 3 11 0    | 6 9 2   | 61 2 10           | 28 5 8     | 54 5 9    | 13 12 1   | 95 19 4     | 16 6 2   |                   |          |
| August .. ..    | 996 16 0     | 4 6 3       | 10 0 8           | 110 9 1    | 7 0 4        | 131 12 4   | 29 12 8   | 6 11 5   | 33 11 10  | 5 12 9    | 4 12 11 | 43 3 5            | 30 16 5    | 23 0 3    | 14 14 9   | 118 2 7     | 12 19 10 |                   |          |
| September .. .. | 983 7 4      | 4 17 5      | 7 9 6            | 107 6 3    | 8 6 3        | 115 14 3   | 14 17 8   | 5 17 5   | 22 8 4    | 3 9 6     | 4 5 5   | 42 16 4           | 22 6 6     | 43 3 2    | 8 16 6    | 150 15 1    | 12 19 10 |                   |          |
| October .. ..   | 1,038 17 4   | 5 13 6      | 8 7 8            | 133 8 8    | 8 13 0       | 121 15 6   | 18 18 6   | 10 7 1   | 31 13 10  | 6 8 3     | 3 0 7   | 42 17 7           | 36 3 11    | 50 2 2    | 14 4 4    | 160 15 7    | 20 16 1  |                   |          |
| November .. ..  | 945 17 0     | 5 12 1      | 8 9 11           | 129 8 8    | 10 11 7      | 140 2 9    | 20 15 3   | 7 8 11   | 17 0 11   | 10 18 10  | 2 19 2  | 26 17 4           | 25 14 3    | 59 1 1    | 4 11 2    | 129 14 8    | 13 17 10 |                   |          |
| December .. ..  | 929 4 6      | 3 14 11     | 14 0 5           | 134 6 4    | 9 3 6        | 125 15 7   | 18 12 6   | 11 11 11 | 27 16 11  | 4 8 3     | 5 4 3   | 26 14 3           | 30 0 2     | 33 6 1    | 6 15 3    | 120 12 10   | 29 14 8  |                   |          |
| Total, 1860 ..  | £12,459 2 3  | 52 14 11    | 199 0 7          | 1,398 10 3 | 122 14 3     | 1,540 9 1  | 345 16 3  | 94 10 11 | 347 16 1  | 61 6 2    | 70 9 6  | 308 0 8           | 349 19 8   | 636 16 1  | 147 18 7  | 1,599 2 9   | 244 3 6  |                   |          |

| MONTHS.         | Danby.    | Marybo-<br>rough. | Malden.    | Daylesford. | Castle-<br>meane. | Kyneton.  | Gisborne. | Kilmore.  | Heathcote. | Longwood. | Benaia. | Wanga-<br>ratia. | Beech-<br>worth. | Delroit. | Tarna-<br>gulla.‡ | Back<br>Creek.‡ | Clunes.* | Mount<br>Gambier.† | Cape<br>Otway and<br>King's<br>Island.† |
|-----------------|-----------|-------------------|------------|-------------|-------------------|-----------|-----------|-----------|------------|-----------|---------|------------------|------------------|----------|-------------------|-----------------|----------|--------------------|---|
| January .. ..   | £ 18 8 6  | £ 53 14 0         | £ 13 13 10 | £ 13 10 8   | £ 80 15 6         | £ 22 13 2 | £ 10 2 10 | £ 15 16 6 | £ 23 18 4  | £ 2 0 2   | £ 7 9 3 | £ 16 13 11       | £ 23 18 4        | £ 3 18 7 |                   |                 |          |                    |   |
| February .. ..  | 17 12 1   | 41 6 7            | 14 1 4     | 12 15 1     | 83 10 1           | 27 9 0    | 8 18 2    | 11 12 4   | 13 17 1    | 3 15 3    | 6 1 10  | 20 10 2          | 29 7 6           | 4 14 1   |                   |                 |          |                    |   |
| March .. ..     | 20 17 8   | 53 12 9           | 19 2 9     | 14 1 1      | 101 0 4           | 26 0 10   | 9 19 10   | 17 3 8    | 14 5 9     | 3 14 0    | 10 0 10 | 23 3 1           | 29 2 0           | 3 4 5    |                   |                 |          |                    |   |
| April .. ..     | 19 3 5    | 36 8 8            | 13 1 3     | 8 5 3       | 89 18 6           | 30 2 6    | 10 10 1   | 14 8 10   | 9 12 5     | 3 0 0     | 8 2 1   | 17 11 3          | 27 10 3          | 4 9 5    |                   |                 |          |                    |   |
| May .. ..       | 18 12 11  | 39 4 2            | 17 17 7    | 11 10 7     | 91 19 0           | 29 14 5   | 9 14 10   | 14 15 5   | 13 8 6     | 4 7 0     | 8 8 3   | 15 8 0           | 21 17 5          | 3 12 0   |                   |                 |          |                    |   |
| June .. ..      | 25 16 6   | 42 7 1            | 23 0 10    | 7 3 10      | 98 12 8           | 20 3 10   | 8 14 3    | 11 6 9    | 14 8 9     | 3 10 8    | 12 1 6  | 17 15 9          | 29 9 11          | 4 17 2   |                   |                 |          |                    |   |
| July .. ..      | 17 15 9   | 29 4 5            | 16 0 0     | 7 14 2      | 86 16 2           | 16 9 3    | 6 16 2    | 11 9 11   | 15 17 10   | 3 11 4    | 5 16 3  | 18 13 6          | 45 17 3          | 3 1 0    |                   |                 |          |                    |   |
| August .. ..    | 15 15 9   | 31 5 7            | 23 9 11    | 15 14 3     | 102 19 6          | 19 17 7   | 7 14 1    | 14 19 2   | 15 10 10   | 3 18 1    | 7 15 5  | 14 4 3           | 62 0 7           | 2 7 8    |                   |                 |          |                    |   |
| September .. .. | 15 6 3    | 27 0 10           | 21 6 11    | 10 13 6     | 80 10 5           | 19 15 8   | 5 17 4    | 9 3 11    | 20 2 11    | 2 3 6     | 6 3 3   | 14 5 3           | 32 0 7           | 1 17 4   |                   |                 |          |                    |   |
| October .. ..   | 23 9 0    | 34 19 5           | 37 14 1    | 10 17 10    | 89 0 10           | 14 14 4   | 7 5 10    | 12 12 9   | 16 12 0    | 4 3 4     | 8 11 6  | 23 16 9          | 31 12 8          | 3 11 10  |                   |                 |          |                    |   |
| November .. ..  | 14 3 1    | 41 0 8            | 33 18 5    | 18 19 4     | 83 14 1           | 23 9 9    | 9 9 3     | 8 12 4    | 13 7 8     | 5 0 2     | 7 18 0  | 25 6 3           | 69 2 7           | 4 1 3    | 11 2 9            |                 |          |                    |   |
| December .. ..  | 12 13 4   | 50 11 8           | 25 13 6    | 17 11 9     | 87 12 3           | 23 9 6    | 5 19 1    | 11 0 7    | 11 15 2    | 3 7 5     | 6 19 1  | 21 18 6          | 45 0 11          | 4 9 6    | 12 2 9            | 5 3 9           |          |                    |   |
| Total, 1860 ..  | £318 12 8 | 484 9 10          | 274 0 5    | 140 1 4     | 1,076 10 9        | 273 19 10 | 105 5 9   | 184 2 2   | 175 17 3   | 48 10 0   | 100 0 1 | 226 6 8          | 842 8 5          | 46 19 3  | 33 5 6            | 5 3 9           |          |                    |   |

