(No. 149.)

1891.

PARLIAMENT OF TASMANIA.

AUSTRALASIAN RIGHTS PURCHASE BILL:

REPORT FROM THE SELECT COMMITTEE, WITH MINUTES OF PROCEEDINGS AND EVIDENCE.

Brought up by Mr. M'Call, October 30, and ordered by the House of Assembly to be printed.

SELECT Committee appointed, on Friday, 9th October, to report upon and enquire into a Bill to enable The Australasian Rights Purchase Association, Limited, to construct and maintain Machinery, Works, and other Appliances for making, generating, and transmitting Electricity or any Motive Power, and to supply the same to any mine, company, co-partnership, person, or persons whatsoever within the Western and North-Western Mining Divisions of Tasmania.

MEMBERS OF THE COMMITTEE.

Mr. Lyne.	Mr. M'Call.
Mr. Gill.	Mr. Fenton.
Col. St. Hill.	Mr. Clark.
Mr. Leatham.	

DAYS OF MEETING.

Thursday, 15th October; Friday, 16th October; Friday, 23rd October; Wednesday, 28th October; Thursday, 29th October; Friday, 30th October.

WITNESSES EXAMINED.

Mr. C. E. Hogg, Civil Engineer; Mr. C. W. James, Civil Engineer; Mr. Francis Belstead, Secretary of Mines; Mr. A. R. Allison, Mine Manager; Mr. Murray; Mr. W. Palmer.

MINUTES OF PROCEEDINGS.

THURSDAY, OCTOBER 15, 1891.

The Committee met at 10·30 A.M.

Present—Mr. Leatham, Mr. M'Call, Mr. Gill, and Mr. M'Kenzie.

Mr. M'Call was unanimously voted to the Chair.

Ordered, That the Petitioner be heard by Counsel.

The Chairman laid the Petition praying for permission to introduce the Bill upon the Table. (Appendix A.)

The Committee adjourned at 11 A.M. until 10·30 A.M. on Friday, 16th instant.

FRIDAY, OCTOBER 16, 1891.

The Committee met at 10·30 A.M.

Present—Mr. Gill, Mr. M'Kenzie, Mr. E. H. Sutton, Colonel St. Hill.

The Minutes of the last Meeting were read and confirmed.

Counsel was admitted, and addressed the Committee in support of the Bill.

Mr. Charles Edward Hogg was called in and examined.

Mr. Hogg withdrew.

Mr. Charles Wordsworth James was called in and examined.

Mr. James withdrew.

Mr. Francis Belstead was called in and examined.

Mr. Belstead withdrew.

At 12·50 P.M. the Committee adjourned until 2·30 P.M.

The Committee re-assembled at 2·30 P.M.

Mr. Arthur Richard Allison was called in and examined.

At 3·20 P.M. the Committee adjourned.

FRIDAY, OCTOBER 23, 1891.

The Committee met at 11·10 A.M.

Present—Mr. Gill, Mr. E. H. Sutton, Mr. Mackenzie, and Mr. M'Call (Chairman).

The Minutes of the last meeting were read and confirmed.

Counsel (Mr. Young) appeared in support of the Bill.

Mr. Charles Westwood, Legal Manager, was called in and examined.

A Petition was tabled from Mr. Hogg, Civil Engineer, to be heard by Counsel against the Bill.

Permission was granted, and Counsel (Mr. Mugliston) appeared before the Committee.

Ordered, That a copy of the evidence already taken before the Committee.

Mr. C. Westwood's examination was continued.

Mr. Westwood withdrew.

The Chairman laid the following document on the Table :—
Plans of proposed works.

Mr. Murray was called in and examined.

Mr. Murray withdrew.

Letter from Mr. F. Belstead, Secretary of Mines. (Appendix B.)
Letters from Messrs. Browne and Macartney. (Appendix C.)

The Committee adjourned at 12·50 P.M. until 10 A.M. on Wednesday next.

WEDNESDAY, OCTOBER 28, 1891.

The Committee met at 11·15 A.M.

Present—Mr. Gill, Mr. E. H. Sutton, Mr. Mackenzie, Mr. M'Call (Chairman).

The Minutes of the last meeting were read and confirmed.

Counsel (Messrs. Byron Miller and Russell Young) appeared in support of the Preamble.

Counsel (Mr. Mugliston) appeared in support of the Petitioners against the Bill.

Mr. James, Civil Engineer, was called and examined.

Mr. James withdrew.

Mr. Walter Palmer was called in and examined.

The Committee adjourned at 1 P.M. until 2 P.M.

At 2 P.M. the Committee resumed.

Present—Mr. Gill, Mr. E. H. Sutton, Mr. Mackenzie, Mr. Clark, and Mr. M'Call (Chairman).

Mr. Palmer's examination was continued.

At 4·55 P.M. the Committee adjourned until 11 A.M. Wednesday, the 28th October.

THURSDAY, OCTOBER 29, 1891.

The Committee met at 11 A.M.

Present—Mr. Mackenzie, Mr. Gill, Mr. E. H. Sutton, the Hon. the Attorney-General, and Mr. M'Call, (Chairman).

The Minutes of the last meeting were read and confirmed.

Mr. W. Palmer was called and examined.

Mr. Palmer withdrew.

Mr. Andrew French was called and examined.

Mr. French withdrew.

At 1·10 P.M. the Committee adjourned until 2·15 P.M.

The Committee re-assembled at 2·15 P.M.

George Wm. Townshend was called in and examined.

Mr. Townshend withdrew.

At 3·55 P.M. the Committee adjourned until 7·30 P.M.

FRIDAY, OCTOBER 30, 1891.

Present—Mr. Mackenzie, Mr. Gill, Mr. E. H. Sutton, and Mr. M'Call (Chairman).

The Minutes of the last meeting were read and agreed to.

Draft Report brought up, and agreed to.

The Committee adjourned *sine die*.

REPORT.

YOUR Committee, having taken evidence in support of the allegations contained in the Preamble of the Bill, have the honor to report that the said Preamble has, with an unimportant amendment, been proved to their satisfaction.

Your Committee having agreed that the Preamble should stand part of the Bill, then entered into consideration of the several Clauses, and made certain alterations, additions, and amendments, which are embodied in an amended Bill attached to this Report.

Your Committee have the honor to present the Bill, as amended, for the favourable consideration of your Honorable House.

J. M'CALL, *Chairman.*

Committee Room, House of Assembly, 30th October, 1891.

EVIDENCE.

FRIDAY, OCTOBER 16, 1891.

CHARLES EDWARD HOGG, *called and examined.*

1. *By Mr. Young.*—What is your name? Charles Edward Hogg.

2. What is your profession? I am a Civil Engineer.

3. I believe your qualifications are extensive? I have been for 18 years a railway engineer, and an engineer to the Broken Hill Smelting Company and the Dundas Railway in Tasmania.

4. I believe you are a certificated Engineer? Yes. I acquired all the necessary qualifications in New South Wales.

5. Do you know the Bill before the Committee? Yes.

6. Have you read it? Yes, carefully.

7. What do you think of the Bill so far as its general fairness is concerned? I think it will ruin the field if it is passed in the form that it is in. It will paralyse the mining industry.

8. On what basis do you form that opinion? I will take the specific case of our own smelting works. The promoters of this Bill ask for three-quarters of the water in the Henty. In practice the remaining quarter can never be utilized. They propose to take three-quarters of the water above where we are about to establish our works, and I have consulted with the engineer of our company, who has just arrived from England, and we quite agree that if this Bill is passed in its present form we will have to stop work.

9. But supposing the water is returned to the river above you? If it is returned half a mile or three-quarters of a mile above us we can go on.

10. Where are your works? They are almost contiguous to these electric works; in fact, they are opposite to them, and slightly below them.

11. You say that granting three-quarters of the water would be a large concession? It would leave nothing for anyone else. It would ruin the whole field; there is no question about that.

12. Have you tested the volume of the water in the Henty? We had the Henty at that spot tested before we erected our plant there. I found by experiment that there were about 1400 heads of water there in a low season, and up to about 14,000 in times of flood.

13. What do you mean by a head? It is the mode of measuring in use in this colony; it is the American miner's inch. It means a body of water that will flow through an aperture 16 inches broad by 1 inch in depth.

14. What amount of water would be sufficient for your works? I have some difficulty in answering that question, but I think that we would use about 300 or 400 sluice-heads,—about 300, perhaps, might do us.

15. Have you applied for any particular number of sluice-heads? We do not wish to apply for any until we actually want them. We are prepared to pay £300 a year for our water, at the rate of £1 per sluice-head per year. We did not wish to have to pay for the water until we were actually using it. The Mining Act tells us what we can do, and we have not commenced to use the water until we actually want it.

16. What will become of the water that you take? It will go back into the stream.

17. Will it be polluted? As far as the turbines we propose to use are concerned, it will only pass through them and go back into the stream, but in ore-dressing it will undoubtedly be polluted.

18. Do you consider that the water that would be left after we had taken three-quarters would be insufficient for you? Quite insufficient.

19. How many sluice-heads would there be left? If only one quarter of the water was left, it could not be used at all. You would have almost to sink below the bed of the stream to get it at all. When water is at a certain level it is almost useless.

20. What quantity of water per minute would go through a sluice-head? It all depends on the rate of the stream.

21. How was the stream when you measured it? At the time that I tested it the stream was running at the rate of 5 feet per second. The mode of measurement, however, makes it difficult to form an opinion. If the stream run slow you get little water, but if it runs fast you get a great deal.

22. And you say that if we took three-quarters of the water it would leave you nothing? No, we must have a fall.

23. Our works being above you, if our water is returned to the river how can any loss be sustained by you? They would have to be considerably above us to prevent us sustaining any loss. We must have a fall of 15 or 16 feet. There is no fall at all, or only a very slight one, between your works and ours.

24. What is the distance between where our water returns and your works? About 4 chains. The fall in the stream is only about 1 foot to 5 chains, or ·2 per chain.

25. *By the Chairman.*—What water do you require? Of course if we are merely working the blowers we would not want much, though I am rather in a difficulty in saying how much exactly; but in regard to ore-dressing that is a totally different question. We require about 1000 gallons of water to the ton of ore dressed.

26. Do you think that you would want the lot? We would take whatever we could under the Mining Act. The Act is a very liberal one, and we are prepared to pay. I think that the smaller mines will go in for dressing their own ore, and will want water themselves. They will no doubt concentrate the ore, and send it to the smelting companies.

27. What is the fall you want? Only about 15 or 16 feet.

28. For what distance? The levels I have taken would take us about 70 chains to get that fall. We do not want a great fall; about 120 horse-power would do us for a long time. That would work 5 80-ton smelters.

29. What is the fall from where our company return the water? It is really below us, and there is no fall at all.

30. Would you be satisfied if our company selected a site which would allow them to return the the water to the stream some distance above you? That would suit us. Of course we have to protect our own interests. If the Bill was passed as it is at present it would really paralyse us.

31. I have seen turbines working, but in that case there was a dam above them from which the water was taken? Yes, that is where there is a large body of water. You must have either a large volume or a great head. A fall of 15 feet is quite enough for a low-pressure turbine. We can only secure that by going about 60 or 70 chains above. It is the nearest in which we can make any use of the water. That only gives us 9 feet fall, and it is only by sinking the turbines some 4 feet below the surface that we can get the fall.

32. *By Mr. Sutton.*—Do you propose pumping? No.

33. *By Mr. Mackenzie.*—What proportion of the water would you take? Only about one-fifth for smelting. For ore-dressing I do not know how much we we would take, as we could not tell the quantity of ore that would come down. It takes about 1000 gallons of water to the ton of ore.

34. *By Mr. Gill.*—Will the companies dress their own ore? I think they will in the future, to a very large extent. They will find it much cheaper.

35. *By Mr. Sutton.*—What is the contour of the country immediately abutting on the Little Henty? The banks get very steep where the railway leaves the river.

36. Can you by an expenditure of money conserve a body of water there? No, it is too flat for that.

37. *By Mr. Gill.*—I understood Counsel to say that the water would be returned to the source that it is taken from? That could not be done.

38. What power would you derive from one sluice-head? It would be very small. With a fall of 18 feet we would get about ½ horse-power. Of course it all depends on the elevation that it falls from. I may say that I am going to petition the House to be allowed to be heard by Counsel in reference to this matter, because we think that it is very serious.

CHARLES WORDSWORTH JAMES, *called and examined.*

39. *By Mr. Young.*—What is your name? Charles Wordsworth James.

40. You are a civil engineer? Yes.

41. Have you had much experience? Yes, about 25 years.

42. Have you read the Bill now before the Committee? Yes, I have read it carefully.

43. What is your opinion in regard to its general fairness? It struck me as being one of the most important Bills I have seen this Session. It is something new, inasmuch as the powers the Association are seeking to acquire will, if granted, tend to develop those sources of power in nature which have hitherto lain dormant, and which should be applied for the use and convenience of man coupled with the advancement of mechanical science and the benefit of the community generally.

44. Do you look upon the electric motive power as an important portion of the Bill? Yes; the electric power I look upon as being the great power of the future, and there is no cheaper way of producing it than by water power.

45. And would not the adoption of the Telpherage system of carriage do away with the necessity for roads in many places? Yes, and the Telpherage system, which is really an overhead cable tramway, could be taken over localities where roads are out of the question. Where a road is impossible tramways and railways are impossible also. Telpherage has been in use in many parts of the world, and is very economical, and no doubt it will be largely used on the West Coast, where good roads cannot be made.

46. Would not the electricity be a great boon for mining purposes, such as pumping, light winding, and so forth? I am of that opinion; it is easily applied.

47. I believe that electricity is the least expensive of any motive power—is not that so? In these localities I should say that it would be so, if it was applied in an economical way. The great thing is to have the power generated at one centre, and then to distribute it.

48. Do you think that the introduction of such a system would facilitate the earlier development of the mines? I am of that opinion.

49. I presume that if this system were valuable it would be very generally used? I think the mining companies would be only too glad to avail themselves of a power of that description, as it would save them the expense of steam machinery and boilers.

50. Could electricity be used for tramway purposes? Most certainly it could; that is one of its principal uses.

51. Do you know anything of the rivers on the West Coast? I know the two branches of the Henty and the Pieman.

52. Do you know the Little Henty? Yes.

53. Have you estimated the volume of water in it? No, I have not measured it.

54. You could not say how many sluice-heads it would work? No. I have not seen it at summer level.

55. Do you know the locality of the proposed works of this company? Yes, by referring to the plan.

56. Do you also know the site of the Broken Hill Ore Dressing Company's Works that Mr. C. E. Hogg has something to do with? Yes, I have seen the locality of those works.

57. We intend to return our water within about 12 chains of the junction of the two branches of the Henty. Mr. Hogg states that the water being returned at that point would deprive him of the power he requires to work his machinery, as there would be no fall left? I would, if I was in Mr. Hogg's place, sooner have the water brought to these works above me, as I would have full use of their tail-race to work my machinery.

58. But he states that that will do away with his fall, as he has had to put his turbines four feet below the surface of the ground to get the necessary fall as it is? In that case how is he to get his tail-race out? You must have about six feet of a draught below to work them properly.

59. You don't consider, then, that our works will rob Mr. Hogg of his power? No, he will have full use of your tail-race, which, I should say, would be rather an advantage to him.

60. *By the Chairman.*—Are you satisfied that Mr. Hogg will get a greater fall from the works of this company than he would from his own intake? Yes, the fall from the site of the works of this Company to the site of Mr. Hogg's Smelting Works will be greater than the fall from Mr. Hogg's proposed intake on Toplis's section to his works. This company would therefore prove an advantage to him.

61. *By Mr. Gill.*—Do you know the site of the works of this company? Yes, the site must be on the hillside on the left, considerably up.

62. *By Mr. Young.*—Do you know any of the promoters of this company? I cannot say I do, with the exception of Mr. Palmer.

63. Can you speak as to their general position and means? They are all well-known men, and men of means; they are *bonâ fide* names.

64. Are they acquainted with practical works of this nature? I presume they would be.

65. Do you know of electricity being used in the way this company propose to use it in other parts of the world? Yes, there are many places where it is used in this way.

66. Do you know if the inhabitants of Zeehan are in favour of this Bill? I believe a large majority of them are.

67. Have you seen a petition signed in favour of the Bill? Yes.

68. Do you think that the concessions asked for in this Bill would benefit the field largely if they were granted? Yes, simply because it is applying a very cheap power, which can be utilized in any position.

69. Would it prejudicially affect the mines in any way? No, it would be rather to their advantage.

70. Supposing this company took all the water in the river, what would be the effect on those lower down the stream? This sort of thing is done on the Victorian gold fields, and there is nothing new about it. The water is returned to the original channel, and the people have the use of it just the same.

71. I suppose the work this company intend to carry out is a work that it would be more practicable for a company to execute than a Government? Yes, it is not a Government work. I know of no precedent of a Government undertaking a work of this character. It is a speculative work, and for private enterprise to carry out.

72. You have been over the localities indicated upon the plan? Yes, all through them.

73. Do you know the situation proposed for this company's works? Yes.

74. Do you think this company will injure any other company by taking three-fourths of the water in the river? No, it is a large stream, and 70 per cent. of it would be hardly missed.

75. Mr. Hogg thinks the remaining one-fourth could not be used? It is too large a river for that; if it was a little stream it might be the case. There is a large gathering-ground between the point of intake and discharge; and although 75 per cent. is taken, there may be another volume of surface drainage water equal to 25 per cent. coming in between. There is a very large catchment area between these points.

76. Would it considerably augment the 25 per cent. left? Yes, the balance left in the river would be largely supplemented by the catchment area lying between.

77. Is electricity likely to become the motive power of the future? It is generally looked upon as such; in fact, it is the motive power of the present day.

78. Would not works of this kind employ a large amount of labour? Yes, both in constructing the works, and carrying them out afterwards.

79. And, generally speaking, this electric power is cheaper than steam? It would be on the West Coast, most decidedly.

80. It must therefore be an advantage to the industry to which it is to be applied? Yes, there is nothing could develop a country quicker than by having power carried through it like this proposal.

81. *By the Chairman.*—The objects of this Bill will confer great benefits on the field by providing cheap motive power? Yes.

82. The Broken Hill Ore Dressing Company will not suffer, but, on the contrary, are likely to gain by the carrying out of this scheme? Yes, that is my opinion.

83. If three-fourths of the water is taken out of the Henty, it would not be lost to the district, but would rather be placed in a better position to serve that portion of the country which is served by the water of the Henty, as it would be on high ground? Yes.

84. This company would have no monopoly, as there would be sufficient water left to prevent the other companies getting into its hands? Yes, that is the case.

85. Are you of opinion that the mine-owners would prefer to pay for it out of this race, rather than take it out of the first branch of the Henty? It would be cheaper to pay for the water out of the race than to pump it out of the river.

86. Do you know whether the Victorian law allows a scheme of this kind to be carried out without an Act of Parliament? I laid out a similar work at Castlemaine, under a mining easement.

87. Not under an Act of Parliament? No, it was not necessary to have one.

88. *By Mr. Sutton.*—Were any of the claims affected in any way? They were only too glad to get it. We took the water from the Loddon, which we tapped as it is proposed to tap the Henty, and we carried it round on a high level, so that all the claims on the ground could use it by gravitation.

89. *By Mr. Mackenzie.*—If three-quarters of the water is taken, will the remaining quarter be sufficient for the use of all the mines there? Certainly; I cannot see why it should not be. The river is large, and 25 per cent. of the water is far more than the claims would ever use. They would only use it for ore-dressing.

90. Are you a resident of Zeehan? No.

91. Have you lived there? Yes, for five or six weeks.

92. Mr. Hogg is very distinct in saying that it would do a positive injury to his works if the water is allowed to be taken by the present Company,—in fact, he says it would paralyse him. Would a break in the force of the water affect the Company below? I cannot see how it possibly can. Mr. Hogg wants water, and there will be a large flow, 25 per cent., in each of the branches, besides the tail-race coming from the works above. Perhaps Mr. Hogg thinks he will have to pay for the water he gets from above, and that is the bone of contention. He will get more power by using the tail-race than he will get in any other way, and probably obtain it more cheaply.

93. *By the Chairman.*—The fall from Mr. Hogg's intake is about 9 feet, he says, and there is a fall shown from the other works of 40 feet in 4 or five chains. Would the power of the latter be as great as that of the former? Nearly 40 times greater.

94. *By Mr. Mackenzie.*—Mr. Hogg states that he could only get 9 feet fall in 70 chains, and had to sink his turbine four feet to get the necessary power. He states with these works above him he could not get the necessary power at all? He will get more power. If Mr. Hogg can only get 9 feet fall in a mile, and has to sink his turbine, where is his tail-race from the turbine to go to?—he will have to drive a tunnel to get rid of his water. The river has a gradual fall all through the country. There are no distinct falls in the river, but it has an average grade.

95. *By the Chairman.*—Are you a shareholder in this Australian Rights Purchase Company? No, I have no interest in it whatever.

96. *By Mr. Mackenzie.*—This Bill does not apply to Zeehan alone? I am aware of that.

97. Do you know anything about the other portions of the mineral fields? I believe the same concessions are applied for at Waratah, and also on the Pieman River. I presume the principle will be the same in each case.

98. Do you know anything about the streams in these places? No.

FRANCIS BELSTEAD, *called and examined.*

99. *By Mr. Young.*—What is your name? Francis Belstead.

100. Your are Commissioner of Mines in Tasmania? Yes.

101. Have you read the Bill now before the Committee? Yes, I have looked throught it.

102. Do you know its general provisions? Yes.

103. What is your opinion of the Bill so far as the general interests of the public are concerned? On the whole, I think that the Bill is a fair one.

104. Do you think the concessions asked for are reasonable? I think they should be safeguarded in some few directions; but, taking them generally, I think they are reasonable.

105. Are you acquainted with the Telpherage system? I have no practical knowledge of it, except what I have gained by reading about it. I have never seen it in operation.

106. Can you say if, under a system such as that, material can be transported where roads cannot be made? Undoubtedly so. On the West Coast country, more especially, it would be very useful; and would be a great saving to the country in the making of roads.

107. Can you tell us generally the prospects of the Zeehan fields? The field has a very encouraging and hopeful future.

108. I believe there is a considerable quantity of ore at grass unable to be got away? There is a large quantity in various parts of the field.

109. If this electric power is applied to trams it would facilitate a great deal of that ore being got away? Yes.

110. And would not the lighting of that district by electricity be a great advantage? Yes, very great indeed.

111. Do you know any place where this system of producing motive power is employed? In New Zealand, I believe it is, and, of course, it is in America.

112. Such works as these must be beneficial to the mines under any circumstances,—they could not prejudicially affect them? That is a rather broad question. Of course, works of that character would be of material advantage to the mines; but the means by which they were established might not be so.

113. If a fair compensation were given to all parties injured, would it do away with that difficulty? It would put the thing quite level.

114. Are you aware that the Lands Clauses Act is incorporated in this Bill for the purpose of giving compensation? There seems to be fair provision, so far as I have read it.

115. Are you aware if the inhabitants of Zeehan are in favour of this Bill? Only by what I have read in the newspapers. I saw there that they held a meeting, and expressed themselves in favour of the Bill.

116. Is not the expense of carriage on the West Coast now very considerable? Yes; I think the rate has been about £4 15*s.* a ton from Trial Harbour to Zeehan.

117. And the making of roads is very expensive? Yes, both expensive and difficult, on account of the price of labour and the lack of good material. The road-making material there is very poor.

118. Maintenance, I suppose, would be a very considerable item in the cost of roads? Yes.

119. I believe it is very difficult to get heavy mining machinery or material to any of the mining centres? Very difficult,—in fact, it is practically impossible. There is no mining material at Dundas at all.

120. Are you acquainted with the general character of the Henty River, upon which this Company propose to construct their works? Not from personal knowledge, only from surveys that have passed through my hands.

121. Is not the volume of water in it considerable? I do not know. I can only speak of it at different points where I saw the river. The volume of water appeared to be very considerable.

122. Would 75 per cent. be a large quantity of water for this company to take from that river, assuming that they returned it again? The question would be, how would it affect those who were between the points of intake and discharge.

123. Is there not considerable gathering-ground for water on the course of that river? Yes, there is a tributary in every valley, and the valleys are innumerable.

124. Can you tell us what a sluice-head of water is? A Tasmanian sluice-head is 16 square inches of water; that is, as much water as will go through an aperture 16 inches wide by 1 inch deep, with a 6-inch pressure behind it.

125. Is it not easy to estimate a quantity of water per sluice-head? Yes, anyone who knows anything about it can go to the side of a river and give a fair approximate estimate.

126. Has the quickness of the flow anything to do with it? Yes, the velocity of the water has a very material effect.

127. It could still be gauged? Yes, and would be gauged by this or any other company that took it.

128. It has been said that it is a difficult thing to gauge the quantity of water in a river per sluice-head? Oh, no! it is as simple as possible, if you know how to do it. The calculation is a somewhat elaborate one, but it is easily arrived at. Any hydraulic engineer could arrive at it in a short time.

129. *By the Chairman.*—Can you indicate in what direction you think the Bill should be safeguarded? I have only read the Bill through once, and I am hardly in a position to give an opinion right off. I should like to read it through carefully before expressing an opinion.

130. Do you know what the law is in Victoria in regard to taking water from streams and returning it again: we are informed that people can divert streams under a mining easement? We have not the same powers under a mining easement in this Colony. This company applied for water to do all they want to do under the Bill, but they have been warned that it is possible that their applications may not be considered as mining applications.

131. Why so? Because it does not appear that our mining law gives the power to grant what they want.

132. How far would our mining law give them powers? It would give them the water for all mining purposes, but they want it for lighting and so forth. There is another point also: if they take this water as a water-right, they absolutely buy the water, and can do what they please with it. They, however,

appear to want to utilize the water for power, and then return it to its original stream. That would be far more advantageous to the Government than granting an ordinary water-right.

133. It might also be to the advantage of people to take water from the company's high-level race by paying for it, rather than go to the expense of pumping it out of the Henty? It might be so, but this company does not ask for the power to sell it. They don't want to purchase the water, but simply to use it for motive power and then return it to the river.

134. I suppose you have no knowledge of whether 75 per cent. of the water would be required? No, that is an engineering question.

135. *By Mr. Gill.*—Have you been consulted, as Commissioner of Mines, as to the clauses of this Bill? No.

136. Will you make any suggestions to the Committee that may strike you upon a further perusal of the Bill? If the Committee desire it.

137. What is the usual charge per sluice-head under the present law? The Government charge under the Mineral Lands Act is £1 per sluice-head per annum; but on the Mount Cameron Water-race we charge according to the price of tin. Tin at present is from £80 to £100 per ton, and we charge 15*s.* per sluice-head per week of six days of eight hours a day.

138. How will the revenue of the colony be affected by giving away three fourths of the whole of the water in the West and North-Western District? That is a wide question. At present not much water is used for silver mining purposes except at smelting and ore-dressing works. I do not know of any company at present that the granting of what these people require will affect. At present there is only silver mining, but there may be gold mining—at the Ring River, for instance, in which water will be largely required.

139. *By Mr Mackenzie.*—Of course you are aware that this Bill asks for powers in the Western and North-Western Districts? Yes.

140. Are you acquainted with the various streams there? No, not with all of them.

141. Do you know the volume of water in them? In some of them, here and there.

142. From your own knowledge do you know of any stream the diversion of three-fourths of the water from which would be injurious to claimholders in the intermediate portion of the country between the intake and discharge? I think in any case it would be injurious to claimholders to divert two-thirds of the water of a river unless compensation was given.

143. Do you know if there is any objection to this Bill in the mining districts? I have heard of no objection whatever to it.

144. *By the Chairman.*—Have you ever heard the number of sluice-heads in the Henty River? No; I am not aware of its having been gauged; it would depend upon which point it was gauged at.

ARTHUR RICHARD ALLISON, *called and examined.*

145. *By Mr Young.*—What is your name? Arthur Richard Allison.

146. You are a mining manager? Yes.

147. You served your time at Broken Hill? Yes.

148. Who with? Mr. P. V. Luxon, surveyor.

149. Do you know the Bill before the Committee? Yes.

150. Have you read that Bill? Yes, I have.

151. Do you approve of that Bill? Certainly I do. It is a necessary thing for the field.

152. What is your opinion in reference to the concessions asked for in that Bill? I think they are very fair indeed, so far as I can see. I don't think they are asking for too much. There is no monopoly in the Bill so far as I can see.

153. Do you think that the passage of such a measure would be beneficial to such a district as Zeehan or Dundas? Yes, most decidedly.

154. I suppose you know this field thoroughly well? I have been there since 1887.

155. Is there a necessity in that district for machinery of a character such as would be provided under this Bill? Yes, I think there is.

156. You think there is a necessity for a lighter machinery than that usually made use of? Yes, undoubtedly, as, owing to the soft and peaty nature of the ground, it is very difficult to make roads and tracks to get heavy machinery into the various mines. The class of machinery which this Bill will bring into use would be of a very much lighter nature.

157. Would this Bill generally facilitate mining operations? Yes; and it is a very necessary thing indeed.

158. Would it in any way add to the facilities of prospecting? Yes, it would, by opening up the country. The more the country is opened up the further back you can get into the unexplored portions.

159. Would it save expense to the country in regard to road-making? Yes. Trams are always cheaper than roads in that kind of country.

160. Do you know of such machinery as contemplated by this Bill in other colonies? There is s in New Zealand working very satisfactorily indeed.

161. Is there not a great difficulty in making roads in the Zeehan district? Yes. The ground is so soft and peaty that it is difficult to make a road that will stand any heavy traffic upon it. Trams are far cheaper than roads there, and this company can supply the power to drive them.

162. Do you know the Little Henty? Yes, I know it very well indeed. There is a very big supply there, far more than this company is ever likely to use.

163. Do you think there is more than sufficient for the purposes of this undertaking? Yes, I do. I am led to believe that this company takes their supply some four miles above Mr. Hogg's smelting works, and between the company's intake and Mr. Hogg's works there are several big streams coming in, so that the deficiency is almost made up again.

164. Do you think that the taking of three-fourths of the water by this company would militate against Mr. Hogg's operations? No, because there are several streams coming into the Henty within these four miles I have mentioned. The watershed there is very considerable.

165. Con you mention the names of any mines that would be specially benefited by the operations of this company? I can mention several—the Oceana, the Silver Bell, and Monte Christo, besides many others.

166. And also mines at Dundas and the Pieman? Yes. There are other mines, too numerous to mention, at Dundas, the Pieman, Heazlewood, and Whyte River, which would all be benefited. It will benefit the whole of the field, as the electricity can be sent all over it.

167. Do you know anything of the general opinion of the inhabitants of the West Coast in reference to this Bill? I heard that the Progress Committee were in favour of this scheme, both the old and the new committees.

168. Did you attend any meetings of the Progress Committee? No. I believe there was a petition got up and signed on the field by a great many people in favour of this scheme. I have not been on the field since 15th July last.

169. Do you consider that the interests of the public are fairly protected in this Bill? Yes, I think so.

170. Do you consider that the concessions asked for are fair and reasonable? Yes, I do.

171. Have you ever seen electricity used as a motive power? I cannot say that I have ever seen it used on mines.

172. Will the introduction of such machinery as this Bill contemplates have any effect upon the development of the field? Yes. It will doubtless facilitate the opening up of the mines.

173. Have you formed any idea of the time by which it would facilitate the opening of the field? That would be a very hard thing to say.

174. But it would have that effect generally? Yes, undoubtedly.

175. Would such machinery be cheaper than that ordinarily used? Undoubtedly it would be. It is a smaller class of machinery altogether, and would not require such an expense for cartage.

176. Taking into consideration the importance of the mines, do you think that such a measure as this is warranted? Yes, I do. We want all the syndicates we can possibly get to develope that field; that's my idea.

177. *By the Chairman.*—Do you know the site of the Broken Hill Ore Dressing Company's works? Yes.

178. And the site selected for the works of the present company by Mr. Palmer, the manager? I saw it as I was passing down.

179. Which site is on the highest level? I could not give any correct information on that point.

180. Is the Broken Hill Ore Dressing Company's site on low-lying ground? It is.

181. And do you know if the Australian Rights Purchase Company's site is on low ground also? As far as I can remember, it is on the hillside.

182. *By Mr. Young.*—Are you in any way interested in this company? No.

183. *By Mr. Machenzie.*—Is it intended that this company should supply electricity to work trams for other companies? Yes, but of course they would have to pay for it.

184. Are you aware that there are other trams laid down in the district? Yes.

185. And this company might work them as well? There might be some arrangement made to the effect that if the other companies on the field find it is cheaper to get electricity from this company they should do so.

186. This company does not propose to lay trams itself? Yes, I think it does.

187. Do you know what weight this Telpherage system will carry? No; I think Mr. Palmer, the manager of the company, will be able to give you all that information.

188. Do you know all this country? Yes.

189. You said there was a large area of country to be drained between the intake and the machinery site? Yes; there is a very large drainage area.

Friday, October 23, 1891.

CHARLES HUTTON WESTWOOD, *called and examined.*

190. *By Mr. Young.*—Your name is? Charles Hutton Westwood.

191. You are a mining manager, I believe? Well, I am a legal manager.

192. Of what mine or mines? I may say the Silver King, the Comstock, the John Godkin, the Sunrise, and, in fact, roughly speaking, about twenty mines.

193. You have general experience of some considerable extent as the mining manager of the companies you have mentioned? Yes, I have had considerable experience.

194. There is a Bill at present before the House of which you are doubtless aware, Mr. Westwood, and it is intituled "The Australasian Rights Purchase Association, Limited." You know of that Bill—have you read it? Yes; I read it through last night.

195. With reference to the general measure, what do you think, or what is your opinion, regarding its adaptability to the working of mines at Zeehan and Dundas? I think, so far as I can see, that it would be very beneficial. Taken as a whole, I think the Bill is a very fair one.

196. For instance, speaking generally of its provisions, do you think they would have the effect of facilitating the developing the mining industry generally? I do not think there can be any question about it myself, because, if the Bill goes through the House we shall then have a means of transit which we at present have not got. We shall also have a means of working our mines by electricity or using it for other driving powers which we at present have not got. Of course, if it does not suit the companies to work under the provisions of this Bill for the purpose of supplying themselves they can always fall back upon the present system of steam. I do not see how it can do any harm to the companies, because if the price did not suit the companies they could simply leave it alone and continue to follow on the system of steam or driving by water-wheels.

197. There are certain concessions that are asked for from the Government of Tasmania for the purpose of carrying out this work. What do you think with reference to those concessions?—are they reasonable or otherwise? I think, taken as a whole, they are reasonable—that is, provided that the rights which are asked for do not in any way interfere with the water rights that have been already granted.

198. Quite so? I take it that the field is a particularly big one now; I think it is quite big enough myself, and the mines should have water near them. All the mines which would be likely to use water should have already applied for water-rights. In most of my mines where water power is likely to be used I have the water power for them.

199. Section three, Mr. Westwood, reads as follows:—"It shall be lawful for the projectors, and they are hereby empowered and authorised, to take, divert, and appropriate such quantity of the water of the first and second branches of the Little Henty, Parting Creek, Heemskirk, Castray, Pieman, White Rivers, or any other river or rivers within the said Divisions at any point or points on the course of any of the said rivers, not exceeding three-fourths of the quantity or volume of water flowing at such time as shall be required by the projectors for any of the purposes hereinafter mentioned, and from time to time to enter upon any of the rivers aforesaid, and upon the banks and beds thereof, and to construct and erect on and in any portion of the banks or beds of the said rivers or any of them, any works, dams, weirs, flumes, or races for the purposes of such taking, diversion, and appropriation of so much of the said water of the rivers aforesaid. Provided that nothing herein contained shall abrogate any existing rights vested in any person or persons to take, divert, and appropriate any water from any of the said rivers." In that respect you say they are protected? Yes, provided that that clause is carried out.

200. Now, for instance, what will the effect of this Bill be upon the operations of the companies which are already in existence supposing it were passed into law?—What effect would it have upon the companies which you are managing: would it be to your advantage? Well, as far as I can see, of course it would be, but that is a question which to a great extent would depend upon the price of the article. Assuming it is a reasonable cost, I say it would undoubtedly benefit most of the companies in more ways than one, because there are some companies I am interested in where we have no means of transit. We cannot get roads made there, and consequently we are at a standstill.

201. You are the Manager of the Silver King Silver Mining Company, are you not? Yes.

202. Now, for instance, Mr. Westwood, what is the cost of putting the machinery that is now upon that site—what was the cost of getting it there? All the Silver King plant?

203. Yes, approximately? Well, I have no figures with regard to that, but, speaking from memory, I should think the cost—

[Mr. Mugliston and Mr. C. E. Hogg were introduced, and, after discussion, the examination of the witness was proceeded with.]

204. I was asking you just now, after you told the Committee you were the legal manager of the Silver King Silver Mining Company, if you could tell us the cost of transmitting machinery to that site? I am only speaking from memory on the cost of actual machinery itself; I am not speaking of tools, but the actual machinery I should think cost about £400. It is hardly a fair criterion to give the actual cost of cartage, because we call for tenders for carting the machinery from the harbour to the mine, with a back freight of ore, so they were full both ways, consequently they took the tender a little bit cheaper than they otherwise would have done. I also know the contractor lost money over the job.

205. You have been to Zeehan, have you not? Yes.

206. What is the character of the roads in that district? They are as bad as you can make them, I should think.

207. Are they suitable at present for the cartage of heavy machinery? Certainly not.

208. Would the introduction of such a system as proposed by this Bill considerably alter the state of things? I should think it would do so.

209. Supposing this power were applied to a tram system, would that be advantageous? To the different mines, do you mean?

210. To the different mines? Unquestionably, provided we could get the power at a cheaper rate.

211. Well, now, for instance, supposing there was such a thing as rival companies? It would be all the better for the mines.

212. In what way? Competition and reduced tariffs.

213. I suppose you know nothing particularly of water powers? No, I would not attempt to give an opinion on water powers.

214. Do you know anything about the Telpherage system that has been spoken of? Only what I have read; I have never seen the system at work.

215. Generally, you think the introduction of such a measure as this would be beneficial to the mining district itself? I think it would.

216. *By the Chairman.*—This is a plan (plan produced) that has been laid before the Committee showing the proposed works that this company intend to carry out on the Zeehan field, and here we have section 1923, the intake from the first branch of the Henty, and runs down to a considerable distance until it passes the site for the promoter in the corner of lot 2232; it discharges into the Henty some short distance below where the two branches of the Henty join. Now, you will notice it goes through a large number of sections that have already been formed into companies, or, at any rate, are now owned by registered companies. In nearly every instance these sections are the property of companies, and not individuals. What I would like to know from you is what companies you represent on the line you have already mentioned? The Silver King and the Sunrise are the only two on that particular line. I fancy I have an interest in section 3310, and I am not certain whether I am interested in any others.

217. *By Mr. Gill.*—You are aware this Bill includes the whole of the Northern and North-western Districts,—it includes the whole of the Districts? Oh, yes!

218. *By Mr. Mackenzie.*—Then you are interested in some of the companies between the intake and the outlet of that water scheme? Yes; I am Manager, and I am a shareholder in the companies I am interested as far as I am the Manager of the company, and partly from the fact that I am interested inasmuch as I am a shareholder.

219. *By the Chairman.*—I was going to ask you—you said in your evidence that most of the companies you were interested in had acquired water-rights on the field: has the Silver King acquired any water right? I think they have. We have water coming into it from a creek, but there is not much power in it.

220. Have you a right of water from the Henty itself? No. When I said "the companies which I am interested in," I should have said "they have taken out water rights where the water is handy to them and available." It is no use going to apply for a water right a long way off, where you are not likely to want it.

221. *By Mr. Sutton.*—Supposing three-fourths of that water was taken, would it interfere in any shape or way with the Silver King? Well, that is a matter I could not say positively, because, unless you actually gauged the water, it would be impossible to answer it. I have not gauged the water.

222. *By Mr. Mackenzie.*—You know the stream? When I say I have been over the fields two or three times, I do not mean that I know every little stream about it.

223. You are aware a great deal of water is used for mining purposes? Yes. I think we have got more water than we know what to do with; there is not very much at present used for mining purposes.

224. *By Mr. Sutton.*—When your mines get into proper work, then you will require more? Of course that is a question of locality of your mine? If you can get water brought in from a short distance to drive a water-wheel, it would then be used, but, barring that, water would not be used very much for mining purposes; I mean to any very great extent.

225. *By Mr. Gill.*—It is very flat country between the Silver King? Yes, there is a flat there.

226. *By Mr. Mackenzie.*—Of course it would greatly depend on the volume of water in these creeks; if three-fourths of a large stream were taken away the other fourth would supply domestic and mining purposes, but do you know of your own knowledge the volume of water in those streams: do you know whether if three-fourths were taken away the other fourth would be sufficient to supply domestic and mining purposes? No, I could not express an opinion upon that.

227. *By Mr. Sutton.*—If your company went in for ore-dressing would you not require a large supply of water? Yes. We would then get sufficient power by the amount of water we would be pumping out of the mine. That is what we purpose doing. At present we are sinking our shaft with an engine, and we purpose making use of that water to turn another water-wheel. We are pumping about 10,000 or 12,000 gallons of water an hour out of the Silver King mine now.

228. *By Mr. Mackenzie.*—There may be an abundance of water in certain seasons of the year, but then in other months it might dry up: do you know whether those streams are continuously running? I fancy they are running continuously, more or less. Of course at different seasons of the year there is rather less water than there is at other times. Every time I have been there I have seen water.

229. Have you been there in the driest part of the year? Yes, I have been there in the summer time.

230. *By the Chairman.*—You are aware of course there is a very large catchment area here: do you think, providing there was a quarter left in the Henty at the intake, the effect of these creeks all running down into the Henty would be likely to cause a considerable increase in this portion of the Henty? In some cases I take it—I was thinking this over last night—that as the mines gradually develop we shall get plenty of water by pumping between the intake and the discharge, and make up for what water may have been taken out.

231. *By Mr. Mackenzie.*—Have you any engineering knowledge? None at all; none that I could give an opinion about.