\* Office not yet opened.

† Boundary repeating stations, from whence no cash revenue is derived.

‡ Opened 1st November.

§ Opened 21st December.

**DEBITOR AND CREDITOR STATEMENT.**

Dr.

Cr.

|  |             |
|--|-------------|
| To total cost for working and maintenance of lines from 1st January to 31st December, 1860, viz.:- |             |
| Salaries and wages .. ..   | £22,362 8 7 |
| Contingencies .. ..  | 4,536 19 1  |
| To Balance .. ..   | £27,799 7 8 |
|  | 18,621 2 7  |

£46,226 10 3

1860.

|  |              |
|--|--------------|
| By total Cash Revenue deposited in Treasury on account of collections, between 1st January and 31st December, 1860 .. .. | £24,440 15 1 |
| By amount due on account of intercolonial business:-   |              |
| By New South Wales .. ..   | £245 15 8    |
| By South Australia .. ..   | 569 7 5      |

By value of Government business from 1st January to 31st December, 1860 .. 21,370 12 1\*

£46,226 10 3

\* Value of messages transmitted on Her Majesty's service .. .. £16,563 16 8  
Value of shipping intelligence .. .. 4,766 15 5

£21,370 12 1

W. R. BUCHANAN,  
Accountant.

STATEMENT showing the Amount Chargeable for Government Business, and the Working Expenses of each Office in the Department during the Year 1860.