232. In regard to the machinery site for the Company, if there was another machinery site immediately below that, do you think the effect of its being situated in that position would interfere at all with the site lower down with regard to the supply of water? There is a site only some few chains below this one. Do you think the effect of that being immediately above it would interfere with the operations of the second one? No, I do not see that it possibly can; there is a discharge into the river. The water goes off into the river, and it could not affect them. I should think the water is taken out and it is put back again, so I do not see how it could possibly affect them.

233. I do not know anything about engineering myself, but supposing this water is returned to the river there (indicating), supposing this site was here (indicating), would they not have to go up the river to get a fall? That is a question of engineering.

234. *By the Chairman.*—Assuming such causes exist in this particular case Mr. Mackenzie has cited, in your opinion would the case not be met if the Parliament insisted that this Company's race should be so situated that any one below could avail themselves of the discharge? That, again, is a question of engineering. I should think so, from a layman's point of view, and I should say it would meet the case.

235. It is quite possible, at any rate, the water could be really higher here (indicating) than a few miles up the stream? Unquestionably, just the same as we have at the Silver King. We were pumping the water away and taking it down to a shaft a little lower down.

KYNASTON LATHROP MURRAY, *called and examined.*

236. *By Mr. Young.*—Your name is? Kynaston Lathrop Murray.

237. And your profession? I am an electrical and civil engineer.

238. You have had large experience: what is your experience in electrical science as applied to machinery? I have been at the head of the Electrical Department of the Victorian Railways for a good many years, and have had control over large works of different kinds; I had the arranging and looking after the electric lighting of the International Exhibition in Melbourne,—that is the largest thing of the kind ever done.

239. Your experience extended over how many years? Thirty. I visited Europe and America last year.

240. Was that visit in connection with your profession? I travelled over Europe and America last year, and saw a good deal of work that is going on in connection with electrical engineering.

241. Do you know the application of electricity to motive power for driving trams and pumps? Yes, I have seen a great deal of it.

242. And to winding gear? Yes, I saw some very large applications in America.

243. Did you see the Telpherage system at work? Yes, I saw a large Telpherage work in Edinborough last year, and one in Cornwall.

244. For instance, in reference to the Telpherage, was it working successfully? Yes.

245. It was working? Yes, the one in Cornwall is one carrying metals from a mine to a distance of about a mile and a half or so.

246. Over hilly country, I presume? It was not very bad country there, but it does not make any difference, because the Telpherage system is the carrying of trucks on metal ropes suspended any distance you please in the air, and the metal rope not only acts as a mechanical carrier, but it carries the electricity that drives the motors.

247. Would that system be cheaper than making roads? It would be much cheaper than making railways.

248. Or tramways? Oh, yes.

249. Could it be applied in many districts—I mean inaccessible parts? It could be applied anywhere.

250. Where roads could not be constructed? Anywhere where poles could be put up or where the wire could be fastened to—in fact, if you could make arrangements for carrying the wire the Telferage system could be worked.

251. Have you seen this Bill which is before the House of Assembly? No, I have not; it is only about an hour ago since I knew anything of it.

252. Speaking generally of electrical power to be used as a motor, and in its contemplated application to a mining district such as Zeehan or Dundas—which possibly you have not seen—but, in your professional opinion, could the application of such power be suitable in the development of the mines? I think most suitable.

253. Would you kindly give us some professional reasons? Well, the transmission of power by electricity is proved to be the cheapest method of transmitting power, and if water power can be obtained

within any reasonable distance from where the power is wanted to be used for driving machinery, the electrical power can be transmitted over a very large portion indeed cheaply. In Switzerland and other parts of the world waterfalls, which been practically unused up to the present time, are coming into use, because the transmission of power by water is so practical. I saw in America the waste water from the mill being taken down a shaft and supplying the whole of the shaft with machinery that was at a distance of 1600 feet, and the water was brought back again to the surface and employed as a means for driving stampers some distance away. That was one of the most interesting things I saw.

254. *By Mr. Sutton.*—1600 feet? Yes, it was taken down in one drop, and then divided over six wheels, which the water revolved.

255. *By Mr. Young.*—Then, it does not require any very great fall or pressure? That all depends.

256. Electricity differs, of course? Yes; it depends upon the power applied to the dynamo machines

257. Have you been in New Zealand? No, I have not been in any part of New Zealand where electricity is much used.. I have been in Auckland.

258. *Cross-examined by Mr. Mugliston.*—I understand you, Mr. Murray, that you only heard about this matter an hour or so ago? That is all.

259. When are you thinking of leaving this colony? By the "Rotomahana" on Monday.

260. Do I understand you that your practical knowledge of electricity was devoted to electric lighting? Oh dear, no! I have been for many years past in charge of the Electrical Department of the Victorian Railways, which means telephones, telegraphs, and all the other complications which are in a railway, besides electric lighting, and I have been consulted a good many times in connection with motive power and so on.

261. Is it not customary to have gas and electrical works together? Yes; one of the best electrical works I know of is in Rome, and that is done by the Gas Company. In America I saw a great deal, and there electrical works are run in conjunction with gas companies. Supposing there were a dozen small towns in the neighbourhood of Hobart, the Hobart Gas Company would probably come into those small towns and put up electrical works.

262. It is usual to have the gas and electrical works combined, because you get from the gas the heat for the generation of steam? Yes; not to any very large extent. You don't use gas engines of very large power, but still it is used for small instalations.

263. Is it not usual to have centres in electricity?—Have you not general centres where electricity is stored? Yes.

264. Do you know Zeehan at all? No, not at all.

265. You don't know the character of the country? I know it is very rough, by repute.

266. You don't know whether the mines and towns could be supplied with electricity? I would have no hesitation in saying yes, they can be. I don't know of any place that cannot be lighted by electricity.

267. You would say that without any knowledge of the place? Quite.

268. Is it necessary to have water as a motive power to generate electricity? No, you can have steam or any other power; but water power is the cheapest. I have just come from Launceston where I have been consulted by the Town Council there in regard to their water power as a means of lighting their city.

269. Is it not a fact that the greater distance from one centre the greater the expense? Not necessarily. It depends upon the voltage of the currents. If you want to send water through a certain pipe a long way you must have considerable power, and the distance you can send that water depends upon the power, and if you want to send electricity a long way over a certain wire it depends upon the voltage, the pressure of the currents.

270. That is the reason I was asking you whether you knew the district of Zeehan, because an electrical engineer from Victoria, who gave evidence before a Select Committee of the Legislative Council, stated that it would be more advantageous to work it from three centres? I can quite understand that. I would not say for a moment it would not be, because it might be more economical or more convenient to have several centres.

271. Don't you think in all Bills of this kind there ought to be some provision made for the charge which it is intended to make to the consumer? I do not know whether that is a question which you would expect an electrical engineer to answer, but as an ordinary individual I should say I would not like any one to be lambed down. My ordinary intelligence would lead me to say that it is very improper to give any one a monopoly as would enable them to hold supreme command.

272. With your ordinary intelligence, do you think it desirable to give a company a monopoly of about one-fifth of the whole of this island in regard to water? I do not think I would. I do not like monopolies. What I believe in is a monopoly where the whole of the people have it.

273. Would you give a monopoly at all over three-fourths of the water in the Henty River? I do not like monopolies at all.

274. I would ask you would you give to any company the power to break up roads, and then to put them in a state of repair and deduct the cost of maintaining those roads out of the public funds? We are drifting into politics. I am a Government officer, and I am accustomed now to keep clear of politics.

275. I am not putting it from a political point of view. Do you think you would feel justified in sanctioning a concession to a company which would give them a right to break up a road and then make a fresh *détour* and have that maintained at the expense of the country? I do not think I would, but I can conceive a position where the roads could only be constructed under those circumstances.

276. Speaking as an ordinary individual, I suppose you would leave it to the road trusts or the municipalities? Yes, I suppose I would.

277. Would you in any Bill dealing with an area of one-fifth of the whole of Tasmania, give power to any company or any association to purchase any land they thought fit to take, whether public or private? You mean to oblige people who hold land to sell it to them.

278. To give them power to compulsorily take in any of the land within one-fifth of the area of this island? I do not think I would.

279. And leave it to the opinion of the Promoter as to whether he thought it necessary to take it or not? Of course the Committee will understand my opinion, and take it for what it is worth. I have not studied that sort of thing. I have studied electrical engineering, and my opinions on that I think are worthy of consideration, but as to the question that has just been asked me, and to which I have replied in the affirmative, must be taken as of no value whatever.

280. In connection with a concession of this kind, would you allow a person to take land anywhere they thought fit within an area of a fifth of the whole of this island at a nominal rental for 30 years? I do not think I would give them anything unless I got something in return.

281. I have asked you about these powers: are such powers necessary for electric works—I mean to have the right to take up so much land? That depends entirely upon the condition of the country. I am unable to say unless I went there. It may be necessary that they should get the power in order to enable them to carry their wire. There may be reasons of which I know nothing, as I have not visited the place.

282. Would not it be possible for any persons applying for concessions in electric lighting to state precisely and clearly the powers they want, instead of the sweeping assertion that they want one-fifth of the whole island? If they are going to spend a lot of money I should go for all I could get.

283. That is, in the interest of the Promoter: I am asking you from a public point of view? I have not seen the place.

284. Is it not usual to prepare plans showing what you propose to do before you carry out any large electrical works? I have had very little to do with private Bills.

285. Don't you, as a Government official, prepare plans before proceeding to work? Always.

286. They are always prepared before Parliament sanctions the work? Parliament never has had to sanction the work; I have had to do that.

287. Who has to sanction the work? I am the head of my department.

288. You usually have to submit your plans to somebody? The Commissioners of Railways are my superiors.

289. The Commissioners of Railways are, so to speak, your permanent head: would you prepare plans and submit them to the Commissioners before proceeding? Yes, clearly.

290. In any scheme you are carrying out in regard to electric works, you always put your plans before the Commissioners? Yes, certainly.

291. Now, you have told us that water is a cheap method: is it absolutely necessary to get sole control of three-fourths of a river in the district for the purpose of getting water power? It may be necessary to get the whole of it.

292. But when you have got very large resources, and where you have numerous floods,—take, for instance, the Tiger? Will you take a river I know?—take the South Esk, at Launceston.

293. Well, is it necessary to have the whole water in the South Esk? Yes.

294. Would it be necessary with one six times the size? As far as Launceston is concerned, the water in the South Esk is quite sufficient to do all the work for a generation or so.

295. *By Mr. Sutton.*—At what point, Mr. Murray? At Duck Reach. We would practically want most of it. We would want three thousand horse power, I think.

296. *By Mr. Gill.*—From your experience of electrical science, what is your opinion as to electricity becoming the power of the age? I think it must, unquestionably. People often say it is to be the power of the future,—I say it is the power of the present. If anyone had been travelling with me over Europe and America last year they would have seen the absolute proof of what I say. In America I passed through hundreds of towns where nearly all the motive power is electricity?

297. Do you think, in the interests of this colony, that it would be an unwise policy to throw any unnecessary obstacle in the way of introducing electric power? Yes, of course. If there is water running to waste and it can be utilised for transmitting power from where it is to those centres where the work is to be done, I should say give it every assistance.

298. *By the Chairman.*—In replying to questions that have been addressed to you, you have been pressed into giving your opinion on matters which, of course, you disclaim being any authority on. I would ask you whether it is not, in your opinion, simply a question—and I think this will cover all the questions—whether, in granting any concessions such as a large proportion of the water over a certain portion of the island for a specific purpose, you would not say at once that it is after all a matter of arrangement, and depends very largely upon what benefits are to be conferred upon the colony or particular industry for which it is introduced? Exactly; what return the public will get.

299. Then, you think it is possible, under a certain set of circumstances, to be a wise thing for the colony to grant a company such a large proportion of a stream as three-fourths for the benefit of introducing what you believe to be the power of the age—electricity? Yes.

300. Under certain circumstances? Yes.

301. Could you inform the Committee whether it is possible,—because I may say in this Bill there is one weak spot to my mind, that there are no rates fixed, and it would be, of course, a very great advantage if the fair rates could be fixed in the Bill, so that when it became an Act the companies could know where they were, and they would know the maximum charges imposed upon them. Perhaps you, as an engineer, may be able to tell us whether it would be possible to fix the price in some way in the Bill, so that the companies would know what they might be called upon to pay for the power? I should think it could be readily enough done. A schedule could be fixed to the Bill setting forth the maximum rates the Company may be permitted to charge.

302. For what purpose? Taking it per horse-power for everything—for lighting and everything else.

303. Could you offer any opinion as to what would be, taking all the circumstances into consideration, the introduction of a new power into a new country—and into a very rough country—could you offer an opinion as to what the price should be? I would not like to offer any opinion. If I had known you were going to ask me this question I might have prepared myself for it, and would have answered it with pleasure.

304. I am very glad you think we could have the cost fixed in the Bill? I think so.

305. Could you say, Mr. Murray, what the law is in Victoria? I am told that the law there provides that companies may take practically all the power to generate electricity for a special purpose, for the purpose of working mines, without applying to Parliament at all. They can get it from the head of the Mining Department? I do not know.

306. *By Mr. Mackenzie.*—How far can you transmit the power from a centre? There is very little limit. Indeed, I know of a case—the Frankfort Exhibition—where it has been transmitted, I think, 78 miles.

307. How do you make your scale of charges? If you were transmitting it over a very large distance, and having a number of centres taking the power from it, it would be a matter of arrangement with those different centres as to price. It would apply in the same way as water.

308. *By Mr. Gill.*—You have meters to measure from? Yes.

309. *By Mr. Mackenzie.*—In the case of the Zeehan fields, which extend over a distance of 20 miles, would it require more than one centre? I do not know unless I see the country. There is no difficulty in distributing over a diameter of 20 miles, which would give a radius of 10 miles. I would have no hesitation in distributing from one centre, but it may be all the more convenient and economical to distribute from a number of centres.

310. The further off from a centre the more power would be required? Yes.

311. *By the Chairman.*—We are at some considerable disadvantage in examining you to-day from the fact that the engineer for the promoters in this case has not given his evidence, and we are not fully seized of all they propose to do; he has been laid aside by an accident, but we have the plans before us showing the intake of water from the Henty River, and we know it is to be diverted some four miles coming down to a site where electricity is to be generated. Mr. James, another engineer, in giving evidence, said these works would probably be at a considerable height, 40 feet at least. The Broken Hill Ore Dressing and Smelting Works' plant is in close proximity to the proposed site of this Company, and what I wish to ask you is would they get more power at an elevation of 40 feet than they would at an elevation of 15 feet? Yes, certainly.

312. *By Mr. Young.*—A gentleman has been spoken of by my learned friend who gave important evidence on a Bill which was before the Legislative Council, and whose name was Mr. Henry Tutall Rowley: do you know that gentleman? I know him very well.

313. He describes himself here as an electrical engineer. Do you know his capacity as an engineer? I have a very high opinion of Mr. Rowley in a great many ways, and he has had a good deal of experience since he was one of my superintendents. What his capacity is now I could not say. When he was with me he was under my line inspector.

314. How long ago is that? Five or six years.

315. You could not say whether he would be competent now to give a scientific opinion?

Mr. Mugliston objected to the question.

316. Would you consider it anything in the shape of a monopoly to prevent other persons promoting smelting works for five years? Certainly I would.

317. Now, we were speaking about the water power contemplated by this Bill. The water is to be returned to the river. Would that operate or militate prejudicially with those below where it is returned? Certainly not; but between the place where the water is taken from and where it is returned it would, undoubtedly.

318. Now, with reference to the question that was introduced by my learned friend as to taking land for these public purposes. I suppose you have in some of the other colonies a Lands Clauses Act. If that Act is incorporated in this Act in giving similar compensation, do you consider that a reasonable thing? I have seen very great hardship done in many cases, but where it is done in the interests of the public it is proper. If the whole community is affected I do not think it is right to stop it. I should not like to have my house taken from me in the interests of a company, but if it was in the interests of the public I would not mind it so much.

WEDNESDAY, OCTOBER 28, 1891.

MONTAGUE RHYS JONES, *called and examined.*

319. *By Mr. Byron Miller.*—What is your name? Montague Rhys Jones.

320. What are you? I am a civil engineer and railway contractor.

321. Have you had many years' experience? I suppose about 17 years.

322. Have you made a careful study of electricity as a motive power? I have.

323. I suppose we may take it that it is now really the power of the day? There is not the slightest doubt about it. Take the electric railways, for instance. The Richmond Union passenger line in America is 12 miles long, and works successfully over sharp curves and heavy gradients.

324. Is electricity now being used largely as a motive power in tramways? Yes.

325. In various parts of the world? Yes, especially in America.

326. Is it found more advantageous to use electricity than steam or any other motive power? Decidedly; it is more economical in use, and the construction is cheaper in every way.

327. Is there not a branch of electric traction called telpherage? Yes.

328. What is telpherage? It is a suspension system. There are roads supported by poles at a distance, perhaps, of 200 feet apart, and it is made on the "make and break" principle. At every, say 120 feet there is a main conductor. When the skip passes and the first wheel touches the "make," the circuit is closed and the electricity flows back.

329. Will you define the meaning of the term without going into details? It is, in brief, a system of overhead cars or skips.

330. By means of that are you enabled to transmit goods a considerable way? Yes. The skips generally weigh about a ton or a ton and a half when loaded.

331. Will you explain the uses of this system? There are three of these systems in use in England, and two of them are used for mining purposes, conveying ore, &c. from mines to railway stations. One is used in connection with cement works at Glynd, for bringing cement to the railway station.

332. Is it economical? Decidedly so. It costs from $\frac{1}{2}d.$ per ton per mile.

333. What would be its advantage in a district in which roads were impracticable, or could only be made at great expense? Its advantages would be very many indeed. It would act as a scavenger for the whole district, and would be a valuable feeder to any main line constructed.

334. Would it obviate the necessity for roads? Yes, it would do away with roads altogether, as there would be no necessity for them.

335. It would be a means of transmission independent of roads.

336. At what distance from the distributing centre could the system be used? The Glynd line in England is $1\frac{1}{2}$ miles long, but it would be possible to extend the system for 50 or 100 miles. You could have sub-feeders and dynamos at different points on the circuit so that the main conductor could take its supply. It is only a question of power drawn from a central station.

337. Would it not obviate the necessity for heavy machinery as well as the necessity for roads? Decidedly it would.

338. Can electric power be applied to all kinds of mining machinery? Yes, it is used for drilling, lifting, lighting, haulage, and all kinds of work. You can put electric plant where you cannot put steam machinery—at any height or depth that you please.

339. Is electric machinery lighter than steam machinery? Yes, it is very compact.

340. Is it more economical than steam machinery? Yes, decidedly so. The Frankfort Offenbach electric tramway, the most expensive electric line in Germany, is worked at a cost of $4\frac{1}{2}d.$ per car mile.

341. What would be the advantages of electricity to mines beyond those you have already stated? Economical reasons would be the chief ones; transit would be much cheaper, owing to the more compact nature of electric machinery.

342. Would the lightage of mines be more thorough? Yes.

343. How about safety, as compared with the ordinary lighting of mines, and their ordinary working by steam machinery? Electricity would be much safer in every way.

344. Do you know of your own knowledge, or through your reading, of the immense amount of work that is done through the agency of electricity? Yes, and I will read some statistics brought up to 1890. There are 150 towns in the United States in which electric trams are in operation, having 1670 miles of track and 2650 passenger cars. The power created equals 70,000 horse-power, and 2,000,000 passengers per annum are carried. This year it is anticipated that 3000 motors will be in use, carrying 300,000,000 passengers, and returning £3,000,000 in fares. The question of electric traction has thus passed the experimental stage.

345. Have you been on the Zeehan field? I have.

346. And you know what sort of a field it is? I do.

347. To such a field as that, what would be the advantage of electric motors? I have answered that question before; but I will say that I am sure they would be found most economical. The power must be distributed from a central station. The economical results would be very extraordinary, I am sure.

348. Would it facilitate the development of the field? Yes.

349. Would it hasten it? Yes.

350. Would it hasten it by years, considering the delays that have to be undergone in getting steam machinery in? There is one difficulty in the way, as, to begin with, you would have to go to America for the machinery, which would cause a certain amount of delay. There are a great many workshops in America constructing electric machinery. Once the machinery is here, it would no doubt hasten the development of the field.

351. But there is a great difficulty in constructing roads and getting in steam machinery? Yes, one balances the other.

352. Would the balance as to time be in favour of electricity? I think so. It would be better to get the electric machinery here.

353. Would the telpherage system compete with the existing tramways? On the contrary, it would do them a great deal of good. It would be unearned increment to them. It would be absurd for the people owning the other lines to oppose telpherage.

354. Do you think it would be a great advantage to the public that this Company should obtain this Bill? I cannot answer that question.

355. Do you think it would be an advantage to the public that electricity should be introduced as a motive power for all purposes connected with mining? The people of the West Coast will be extremely fortunate if they obtain it.

356. I presume it will be extremely convenient to obtain water from the rivers and streams to generate electricity, instead of having to use heat? Yes; it is a very praiseworthy thing to utilise natural advantages.

357. Supposing this particular Company were connected with large electrical machinery manufacturers, would that accelerate the development of the field? Yes, they would get their orders out quicker. I have experienced the same thing myself, in engineering an electric line in Sydney.

358. *By Mr. Mugliston.*—You are only referring to general principles in electricity? Yes.