| NAMES OF STATIONS.  | Total Cash Revenue. |       | Value of Messages on Public Service. |       | Amount paid for Salaries and Wages. |       | Contingencies. |       | Total Cost for Maintenance of each Station. |       | Number of Messages. |             | Total Number of Messages transmitted. |
|---------------------|---------------------|-------|--------------------------------------|-------|-------------------------------------|-------|----------------|-------|---|-------|---------------------|-------------|---------------------------------------|
|                     |                     |       |                                      |       |                                     |       |                |       |   |       | Private.            | O. H. M. S. |                                       |
|                     | £                   | s. d. | £                                    | s. d. | £                                   | s. d. | £              | s. d. | £   | s. d. |                     |             |                                       |
| General supervision | ...                 | ...   | ...                                  | ...   | 1,750                               | 0 0   | ...            | ...   | 1,750                                       | 0 0   | ...                 | ...         | ...                                   |
| Melbourne station   | 12,459              | 2 5   | 10,708                               | 7 0   | 3,606                               | 6 8   | 663            | 19 1  | 4,272                                       | 5 9   | 47,558              | 32,399      | 119,957                               |
| Geelong             | 1,598               | 10 3  | 338                                  | 19 8  | 1,263                               | 0 0   | 355            | 15 3  | 1,598                                       | 15 3  | 3,372               | 619         | 4,191                                 |
| Ballaarat           | 1,540               | 9 1   | 879                                  | 1 8   | 878                                 | 0 0   | 216            | 9 6   | 1,094                                       | 9 6   | 4,223               | 817         | 5,040                                 |
| Sandhurst           | 1,509               | 2 9   | 895                                  | 10 6  | 740                                 | 0 0   | 84             | 12 10 | 824   | 12 10 | 2,717               | 923         | 3,640                                 |
| Castlemaine         | 1,076               | 10 9  | 740                                  | 10 6  | 687                                 | 10 1  | 153            | 19 4  | 841   | 9 5   | 2,939               | 789         | 3,188                                 |
| Beechworth          | 842                 | 8 5   | 480                                  | 11 0  | 765                                 | 0 0   | 170            | 14 10 | 935   | 14 10 | 834                 | 342         | 1,376                                 |
| Portland            | 626                 | 16 1  | 490                                  | 10 6  | 561                                 | 0 0   | 183            | 5 7   | 749   | 5 7   | 1,296               | 644         | 1,940                                 |
| Warrnambool         | 595                 | 0 5   | 470                                  | 10 6  | 378                                 | 0 0   | 48             | 8 7   | 426   | 8 7   | 1,232               | 587         | 1,819                                 |
| Maryborough         | 484                 | 9 10  | 465                                  | 8 6   | 561                                 | 0 0   | 149            | 0 4   | 710   | 0 4   | 1,121               | 589         | 1,710                                 |
| Echuca              | 187                 | 18 7  | 470                                  | 0 11  | 483                                 | 0 0   | 68             | 2 6   | 551   | 2 6   | 1,038               | 561         | 1,599                                 |
| Belfast             | 349                 | 10 8  | 180                                  | 6 1   | 505                                 | 10 8  | 99             | 14 5  | 605   | 5 1   | 937                 | 294         | 1,331                                 |
| Ararat              | 347                 | 16 1  | 410                                  | 6 2   | 561                                 | 0 0   | 72             | 7 4   | 633   | 7 4   | 1,039               | 488         | 1,527                                 |
| Malton              | 274                 | 0 5   | 277                                  | 6 11  | 328                                 | 0 0   | 55             | 0 5   | 283   | 0 5   | 890                 | 328         | 1,318                                 |
| Kyateton            | 273                 | 19 10 | 190                                  | 9 2   | 353                                 | 0 0   | 63             | 13 4  | 416   | 13 4  | 293                 | 260         | 853                                   |
| Creswick            | 246                 | 16 3  | 159                                  | 10 6  | 378                                 | 0 0   | 63             | 12 9  | 441   | 12 9  | 1,270               | 302         | 1,572                                 |
| Avoca               | 244                 | 3 0   | 290                                  | 6 10  | 483                                 | 0 0   | 58             | 9 2   | 541   | 9 2   | 795                 | 333         | 1,118                                 |
| Wangaratta          | 226                 | 6 8   | 195                                  | 6 3   | 433                                 | 0 0   | 69             | 8 2   | 502   | 8 2   | 667                 | 360         | 1,027                                 |
| Dunolly             | 218                 | 12 8  | 290                                  | 6 8   | 536                                 | 0 0   | 119            | 13 1  | 655   | 13 1  | 564                 | 345         | 909                                   |
| Heathcote           | 175                 | 17 3  | 139                                  | 7 6   | 428                                 | 0 0   | 79             | 8 1   | 507   | 8 1   | 319                 | 312         | 631                                   |
| Kilmore             | 154                 | 2 2   | 187                                  | 10 6  | 483                                 | 0 0   | 99             | 16 4  | 582   | 16 4  | 242                 | 225         | 467                                   |
| Daylesford          | 149                 | 1 4   | 186                                  | 9 9   | 423                                 | 0 0   | 53             | 10 0  | 476   | 10 0  | 504                 | 299         | 803                                   |
| Williamstown        | 129                 | 0 7   | 560                                  | 7 7   | 404                                 | 0 0   | 74             | 0 2   | 478   | 0 2   | 644                 | 2,521       | 3,165                                 |
| Queenscliff         | 122                 | 14 3  | 758                                  | 9 6   | 611                                 | 0 0   | 48             | 13 4  | 679   | 13 4  | 1,319               | 2,528       | 3,747                                 |
| Gisborne            | 105                 | 5 9   | 67                                   | 11 1  | 433                                 | 0 0   | 77             | 11 9  | 510   | 11 9  | 220                 | 158         | 378                                   |
| Benalla             | 100                 | 0 1   | 160                                  | 0 10  | 433                                 | 0 0   | 64             | 17 0  | 497   | 17 0  | 205                 | 353         | 658                                   |
| Baglan              | 94                  | 10 5  | 173                                  | 6 9   | 483                                 | 0 0   | 115            | 7 8   | 598   | 7 8   | 467                 | 296         | 763                                   |
| Hexham              | 70                  | 9 6   | 99                                   | 9 6   | 433                                 | 0 0   | 117            | 7 11  | 550   | 7 11  | 340                 | 268         | 548                                   |
| Streatham           | 61                  | 6 2   | 95                                   | 6 1   | 328                                 | 0 0   | 57             | 12 6  | 385   | 12 6  | 227                 | 191         | 418                                   |
| Sandridge           | 52                  | 14 11 | 23                                   | 12 11 | 180                                 | 0 0   | 20             | 12 1  | 170   | 12 1  | 356                 | 231         | 577                                   |
| Longwood            | 48                  | 10 0  | 143                                  | 4 7   | 433                                 | 0 0   | 125            | 3 4   | 558   | 3 4   | 113                 | 132         | 245                                   |
| Belvoir             | 46                  | 12 3  | 65                                   | 11 11 | 378                                 | 0 0   | 51             | 0 10  | 429   | 0 10  | 147                 | 153         | 300                                   |
| Tarnagulla          | 28                  | 5 6   | 27                                   | 9 6   | 61                                  | 12 2  | 99             | 16 3  | 152   | 8 5   | 37                  | 51          | 108                                   |
| Black Creek         | 5                   | 3 9   | 12                                   | 11 1  | 91                                  | 15 8  | 81             | 1 3   | 172   | 16 11 | 29                  | 52          | 61                                    |
| Clunes              | ...                 | ...   | ...                                  | ...   | 83                                  | 6 8   | ...            | ...   | 83  | 6 8   | ...                 | ...         | ...                                   |
| Wahgunyah           | ...                 | ...   | ...                                  | ...   | 41                                  | 13 4  | 96             | 8 10  | 138   | 2 2   | ...                 | ...         | ...                                   |
| Albury              | ...                 | ...   | 346                                  | 7 8   | 387                                 | 10 0  | 56             | 1 11  | 443   | 11 11 | ...                 | ...         | ...                                   |
| Mount Gambier       | ...                 | ...   | 295                                  | 11 6  | 450                                 | 0 0   | 149            | 9 4   | 599   | 9 4   | ...                 | ...         | ...                                   |
| Cape Otway          | ...                 | ...   | 204                                  | 12 6  | 982                                 | 6 8   | 112            | 8 11  | 1,094                                       | 15 7  | ...                 | 1,068       | 1,068                                 |
| King Island         | ...                 | ...   | ...                                  | ...   | 203                                 | 16 8  | 241            | 19 1  | 745   | 15 9  | ...                 | ...         | ...                                   |
| Total               | 24,460              | 15 1  | 21,270                               | 12    | 22,962                              | 8 7   | 4,836          | 19 1  | 27,799                                      | 7 8   | 117,954             | 49,916      | 167,872                               |

The revenue collections of the department for the past year show a sum of £24,440 15s. 1d. in cash, and £515 3s. 1d. in outstanding accounts against other colonies: Total, £24,955 18s. 1d., as compared with £25,249 17s. collected in 1859—a decrease on account of 1860 to the extent of £293 18s. 11d. The actual working expenses and maintenance of the lines for the whole year being £27,799 7s. 8d., and the gross income £24,955 18s. 1d., a cash balance against the department is apparent, to the extent of £2843 9s. 7d.; but adding to the actual cash revenue the amount incurred for the transmission of Government messages, a balance of £18,427 2s. 7d. is shown in favor of the department, which, applied as interest on outlay (£163,475 14s. 8d.), will afford a rate of a fraction over 11½ per cent. on the transactions of the year.

The PERMANENT EXPENDITURE ACCOUNT stands as under:—

|   | £       | s. | d. |
|---|---------|----|----|
| Total expenditure for Lines, Stations, &c., up to 31st December, 1859 | 129,496 | 18 | 2  |

EXPENDITURE DURING YEAR 1860:—

| EXPENDITURE DURING YEAR 1860 :-                    |     |     |     |     |     | £      | s.       | d.   |
|--|-----|-----|-----|-----|-----|--------|----------|------|
| Extensions   | ... | ... | ... | ... | ... | 4,611  | 1        | 9    |
| New Stations                                       | ... | ... | ... | ... | ... | 4,075  | 0        | 0    |
| Repairs, Additions, and Improvements               | ... | ... | ... | ... | ... | 6,173  | 0        | 6    |
| Moiety for Bass' Strait Line                       | ... | ... | ... | ... | ... | 18,669 | 14       | 3    |
| Twelve Months Rent of Offices in Exchange Building | ... | ... | ... | ... | ... | 450    | 0        | 0    |
|  |     |     |     |     |     |        |          |      |
|  |     |     |     |     |     |        | 33,978   | 16 6 |
|  |     |     |     |     |     |        |          |      |
|  |     |     |     |     |     |        | £163,475 | 14 8 |

I must confess that the financial position of the department as thus shown, is much less satisfactory to me than would I think have been the case if the suggestion contained on the sixth page of my last Report had been taken up, or acted upon, in the manner desired; had action been taken as I then suggested I cannot believe that even after making a due allowance for the influence of the general commercial depression throughout the colony, the cash revenue of the department would now have exhibited the deficiency above shown, but on the contrary, I am of opinion, that a thoroughly satisfactory result would have been attained, through which the true financial condition of the Electric Telegraph as a reproductive branch of the service might readily have been determined. So long as a large portion of the services rendered by the Electric Telegraph are passed unaccounted for, and even unrecorded in the accounts of the colony, as is now the case, it is clearly impossible to form any correct idea as to the actual value of the department in a monetary point of view, nor do I believe that such a practical result can be finally calculated upon until the whole of the business of the department may have been placed upon an equal footing.

The most, noticeable deficiencies in the revenue collections are observable at Melbourne, Geelong, Ballarat, Echuca, and Ararat, the amount at Melbourne being £12,459 2s. 5d. for 1860, as compared with £13,036 0s. 1d. for 1859, a decrease of £576 17s. 8d.; Geelong £1598 10s. 3d. against £1863 9s. 3d., decrease £264 18s. 9d.; Ballarat £1540 9s. 1d. against £1717 16s. 6d., decrease £177 7s. 5d.; Echuca £629 13s. 7d., against £187 18s. 7d., decrease £441 15s.—Total decrease on the receipts of the six offices named £1460 18s. 10d. A slight decrease as compared with 1859 is also observable in the returns for Sandhurst, Kilmore, Williamstown, Queenscliff, Gisborne, Raglan, Benalla, Hexham, Belvoir and Longwood; although it is right to mention that the first named, has been, and still is, next to Melbourne, the most productive office in the whole department. The remaining offices, Belfast, Kyneton, Wangaratta, Avoca, Dunolly,



Creswick, Maldon, Daylesford, Streatham, Heathcote, and Sandridge show a general increase both in business and receipts. Of the offices which do not meet the expenses incurred for their maintenance and management there are I regret to say too many on the books of the department; but, as the actual benefits of the Telegraph in a new country cannot in every instance be measured by the positive amount of business done at any particular station, or number of stations, there must of necessity be at least for a time a certain number of financially non-productive offices in localities where trade and commerce are not as yet in a sufficiently advanced stage to demand an extended use of this means of communication; the number of the offices to which I allude would have been greatly augmented had the Government invariably granted the numerous applications for establishing additional stations which from time to time have been received from the inhabitants of various districts through which the lines are carried, and I feel some gratification in being able to state that the number of such stations has been kept within the most moderate limit consistent with the positive requirements of the country. I would further state that the saving to the Government in the salaries of postmasters &c. at the twenty-one (21) stations (amounting in all to the sum of £1386 per annum) where the services of the two departments are now combined, should be set against the apparent loss to this department in order that a fair estimate may be deduced.

In compliance with your request that I should inform you as to the effect likely to be produced in the event of its being determined to place the lines under private management, I beg to state that there are, in my opinion, two feasible courses open for adoption by the Government; the one would be to dispose of the existing lines and stations at their marketable value, either to a purchaser directly or by the sale of interest bearing stock debentures to the extent of the appraised value of the property (the lines, &c., to be conveyed to the stockholders in fee simple when the whole of the debentures might have been taken up).

The other course would be by leasing the lines for a stated term (under such reasonable restrictions and conditions as it might appear advisable should be imposed), to such persons as might be approved of by the Government, the annual rental to be calculated and tendered in the form of a stated rate of interest, either upon the present value of all the lines and stations available for communication, or upon the total amount actually expended.

In either case it would be strictly necessary that both Government telegrams and the transmission of shipping news should be placed upon the same footing as private business (*shipping news* to be subject to press rates only). I may here add that, even at the present time, it would be more satisfactory, I believe in every way, if the transmission of shipping intelligence were chargeable with press rates, as the existing gratuitous service is open to many grave objections; time is occupied in transmitting the intelligence alluded to, which properly should, in many instances, be employed in forwarding private or paid telegrams; there being little, if any, difference in the value of the service performed by the telegraph in either case, it is not I consider right, that one telegram should be chargeable and the other pass free. Shipping intelligence is valuable principally to the ship owner, and ship agent, and being so it should, I submit, be rateable with other information transmitted for private benefit. It would be highly improbable to suppose that the public of London, Liverpool, or Glasgow would require to be furnished by telegraph gratuitously with hourly or daily reports of shipping from, or to, their respective ports, and I am of opinion that if the practice adopted here were assimilated to that pursued by the Telegraph Companies in Great Britain, Canada, and America, it would be more satisfactory both to the public and the Electric Telegraph service. With reference generally to the subject of

entrusting the maintenance and direction of the department to private management, I am of opinion that the efficiency of the service would, under such a change, be fully sustained at its present standard, and that the Government of the colony and the public, might be as fully protected with reference to the working of the department, as is now the case, under existing conditions.