359. You know nothing about the provisions of the Bill? No, nor about the hydraulic conditions of the place.

360. And when you say it is desirable, you simply apply principles recognised in the scientific world? Yes.

361. And not to this particular Bill? No.

362. And you don't know in what way the Promoter is applying for the water? I have read the Bill, of course.

363. Do you consider that the Government would be entitled to give the Promoters of this Bill absolute control of all water, even ponds and lakes? I told you before that I know nothing about the hydraulic conditions of the place, and I cannot answer the question. It would be a great piece of presumption on my part to do so.

364. Could not the tramway companies generate their own electricity? Yes.

365. And could not the railway lines in this part of the country generate their own electricity? Yes; but it would be necessary to put up overhead wires to do so.

366. Could not the tramways in connection with mines work their own electric machines? Decidedly they could; but you must bear in mind that it is always more economical to work from a central station. I take it that the object of this Company is to have a central station, from which all the power required can be sent.

367. How many centres of distribution would be necessary for a district like this? I cannot answer a question like that.

368. Would it not be much cheaper for the larger mines to develop their own electricity? No, certainly not. It would cost them a great deal more money to do it themselves than to buy it.

369. Not in a case like this, where there is no check put on a company? There are instruments for gauging electricity.

370. I mean in regard to price? I take it that if the mines or other customers found that they could generate electricity cheaper themselves they would do so.

371. Would it be right to grant a monopoly to a company without any restriction as to what they are to charge? I think, in the interests of the public, there ought to be a schedule of prices.

372. *By Mr. Byron Miller.*—That only applies where there is a monopoly? Yes.

373. Where everyone is entitled to compete it would be to the company's own interest to charge as little as possible, would it not? Yes; it would be worked on commercial lines.

374. And it would be cheaper to buy from a general supply than to have a special supply of your own? Decidedly so.

375. Are you aware that the Silver King and other companies are prepared to treat with this Company for the supply of electricity? No, I am not aware of that.

376. *By Mr. Gill.*—Have you read the preamble of the Bill? Yes.

377. Is it possible to construct and maintain machinery and works and other appliances for generating, making, and transmitting electricity or any motive power? Yes, decidedly.

378. And is it possible to supply electricity to any "mine, company, co-partnership, person, or persons whatsoever, within the Western and North-western mining divisions of Tasmania"? Yes.

379. To what distance could you supply it? In Germany, on some of the Frankfort tramways, the prime source of power—water—is 100 miles away.

380. *By Mr. Mackenzie.*—Have you had any personal experience of electricity as a motive power? Yes. I was engineer for an electric tramway in Sydney. In fact, I was the first person to introduce electric traction to the notice of the Commissioners in Sydney, and bring it before the public.

381. Is the repairing and keeping of the Telpherage system cheaper than on tramways? I cannot tell you anything about the maintenance of it.

382. *By Mr. Gill.*—You read a paper on Electric Traction before the Royal Society? Yes.

383. *By Mr. Mackenzie.*—This Bill asks power to take three-fourths of the water from certain streams. Do you think that is a monopoly? I would rather not answer the question.

384. If three-fourths of the water is absorbed by one company, would there be sufficient water left for the operations of another company? It all depends on the catchment area, and the tributaries between the points of intake and discharge. In any case, I think 75 per cent. is very hypothetical indeed.

WALTER HARCOURT PALMER, *called and examined.*

385. *By Mr. Byron Miller.*—What is your name? Walter Harcourt Palmer.

386. What are you? I am a civil engineer and authorised surveyor.

387. Are you the agent in this Colony for the promoters of the Company applying for the Bill now before the Committee? Yes.

388. Where is the Company registered? In Melbourne.

389. And the object of the Company is, shortly, the manufacture and sale of electric power? Yes, that is the general idea of the Company.

390. As far as funds go, would you call this Company a powerful one? It is the most powerful Company, I think, in Australia, because it has the most powerful men in Australia connected with it, who have all bound themselves to find the necessary funds to carry out the work.

391. Can you give us some of their names? Yes, there is Mr. C. W. Chapman, who was originally a partner in the Cascade Brewery Company here, now of Broken Hill; Mr. Wm. Knox, a director of the Broken Hill Proprietary Company; Mr. Wm. Wilson, a director in the same Company; Mr. Jamieson, also a director of that Company; Mr. Henry Hoyt, the originator of the Melbourne tramway system; Mr. H. Allcock, of the billiard manufacturing firm, and father of Mr. A. E. Allcock, of the Electric Light Company.

392. Financially, is the Company in a position to carry out any works they may desire to do? Yes, decidedly.

393. In addition to being financially capable, have you among the Company a number of gentlemen who have had experience of this kind of work. Yes, we have.

394. If the Bill passes, is it the intention of the Company to carry out its provisions themselves, or simply to sell it as a speculation to others? We intend to carry out the Bill ourselves in its entirety.

395. Have you not already expended a considerable sum on surveys and plans? Yes, we have expended £2241 on surveys and plans.

396. In what state of preparation are the plans? They are almost ready for lodgment. They are in my office in Melbourne.

397. Within what time will you lodge them? Within a fortnight.

398. Do they show the works you propose to erect at the various distributing centres? They show a large amount of work; but the Company cannot gauge the amount of work that it will be called upon to do, therefore it cannot be shown on the plan.

399. Do the plans show the work to a certain extent? Yes, they show thousands of pounds' worth of work.

400. In your Bill I see you are prepared to accept the responsibility of the expenditure of a certain sum, which is left blank, under pain of forfeiting all your rights? Yes.

401. What sum are you prepared to insert in that clause? £10,000.

402. You are prepared to spend £10,000 in that district within three years, or forfeit all your rights under this Bill? Yes.

403. What amount do you calculate you will have to spend immediately? For the work that is in sight, assuming we have not to develop further, we will have to spend £64,000.

404. And your Company is strong enough financially to undertake that? Yes, without doubt.

405. Assuming you obtain your Bill, you propose to have a registered office here, do you not? Yes.

406. Your Company has commenced operations under the Victorian registration in other colonies, I believe? Yes. In Victoria we have got the right to divert the Yarra River; a tunnel has been put through, and the works are now proceeding.

407. Satisfactorily? Yes.

408. Have any complaints been made about it? No. We have not yet got the electricity distributed or generated.

409. Have similar concessions been granted in other colonies? Yes.

410. Are the works similar to those you propose to construct here? We are given greater powers, because we have only to leave one-eighth of the water, instead of one-fourth as we have offered to leave here, so that we get one-eighth more from the Victorian Government than we get from the Tasmanian Government. We have the Gross River in New South Wales, the river at Beechworth in Victoria, and the Hopkins River at Warrnambool.

411. So that similar concessions have been granted in four distinct cases? Yes.

412. Are any of those concessions in mining districts? Yes, at Beechworth, where mining is carried on by sluicing, and where water is of the greatest value to the miners.

413. And you have got similar concessions from the Government of Victoria in that District? Yes.

414. How many centres of distribution do you propose to have at first under this Bill? Four. One at first, but ultimately four.

415. Where will you have the first one? At Heemskirk.

416. From what river will you take the water? From the Heemskirk River.

417. And where will the next centres be? At the Pieman River, then on the first and second branches of the Henty, and then on the Whyte River.

418. Have you read the suggestions made by Mr. Belstead as to the limitation of your powers? Yes

419. Are you prepared to accept the limitations suggested by him? Yes, entirely.

420. That is to say, your authority would be limited to the four centres of distribution you have mentioned, with power in the hands of the Governor in Council to extend your authority to other rivers? Yes.

421. In the meantime you will be content with statutory power to erect these four centres? Yes.

422. The Bill provides that a certain sum, not stated, shall be deposited as a guarantee of good faith? Yes.

423. What sum would you be prepared to deposit? I think that as we have already expended a large amount, the sum of £500 would be sufficient to guarantee that we are going on with the work. I name that sum, but am content to leave it to the Committee.

424. If the Committee want a larger sum lodged you are prepared to accept their wishes? Yes.

425. So that the public would have the double safeguard of the present deposit, and the Company's undertaking to spend £10,000 in three years? Yes.

426. I also understand that you ask no monopoly of working of any kind whatever? That is correct.

427. And you are prepared to stand against any amount of competition? Yes.

428. Either rival companies, or particular claims working their mines by electricity? Yes.

429. Under those circumstances would it be practicable to fix a scale of charges per unit? I think not, because we cannot compel anyone to take our electricity. If we were fixed to a charge per unit, we would also be compelled to give the power to anyone who required it, and we might have to send the power 20 miles to a single mine. I think it would be better to leave it as an arrangement between mine-owners and ourselves. If they don't want our electricity they need not take it, and so leave perfect freedom of contract on both sides. We run a great risk in going to this expense, and we are not certain that there are not people as bigoted against electricity as Mr. Hogg. We may not get any demand at all.

430. If you charge an excessive rate for your electricity it will invite competition? Yes, and instead of assisting the field that we want to make money out of, we will retard it.

431. Do you know the field thoroughly? I do.

432. And do you believe that there is sufficient demand for electrical power to enable you to supply it at a reasonable rate? I think there is. The principal mining managers and their representatives in Melbourne have informed me that they are anxious to get power of the character we propose to establish on the field, and they are prepared to treat with us.

433. Give us the names of some of those companies? There is the Oceana for one; and Mr. Evans, of the Silver King, and Mr. Sinclair, of the Silver Queen, have promised us the use, one of his engine and the other of his pumps; so that we can generate electricity on the Silver Queen, and pump the Silver King as an object lesson. Mr. Evans said to me, "My company would at once take your electricity."

434. *By Mr. Mugliston.*—Was he authorised to make that statement? I know nothing about that.

435. *By Mr. Byron Miller.*—As far as you are informed, there will be an immediate demand for your goods immediately you commence operations? I am sure of it, otherwise it would not pay us to go to the expense of developing the works.

436. You heard the last witness's evidence as to the desirability of electricity,—do you confirm that? In every way.

437. Will you state why you think it would be desirable in the present state of the District? The reasons are that electric machinery is so light that it could be packed out to almost inaccessible mines, where it would take years to get heavy machinery; and further, that the Telpherage system could be erected by which ore taken from these mines could be carried into central places where cartage is easy and cheap. Consequently, it would be the means of developing the whole field perhaps years before it could be developed by simply using steam machinery.

438. Assuming you obtained your Act during this present Session, within what time could you commence operations? Within three months, or as soon as ever the permanent survey is effected. If you call the permanent survey work, we would commence work the day after the Act passes. That survey would be completed in three or four months.

439. And in regard to machinery? We would order it immediately.

440. In what time would you be ready to show some of the results of your work? In six months.

441. If you get the Bill this Session, is it your belief that in six months the District will be commencing to reap some of the advantages of it? Yes. If the mine-owners and mining managers support the Bill, within three years the whole field will be reaping the advantages of it; but, of course, there is a great uncertainty as to whether the public will take up a new thing immediately.

442. Is it not a fact that a large number of the so-called companies have very little available capital? I would not like to answer that question, as I don't know the financial condition of the companies.

443. For companies with small capital would your system possess any peculiar advantages over steam machinery? Certainly so. Companies with small capital can get any power they require up to 50 or 100 horse-power, for the testing of mines thoroughly, for the expenditure of, perhaps, not more than £700. The expenditure in carriage, making roads, and getting in steam machinery, apart from the cost of the machinery, would be thousands.

444. There would be much practical advantage in your system? Certainly there would.

445. And mines could be developed that could not be developed with steam machinery? Yes.

446. Do you propose in any shape to light up the Townships—is that part of your scheme? Indirectly so. Supposing Mr. Coates' Bill passes the House, and he finds he can get electricity from me cheaper than he can generate light himself, I will supply him in bulk. I would not care to supply each house separately, and have a man running round collecting 30*s*. here and £2 there.

447. You would be rather in a position to help him than to compete with him? Yes.

448. Is the system of electric lighting in mines an advantage? Yes.

449. Is it safer than other methods? Yes; because no combustion of carbonic acid gas can take place from electricity. It acts as a purifier; and, in fact, where it is known that gas is generated in mines, an electric current is sent through it to disperse the gas.

450. Would it be an advantage in deep sinking? Yes; decidedly.

451. Is there any provision for increased safety in the use of electricity, as compared with steam machinery? Yes. If steam was used, and anything went wrong with the boiler, the whole work would be stopped at once, and would have to remain so until the steam machinery was mended. We would have two wires running into each mine using our machinery, and the mine would be connected with us by telephone, and when anything went wrong it would take a shorter time than it takes me to explain it to you for them to let us know and for us to switch the current on to the other wire and have everything in working order again.

452. Is everything provided for in regard to compensation? Yes.

453. Under the Tasmanian system of dealing with water, in the shape of water-rights, are you aware that the water is absolutely sold? Yes.

454. And the holder has the right to do what he likes with it? Yes; under the Mining Act he can sell it, or do what he likes with it.

455. Under this Bill do you propose to obtain a proprietary right to the water at all? No; I only want to borrow the power of the water for generating electricity, and then return it to the stream.

456. Under your system do you put back more at the point of discharge than you take at the point of intake? No. There would be a slight drainage into the races, and a slight loss, which would about equalise matters. The ground in that district is full of water.

457. Then you would practically restore the same amount as you took? Yes.

458. Would it be to your interest to make the point of restoration as near the point of intake as possible? Yes, of course. Our fluming will cost £2,000 a mile; and we don't want to spend any more money than we can help, and that will lead us to put it back at the nearest possible point. In this case we merely want to take the water out from a point corresponding to a level 100 feet above the point where we return it into the Little Henty.

459. And your interest would be to restore it as near as possible to the point of intake? Certainly.

460. And is it also to your interest to comply with the regulation as to restoring the water? Yes, decidedly.

461. In all cases would you require 75 per cent. of the water? If the people at Zeehan and Dundas are wise, and use electric power for everything that electric power can be used for, we would require the full power generated by 75 per cent. of the water to supply them: whether the demand will ever go up to that I cannot say.

462. That would be the maximum quantity of water required? I can scarcely put it in that way. People may not demand the electricity; still, on the other hand, the demand may go up to any extent, so that we would require more water than that.

463. Would you require the full 75 per cent. when you commence work? I think not.

464. Say for the first three years? I don't think it is likely in three years that the demand would require us to use that.

465. What percentage would you require? I cannot guage the amount that would be required. I can only say that a good many people want the power now, but they would take a very small portion of the power available. The demand must grow, there is no doubt about that; but what it will grow to I cannot say.

466. Is the district exclusively a silver field? Yes, almost exclusively.

467. And in such a field as that is the demand for water less than on a tin or gold or other mineral field? I am not up in ore-dressing, and can hardly answer the question.

468. Is there any sluicing required in silver mining? I am informed that there is not. The water is required for ore-dressing.

469. As far as you know, is there any opposition to your scheme, except on the part of Mr. Hogg, in the district? None, I think.

470. Have any mining managers or others complained that your operations will interfere with their claims? No, certainly not. All the mining managers—the practical men—I met, were in favour of it.

471. You say all the practical miners and the inhabitants of the district are in favour of your scheme? Yes.

472. Do I understand that, as far as you are aware, Mr. Hogg is the only one who offers practical opposition to it? Yes.

473. Were you at one time in personal communication with Mr. Hogg on the subject? Yes; travelled on the field together in March last. Mr. Hogg advised me to take up my machinery site on we position it is now in, and I took his advice.

474. Did he tell you what he wanted? Yes; he said that one sluice-head of water was sufficient for all that he required.

475. Was his scheme the same that he is now working? Yes.

476. *By Mr. Mugliston.*—Did he tell you his scheme? Yes.

477. *By Mr. Byron Miller.*—And he pointed out the machinery site you should select? Yes, knowing my races would run in the direction they do run, and would take the water from the position they now take it; as I stated I wanted 100 feet fall.

478. At that time he had exact information as to what you were about to do? Except as to the amount of the water I would take, he did.

479. And he told you the amount of water he required? Yes—one sluice-head.

480. If you take 75 per cent. of the water would you leave him one sluice-head? Mr. Hogg states that there are 1400 sluice-heads in the river when it is low; and if we take three-fourths of the water we leave him 350 sluice-heads. Supposing he requires 120 horse-power, 350 sluice-heads, with the fall he says he requires, 16 feet, would give him 400 horse-power; 350 sluice-heads, with the fall he can obtain by cutting a race 70 or 80 chains, 27 feet, would give him 560 horse-power, available horse-power nett; so there is ample power left for him.

481. At that time he was in favour of your project? Yes.

482. And he made no complaint of your interference with him? No.

483. Have you read his evidence? Yes.

484. Can you point out any fallacies in his calculations? Yes, when he says that when water comes to a certain level it would be useless. I must explain that in diverting streams there must be a weir across the stream to a point above high-water mark, or else the races are continually flooded. In erecting the weir Mr. Hogg puts the whole of the water to a level with the top of the weir, and raises the weir slightly above the head-race, so that the amount of water he requires may go into the race, assuming that an engineer knows what he is doing, that one-fourth left in the river must go into his head-race, and that will give one-fourth of the power of the whole of the water, supposing the two bodies of water have an equal fall. Mr. Hogg says we are taking three-fourths of the water; we are, but we are taking it at a certain point, and between that point and the point where Mr. Hogg is diverting his water there is a distance of four miles. There is a catchment area of about 32 square miles between those two points, four miles on each side, and four miles up stream. At the point where we take water there is a catchment area of about the same size. Assuming that the catchment area above the point where I get water covers the same area as that above the point where Mr. Hogg gets water, Mr. Hogg, instead of getting one-fourth of the water, really gets an amount equal to the total amount we get, with the one-fourth added to it. All the tributaries between where I get water and Mr. Hogg gets his are flumed over, consequently all these tributaries run into the stream Mr. Hogg takes. He can get any fall he likes up to 27 feet in the mile if he sinks his turbine, as he says he is going to.

485. I gather that if we were to accept Mr. Hogg's own statement as true, he would have sufficient water for all his purposes? Three times the amount he requires.

486. You say that when you selected your machinery site Mr. Hogg was in favour of your scheme? Entirely so.

487. And everything was mentioned to him except the amount of water power you required? Yes.

488. At that time he said that one sluice-head would be sufficient for him? Yes.

489. And instead of one sluice-head, how many would be left? 350, according to Mr. Hogg's own statement, and that, according to the incorrect statement he made, that we would take three-fourths of the water at the pointwhere he takes his.

490. But, even taking that statement as correct, he would still have 350 sluice-heads left? Yes. If Mr. Hogg says there are 1400 sluice-heads at his intake he would have exactly 1200 left him, as he would have one-fourth of the original stream and the benefit of the catchment area below our intake.

491. Were you aware at that time whether Mr. Hogg was a partner in Mr. Coates' scheme? I do not think he was. I never heard anything of that scheme at that time; and Mr. Hogg did not oppose our scheme, which was in opposition to Mr. Coates'.

492. Have you read the evidence given by Mr. Hogg before the Committee appointed to inquire into the Mining Laws and Regulations? I have.

493. Have you there read Mr. Hogg's statement of what would be his requirements as to water power? Yes.

494. Are you aware that he there stated that he could not use 200 sluice-heads, as the price was prohibitive? Yes.

495. Before that Committee he stated that £5 would be sufficient for a water-right for any amount of water, so long as the holder did not interfere with anyone else? Yes; he contended that it would be sufficient to pay for any amount of water a man might require.

496. He also states that he requires water for ore-dressing, and further on says that, in all probability, the ore will be dressed at Home by large companies? I think he would still require a certain amount of water, but not the quantity he stated.

497. Do you coincide with him in the opinion that mining companies would find it profitable to dress the ore on their own ground? I can scarcely answer that question. I think he says it will take 1000 gallons of water to dress a ton of ore, but Mr. Kayser, the manager of Mount Bischoff, says it only takes 450 gallons to the ton of tin. Tin is lighter than silver, and would require more water.

498. In that case, he would only want half the water he asserts that he does? Yes, unless he gets double the quantity of ore to dress.

499. Does the plan (produced) show the points of intake and discharge? Yes.

500. *By Mr. Mugliston.*—Are you going to bind yourself by those marks? Within what are known as surveyors' limits, that is, a mile on each side. But that is covered by Mr. Belstead's suggestion, that these points must be agreed to by the Governor in Council.

501. *By Mr. Byron Miller.*—You will consent to the words "or any other river or rivers within the said divisions" being struck out of Clause 3, and the following proviso being added:—"Provided also, that the Governor in Council may, and is hereby authorised and empowered to do so, at any time extend the operations and provisions of this Act so that the same shall include and apply to any river or rivers in Tasmania, as if the same were mentioned herein"? Yes, we are quite willing to accept that.

502. *By Mr. Mugliston.*—I suppose you have studied this Bill carefully? I have.

503. And assisted in the preparation of it? To a certain extent.

504. And the Bill carries out your ideas? Yes. There are suggestions made by Mr. Belstead which might improve the Bill from a public point of view.

505. One suggestion made by Mr. Belstead has been adopted. What are the others? There is one referring to Clause 69. Mr. Belstead thinks that the words "any stream" should be struck out.

506. Are you willing to agree to that? Yes.

507. Are there any other suggested alterations? Those are the only alterations Mr. Belstead has suggested.

508. *By Mr. Byron Miller.*—Are you prepared to accept any increase in the rent? I don't think it would be fair. I would have to leave that in the hands of the Promoters.