On the 1st October, 1860, a change was authorised in the mode of disposing of the revenue collected upon intercolonial telegrams so far as related to Victoria, by which the mutual retention system of accounts under which each colony retained the gross amount of its collections for the transmission of all telegrams irrespective of their destination, was discontinued; and the divisional system recommended in the joint Report of Mr. Todd and myself, dated 25th August, 1856, was adopted; the result has been so far satisfactory in causing a cessation of the positive loss which under the former arrangement accrued to this department, and which I pointed out in my letter, dated 13th March last, had then amounted to the sum of £148 19s. 3d. on the business of the preceding two months. The returns show, that on the transactions of the concluding three months of the year an amount of £515 3s. 1d. is payable to Victoria by the adjoining colonies, or an average rate exceeding £2000 per annum; this sum would not have been accounted for in any way under the mutual retention system, and is therefore, a direct and just gain to the department. It may be said that the present proportional divisions of charges are not altogether equitable; but although this is undoubtedly the case in instances where telegrams originating at places comparatively contiguous to the borders of either colony are allowed to carry the same relative proportions as to charges as would have been the case had the telegrams originated at the most remote localities, still, with the great bulk of the business (which in reality lies between Sydney, Melbourne, and Adelaide) the present divisional proportions are as nearly as possible correct. The most satisfactory method would, in my opinion, be, to have a stated intercolonial scale, applicable solely to through or intercolonial business, calculated at, and radiating from, the terminal of the respective lines in either colony, estimated on a mileage basis; and I shall be prepared to submit such a proposition in detail, accompanied by a recommendation for a reduction in the present intercolonial rates, immediately on the completion of the second wire between Albury and Mount Gambier.

#### LINES IN OTHER COLONIES.

I am in receipt of two highly interesting Reports by Charles Todd, Esq., Astronomical Observer and Superintendent of Telegraphs in South Australia, one dated 16th March, on the general advancement and condition of the department in that colony to the 31st December, 1859; the other, dated July the 10th, on the estimated cost of erecting a line of telegraph to King George's Sound. With regard to the first, I learn that the extensions of lines in South Australia are steadily progressing, and that the department is fully self-supporting, although the depressing influence of the present dullness in mercantile affairs has apparently been felt there as well as in this colony. Mr. Todd's report on the King George's Sound route, proposes an overland line *vid* Port Augusta and Fowler's Bay, and he estimates the cost at £50 per mile. I fully concur with him in the feasibility of his proposition, but I am under the impression that it would be necessary to carry out working operations for the construction of the line, at least west of Fowler's Bay, almost entirely by sea, as the absence of fresh water along the route would be a serious obstacle to the success of a permanent land party, more particularly if much difficulty were to be encountered, as is not improbable would be the case, in procuring suitable timber for posts.

The King George's Sound connection would of course be primarily beneficial to South Australia under almost any circumstances, but particularly during the continuance of the existing postal arrangements with England; and there can be no doubt that a connection would eventually be extended to Freemantle, thus forming a complete system of inter-communication by electric telegraph between Queensland and Western Australia, embracing the whole of the colonies at present in existence on the main continent of Australia. That such a result may be attained at no distant date is sincerely to be desired by every well wisher of his adopted country, and that it will positively be attained, sooner or later, I have the fullest confidence.

I am in receipt of a very detailed and valuable (4th) Report by Captain Martindale, R.E., lately Under Secretary for Public Works, and Commissioner for Internal Communication in New South Wales. In the section of his Report devoted to the Electric Telegraph the following statement occurs:—"The total expenditure upon lines opened to 30th June, 1860, was £41,338 14s. 6d.; the cash receipts, £5836 4s. 7d. for the half year; the working expenses £3567 11s. 6d., and the net receipts £2268 13s. 1d.; giving a dividend of nearly 5½ per cent. for the half year after payment of working expenses. The returns of the last half year show a considerable increase in the number and value of messages transmitted, although several of the stations were opened late in the half year. This increase would no doubt have been larger, but for the general commercial depression and stagnation in trade. The telegraph receipts were also sensibly diminished by the interruptions to the working of the lines, arising from the unprecedented floods of this year, and the unfortunate failure of the Tasmanian cable." In another portion of his Report Captain Martindale observes:—"It is impossible not to be struck with the large proportion, both in number and value which messages on the public service bear to private messages in Victoria, as compared with South Australia and this Colony. In the former they are not paid for, in the two latter they are." I may remark, that I feel the full force of the last observation, and as I have already pressed the subject upon your attention, I would now beg to remind you that I am still waiting your direction in the matter.

Captain Martindale also justly remarks in concluding his valuable Report:—"As railways and the electric telegraph extend, it may be hoped that private enterprise will undertake at any rate their management. Meantime it appears inevitable that the Government should bear the burden of the early years of such works in a new country, and labor amidst difficulties and complaints, satisfied with seeing real advancement made." I need scarcely say I fully concur in the views above expressed.

#### COMMUNICATION WITH ENGLAND *viâ* INDIA.

Since the departure for England of Mr. Francis Gisborne (with reference to whose propositions I have already had the honor of reporting specially) I am not aware that any positive or practical progress has been made towards the consummation of the well matured project submitted to and approved by the Legislative Assembly in the month of May last (*vide* extract of proceedings in appendix C hereto); the untoward failure of the Aden and Kurachee line having of course seriously interfered to interrupt the proposed extension from India *viâ* Java to Australia, and the several failures of other deep sea lines tending in a great measure to retard at least for the present any immediate action relative to the Australian connection, I fear the chances of a satisfactory development of Mr. Gisborne's proposition are exceedingly remote, more especially when it is remembered, that according to last accounts the cable between Singapore and Batavia had proved almost a total loss; I cherish the hope however that much time will not have elapsed ere



some new and improved method of preparing submarine conductors will have been devised, more fully adapted to meet the various conditions to which all sea lines are in a greater or lesser degree invariably subjected. Until such a desideratum may have been satisfactorily attained, I do not look forward with certainty to any considerable extension of submarine communication likely to affect Australia in a favorable degree.

In the meantime, I believe that the nearest approach to Great Britain and Europe through the electric telegraph will be found by establishing telegraphic communication with King George's Sound.

I have the honor to be,

Sir,

Your obedient Servant,

SAM. W. MCGOWAN.

The Honorable the Postmaster-General,

&c.,      &c.,      &c.

RETURN showing the Interruptions to Telegraphic Communication in Victoria; including also a Statement  
1st January to

| Date.       | Dedication of Line.    | Point of Interruption.             | Period of Interruption. | Supposed or ascertained Cause of Interruption.                             |
|-------------|------------------------|------------------------------------|-------------------------|--|
| 1860.       |                        |                                    |                         |  |
| January 7   | Western line ...       | Between Warramboul and Portland    | 5 hours                 | Severe thunder storm   |
| " 9         | North-Eastern line ... | Between Kilmore and Longwood       | 3 hours                 | Tree falling on line   |
| " 14        | Western line ...       | Between Ballarat and Raglan        | 84 hours                | Posts knocked down   |
| " 16        | Western line ...       | Between Streatham and Hexham       | 35 hours                | Tree falling on line   |
| " 21        | Cape Otway line ...    | Between Geelong and Cape Otway     | 6 hours                 | Tree falling on line   |
| " 23        | Cape Otway line ...    | Between Geelong and Cape Otway     | 34 hours                | Tree falling on line   |
| " 26        | Cape Otway line ...    | Between Geelong and Cape Otway     | 1 day                   | Tree falling on line   |
| " 28        | North-Eastern line ... | Between Beechworth and Belvoir     | 2 hours                 | Tree falling on line   |
| February 2  | Northern line ...      | Between Melbourne and Gisborne     | 10 hours                | Line touching the roof of an iron house                                    |
| " 3         | Northern line ...      | Between Melbourne and Gisborne     | 9 hours                 | at Flemington  |
| " 6         | Northern line ...      | Between Sandhurst and Echuca       | 1 day                   | Line knocked off several posts; cause not ascertained                      |
| " 7         | Northern line ...      | Between Sandhurst and Echuca       | 4 hours                 | Four trees falling on line; severe storm                                   |
| " 11        | Cross country line ... | Between Daylesford and Crowlick    | 1 day                   | Tree falling on line   |
| " 24        | Cape Otway line ...    | Between Geelong and Cape Otway     | 1 day                   |  |
| " 27        | Western line ...       | Between Portland and Mount Gambier | 1 day                   |  |
| " 28        | Western line ...       | Between Portland and Mount Gambier | 1 day                   | Large bush fire between Portland and Mount Gambier. Several posts burnt    |
| March 1     | Western line ...       | Between Portland and Mount Gambier | 8 hours                 |  |
| " 2         | North-Eastern line ... | Between Kilmore and Longwood       | 4 hours                 | Tree falling on line   |
| " 15        | North-Eastern line ... | Between Belvoir and Albury         | 5 hours                 | Line being removed   |
| " 17        | North-Eastern line ... | Between Kilmore and Longwood       | 6 hours                 | Tree falling on line   |
| April 3     | Western line ...       | Between Portland and Mount Gambier | 4 hours                 | Severe thunder storm   |
| " 3         | Northern line ...      | Between Sandhurst and Echuca       | 10 hours                | Branch of tree falling on line   |
| " 11        | Western line ...       | Between Hexham and Warramboul      | 5 hours                 |  |
| " 12        | North-Eastern line ... | Between Wangaratta and Beechworth  | 24 hours                | Tree falling on line   |
| " 12        | Western line ...       | Between Hexham and Warramboul      | 4 hours                 | Tree falling on line   |
| " 20        | Western line ...       | Between Hexham and Warramboul      | 4 hours                 | Tree falling on line   |
| " 21        | Western line ...       | Between Hexham and Warramboul      | 6 hours                 | Tree falling on line   |
| " 23        | Western line ...       | Between Hexham and Warramboul      | 10 hours                | Tree falling on line   |
| " 23        | Cape Otway line ...    | Between Geelong and Cape Otway     | 1 day                   | Tree falling on line   |
| " 24        | Western line ...       | Between Hexham and Warramboul      | 14 hours                | Tree falling on line   |
| " 25        | Western line ...       | Between Geelong and Cape Otway     | 1 day                   | Tree falling on line   |
| " 25        | Western line ...       | Between Hexham and Warramboul      | 3 hours                 | Tree falling on line   |
| " 26        | Western line ...       | Between Hexham and Warramboul      | 1 day                   | Tree falling on line   |
| " 27        | Western line ...       | Between Hexham and Warramboul      | 7 hours                 | Tree falling on line   |
| " 28        | Western line ...       | Between Hexham and Warramboul      | 1 day                   | Tree falling on line   |
| May 4       | North-Eastern line ... | Between Benalla and Wangaratta     | 3 hours                 | Tree falling on line   |
| " 4         | Cross country line ... | Between Daylesford and Castlemaine | 14 hours                | Tree falling on line   |
| " 5         | Cross country line ... | Between Maldon and Castlemaine     | 3 hours                 | Tree falling on line   |
| " 9         | North-Eastern line ... | Between Kilmore and Longwood       | 5 hours                 | Tree falling on line   |
| " 9         | Western line ...       | Between Hexham and Warramboul      | 3 hours                 | Tree falling on line   |
| June 1      | North-Eastern line ... | Between Longwood and Benalla       | 14 hours                | Tree falling on line   |
| " 26        | North-Eastern line ... | Between Melbourne and Kilmore      | 34 hours                | Tree falling on line   |
| July 18     | North-Eastern line ... | Between Beechworth and Belvoir     | 6 hours                 | Instrument in Belvoir office injured by lightning                          |
| " 23        | Cape Otway line ...    | Between Geelong and Cape Otway     | 1 day                   | Caused by a tree falling on line   |
| " 23        | North-Eastern line ... | Between Beechworth and Belvoir     | 8 hours                 | Caused by a tree falling on line   |
| " 24        | Cape Otway line ...    | Between Geelong and Cape Otway     | 6 hours                 | Caused by a heavy gale   |
| August 13   | North-Eastern line ... | Between Melbourne and Kilmore      | 24 hours                | Caused by tree falling on line   |
| " 23        | Northern line ...      | Between Kyneton and Castlemaine    | 5 hours                 | Caused by tree falling on line   |
| " 29        | Western line ...       | Between Warramboul and Belfast     | 1 hour                  | Wire slipped off an angle post touched ground, causing a ground connection |
| " 30        | Western line ...       | Between Warramboul and Belfast     | 34 hours                |  |
| September 8 | North-Eastern line ... | Between Kilmore and Longwood       | 4 hours                 | Tree falling on line   |
| " 12        | Northern line ...      | Between Sandhurst and Echuca       | 6 hours                 | Tree falling on line   |
| " 13        | Northern line ...      | Between Sandhurst and Echuca       | 4 hours                 | Tree falling on line   |
| " 18        | North-Eastern line ... | Between Kilmore and Longwood       | 14 hours                | Line broken, cause unknown   |
| " 25        | Northern line ...      | Between Sandhurst and Echuca       | 6 hours                 | Tree falling on line   |
| " 26        | Northern line ...      | Between Sandhurst and Echuca       | 3 hours                 | Tree falling on line   |
| " 29        | North-Eastern line ... | Between Benalla and Wangaratta     | 2 hours                 | Tree falling on line   |
| " 29        | Cross country line ... | Between Maldon and Dunolly         | 8 hours                 | Tree falling on line   |
| October 1   | Cross country line ... | Between Maldon and Dunolly         | 1 day                   | Tree falling on line   |
| " 2         | Cross country line ... | Between Maldon and Dunolly         | 1 day                   | Tree falling on line   |
| " 2         | Northern line ...      | Between Kyneton and Castlemaine    | 3 hours                 | Tree falling on line   |
| " 3         | Cross country line ... | Between Maldon and Dunolly         | 1 day                   | Tree falling on line   |
| " 8         | North-Eastern line ... | Between Kilmore and Longwood       | 10 hours                |  |
| " 9         | North-Eastern line ... | Between Kilmore and Longwood       | 1 day                   | Heavy floods, several posts washed down                                    |
| " 13        | North-Eastern line ... | Between Kilmore and Longwood       | 34 hours                | Tree falling on line   |
| " 29        | North-Eastern line ... | Between Kilmore and Longwood       | 7 hours                 | Tree falling on line   |
| November 9  | Northern line ...      | Between Castlemaine and Sandhurst  | 4 hours                 | A stone falling on line, parties blasting near line                        |
| December 7  | Western line ...       | Between Belfast and Portland       | 3 hours                 |  |
| " 8         | Western line ...       | Between Belfast and Portland       | 34 hours                | Hamilton and Western lines crossed   |
| " 9         | North-Eastern line ... | Between Benalla and Wangaratta     | 7 hours                 | Horse and dray against post  |
| " 15        | Heathcote line ...     | Between Kilmore and Heathcote      | 6 hours                 | Wire knocked off four posts  |