509. *By Mr. Mugliston.*—Are you willing to adopt the suggested alterations in Clause 3? Yes, all the alterations made by Mr. Belstead, except as to the increase in rent.

510. I understand you only want the water for the purpose of generating electricity? That is all.

511. And all the rights you have asked for under this Bill you are willing to have limited to the development and distribution of electricity? Yes.

512. Even with the suggested alteration in Clause 3, you take all the water in the first and second branches of the Henty, Parting Creek, Heemskirk, Castray, and Pieman Rivers, and, subject to the approval of the Governor in Council, of all the creeks and waterworks in that district? No, of course not, and you know it just as well as I do.

513. What does this mean—"It shall be lawful for the Projectors, and they are hereby empowered and authorised, to take, divert, and appropriate such quantity of the water of the first and second branches of the Little Henty, Parting Creek, Heemskirk, Castray, Pieman, and Whyte Rivers," and all the other creeks and rivers in this division, subject to the approval of the Governor in Council? Three-fourths of it only.

514. Do you not ask for the absolute control of all the streams within the two divisions, subject to the approval of the Governor in Council? No.

515. Is it not set forth in Clause 3 what you ask for? Yes.

516. And the quantity of water you ask for is limited to not exceeding three-fourths? That is so, or rather from point of intake to point of discharge only; and these points are fixed by the consent of the Governor in Council or the Minister of Lands. I will agree to the Governor in Council having the right to approve of all plans in connection with the taking of the water from the larger as well as the smaller streams in this division.

517. Do you not ask for power, subject to the sanction of the Governor in Council, to take not exceeding three-fourths of all the water in the streams and rivers within this division? Yes. The Governor in Council will have the right to allow us to extend our works to other fields that may crop up at any moment.

518. Then your scheme does take in all the water, subject to the approval of the Governor in Council, to the extent of three-fourths? No, only three-fourths of the water from point of intake to point of discharge on each river.

519. Does Clause 36 limit you as to where the point of intake or discharge shall be?—May you not take the water from the source of a steam and return it at the estuary? If it is defined by another clause how can that be the case?

520. There is no such clause in the Bill? Then one can be put in. The Governor in Council has the right to fix the points.

521. I may take it, then, that the points of intake and discharge are to be fixed by the Governor in Council? Yes.

522. Have you read the Zeehan Water and Sewerage Bill? No.

523. Have you heard anything about it? Yes.

524. You know it is a scheme for supplying fresh water and drainage at Zeehan? Yes.

525. Will the promoters of that scheme take water from the Little Henty? Yes.

526. And under Clause 3 of your Bill you will prevent them from carrying out their scheme, unless they make arrangements with you? No, we will not affect them at all. They take their water at least three-fourths of a mile above our point of diversion.

527. At what point of the Little Henty do you propose taking water? At the point shown on the plan as Woolland's Section, No. 3749–87M.

528. And you are willing to have the limit fixed at the point you have indicated? Yes; within surveyor's limits.

529. You have said you don't want to supply electricity to the inhabitants of townships for lighting? Yes; we are wholesale electricians. If we get a wholesale order from a Municipality we will take it; but we will not take a retail order from a single house, unless the house said "will you oblige us by doing so." We would leave that to Mr. Coates, who makes it his business to supply light in detail. We would supply a central lighting station, but would not arrange for the distribution of the light or the collection of rates.

530. Does this Bill run in opposition to Mr. Coates' Bill, so far as the inhabitants of towns are concerned? I do not see that it does, though Mr. Coates evidently thinks so. The essence of our Bill is freedom of contract.

531. This Bill, may I take it, does not run counter to Mr. Coates'? Yes.

532. And you will not supply individual inhabitants except as a matter of grace? It is not our intention, but we go in for freedom of contract.

533. Then you were not correct in saying you did not intend to supply private houses? I was perfectly correct.

534. Then what am I to understand? I don't want to bind my company to anything like want of freedom of contract, and that is as plain as I can make it.

535. Then you are asking for a monopoly without being bound to supply? No. I cannot understand why you ask such a question.

536. Then you say you are not asking for a monopoly in this Bill? No.

537. You are asking for a ground lease on a nominal rent for 30 years? Yes.

538. And, in addition to that, you ask for the right to take compulsorily any lands you may think fit within the divisions? It is necessary we should have that right; and we have to pay for what we take.

539. Then, as a matter of fact, your Bill is to take three-fourths of all the streams in the Western and North-western divisions, subject to the control of the Governor in Council, to take Crown Lands for 30 years on a nominal rental, and to compel private owners to dispose of their lands to you? No, certainly not.

540. *By Mr. Clark.*—What do you want to go into the North-western division for? To supply the mines at Waratah.

541. *By Mr. Mugliston.*—Don't you ask, under Clause 11, the right of setting aside leases that may have been granted, subject to the control of the Governor in Council? No.

542. You also ask the power, in Clause 13, of taking compulsorily land from any private owners? By paying for it.

543. What compensation do you propose to pay? There is a clause in the Bill providing for settling the matter by arbitration, with a right of appeal to the Supreme Court.

544. Will the promoters say that the question of taking land is auxiliary and dependent upon the requirements of water for electricity? Yes, and for machinery sites.

545. By Clause 17 you have power to take temporary possession of land. Will you tell me if there is any provision whereby you are bound to re-instate land disturbed by you? We have to compensate for damage.

546. By what clause? If you look through the Bill you will find it.

547. Don't you pray for the right of taking over Government roads and railways and diverting them and compelling the public to maintain the portions you divert? If our works compel us to maintain a road we divert it, and make it according to what the Road Trust thinks proper, and when it is made we hand it over to them to maintain.

548. And you also ask for the right of diverting Government railways? No, certainly not. We would not think of interfering with the Government railways. By being allowed to do that we could upset the whole railway system. I would certainly exclude railways from the operations of the Bill.

549. You define "waterworks" as follows:—"'Waterworks' mean and include all reservoirs, wells, cisterns, tanks, aqueducts, watercourses, tunnels, feeders, drains, channels, engines, cuts, floodgates, sluices, conduit-pipes, pipe-breaks, engines, buildings, and other works of that kind soever which are from time to time necessary or used for effecting the purposes of this Act." That includes everything connected with water? That was put in for safety, because there might have been some technical term left out. I intended to include everything.

550. Do you think that carries out your intention? I think so.

551. In clause 24 you ask that the provisions of the Bill may apply to existing waterworks, and that you may alter or discontinue them without any qualifications whatever? Most certainly. It refers to the waterworks we erect ourselves.

552. Don't you ask for the power to maintain, alter, repair, or discontinue any waterworks now or at any time put under your control? They must be our own waterworks that we have control over.

553. What are the powers you ask for in Clause 25, and what are the works under this Bill? The works under this Bill are all works connected with the generating, distributing, supplying, or selling of electricity by water or other power.

554. Would you have any objection to having that put in the Bill? No. It is clearly defined in the Bill already.

555. You also ask power to put your wires on telegraph poles? On any kind of poles.

556. Have you read the evidence taken in regard to Mr. Coates' Bill? Not all.

557. Did you read the evidence of Mr. Henry, the Superintendent of Telegraphs? Yes.

558. Do you know that he objects to having any telegraph wires where you are using the current? If he objects it is his place to object here.

(The Chairman held that Mr. Mugliston was not justified in referring to matters outside the interests of his client.)

559. You have stated that if ores are dressed by mining companies, Mr. Hogg would not require so much water? Yes.

560. Would not the mining companies still require the water? Yes.

561. So if you take three-fourths of the water, and leave Mr. Hogg one-fourth, it will affect the mines? It would not affect any mines.

562. Not the mines between the points of intake and outlet? There are none there; besides there are tributaries there that would give ample water for any mines.

563. Supposing the Governor in Council thought fit to take the water from these tributaries, would not the mines be affected? Certainly, but the Governor in Council is not likely to do it.

564. Have you had any experience of dressing ore? Not very much. My statement that 450 gallons of water was used to the ton of tin at Mt. Bischoff is in a telegram addressed to me by the Manager of the mine, Mr. Kayser.

565. I am speaking of your own experience? No, I have none beyond that. I have been for one week on the mines, and have seen ore-dressing.

566. Was it a tin mine or a silver mine? I gained what experience I have partly at Broken Hill, and partly at Mt. Bischoff.

567. What is the capital of your Company? £10,000 paid up; with power to increase it to any extent. In addition to that the company proposed to amalgamate with W. R. Wilson and Company, who have a capital of one million.

568. Have they amalgamated yet? I believe they have, practically. I have explained that Chapman and these people have agreed with our Company to undertake that these works shall be carried out immediately upon the passing of this Bill.

569. Is that agreement in writing? Yes.

570. Have you that agreement here? No.

571. And if the Bill does not pass the arrangement with these people ceases? Not necessarily; we have large works in other colonies—New South Wales for instance.

572. How much of the capital is called up at present? I cannot say; I am not the financial manager.

573. Do you know how much is called up?—Do you know the position of the Company? Upon my soul I do not; I believe the whole is paid up.

574. How much has been expended here? £2000.

575. Then you have £8000 left? Have we?—we have several hundred thousands at the back of it. We can develop these works.

576. When do you propose starting work on the Henty? I do not propose to do that until the power developed by the Heemskirk works is consumed.

577. Does that mean when you get money enough out of the profits to carry on the other works? No, it does not.

578. You are asking for power, but if you get the Henty you get the right to control the water? I know as much about waterworks as Mr. Hogg does, and I say it is a false statement.

579. Are you not by your Bill asking for the control of the Henty from Woolland's section, subject to the approval of the Governor in Council? No.

580. Not to the extent of three-fourths of the river, from one point to the other? No, not even that; we only ask for three-fourths of the water at the point where we divert.

581. Where are you going to return the water? At Mr. Hogg's section.

582. Have you any objection to Mr. Hogg obtaining the right to what water he requires from the Henty, and to having a clause inserted in the Bill so that you shall not prevent him doing so? Yes; he may get up another electric scheme; there is nothing to prevent him doing so. If you ask me "do I object to his having any water he likes?" I say I do object to it.

583. Then you do object to Mr. Hogg taking the water he requires for smelting? If Mr. Hogg's evidence is correct as to the amount of water he requires, and the amount of water in the river, there is three times the amount he requires left in the river, if he knows what he wants himself; I have no objection at all to what Mr. Hogg says he requires, but I don't know what he may require.

584. Do you object, or not? I do, in the respect you mean, unless the Committee suggests an alteration, of course.

585. *By the Chairman.*—Have you any desire to prevent the Broken Hill Ore Dressing Company from getting what water they want for their works? No, not at all. I want every Company to go ahead.

586. *By Mr. Mugliston.*—There is a provision made in this Bill for subjecting people to a certain penalty if they should pollute the water by discharging into streams tailings and so forth; is that necessary? It should read, "into the channels owned by the Company."

587. You desire nothing further than that? No, it only refers to malicious injury.

588. Do you desire to insist upon Clause 28 as a right of the Company? No, if you think it would be better altered.

589. You have no special reason for asking it? No.

590. Clause 45 provides for the testing of your power. Would you be agreeable to an officer appointed by the Government effecting the test? Yes, certainly.

591. *By the Chairman.*—Mr. Murray, the Government Electrician of Victoria, stated in his evidence that in his opinion it would be possible to fix the cost of electricity by making the horse-power the unit. I have reason to know that there is a general feeling that a maximum charge should be fixed. Could you let us know the rate at which your Company would be prepared to supply it? I think that, as we do not ask to be allowed to force anyone to take our electricity, and only divert the river from point to point, and return it to its original course without injury, that the price should be left as a matter of arrangement between ourselves and the consumers. If we are compelled to fix the price, we also ought to have a guarantee of the amount to be consumed.

592. Several concessions have been granted to Railway Companies where no trade or monopoly is guaranteed, but maximum rates are fixed, very high, it is true. Would you make circles from the Central Station and charge according to the distance, or would you be prepared to put a price on the power? Not unless the Committee wish it very particularly. It is a very difficult matter to determine. I would not like to fix too high a rate, which would make people think we wanted to rob them, and I would not like to fix too low a rate, or the Company would be robbing themselves.

593. *By Mr. Mackenzie.*—The more remote from the works the more difficult it would be to transmit the power? It would be more expensive.

594. Could you not fix a rate per unit per mile? I would fix 1*s.* 6*d.* per unit, but that would be an excessive price, which I would never charge.

595. *By Mr. Byron Miller.*—What is the extreme distance you intend to go? 21 miles.

596. Could you sell to a solitary customer at that distance? We could at 1*s.* 6*d.* per unit, but that is an excessive charge. It is not so excessive for light, as that is only required for six hours at a time. I think it is better to leave the price for arrangement. We will supply power at a cheaper rate than steam or any other power.

597. *By Mr. Mackenzie.*—Have you heard any complaints about this Bill at Zeehan? I have heard none at Zeehan.

598. Or at any other mining centre? Not directly. I heard there was some complaint made at the Whyte River, but I got a letter from Mr. Brown, the manager of the Godkin Mine, in which he states that he has heard no complaint. He says that as long as I do not interfere with prior rights, which, of course, I do not, he would assist me to get the Bill through, as it is a most necessary thing.

599. By the map, all the country between the intake and outlet seems to be taken up. Supposing some of these sections are going to work, and don't want electric power, don't you think that taking three-fourths of the water would be injurious to them? No, because three-fourths of the water at the point of diversion would only mean two-thirds lower down. Our intake is within four miles of the head of the river, and 75 per cent. of the water there is really not a very large quantity. If we went a little higher up, it would mean no water at all. We are really taking very little water, and we agree to flume over all the tributaries, leaving them in addition to the fourth already in the river.

600. Do you know the character of the country over which you are asking power? I know it intimately.

601. Do you know that on the North-west Coast a great deal of it is agricultural land? If we go through a man's land we must pay for that land, or else we cannot go through.

602. Where rivers or streams are used as boundaries, would not taking three-fourths of the water destroy them as boundaries? No doubt, in that case, the Minister would order us to fence the boundary, as we have several times had to do in Victoria. The balance of the water left would be sufficient for household and stock purposes.

603. Would not taking three-fourths of a small stream prevent a person from using it for irrigation? We would assist them in irrigating, because, in making our race, if anyone asked us to make it large enough to let them have an offtake, we would do so. He would have to apply to the Governor in Council to be allowed to irrigate; and if he get the right to irrigate, and we got the right to divert the water, we would come to terms as to how the water was to be distributed.

604. Supposing a person had land on both sides of a stream? He would even then only have the right to irrigate if he did not affect the people below him, as he would have to apply to the Governor in Council first.

605. There are streams in which taking two-thirds of the water would destroy the stream? I think agricultural districts may be cut out of the Bill. I am perfectly agreeable to it. At Warrnambool our electricity is an advantage to the agricultural people, because we gave them power for ploughing and butter factories.

606. *By Mr. Gill.*—Do you know this country personally? Yes. I am engineer to the Company.

607. Can you tell me the height of the section where your machinery site is? It is 100 feet above the river.

608. And what distance from the river? Five chains.

609. Do you claim any right to the water after it leaves your turbine? We have to return it to the river; consequently we have to have power over it until it is returned.

610. Do you object to anyone taking water from the tail of your turbine? Certainly not.

611. *By the Chairman.*—For the purposes of power or any other purpose? No, particularly if they undertake the obligation of discharging it into the river.

612. *By Mr. Gill.*—How will the water acquired by the Water and Sewerage Company affect your Company? Not at all. Mr. Fitzgerald Moore told me he would find me the water for my scheme.

613. You said you had powers similar to what you are applying for here in Victoria and New South Wales: had you to obtain Acts of Parliament? No; they were not required. The law in those colonies allows the rights I am asking for to be granted by the Minister, and we applied to him and got them.

614. It is not the same as our Mining Easement? No, very much broader.

615. Are you aware that there was a meeting of the Chamber of Commerce yesterday? Yes.

616. I see by the paper that one of the members of the meeting pointed out that this Bill would place the whole of the silver fields in the hands of a Company with £500 capital: would that be the case? No.

617. *By Mr. Mackenzie.*—Do you know the position of Mr. Hogg's machinery site? Yes.

618. And do you know where he intends to take his water? Yes.

619. If he took the water from your tail-race would his power be in any way diminished? It would assist his power.

620. Would it give him more power if he took the water from your tail-race? No, because there will be more water in the river at his point of diversion than there is in my race.

Thursday, October 29, 1891.

WALTER HARCOURT PALMER, *recalled, and examined.*

621. *By Mr. Byron Miller.*—Do you claim the use of a quantity of water not exceeding 75 per cent. at the point of intake? I do, and I wish to explain this: 75 per cent. of the water of the Little Henty at the intake of our race is only equal to 3-8ths (less than half) of the water at the point where Mr. Hogg's diversion is. There is 4 miles of catchment area above us, and 4 miles below us also, and as we only take ¾ths of the water 4 miles above Mr. Hogg, and leave him the whole of the catchment area below us, the proportion is 5-4ths as to 3-4ths. So we really only take equal to 3-8ths of the water at Mr. Hogg's diversion, and probably equal to only 1-10th at a point further down the river.

622. Do you claim the use of any of the sources of the supply until they arrive at the point of intake? No, nor of any of the tributaries after the point of intake. We want the right to divert ¾ths of the river at the point of intake, and we claim no rights over the tributaries between the points of intake and discharge.

623. *By Mr. Mackenzie.*—And the public would be able to use the water up to the point of intake? Of course, you must clearly understand that if grants were allowed to anyone else to divert all the water we would have none. I trust to the Government to see that our rights are fairly protected at the point of intake.

624. *By Mr. Byron Miller.*—You would have the right of opposing every water-right applied for? Yes, and if our objections are fair, the Government would sustain us.

625. *By Mr. Mackenzie.*—You have no right to the water collecting between your points of intake and outlet? None whatever.

626. *By Mr. Byron Miller.*—All you claim is the use of not more than 75 per cent. of the water at the point of intake? Yes.

627. And all the rest, above and below, is perfectly free to the public? Yes. Anyone can use our race for domestic purposes.

628. The maximum distance of the diversion would be about 12 chains? From the river. We actually do good to the properties across which our water passes, and they are asking us to do it. We raise the water for them, and if they want a household supply we do not object to them putting a little pipe in.

629. Do you interfere with Mr. Fitzgerald Moore's scheme at all? Not in the least.

630. Is Mr. Moore in favour of the Bill? I have spoken to him about it, and he told me he would find me in water without payment, supposing the Bill was thrown out.

631. *By Mr. Mugliston.*—That is not saying he approves of the Bill? But he does, though.

632. If the words "flowing at the point of intake" were inserted in line 39, Clause 3, would that meet your views? Yes.

633. *By Mr. Mugliston*—You can return it at any point you like? No.

634. Where do you return it on the Henty? Immediately above Mr. Hogg's section.

635. What distance would it be above his section? Five chains.

636. The water below the point of intake would only consist of one-fourth, plus the water collected in the catchment area? Yes, that is right.

637. And if you chose to continue the race below Mr. Hogg's section he would simply have the supply from the catchment area, plus the one-fourth you leave in the river? If we took the race further down to get a greater height we would only carry the same amount of water, and the river running parallel with our race would carry a proportion of five-fourths as to the three-fourths we have.

638. From the point of intake you divert three-fourths of the river? Yes, to any point that is specified.

639. You have the power to vary it? The Minister will give us that power if we wish it.

640. Then there is nothing to prevent you taking a point of discharge below Hogg's works? Having taken one machinery site above Mr. Hogg's works, we have got to stick to it. We would be erecting thousands of pounds' worth of works for nothing.

641. Assuming that the water is returned below Mr. Hogg's works, all the water he would have would be the one-fourth left in the river after your diversion, plus the water collected in the catchment area below your intake? Yes, that is the case.

642. Is there any limit in the Bill to the number of works you may erect on the Henty? The limit rests with the Minister, or the Governor in Council.

643. Will you show me where it says so in the Bill? That is one of the suggestions of Mr. Belstead that we accepted.

644. Is there anything either in the suggestions of Mr. Belstead or in the Bill which specifies the number of works you may erect on the Henty? I think not. The limit rests with the Governor in Council.

645. Will you point that out in the Bill? Everything has to be approved by the Governor in Council, or rather the Minister, so that everything is provided for.

646. Assuming I am correct, you have unlimited power as to the number of works you erect? I do not know.

647. Is there anything in the Bill to restrain you from erecting as many works as you like on the banks of the Henty? No.

648. *By Mr. Byron Miller.*—Is the objection that you may erect as many works as you like on the Henty consistent with common sense? No. It is not likely that we will have more than one set of works there; and even if we did erect others it could not affect Mr. Hogg in any way, because we would take the water below Mr. Hogg again.

649. *By the Chairman.*—But if you took your water-race past Mr. Hogg's works, and did not return it above him, you would certainly take some water that he would otherwise have the use of? Yes, I admit that.

650. Are you, having the water on a higher level than Mr. Hogg, willing to discharge it so that Mr. Hogg may utilise it for his machinery? When the water passes our turbine, we will undertake to allow Mr. Hogg to do as he chooses with it. He can take it all if he wants it.

651. Assuming that your work is not completed until the maximum time allowed in the Bill, three years, and Mr. Hogg is ready to start in six weeks, have you any objection to Mr. Hogg taking the water at once? No, certainly not. Nothing in the Bill prevents people from using the water until it is absolutely required by the promoters.