of the Interruptions to Intercolonial Communication between Adelaide, Melbourne, and Sydney, from 31st December, 1860.

| Remarks.   | Date.       | Intercolonial Locality of Interruption.  | Period of Interruption. |
|--|-------------|--|-------------------------|
| 1860.  |             |  |                         |
| On 3rd January Western line worked badly during afternoon; unable to ascertain cause.  | January 3   | Between King Island and Circular Head...   | 1 day.                  |
|  | " 4         | Between King Island and Circular Head...   | 1 day.                  |
|  | " 5         | Between King Island and Circular Head...   | 1 day.                  |
|  | " 7         | Between King Island and Circular Head...   | 1 day.                  |
|  | " 11        | Between King Island and Circular Head...   | 8 hours.                |
|  | " 12        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 13        | Between King Island and Circular Head...   | 8 hours.                |
|  | " 13        | West of Mount Gambier, South Australia   | 4 hours.                |
| On 18th February Western line crossed between Geelong and Ballarat, caused by a tree falling on lines. Communication partially interrupted.  | " 16        | Between King Island and Circular Head...   | 7 hours.                |
|  | " 17        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 18        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 18        | East of Goulburn, New South Wales  | 7 hours.                |
| On 5th March Western lines crossed between Melbourne and Williamstown, from 8:30 a.m. to 11 a.m. Communication partially interrupted.  | " 19        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 20        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 21        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 28        | Between King Island and Circular Head...   | 1 day.                  |
| On 9th March Western lines crossed between Geelong and Ballarat. Communication partially interrupted.  | " 30        | Between King Island and Circular Head...   | 1 day.                  |
|  | " 30        | West of Mount Gambier, South Australia   | 5 hours.                |
| On 15th March Northern line worked badly after 6 p.m.  | February 8  | Between King Island and Circular Head...   | 1 day.                  |
|  | " 9         | Between King Island and Circular Head...   | 3 hours.                |
|  | " 10        | East of Albany, New South Wales  | 1 day.                  |
| On 17th March all lines worked badly. Severe thunderstorm and rained heavily.  | " 11        | East of Albany, New South Wales  | 1 day.                  |
|  | " 13        | East of Albany, New South Wales  | 5 hours.                |
| Read contractor's men felling trees.   | " 14        | Between George Town and Launceston   | 1 day.                  |
| Read contractor's men felling trees.   | " 15        | Between King Island and Circular Head...   | 5 hours.                |
| Read contractor's men felling trees.   | " 16        | Between King Island and Circular Head...   | 5 hours.                |
| Read contractor's men felling trees.   | March 2     | Between Launceston and Hobart Town   | 1 day.                  |
| Read contractor's men felling trees.   | " 9         | Between George Town and Launceston   | 8 hours.                |
| Read contractor's men felling trees.   | " 14        | Between George Town and Launceston   | 2 hours.                |
| Read contractor's men felling trees.   | " 16        | West of Mount Gambier, South Australia   | 5 hours.                |
| Read contractor's men felling trees.   | " 21        | West of Mount Gambier, South Australia   | 2 hours.                |
|  | " 26        | West of Mount Gambier, South Australia   | 6 hours.                |
|  | April 2     | East of Berrima, New South Wales   | 7 hours.                |
|  | " 3         | East of Albany, New South Wales  | 3 hours.                |
|  | " 10        | Between Cape Otway and King Island   | 9 hours.                |
|  | " 10        | East of Albany, New South Wales  | 3 hours.                |
|  | " 25        | Between King Island and Circular Head  | 1 day.                  |
| On May 10 communication Western line interrupted at intervals during afternoon.  | " 26        | Between King Island and Circular Head  | 1 day.                  |
|  | " 28        | East of Goulburn, New South Wales  | 1 day.                  |
|  | " 30        | East of Goulburn, New South Wales  | 1 day.                  |
|  | May 1       | East of Goulburn, New South Wales  | 5 hours.                |
|  | " 12        | West of Mount Gambier, South Australia   | 6 hours.                |
|  | " 17        | East of Berrima, New South Wales   | 1 hour.                 |
| On June 16 Western lines crossed between Melbourne and Williamstown from 10:30 a.m. to 12:30 p.m., caused by funnel of railway engine coming into contact with wires; communication partially interrupted. | July 4      | East of Goulburn, New South Wales  | 1 day.                  |
|  | " 5         | East of Goulburn, New South Wales  | 3 hours.                |
|  | " 13        | West of Portland, beyond boundary Mount Gambier district                                       | 4 hours.                |
|  | " 13        | West of Portland, beyond boundary Mount Gambier district                                       | 3 hours.                |
|  | " 16        | East of Albany, New South Wales  | 1 hour.                 |
| July 4, heavy thunder storm; Cross country line during forenoon, communication partially interrupted.  | " 24        | East of Albany, New South Wales  | 8 hours.                |
|  | " 25        | East of Albany, New South Wales  | 8 hours.                |
| August 10 and 11, great atmospheric disturbances on all lines, caused by an Aurora Australis; communication partially interrupted.   | August 27   | West of Mount Gambier, South Australia   | 1 day.                  |
|  | September 7 | East of Yass, New South Wales  | 4 hours.                |
|  | " 8         | East of Albany   | 8 hours.                |
|  | " 8         | West of Mount Gambier, South Australia   | 1 day.                  |
|  | " 10        | East of Albany, New South Wales  | 7 hours.                |
|  | " 12        | East of Albany, New South Wales  | 5 hours.                |
|  | " 25        | East of Albany, New South Wales  | 1 hour.                 |
|  | October 4   | East of Albany, New South Wales  | 1 day.                  |
|  | " 13        | West of Gairdner Bay, South Australia  | 1 day.                  |
|  | " 27        | Deniliquin line, New South Wales   | 7 hours.                |
| Read contractor's men felling trees.   | November 5  | West of Mount Gambier, South Australia   | 5 hours.                |
| Read contractor's men felling trees.   | " 15        | East of Albany, New South Wales  | 3 hours.                |
|  | " 16        | East of Albany, heavy floods, Goulburn district  | 1 day.                  |
|  | " 17        | East of Albany, heavy floods, Goulburn district  | 1 day.                  |
|  | " 19        | East of Albany, heavy floods, Goulburn district  | 1 day.                  |
| Read contractor's men felled several trees on line; contractor prosecuted.   | " 20        | East of Albany, heavy floods, Goulburn district  | 9 hours.                |
|  | " 22        | East of Albany, heavy floods, Goulburn district  | 9 hours.                |
|  | " 23        | West of Mt. Gambier, cable broken Hindmarsh Island   | 10 hours.               |
| Read contractor's men felling trees.   | " 24        | West of Mt. Gambier, cable broken Hindmarsh Island   | 6 hours.                |
| October 25, heavy thunderstorm Mount Gambier district; lines worked badly in afternoon.  | " 26        | West of Mt. Gambier, cable broken Hindmarsh Island   | 6 hours.                |
| November 23, heavy thunderstorm from 12 noon to 2:30 p.m.; all lines worked badly.   | " 27        | East of Albany, New South Wales  | 4 hours.                |
|  | " 28        | West of Mt. Gambier, cable broken Hindmarsh Island   | 1 day.                  |
| December 21, Western line crossed between Geelong and Ballarat from 4:30 p.m. to 8 p.m.  | " 29        | West of Mt. Gambier, cable broken Hindmarsh Island   | 6 hours.                |
|  | December 4  | West of Mt. Gambier, South Australia   | 6 hours.                |
|  | " 31        | Communication with Tasmania interrupted since April 28th between King Island and Circular Head |                         |



## APPENDIX C.

## TELEGRAPHIC COMMUNICATION WITH INDIA AND EUROPE.

Mr. Lalor reported from a Committee of the whole certain resolutions, which were read, and are as follow:—

## Resolved—

II. That the Government of this Colony be authorised to grant, in conjunction with the Imperial Government, and with all or any of the Australian Colonies, an annual subsidy, not exceeding in the whole £35,000 for a term not exceeding twenty-one years, to any company of whose stability satisfactory assurance shall be given, to induce such company to construct and maintain a Line of Telegraph which shall connect this Colony with any portion of the Indian and European Telegraph Lines at present in working or that may hereafter be constructed, upon the following conditions:—

- (1.) That such company shall within two years after a contract has been entered into, construct such Line of Telegraph, unless prevented by war or the dangers or accidents of the seas, and afterwards maintain it in working order at its own expense.
- (2.) That the proposed subsidy shall be proportionably payable on the capital of the company actually paid up and expended, and shall not exceed five per cent. on such capital. And the contract for the manufacture and laying of the cable shall be open to public tender, and the lowest tender accepted, the satisfactory nature of which competent electricians in England shall determine.
- (3.) That no payment of such subsidy shall be made until the Line of Telegraph to be constructed has been in working order for three consecutive months; and such payments shall be made rateably only for the period during which the line so constructed is open for the transmission of messages.
- (4.) If such line shall be closed, unless by reason of war, or shall not be in a state of efficiency for the transmission of messages for any eighteen consecutive months, then the contract with such company shall be void.
- (5.) That a tariff of charges for the transmission of messages over such line shall be agreed to by the several contracting Governments and the company before any contract is entered into, and such tariff shall not afterwards be altered without the concurrence of such Governments.
- (6.) That in the event of the net profits of the company exceeding in any year the rate of ten per cent. per annum, inclusive of the subsidy, such excess shall be rateably applied to reduce the respective contributions of the contracting Governments.

III. That the proportion of the entire annual subsidy to be granted as the contribution of this Colony shall not exceed the sum of £13,000 in any one year.

IV. That in any agreement which may be entered into with any other Colony, for the purpose of making up the amount of subsidy required, it shall be an express stipulation that the actual annual payments of such Colony and of this Colony shall be in proportion to the value of the messages transmitted by each along the line in every year.

V. That upon the completion of the preliminary arrangements for a contract, in terms of the foregoing Resolutions, a Bill be brought in for the purpose of authorising the annual expenditure required.

VI. That these Resolutions shall be in force only for two years, and shall be forthwith published in the United Kingdom.

Mr. Bailey moved, That the above resolutions be now read a second time.

Debate ensued.

Question—put and resolved in the affirmative.

Mr. Bailey moved, That the Assembly do now agree in the above resolutions.

Debate ensued.

Question—put and resolved in the affirmative.

Ordered—That an Address be presented to His Excellency the Governor forwarding to His Excellency the several resolutions agreed to by this House in relation to telegraphic communication with India and Europe.