ANDREW FRENCH, *called and examined*

652. *By Mr. Mugliston.*—What is your name? Andrew French.

653. What are you? I was trained as a mining engineer, and I afterwards took up metallurgy as a specialty.

654. Have you had anything to do with hydraulic engineering? In my earlier experience. Latterly I have examined and advised upon it. I know all the theoretical principles and practical application of hydraulics.

655. Have you read the Bill now before the Committee? Yes.

656. The object of the Bill is to acquire the right to take three-fourths of the water from the Little Henty at Woolland's section, and return it in section 1215, above the site of the Broken Hill Ore Dressing and Smelting Company, which are on the same section. Now, the Australasian Rights Purchase Association propose to generate electricity and sell the same, for the purpose of working mines, supplying municipalities, and so on. They are entitled to take three-fourths of this river, provided they return it anywhere they like. How will that affect Mr. Hogg's works? The result will be that Mr. Hogg will be unable to get the water power he requires for his works. I have seen the ground, and unless we go a mile up the river, we have not sufficient head of water for our machinery. We will have to fall back upon steam. We will certainly never use electricity from my experience of it.

657. Have you had any experience of electricity? I have seen a good deal of it, and heard a good deal more about it, and it is regarded more as a fad in its application to mining in England than anything else. It is expensive and wasteful, and requires skilled electricians to look after its operations. For a rough miner to deal with, it is no good at all. So far as I am concerned, I could never consent to its application to the smelting works. What we would be forced to do would be to use steam, and pump our water from the Henty River for our ore-dressing. That would be very expensive, and certainly a great disadvantage to us.

658. Do you know the locality? Yes. I have been looking over it to see how we could best apply water power to the Broken Hill Ore Dressing Company's works. I was sent up by the company. I am on my way to Melbourne to make my report to the Company.

659. You will have the right to one-fourth of the water, assuming it is returned below your works, which remains in the stream, plus the water from the catchment area between the points of intake and discharge. Would that give you sufficient water for your works? Well, it is hypothetical. As for the watershed below where they take the water, anyone can see what that is. We may get sufficient water by pumping from the river to do our ore-dressing, still that is uncertain. If we take the water from the river and deliver it at our works we have not had enough, which is a great drawback. If I had known that this company were going to take the water, I would not have committed myself to the ground we are on, but would have considered the advisability of carrying our works beyond the influence of this scheme. It is usual in mining countries for people to get every facility for water for mining and smelting; but if the water is to be taken away from us, and we have to go to the expense of pumping it from the river, it would be better for us to ship the ore to a more favourable site.

660. What amount of ore would you expect to dress in a day? We would be dissatisfied unless we got 500 tons a day after the district is opened up.

661. What would be the minimum amount of water you would require? I have never yet been in a place where the water supply was stilted. My first experience began at the lead mines of the present Governor of Victoria, the Earl of Hopetoun, in Scotland. There was an ample supply of water there, and it was used freely. They used, perhaps, from 5000 to 10,000 gallons per ton of ore. I would not like to be short of from 2000 to 3000 gallons per ton of ore.

662. Assuming there is no water taken from the Henty, would you then have enough, without pumping, to carry on your works? If we go from half to one mile and a half up we could get head sufficient to deliver water for washing purposes.

663. Would the Henty, if untouched, give you sufficient water for your works without pumping? Yes. For the operations we contemplate one mile of the river would not give us all the power we want, and eventually we would have to put up steam power. It would give us all the power necessary for dressing, however.

664. Would you get all the water you require for dressing ore, without pumping, half a mile above the works if the Henty is not touched? Yes.

665. And if this Company return their water half a mile above your works it would not interfere with you? No.

666. If this water were returned on section 3441, say, it would not interfere with your works? No, not with the supply of water, but with the power of course it would.

667. If the water is returned half a mile above your works it would give you sufficient water for ore dressing? Yes.

668. What increased expense would you be put to in consequence of being compelled to pump water? It would be a first outlay on machinery, and a continuous cost afterwards. It would not be less than £10 a day. That is a very wide estimate, and I should not like to commit myself.

669. And that expense would be saved your Company if the water was returned half a mile above you? Yes. There is more to be said than that, as the power we would get is very important. We require several hundred horse-power for crushing the ore.

670. What power do you require? We want 500 tons of ore a day, and 300 horse-power for crushing it.

671. Can you tell me how many sluice-heads go to one horse-power? I would like someone to tell me that. I have been used to calculating horse-power by the vertical height.

672. You would want about 150 horse-power in addition to that for crushing? Yes, for working the blast, and hoisting to the top of the furnace.

673. How long is it since you were at the site of your works? I have just left them. I got a telegram asking me to come to town.

674. How much water was there in the Henty when you were there? I estimated that it was 2 feet deep and 20 feet wide, and as near as I could judge it was flowing at the rate of 200 feet a minute. That would give 8000 cubic feet a minute.

675. How much power would that give you taken a mile above your works? It would give us, deducting friction and loss of power in the turbine, 112 to 120 horse-power. It would do for present purposes, but would be short of what we anticipate requiring.

676. Last week, then, it would only give you power sufficient to blow your furnaces? Yes.

677. And you would require more water than there is in the river to carry on your works when they are in full swing? Yes, for power we want more water than the Henty provides. For ore-dressing we would have enough. Ultimately I would have to go two miles up, as the mines developed, to get greater power from the water.

678. You could not help returning a small quantity of tailings with the water? We would return the water slightly discoloured, or opaque, from the sediment and mineral suspended in it.

679. *By Mr. Gill.*—Not sufficient to stop the river up? No; it might affect the fish.

680. *By Mr. Mugliston.*—Do you know the case of a silver-lead mine on the side of a hill where they had to go in for pumping? On the Earl of Hopetoun's works there was a famous mine called the Susannah, which gives its name to a great many minerals. After going down a distance they were stopped by water, so they brought in a race of water a considerable distance, and got 25 feet of a fall, and pumped 150 fathoms down. That is a case within my own experience. I have seen other applications, but that is the best I have seen.

681. Would the motive power of electricity be more economical? No, and I can give you figures for that. There are five things wanted in the application of electricity. First, there is the machinery for the water power; secondly, the dynamo; thirdly, the conductor; fourthly, the motor to convert the electrical energy into mechanical force, and then the reducing machinery, to reduce the high speed electric machinery to slow speed, and the pumping gear. In the best dynamos there is a loss of 10 per cent.; in the conductors there is a loss of never less than 2½ per cent. owing to defects, &c.; then there is a loss of another 10 per cent. in the motors,—so that there is a loss of 22 per cent., and no man living can get over that. Electricity is handy in other applications, but for general use in mines it is not. I was prizeman in electricity more than 30 years ago in the University of Glasgow, the first school in the world, and I have been in touch with it ever since. I have been consulted at home in scientific matters by the best men, such as Sir Hassett Vivian, Lord Penzance, Sir Edward M'Naughton, and a great many others.

682. Does your experience extend outside of Scotland? Yes. I developed one of the largest copper properties in the United States last year. I spent 3½ months in examining the property, and it was dependent upon my "yes" or "no" whether it was worked or not. I also examined other works. I was also connected with some of the largest lead-smelters in England.

683. You say there are five things required to convert water power into electric energy. How many of these does the Bill provide for? For three—the machinery on the river, the dynamo, and the conductor; and it leaves the consumer to supply the motors and machinery in connection with them.

684. The users would have to incur some expense in getting the motive power? Yes; a very considerable item of expenditure. A motor costs about as much as a dynamo.

685. Would it not necessitate some pumping gear of a special character? Yes. The motor is a light quick-running machine, and you require special gear to reduce the speed.

686. Would the use of electricity do away with the necessity for heavy machinery? I don't see how it could. I saw a mine using 14-inch pumps there, and I don't know how you could apply electricity in such a way as to diminish the weight of that heavy machinery. You might use a great number of small pumps with electricity, but you would be absorbing power to no purpose.

687. In your opinion, will this Bill affect, prejudicially or otherwise, Mr. Hogg's ore-smelting works? I believe it will affect those works prejudicially, because it will affect the mines injuriously, and we would have to pay a higher price for the ore. Certain classes of ore will become too expensive to work, and we will be deprived of the profits of treating those ores.

688. *By the Chairman.*—Is the price of ore fixed by the cost of getting it out, or by the English market? By the two things; but ores which cannot be treated at a profit will have to be left in the mine.

689. You mean it will be more expensive to work the mines with electricity than without it? Yes.

690. *By Mr. Byron Miller.*—Have you any certificate or diploma authorising you to call yourself a hydraulic engineer? I have had a very large experience.

691. Have you any diploma or certificate from any authorised body, such as the Institute of Civil Engineers in England or any country? I am not aware that a certificate is necessary to be a hydraulic engineer.

692. Will you answer my question? I have no certificate.

693. Is it any speciality of your business to be a hydraulic engineer? It is part of my business to deal with hydraulic matters as a mining engineer.

694. Then your knowledge of hydraulics is simply incidental to your general business? Yes, to my business as a mining and mechanical engineer.

695. Are you an authorised surveyor? I do not profess to be a surveyor.

696. Then your knowledge of hydraulic engineering is simply an incident connected with your calling as mining engineer? Yes.

697. And you have never acted as engineer to any great hydraulic work? I have acted as engineer to extensive mines.

698. I mean to hydraulic works? No, not to hydraulic works.

699. I suppose Lord Hopetoun's mine was the principal scene of your experience? When I was a youth, learning my business. I have had over thirty years' experience.

700. I will pass over your declaration that the application of electricity to mining is a fad, and will ask you if you know anything practically of the application of electricity to mining engineering? I have seen the practical application of electricity to driving cars and boats, and work of that kind.

701. And that is the extent of your experience? Yes. I know from reports that electricity is applied in certain mines in England.

702. You are connected professionally with Mr. Hogg's works? Yes; I am employed by the Broken Hill Ore Dressing and Smelting Company as General Manager and Metallurgist.

703. Are you well acquainted with the nature of the country? I have been there only for a few days.

704. Then, your experience of the country where the works are to be erected is limited to a few days? From my experience in dealing with mining districts, I can do a great deal in a few days.

705. But your actual experience is limited to a few days? Yes.

706. During that time, did you, who are not a surveyor, make any calculations of the amount of water to be collected between the points of intake and discharge? Regarding your statement that I am not a surveyor, I may tell you that I was taught surveying as a mining engineer, and I can survey with any instrument capable of making one.

707. Well, did you make any such survey which would enable you to calculate the amount of water in the catchment area between the points of intake and discharge? No, I made no calculation of that kind I did make a calculation referring to our own operations. I walked a mile up the river and looked at the water there, and estimated the velocity, width, and depth.

708. During the three or four days you were there? Yes.

709. You would have no knowledge of the varying quantities of water at different seasons of the year? No.

710. I gather that you would require the whole of the Henty for your works? In such seasons as I have experienced upon the ground, we would require the whole of the water of the Little Henty for ore-dressing.

711. Have you been there for more than one season? No.

712. October, 1891, includes the whole of your experience in that district? Yes.

713. Have you any knowledge of what a Tasmanian sluice-head of water is? No, I don't know that. The sluice-head is a very stupid way of measuring water. The only possible way of estimating the actual theoretical power of water is by taking the quantity of water in relation to the height from which you can apply the power. The sluice-head has been invented to meet this by miners who have had no proper scientific education, and in that way it is a difficult thing to estimate the horse-power from the sluice-head.

714. You don't know that under the Tasmanian system of disposing of water power we have a definite known mode of measurement called a sluice-head? I do not know that. I was told by Mr. Hogg that the sluice-head measured 16 inches by 1 inch.

715. In your opinion would you require the exclusive use of the whole of the Henty? We would require the whole power of the water got a mile above our works and the whole of the water passing our works.

716. Therefore, when this company that I represent asks for 75 per cent., you ask for 100 per cent.? Yes; of course we would return it.

717. Have you gauged the river accurately? I have gauged it, but not as accurately as I would have if I had known I was to be examined here to-day. I simply gauged it to know whether it was sufficient for my purposes or not. If I had known that I was to be examined here I would have gauged the river so as to have commanded the respect of any mining engineer.

718. Are you aware that the data given by you show that you require about 400 horse-power? Yes. I stated that I would have to supplement the power of the river, as it is not sufficient.

719. *By Mr. Gill.*—How many sluice-heads have your company applied for? I don't know. The whole matter is so new to me that it falls outside my knowledge.

720. Have you read the Bill? Yes.

721. And you say that by it each company would have to supply their own machinery for motive power? Yes, its motor.

722. You would return the sediment in your water? Yes.

723. What has that got to do with the present Bill? If the promoters under this Bill were to take the water, they could impose a penalty upon us for fouling the water.

724. *By the Chairman.*—It has been stated that your machinery site is some few chains below the works of the Australasian Rights Purchase Association. The representative of that company has stated that he is willing, as his machinery site will have the water at least 100 feet higher than yours, to allow you to take the water from his tail-race, so long as you carry out the provisions of the Bill and return it to the stream. Would not that be a very great advantage to your company? It would be an immense advantage to us to get the water with 100 feet fall for nothing.

725. Then you are of opinion that if you got the water at a considerable elevation, and got the additional force, you could get an amount of water equal to all the water you could get from the Henty, under circumstances which would give you a great many more horse-power. Under those circumstances

will not the Bill be of great advantage? I will thank them if they give me half of the Henty at an elevation of 50 feet for power and the rest for ore-dressing.

726. Is that based on the assumption that you would not have to pay for it? Yes.

727. *By Mr. Gill.*—We have it in evidence that when once the water leaves this company's turbine it is of no further use to them, and you are at liberty to take it if you return it to the river. Under those circumstances do you approve of the Bill? Yes, so far as it applies to us.

728. *By Mr. Mugliston.*—When do you require the water? At once.

729. You would not care to wait three years for it? No.

730. You would be put to expense if you had to take water from the Henty now, and in three years reconstruct your works to take it from the tail-race of this Company? Yes, it would be expensive and inconvenient.

731. You were asked if you had any diploma: is there any body which issues diplomas of that kind? No.

732. You have acted as engineer to large mines: would that involve hydraulic works and machinery? One of the most important things in mining is the water.

733. Did you make any enquiries as to the amount of water in the Little Henty? Yes, I made enquiries of a few people that I knew, surveyors and others, about the supply of water. I have reason to believe that the supply is pretty steady.

734. Have you been told what a Tasmanian sluice-head is? I was told it was 16 inches long by 1 inch deep. It differs from other sluice-heads. The height of the water was 5 inches, vertical height.

735. Can you, from the data you were told, calculate the amount of water per sluice-head in the Henty? Yes, if I am right as to the aperture and the vertical height.

736. How soon after you took the water would you return it to the river? Immediately.

737. Do your remarks apply to both branches of the Henty? For power we would go a mile up the first branch, but for ore-dressing we would use both branches.

GEORGE WILLIAM TOWNSHEND, *called and examined.*

738. *By Mr. Mugliston.*—What is your name? George Wm. Townshend.

739. Are you acquainted with the West Coast? Yes, I went through a good deal of the West Coast while exploring the Zeehan line.

740. Do you know the two branches of the Henty? I know all that part of the Little Henty which comes between Dundas and Mount Read, and again as far as the railway crossing.

741. Have you read this Bill? I have read a considerable portion of it, but not the whole of it.

742. In this Bill power is given to the projectors to divert not exceeding three-fourths of the water in the Little Henty. They propose to have an intake and make a race, and return the water into the river where the smelting works are. Would that leave sufficient water to enable the smelting company to carry on their business? It depends on how they intend to get their water from the river. If they intend to carry the water down and have it above their works, they would have to go up nearly as high as the other company's race for it. No sane people would go to the expense of pumping water when they could get it in that way. The other company's race would not return the water at a point sufficiently high for the intake of the Ore Dressing Company to get it.

743. In that respect would it be prejudicial to the interests of the Ore Dressing Company? Yes. The water returned would be of no real use to them.

744. It has been stated that the catchment area between the points of intake and discharge would be sufficient to send enough water into the Henty to enable the Ore Dressing Company to carry on their works? There is no great catchment area at all there, and no big creeks come in.

745. Would it be prejudicial if they took the water from both branches of the Henty? I should say it would be most decidedly prejudicial. The Ore Dressing Company must come some distance up to get the water by gravitation; and I have seen the Little Henty so low—last March, for instance—that one-fourth of the water would be absolutely useless for any large dressing works. I speak as a man with a good deal of experience in hydraulic matters, and I say that with one-fourth of the water in a dry time it would be impossible to carry on dressing works. There may be times when one-fourth is ample, but you have to guard against the time when there is a minimum.

746. This Company's intake is marked on the plan on Section 1923. The company propose to construct the race, marked blue on the plan. It enters the river again on Section 1215. Having regard to the fact that the Broken Hill Ore Dressing and Smelting Company's works are on Section 1215, also just below where the water is returned, I ask you whether the power to abstract three-fourths of the water in the river, leaving only one-fourth, would interfere with that company's operations? To get the water by gravitation they must necessarily go a considerable distance up above the point at which this water is to be returned, consequently the abstraction of three-fourths of the water would, in a dry time, render it impossible for them to dress their ores.

747. Do you know the river at section 1215? Yes, I walked through it.

748. What was the lowest amount of water then? Where I walked through it on section 1215 was just where the railway crosses the river, and it was hardly up to my knees.

749. From the intake on section 1923, down to where the water is returned, there is a catchment area round the river. Would the water from that catchment area, plus the one-fourth left in the river, be sufficient to enable the Ore Dressing Company to carry on their works? No. It is not properly a catchment area along the banks of the river. There are no large creeks there constantly running; they are only creeks which run during rain, consequently they would only give a supply when there was rain, and it was not wanted.

750. Would the company's operations be interfered with by the return of the water being made on section 1215? No, not in any way, unless possibly in time of flood it might cause them to raise their works. It would do them no good nor any harm.

751. We have heard a great deal about the Tasmanian sluice-head: do you know anything about it? I bought a Mining Act to make sure, thinking I might be asked the question. A Tasmanian sluice-head is defined to be as much water as will pass through an aperture 16 inches wide by 1 inch deep with a pressure not exceeding 6 inches.

752. Is that the only form of sluice-head known in hydraulic engineering? No; there are a great many others. In Victoria there are the Beechworth and Yackandandah sluice-heads, which are three times as large.

753. Do you know anything about dressing ore? I do.

754. How many sluice-heads of water, Tasmanian measurement, would be required by a dressing company taking 500 tons of ore a day? About 50 sluice-heads.

755. What effect would the construction of this race have from the Ore Dressing Company's point of view. I should say that, considering the smelting works would be a benefit to the whole field, anything that would injure the smelting works would injure the whole field. The abstraction of such a large quantity of water as 75 per cent. by one company is unheard of on mining fields. I have been connected with mining for many years, and I never heard of such a thing being asked for before.

756. *By Mr. Byron Miller.*—Did you ever hear of the promoter of one company endeavouring to absorb the whole of the water in such a river as the Henty in water-rights? No, never.

757. Did you not say that there would be 50 sluice-heads or more left in one-fourth of the river in ordinary times? No, not in ordinary times. I have never gauged the river at all.

758. Then you could not give us any correct information on that point? I would not think of doing so.

759. In the dry weather you speak of there would practically not be enough water for the Smelting Company if they had the whole river? Oh, yes, there would.

760. In the driest seasons? I don't know what the driest seasons are. Last March was the dries month last year, and there would then be certainly 50 sluice-heads in the river.

761. How much water would there be at the point of intake? I suppose there would be 60 or 70 sluice-heads coming down there. There might be more, but there certainly would be that. It is the usual practice on a mining field, where there is a short run of water, for a Commissioner to deal with the matter, who apportions it fairly out amongst all the claimants.

762. But supposing Mr. Hogg got all he wanted, he would get the whole of the river? No, not the whole of it. He require 50 sluice-heads, or about three-fourths of it.

763. But Mr. Hogg has stated that he wants 120? I won't say definitely that he could not get that. I am giving you what I think is the minimum in the river; but, as I said before, I cannot give any definite information, as I have never gauged the river.

764. In March, when there were 60 or 70 sluice-heads in the river, supposing Mr. Hogg then wants 120, it logically follows he could not get it: he would want double the quantity of water in the river? Yes.

765. Mr. Hogg stated in his evidence before the Committee that there were 1400 sluice-heads in dry weather at that intake, and about 14,000 in times of flood? If Mr. Hogg has tried the experiment, I will retract all I said. I would not venture to offer an opinion in opposition to a man who has actually tested it. I have known Mr. Hogg, and I am sure he is capable of gauging a stream accurately. If Mr. Hogg states he has gauged the stream, I withdraw anything I have said, as I have not gauged it.

766. Assuming that Mr. Hogg is right, and that there are 1400 sluice-heads in a low season, as he would only require 50 sluice-heads, would not one-fourth of the stream, without the water from the catchment area, be sufficient for him? When you take three-fourths of the running water out, it is a question, unless you know the stream well, how it would affect the regimen of the stream.

767. Even making every allowance, if you took 75 per cent. from 1400 sluice-heads, would not there be more than enough left to supply smelting works requiring 50 sluice-heads? There should be, but I would not undertake to say that there would be. As a matter of arithmetic, there would be 350 sluice-heads left.

768. Admitting all allowances for impaired velocity and so forth, still between 50 sluice-heads and 350 sluice-heads there is a wide margin? Certainly.

769. In what seasons have you crossed the river? Only in March last.

770. So, as to the average quantity during the remaining 11 months you know nothing? No. I did not go there for the purpose of estimating the quantity of water. I was there exploring the line from Lake St. Clair to Zeehan, and I afterwards came down to look at the country on the Strahan-Zeehan Line. I wanted to see this river and have a look around, but at the time I had no intention of gauging it, or estimating it. All I can say is purely from memory, and without having attempted to impress on my mind anything connected with it.

771. As an expert, judging from Mr. Hogg's evidence, would the taking of 75 per cent. of the water leave him abundance? If he wants from 50 to 80 sluice-heads—and there are 1400 sluice-heads in the river—taking three-fourths would of course leave him enough.

772. Assuming that he would want to dress a larger quantity of ore, which would require 120 sluice-heads, if 350 sluice-heads are left would he have enough? I should say not.

773. Why? Because you have to allow for absorption in the race. I have known the absorption in a race equal 100 per cent. I have known a race run for a day before water got a mile along it.

774. But those are exceptional instances? Not very.

775. We are dealing with the ordinary state of things? I should say the exceptional case should be where you got a large quantity of water taken and delivered.

776. Are you speaking of cases where fluming is used? That would save a large quantity of water. I am speaking of ditches.

777. If fluming was used, would 120 sluice-heads be obtainable? If there was a good point of intake.

778. And would not the fluming receive a good deal in passing from the catchment area? Certainly not. How could it get into it?

779. I am told it is intended to flume over all the creeks. Would not the fluming receive the contents of the creeks? No. A flume is a sort of bridge, which would carry the water over the creeks.

780. All these creeks would find their way into the river? Of course they would.

781. As the point of intake is more than four miles above the point of discharge, all the creeks below the point of intake flow into the stream? Yes.

782. Then, would not the 350 sluice-heads already in the stream be augmented by those tributaries? Yes, but not to any practical extent in a dry time.

783. I speak of ordinary times? In ordinary times it is raining three days out of seven in that country, and then every little creek is running.

784. Is it a wet country? Decidedly so.

785. Then, the effect of the catchment area is greater than in a dry country? Yes.

786. And in such a country there would be a smaller proportion of dry weather than in a dry country? Naturally.

787. Then, there is less chance of the supply diminishing in a wet country than in a dry one? Of course.

788. You only saw that stream in the month of March? Yes, the driest month of last summer.

789. Are you aware that Parting Creek and other creeks are all flumed over? No; the fluming must have been put up since I was there.

790. Assuming that those creeks are flumed over, would they contribute to the supply from the catchment area? Provided they came in within the catchment area.

791. How many sluice-heads go to the horse-power? It depends on the fall. About 16 feet of a clear fall will give about one horse-power to the sluice-head.

792. You don't know the fall at these works? No.

793. Mr. Hogg has stated that the various claims would in the future dress their ore upon their own land. Have you had any experience as to that? It is always cheaper, where ore is being sent to be smelted to dress it before it is sent away, because it saves carriage. The Moonta and Wallaroo Mines always dress their ore before it is sent away. It is always done where possible.

794. Would you concur with Mr. Hogg in his expectation that, in a large measure, his work will have to be limited to the smelting of the dressed ore? They frequently re-dress the ore at the works, because they have better appliances than there are at the mines. When dressing is carried on in a dry place, the ore has frequently to be sorted over by hand, and then it requires re-dressing at the works.

795. Are you aware whether Mr. Hogg could receive the water from the tail-race of the Promoters of this Company? That would depend on the height of the water above him.

796. Supposing it was 100 feet above him? Then it would be admirably suited for his purposes.

797. Would it be better for him in that shape than it would be if it were in the river? Certainly it would be.

798. *By Mr. Mugliston.*—If ore-dressing is done by the mining companies, would not they require the water? Yes, of course.

799. Then, all the mines between the intake and outlet would be affected? To the same extent as Mr. Hogg would be injured.

800. Does a Tasmanian sluice-head represent an exact quantity? If the gauge is carefully set. I have known them set so that there is as much water going past the sides of the gauge as through it. I have been in the position of mining surveyor and have had to see to them. It is sometimes done from carelessness and sometimes from dishonesty.

801. Is there anything in the regulations dealing with the water being brought down an incline? No, that cannot be dealt with.

802. In Mr. Hogg's evidence as to 1400 sluice-heads, he does not specify the period of time. Would that qualify your answer? It might, very materially. From my diary I see that in March there were three wet days, and in February twelve wet days. Thus the difference of a month might qualify it materially.

803. How long would the water be required for ore-dressing? There is a stream constantly running through the works. They don't retain any of the water.

804. At what point would they return it? As near to the works as possible. All they would be guided by would be to get the water into as sharp a run as possible so as to avoid forming sludge-pits.

805. As a matter of fact they only pass the water through their works and return it at the closest possible point? Yes, at the closest possible point, to prevent an accumulation of detritus.

806. You have stated that it would be a pity to let the Bill take effect if it interfered with the Ore-Dressing Company? Yes.

807. Do you know sufficient about the use of electrical power to say if it would be of the same importance to the field? I know a good deal about electric power. I have not practised as an electrical engineer, but as an engineer I have had something to do with it. I know that it is hardly possible, in the present state of electric science, to develop more than 30 to 35 horse-power, and for heavy pumping and winding gear such power would be totally inadequate. For small things it is valuable, but for large things we are not yet sufficiently advanced.

808. Do you know Mr. Murray? No.

809. Do you know his qualifications? No.

810. *By Mr. Gill.*—Are you aware that there are about 14 creeks between the intake and the outlet? There are no very large creeks.

811. Are they running creeks or dry ones? Every creek is a running creek there. Every gully has a dribble of water down it, which may be magnified into a creek.

812. Would not the water from Mr. Palmer's tail-race give Mr. Hogg all the water he requires? It is a question of how much they have, and I should like to know the fall. If it is 100 feet above the river it may be high enough to deliver the water. This company, by going up the stream, would get their water to a higher level than Mr. Hogg would, who only went half the way. It is likely that the water would be of great advantage to these smelting works.

Appendix A.

To the Honorable the Speaker and Members of the House of Assembly of Tasmania, in Parliament assembled.

The humble Petition of The Australasian Rights Purchase Association, Limited, a Company registered in Melbourne, in the Colony of Victoria, under the Companies Act,

SHEWETH:

1. That within three months previously to the presentation hereof, notice of the intention of your Petitioner to apply for a private Bill was published as is by the standing rules and orders of your Honorable House prescribed, as follows; that is to say:—

> In the *Hobart Gazette* on the eleventh, eighteenth, and twenty-fifth days of August, and the first day of September, one thousand eight hundred and ninety-one; in the *Tasmanian News*, being a public newspaper published in Hobart, on the fourteenth, twenty-first, and twenty-eighth days of August, and on the second day of September, one thousand eight hundred and ninety-one; in the *Zeehan and Dundas Herald*, being a public newspaper published in or nearest to the district affected by the said Bill, on the fourteenth, seventeenth, twenty-fourth, and thirtieth days of August, one thousand eight hundred and ninety-one;

which said notice contained a true statement of the general objects of the Bill as hereinafter set forth.

2. That the general objects of the Bill are—To enable your Petitioner to take water from the first and second branches of the Little Henty and Parting Creek, Heemskirk, Castray, Pieman, and Whyte Rivers, situated on the West and North-west Coast of Tasmania, for the purpose of supplying the towns, inhabitants, mines, and buildings in the Western and North-western Mining Divisions of the Colony of Tasmania with electrical and motive power, or water for motive power, or any other purpose whatsoever. To divert the course of the said before-mentioned rivers, streams, or watercourses, returning the water to the original bed and course of the said river, stream, or watercourse in as pure, unpolluted, and clean state and condition as the same was in when so taken and diverted from the original bed or course of the said river, stream, or watercourse. To use the said water so taken from any river, stream, or watercourse to work any machinery that may be erected by your Petitioner, or any person or persons, company, corporation, association, or syndicate, for the purpose of generating, transmitting, or producing motive power, electricity, or any other power. To use the said water so taken from any river, stream, or watercourse to work any machinery whatever that may be erected, or about to be erected, by your Petitioner, or any person or persons, company, corporation, association, or syndicate. To use the said water as may be so taken aforesaid for any domestic or any other purpose, so that the same may be returned from the place from whence it was taken in as pure, unpolluted, and clear a state as when taken. To use the said water for any purpose whatsoever, provided that the same is not polluted, contaminated, or soiled in any way. To construct, maintain, repair, and work any machinery or mechanical contrivance for the purposes aforesaid. To provide for the construction of any waterworks, dams, drains, deviations, races, flumes, sluice-heads, and other necessary works or machinery to carry out the purposes aforesaid, or any of them. To purchase, lease, or otherwise acquire any land, timber, stone, or other material for the purpose of construction, maintenance, or repair or otherwise as may be necessary or required to carry out the purposes aforesaid, or any of them. To provide for the assessment of all lands, buildings, or other property within the said Western and North-western Mining Districts. To demand and take tolls and levy rates and charges for the use, supply, sale, hire, or rental of any rights, privileges, and powers. To make and construct mains, drains, conduit pipes, and run wires on poles or otherwise in, under, along, or across, through, over, or upon any street, path, right-of-way, or other passage the property of any person, company, corporation, association, syndicate, or municipal or other body,

upon paying and giving them the proper compensation for the privileges aforesaid, and for that purpose to provide for the incorporation of the Lands Clauses Act with the said Bill. To provide for the due working, protection, and management of the said machinery, works, deviations, races, flumes, sluices, and the making of by-laws and rules in connection or relation thereto, or for the infliction of penalties on persons infringing the provisions of the said Bill. To borrow money for the purposes of the said undertaking upon the security of the assets of the said undertaking, or in any other manner whatsoever. To give, let, hire, or sell powers, rights, and privileges to any company, corporation, association, syndicate, or to any person or persons whatsoever, upon any terms whatsoever. To provide for the sale, exchange, lease, or disposition of the said machinery, works, flumes, races, sluices, and lands, or any other asset or assets belonging to your Petitioner or belonging to any company, corporation, association, person, or persons, or any assignee of your Petitioner, either to any Government, company, corporation, association, or any person or persons whatsoever, and for any consideration whatsoever, at such time and upon such terms as may be determined on in the said Bill. The said Bill will also contain all clauses usual in Bills of a like nature, or deemed proper for enabling your Petitioner to carry out the said works and undertakings, or any of them.

Your Petitioner therefore humbly prays for leave to introduce the said Bill.

And your Petitioner will ever pray, &c.

Dated this eighth day of September, One thousand eight hundred and ninety-one.

FRANK GEE DUFF, *Chairman of Directors.*
ROBT. R. MACARTNEY, *Secretary.*

Appendix B.

Australasian Rights Purchase Bill.

In compliance with your request that I should peruse this Bill and forward any remarks I may have to make thereon as an addendum to my evidence given on the 16th instant, at which time I had only cursorily glanced through the Bill, I beg leave to state that I find it is contemplated under this Bill, Clause 3, to divert 75 per cent. of the water from certain rivers which are particularised, *and "from any other* river or rivers" in the Western and North-western mining divisions of the Colony: this would establish a practical monopoly of three-fourths of the water in the whole of the wide and only partially prospected or known area of country referred to; and although it is provided, Clause 36, that the said water shall be returned to the same stream in an unpolluted state, no point for such return is specified, and the effect might, and probably would be, to leave large areas of country comparatively waterless. Under Clause 3 power is given to construct works and dams *in the beds* of rivers: the effect of this would be to throw back the water for a considerable distance, and to impede the flow of tailings. To grant powers such as these would in my opinion very seriously and injuriously affect the mining industry, and I would venture to suggest that the powers given should be restricted to a limited number of known rivers or streams to be named in the Bill; that the points of diversion, *and of the return* of the water, should be defined. Authority should be given to the Governor in Council to extend the powers to other rivers and streams as from time to time might be deemed expedient. The rents provided for in the Bill are in my opinion insufficient, but these and some few other minor points could be amended during the progress of the Bill. The advantage to the mining industry of having works such as those proposed would be very great, and if the water rights of the Company are restricted within reasonable limits, I think, from a mining point of view, that it would be desirable to grant the necessary powers for establishing them.

I am asked to state what are the privileges conferred by the grant of a water-right under the Mining Acts of the Colony. A grant of a water-right empowers the holder, upon the payment of a rent of one pound per sluice-head (16 square inches) per annum, to divert water from a river at a fixed point (defined in the grant), and gives power to construct races for conveyance, and dams for conserving the said water; the water is sold to the grantee, and becomes his property to do as he likes with; he does not covenant to return it to the river.

F. BELSTEAD, *Secretary of Mines.*
20 *October*, 1891.

To the Chairman and Members of the Select Committee upon the above.

Appendix C.

Godkin Silver Mining Company, No Liability,
Whyte River, 22nd October, 1891.

Dear Sir,

Last night I received a letter from you enlarging on the proposed system of electricity as a force for this district.

As a whole I approve of your scheme entirely. With you, I think that a power easily shifted, and requiring but little attention,—except, of course, at the fountain head,—would prove of the greatest advantage to many companies, notably the smaller ones, or ones upon which heavy prospecting is being done. Of course, I am quite unaware of your arrangements, charges, &c., nor have I seen any of your plans. I presume that, from a financial point of view, you have made yourselves assured of the amount of patronage that you are likely to obtain. One difficulty, I foresee, is the water you intend to divert. I have surveyed the amount contained in the River Whyte, and find that in dry weather the water goes down to as low as

48 head. Of this our Company hold the prior right of 30 sluice-heads; then comes the Amalgamated with, I believe, 20; both of these amounts being held at intakes three and two (approximately) miles above your proposed intake. As regards our Company, I think that, whilst it is possible that we should avail ourselves of your transmitted power for outlying working, both for lighting and force, we should still retain water power for our dressing or smelting plant. This would pay us far better than utilizing power supplied by an outside company. If the difficulty of the water question can be overcome I am willing to do everything in my power to forward a scheme which will, as you in your letter state, be a genuine boon to the mining district.

I have dealt in this letter simply with the proposition in the abstract, as I naturally do not know what amount of power you propose to generate, how you propose to apply it, or rather supply it, and so on. I have not yet heard of any local opposition to the scheme. Should I do so, I will use what influence I possess to dispel it. If you have a solution to the question of the water power, and will kindly let me know it, I shall have much pleasure in writing a strong recommendation to the Select Committee.

I remain,

Yours faithfully,

ARTHUR R. BROWNE.

W. H. PALMER, *Esq.*

ANSWER.

The Bill provides for the protection of all prior right, therefore you are protected. We will use your water after you have done with it. You, as an engineer, will understand that this is a clear solution of the difficulty you anticipate.

The Australasian Rights Purchase Association, Limited,
15, *Olderfleet, Collins-street, Melbourne,* 20*th October*, 1891.

DEAR SIR,

I am in receipt of your telegram of the 16th inst., and in reply I sent you the following telegram :—"No private Acts required here. Victorian Water Acts, 1890, provide all our requirements. Writing fully Tuesday."

We have no special Act relating to the Evelyn Tunnel Co. The Victorian Water Acts, 1890, Section 281, cover all our requirements. I enclose a copy of letter from Secretary of Mines, Tasmania :—

"8*th April*, 1891.

"Mr. W. H. Palmer has lodged an application in this office for a grant of 50 heads, under the 'Mineral Lands Act, 1884,' viz., 25 heads from second branch of the Little Henty River, and 25 heads from Parting Creek. He has paid the sum of £26, being half-year's rent thereon, and has undertaken to furnish a traverse of the race, some three miles. Upon receipt of this traverse a grant will issue in due course. A permit to construct the races is enclosed.—(Signed) F. BELSTEAD, *Secretary of Mines.*"

ROSS K. MACARTNEY, *Secretary.*

Messrs. WALCH & BUTLER, *Solicitors, Hobart.*

As amended in Committee.

A

B I L L

TO

Enable "The *Australasian* Rights Purchase Association, Limited," (a Company registered in *Melbourne*, in the Colony of *Victoria*, under "The Companies Act, 1890,") to construct and maintain Machinery, Works, and other Appliances for making, generating, and transmitting Electricity or any Motive Power, and supplying the same to any Mine, Company, Co-partnership, Person, or Persons whatsoever, within the Western [and North-Western] Mining Division[s] of *Tasmania*. A.D. 1891.

PREAMBLE.

WHEREAS the said "The *Australasian* Rights Purchase Association, Limited," is desirous of acquiring the right to construct and maintain machinery and works and other appliances for generating, making, and transmitting Electricity or any motive power, and to control and manage the said works :

And whereas it would be for the benefit of the Colony of *Tasmania* that the said "The *Australasian* Rights Purchase Association, Limited," should be enabled to construct and maintain the said machinery and works as aforesaid, and that the powers authorised and

*** The words proposed to be omitted are enclosed in brackets [ ] ; those to be inserted, in parentheses ( ).

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concessions hereinafter proposed to be conferred on the said "The *Australasian* Rights Purchase Association, Limited," should be granted to the said "The *Australasian* Rights Purchase Association, Limited":

And whereas such objects cannot be obtained without the authority of Parliament:

Be it therefore enacted by His Excellency the Governor of *Tasmania*, by and with the advice and consent of the Legislative Council and House of Assembly, in Parliament assembled, as follows:—

Short title.

1 This Act may be cited as "The *Australasian* Rights Purchase Act."

Interpretation.

2 In this Act, and in any By-law made under it, save where there is something in the context inconsistent therewith, the following words and expressions shall have and include the following meanings attached thereto respectively:—

"Conductor" shall mean and include cable wire or other apparatus for transmitting electrical power:

"Conduit" shall mean and include the canals, tunnels, aqueducts, cuttings, pipes, or wires by means of which the main supply of water, water-power, electricity or other power is supplied to any town, persons, or building or property:

"Crown land" shall mean and include any land or lands in the Colony of *Tasmania* which are or may become vested in the Crown, and includes all lands of the Crown which are or may be occupied for pastoral or mining or other purposes under any lease or licence issued in pursuance of any Act of the Parliament of this Colony:

☞ "Division[s]" mean(s) the Western [and North-Western] Mining Division[s] of the Colony of *Tasmania* as defined by the Proclamation under the hand of *Sir John Henry Lefroy*, Governor of *Tasmania*, dated the Thirty-first day of *October*, and published in the *Hobart Gazette* of the First day of *November*, 1881:

"First lessee" means any person entitled to occupy any land previously leased:

"*Gazette*" means the *Hobart Gazette*:

"Governor" means the Governor for the time being of the Colony of *Tasmania*, with the advice of the Executive Council:

☞ "Local Authority" means the (Board of Health,) Municipal Council, Road Trust, Town Board, or body of persons or person having the control or management of the street in respect of which such expression shall be used, if the same shall be used in respect of any particular street; but if the same shall not be used in respect of any street, it shall mean the Municipal Council or body corporate having the local government of any City, Town, or District in which any of the works hereby authorised may be situate:

"Machinery" means any appliance for carrying into effect any of the objects authorised by this Act:

"Meter" means any instrument, apparatus, or appliance for measuring and ascertaining the quantity of water, water-power, motive power, or electricity used or supplied to any person:

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"Minister" means the Minister of Lands and Works for the time being of the Colony of *Tasmania*:

"Motive power" means the power derived from water passing through machinery, or the electrical power derived therefrom:

"Owner" means the person for the time being in the actual receipt of or entitled to receive the rents and profits of any house, manufactory, or building of whatsoever kind, or any land:

"Person" includes corporation, company, association, syndicate, partnership, and local authority:

"Private lands" means any land which shall have been granted by the Crown in fee simple or lease for a longer term than Ninety-nine years to any person:

"Projectors" means "The *Australasian* Rights Purchase Association, Limited," registered in *Melbourne*, in the Colony of *Victoria*, under "The Companies Act, 1890," and its successors and assigns:

"Property" means lands or buildings and land and buildings:

[" River" means and includes any river, lake, dam, pond, lagoon, stream, watercourse, channel, estuary, canal, or waterway within the said Divisions:]

"Street" means any public and common highway, main road, road, bridge, footway, square, court, alley, lane, thoroughfare, or public way, place, or passage:

"Town" means any settlement, camp, or collection of houses, whether proclaimed as a town or not, and situate within the said Divisions:

"Waterworks" mean and include all reservoirs, wells, cisterns, tanks, aqueducts, watercourses, tunnels, feeders, drains, channels, engines, cuts, floodgates, sluices, conduit-pipes, pipe-breaks, engines, buildings, and other works of that kind soever which are from time to time necessary or used for effecting the purposes of this Act:

"Works" mean and include reservoirs, pen-stocks, conduits, cables, poles for carrying cables and wires.

Power to divert water.

3 It shall be lawful for the Projectors, and they are hereby empowered and authorised, to take, divert, and appropriate (for any of the purposes hereinafter mentioned) such quantity of the water (flowing at the point of intake) of the First and Second Branches of the *Little Henty*, [*Parting Creek*,] *Heemskirk*, [*Castray*,] (and) *Pieman*, [and *Whyte*] Rivers, (or any other river or rivers within the said Divisions,) at any point or points on the course of any of the said rivers, not exceeding [Three-fourths] (One-half) of the quantity or volume of water flowing at such time, (subject to such regulations as the Minister may from time to time prescribe for the purpose of securing a sufficient supply of water for the proper conduct of mining operations below the intake) [as shall be required by the Projectors for any of the purposes hereinafter mentioned,] and from time to time to enter upon any of the rivers aforesaid, and upon the banks and beds thereof, and to construct and erect on and in any portion of the banks or beds of the said rivers or any of them any works, dams, weirs, flumes, or races for the purposes of such taking, diversion, and appropriation of so much of the said water of the rivers aforesaid.

Provided that nothing herein contained shall abrogate any existing rights vested in any person or persons to take, divert, and appropriate any water from any of the said rivers.

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(Provided also that, before the Projectors shall take, divert, or appropriate any water from any of the rivers aforesaid, they shall submit to the Minister the plans and specifications of their proposed works for taking, diverting, and appropriating such water as aforesaid, and shall obtain the Minister's approval of the same.)

Power to use water.

Purposes for which water may be taken.

4 It shall be lawful for the said Projectors to use all or any of the waters aforesaid for any of the purposes hereinafter specified—

To work any machinery that may be erected by the Projectors for generating. making, and transmitting electricity or any other motive power to the towns, streets, mines, and buildings of any of the towns of the said Division[s]:

To work any machinery that may be erected by the Projectors for generating, making, and transmitting electricity for the purpose of supplying the inhabitants of any of the towns of the said Division[s] with electricity for any purpose:

Purchase of land.

To work any machinery that may be erected by the Projectors for drawing or propelling trams, tramways, carriages, and other vehicles in, over, along, and upon the streets of any of the towns of the said D vision[s] or elsewhere in the said Division[s]:

To work any machinery that may be erected by the Projectors for the purpose of executing or exercising any of the powers, functions, duties, or authorities now or hereinafter vested in or imposed on the Projectors:

To supply any mines or batteries in the said Divisions with electric or motive power for winding, pumping, working, or any other purpose:

To supply the inhabitants of any of the towns in the said Division[s] with water for motive power:

To make, generate, and transmit motive, electric, or any other power for the purpose of telpherage or any other electrical appliance or machine to which electricity can be applied.

5 The Projectors are hereby empowered to acquire, purchase, take on lease, sell, or exchange any land which the Projectors may consider to be necessary for the purposes of this Act, and which the Projectors may think proper to purchase.

21 Vict. No. 11 incorporated.

6 *The Land Clauses Act* shall, except as hereby expressly varied, be incorporated with this Act; but

I. There shall not be incorporated with this Act Sections Eight and Nine of the said *Land Clauses Act*:

II. In the construction of this Act and the said incorporated Act, this Act shall be deemed to be the special Act, and the said Projectors shall be deemed to be the Promoters of the undertaking, subject to the provisions of this Act.

Lease of Crown lands may be granted.

7 It shall be lawful for the Minister, with the consent of the Governor, to grant to the Projectors from time to time for any term not exceeding Thirty years at a nominal rental a lease of any Crown Lands that the Projectors may consider necessary for the purposes of this Act (subject to such covenants, terms, and conditions as the Minister may think fit).

Effect of lease.

8 Every such lease as aforesaid shall, subject to the provisions of Section Eighteen, operate and take effect merely as a licence to the said

Projectors to construct and maintain the works hereby contemplated, and shall not confer any right or title to any mines or minerals.

Protection to rights of first lessee

9 In case any such lease as aforesaid comprises any Crown land previously leased, then such lease shall not affect the rights of the first lessee except so far as may be necessary for carrying out the objects of such lease, and the first lessee may accordingly exercise all powers conferred upon him in respect of the land previously leased: Provided, that he shall not carry on any mining operations upon any land comprised in the said lease in such a way as to [endanger or inconvenience] (damage) the works of the Projectors.

Notice of intention to construct works.

10 In case any such lease shall comprise any Crown land previously leased, then the Projectors shall serve upon the first lessee a notice indicating with all reasonable accuracy, by means of a plan or otherwise, the proposed course, direction, or situation of the said works.

[Effect of notice upon Crown lands.]

[**11** Where the land required is Crown land at the date of such notice, or is vested in any corporation or person on behalf of Her Majesty, or for public purposes by virtue of any Act, the effect of such notice shall be to withdraw the said land (to the extent required) from any lease or licence or promise thereof, and to cancel to the like extent any dedication or reservation of the said land made under the authority of such Act, or any Act or Acts amending the same, or to divest the estate of such corporation or person, and to vest the said land to the extent aforesaid in the Projectors for the purposes mentioned and for the estate limited in Section Eight:

Provided, however, that nothing in this Section contained shall have any effect or operation unless the approval of the Governor shall first have been obtained with respect to the land so required.]

Projectors may enter after notice.

12 The Projectors may, for the purpose merely of surveying and taking levels, after giving not less than Twenty-four hours' nor more than Seven days' notice to the first lessee, enter upon any Crown land of the first lessee which may be comprised in such lease, without the previous consent of any person.

Compensation to first lessee.

13 Before any work shall be constructed under or in pursuance of such lease through, over, or upon any land previously leased, the first lessee shall be paid by the Projectors such compensation, if any, as shall be determined by agreement between the first lessee and the Projectors; and if such compensation shall not be fixed by agreement within One month after the service of the notice mentioned in Section Ten, then such compensation, if any, shall be determined by arbitration as herein provided.

[Compensation how estimated.]

[**14** In estimating the compensation, if any, to be paid to the first lessee regard shall be had only to the damage, if any, to be sustained by the first lessee by reason of the severing of the lands occupied by the Projectors from the other lands of the first lessee, or otherwise injuriously affecting such other lands or buildings or mining works by the exercise of the powers given to the Projectors by this Act or by such lease. The arbitrators or umpire shall not be bound to award any sums for damage unless in their opinion substantial damages shall have been sustained.]

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Arbitrator may exercise powers conferred upon Justices.

15 In case of nonpayment of any sum of money awarded by any arbitrators or umpire under this Act within such period as shall be appointed, the arbitrators or umpire shall, for the purpose of enforcing payment of such sum, have and may exercise all the powers conferred upon a Justice of the Peace by *The Magistrates Summary Procedure Act.*

Power to enforce attendance of witnesses.

16 The arbitrators or umpire shall have and may exercise, for the purpose of procuring and enforcing the attendance of persons and witnesses, and for hearing and determining any matter brought before them under this Act, all the powers conferred upon a Justice of the Peace by *The Magistrates Summary Procedure Act;* and such arbitrators or umpire may award and order that one party shall pay to the other party such costs and expenses as to such arbitrators or umpire shall seem just and reasonable, and the amount thereof shall be recoverable in the same manner as costs ordered by a Justice of the Peace to be paid may be recovered under the said Act.

Power to take temporary possession of land.

17 It shall be lawful for the Projectors, and all persons by them authorised, after not less than Two nor more than Seven days' notice to the occupier or occupiers, to enter upon any lands, not being a garden, orchard, or plantation attached or belonging to a house, nor a park, planted walk, avenue, or ground ornamentally planted, and not being nearer to the house of the owner of any such lands than One hundred yards therefrom, and to occupy the said lands so long as may be necessary for the construction or repair of any works authorised by this Act, or of the accommodation works connected therewith hereinafter mentioned, and to use the same for any of the following purposes; that is to say:—

For the purpose of constructing, building, or putting thereon any machinery:

For the purpose of taking earth or soil by side-cuttings therefrom:

For the purpose of depositing soil thereon:

For the purpose of obtaining materials therefrom for the construction or repair of the waterworks or such accommodation works as aforesaid: or

For the purpose of forming roads thereon to or from or by the side of the said works.

And, in exercise of such powers, it shall be lawful for the Projectors and all other persons employed therein to deposit, and also to manufacture and work upon such lands, materials of every kind used in constructing the said works, and also to take from any such lands any timber, and also to dig and take from or out thereof any clay, stone, gravel, sand, or other things that may be found therein useful or proper for constructing the said works or any such roads as aforesaid, and for the purposes aforesaid to erect thereon workshops, sheds, and other buildings of a temporary nature, or any steam engines or other machinery: Provided always, that nothing in this Act contained shall exempt the Projectors from an action for nuisance or other injury, if any, done in the exercise of the powers hereby conferred to the lands or habitations of any party other than the party whose lands shall be so taken or used for any of the purposes aforesaid: Provided also, that no stone or slate quarry, brickfield, or other like place which, at the time of the passing of this Act, shall be commonly worked or used for getting materials therefrom for the purpose of selling or disposing of the same,

shall be taken or used by the Projectors, either wholly or in part, for any of the purposes hereinbefore mentioned.

Materials from Crown lands.

18 The Projectors may from time to time for the purposes of this Act fall timber, and use and carry away the same, and dig and use clay, stone, and other materials upon any Crown land; and may fall all timber which, in the opinion of the Projectors, it may be necessary to remove for the safety of the works hereby contemplated, notwithstanding anything contained in Section Eight of this Act: Provided, that full compensation shall, in the case of Crown land belonging to the first lessee, be made to all parties interested in such land for the damage done under this Section; and such compensation shall be settled by arbitration in the mode prescribed by *The Lands Clauses Act* in cases of disputed compensation.

Compensation.

Compensation to be made for temporary occupation.

19 In any of the cases aforesaid, where the Projectors shall take temporary possession of lands by virtue of the powers herein granted, it shall be incumbent on him, within One month after their entry upon such lands, upon being required to do so, to pay the occupier of the said lands the value of any crop or dressing that may be thereon, as well as full compensation for any other damage [of a temporary nature] which he may sustain by reason of the Projectors so taking possession of his lands.

Before roads interfered with others to be substituted.

20 If in the exercise of the powers hereby granted it be found necessary to crosscut through, raise, sink, or use any part of any road, whether carriage-road, horse-road, or tram-road or railway, either public or private, so as to render it impassable for, or dangerous, or more than usually inconvenient to passengers or carriages, or to the persons entitled to the use thereof, the Projectors shall, before the commencement of any such operations, cause a [sufficient] road to be made (to the satisfaction of the Minister or local authority) instead of the road to be interfered with, and shall, at the public expense, maintain such substituted road in a state as convenient for passengers and carriages as the road so interfered with, or as nearly so as may be.

Period for restoration of roads interfered with.

21 If the road so interfered with can be restored compatibly with the due completion of any works authorised under this Act, the same shall be restored to as good a condition as it was in at the time when the same was first interfered with by the Projectors, or as near thereto as may be, and, if such road cannot be so restored, the Projectors shall cause the new or substituted road, or some other sufficient substituted road, to be put into a permanently substantial condition equally convenient as the former road, or as near thereto as circumstances will allow, and the former road shall be restored, or the substituted road put into such condition as aforesaid, as the case may be, with all reasonable expedition.

Construction of waterworks.

22 It shall be lawful for the Projectors from time to time to make, construct, erect, lay down, maintain, alter, repair, or discontinue upon any land purchased by the Projectors under the provisions of this Act, or upon any land now or hereafter to be vested in the Projectors, such waterworks, machinery, steam-engines, water-wheels, and other works as the Projectors may think necessary for the purposes of this Act.

Projectors to give notice prior to entering.

23 Prior to the first entry upon any private land by the Projectors for the purposes of this Act, not less than Seven days' notice of the intention of the Projectors to enter shall be given by the Projectors to

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the owner and occupier, if any, but no notice shall be necessary previous to any subsequent entry by the Projectors upon such land for the purposes of this Act.

Provisions of this Act to apply to existing waterworks.

24 The Projectors are hereby empowered to maintain, alter, repair, or discontinue for the purposes of this Act any existing waterworks now or at any time to be under the control or management of the Projectors as the Projectors may from time to time think proper, in the same manner as any waterworks constructed under the authority of this Act; and all the powers and provisions of this Act relating to waterworks shall apply equally to such existing waterworks.

To do as little damage as possible.

25 In the exercise of the powers conferred by this Act, the Projectors shall do as little damage as possible or that can be consistent with a due regard to the works authorised under this Act, and, in all cases where it can be done, shall provide other water places, drains, and channels for the use of the adjoining lands in place of any such as are taken or interrupted by the Projectors.

Projectors to make compensation.

26 The Projectors shall make compensation in manner hereinafter provided to all persons lawfully claiming any right to the use of any water taken or diverted or appropriated by the Projectors under the authority of this Act, or lawfully interested in any private land other than land purchased by the Projectors in or upon which any waterworks may hereafter be constructed, or which may be injuriously affected by the construction and maintenance of the waterworks under this Act or otherwise by the exercise or execution by the Projectors of the powers hereby conferred, for all damage sustained by reason of the exercise or execution as to such land or water of the powers vested in the Projectors by this Act.

Persons damaged to claim compensation.

27 Any person claiming under this Act any compensation shall prefer his claim by notice in writing addressed to the Projectors at the Registered Office in *Tasmania*, and served upon the Secretary or Manager for the time being thereof, in which notice shall be specified the place of abode of the claimant, the particular act occasioning the damage for which compensation is claimed, the nature and amount of such damage, and the nature of the title or interest of such claimant in or to the water or land or other property or possession, or anything in respect of which the claim is preferred; and if any such person and the Projectors do not agree as to the amount of such compensation, the same and the application thereof shall, except in the cases hereinafter mentioned, be determined by arbitration in the manner provided by *The Lands Clauses Act* in cases of disputed compensation.

[Regard to be had to any benefit.]

[**28** In determining any claim for compensation regard shall be had to any benefit that may be done or accrue to the claimant by or as the result of the provisions in this Act contained.]

Persons not making claim barred.

29 If the Projectors, by notice in writing, require any person to make claim for compensation for any damage occasioned by the exercise of any of the powers conferred on the Projectors by this Act previously to the service of such notice, such person shall not be entitled to compensation for any damage sustained by reason of the exercise of any such powers previously to the service of such notice unless he prefers his claim, in the manner aforesaid, within Three months after service of such notice.

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Dissatisfied party may appeal.

30 If either party is dissatisfied with the award of the arbitrators or umpire appointed to determine the amount of compensation to be paid to the owner or occupier of any land or other property taken or occupied under the authority of this Act, or with the decision of the arbitrator or umpire appointed to determine the amount of compensation to be paid to any person claiming the right to use any of the water diverted or appropriated by the Projectors, or with any decision of any arbitrator or arbitrators or umpire appointed under this Act, the dissatisfied party, when the amount of compensation awarded by the arbitrators or umpire exceeds One hundred Pounds, may appeal from the award of the arbitrators or the umpire, as the case may be, to a Judge of the Supreme Court of *Tasmania*, and may have the amount of compensation fixed, and the question in dispute determined, by a Judge of the said Court in manner hereinafter provided.

Procedure upon appeal.

31 If the dissatisfied party desires to appeal from the award of the arbitrators or umpire aforesaid, he shall, within Fourteen days after the delivery to him of such award or a copy thereof, give notice in writing to the other party of his intention to appeal, and shall, within One month after the service of such notice upon the opposite party, prosecute such appeal in the manner prescribed by *The Magistrates Stated Cases Act*, 1860, and the Rules thereunder, so far as the said Act and the Rules are applicable; and the amount of compensation to be paid in such case shall be ascertained by a Judge of the Supreme Court in such manner as he deems advisable, and subject to such conditions as such Judge sees fit to impose; and the Judge may also in his discretion make any Order as to the party by whom the costs of the appeal shall be borne: Provided, that a Judge of the Supreme Court may, upon what he shall deem sufficient cause, allow an appeal under this Act to be prosecuted after the expiration of the time hereinbefore allowed for that purpose, but no appeal shall be allowed after the expiration of Three months after the service of notice of intention to appeal.

Security for costs.

32 Upon the application of any respondent, the Court or a Judge sitting in Chambers may at any time order security for costs to be given by the appellant to such amount and in such manner as to the Court or a Judge shall seem fit and proper.

Award not to be made a Rule of Court until Judge determines matter in dispute.

33 Where the dissatisfied party gives such notice of appeal as aforesaid, then the award given by the arbitrators or the umpire shall not be made a Rule of Court until a Judge of the Supreme Court, by an order in writing under his hand, determines the matter in dispute, or the time hereinbefore allowed for prosecuting the appeal has expired.

Compensation for diverting water to be ascertained by action in the Supreme Court.

34 Where any claim for compensation involves damage alleged to have been sustained by reason of the taking, or diversion, or appropriation of any water, and the right of the claimant in or to such water is disputed by the Projectors, if the Projectors, within Fourteen days after the service of the notice of the claim, give notice to the claimant that his right in or to such water is disputed, then such claim shall not be determined by arbitration, but shall be determined by an action in the Supreme Court, to be brought by the claimant against the Projectors for damages, or upon an issue agreed to between the claimant and the Projectors.

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Action to be commenced within Three months.

35 Every such action shall be commenced within Three months after the service on the claimant of such notice as aforesaid that his right is disputed, and not afterwards.

To return water.

36 After the Projectors shall have so diverted or taken away water from any rivers authorised by this Act they shall return the said water to the same river, at [any] (such) point or points in the course thereof, (as shall be shown in the plans approved by the Minister as hereinbefore provided) in as pure, unpolluted, and clean a state and condition as the same was in when so taken as aforesaid. (Provided always, it shall be in the power of the Minister to receive the water at any point between the machinery site and the river.)

Penalty for obstructing construction of works.

37 Every person who shall wilfully obstruct any person acting under the authority of the Projectors in setting out the line of any works undertaken under the authority of this Act, or pull up or remove any poles or stakes driven into the gronnd for the purpose of setting out the line of such works, or destroy or injure any works undertaken as aforesaid, shall incur a penalty not exceeding Five Pounds for every such offence.

[Penalty for illegally diverting water.]

[**38** After any stream or supply of water shall have been diverted impounded, or taken by the Projectors under the authority of this Act, every person who shall illegally or without the authority of the Projectors divert or take any water supplying or flowing into the stream or source of supply so diverted, impounded, or taken by the Projectors, or who shall do any unlawful act whereby any such stream or supply of water may be diverted or diminished in quantity, or injured in quality or purity, and who shall not immediately repair the injury done by him on being required by the Projectors, so as to restore such stream or supply of water to the state in which it was before such unlawful act, shall forfeit to the Projectors any sum not exceeding Five Pounds for every day during which the said supply of water shall be so diverted or diminished or injured by reason of any act done by or by the authority of such person; and any sum so forfeited shall be in addition to the sum which he may be lawfully adjudged to pay to the Projectors for any damage which they may sustain by reason of their supply of water being diminished; and the payment of the sum so forfeited shall not bar the right of the Projectors to bring any action at law or any other remedy at law or in equity in respect of the damage so committed.]

Reservation of existing rights.

39 Nothing in this Act contained shall prevent the owners and occupiers of land through or by which any such stream shall flow from using the waters thereof in such manner and to such extent as they might have done before the passing of this Act, unless they shall have received compensation in respect of their right of so using such water.

Act 8 Will. 4, No. 6, not to apply.

40 The provisions of the Act of Council 8th *William* the 4th, No. 6, shall not apply to any waterworks and other works of the Projectors made, constituted, or acquired under the authority of this Act.

(Seven)

Power to open streets, &c.

41 The Projectors may, upon giving [Two] days' notice in writing to the local authority of their intention so to do, open and break up the soil and pavement of the several streets and bridges within the limits of the said Divisions, and may open and break up any sewers, drains, or tunnels within or under such streets and bridges, and lay down and place within the said limits conduits, service-pipes and other works and

engines, and erect telegraph posts or poles and stretch and put conduits and wires thereon, and carry and run electricity or any motive power on and through such conduits and wires, and from time to time repair or alter or remove the same, and for the purposes aforesaid remove and use all earth and materials in and under such streets and bridges, and do all other acts which the Projectors shall from time to time deem necessary for supplying motive power or electricity to the mines, persons, or inhabitants of the said Divisions.

Reinstatement of streets, &c.

42 When the Projectors shall open or break up the road or pavement of any street or bridge, or any sewer, drain, or tunnel, they shall, with all convenient speed, complete the work for which the same shall be broken up, and fill in the ground and reinstate and make good the road or pavement or the sewer, drain, or tunnel so opened or broken up, and carry away the rubbish occasioned thereby; and shall at all times, whilst any such road or pavement shall be so open or broken up, cause the same to be fenced and guarded, and shall cause light sufficient for the warning of passengers to be set up and kept there for every night during which such road or pavement shall be continued open or broken up.

Streets, &c. broken up, to be reinstated without delay.

43 No street outside the limits of any town in the said Divisions shall, except in the case of emergency aforesaid, be open or broken up except under the superintendence of the persons, if any, having the control or management thereof, or of their officers, and according to such plan as is approved of by such person or their officer, or, in case of any difference respecting such plan, then according to such plan as may be determined by Two Justices: Provided, that if the persons having such control or management as aforesaid and their officer fail to attend at the time fixed for the opening of any such street after having had such notice of the intention of the Projectors as aforesaid, or do not propose any plan for breaking up or opening the same, or refuse or neglect to superintend the operation, the Projectors may perform the work specified in such notice without the superintendence of such persons or their officer.

Projectors may supply, &c.

44 The Projectors may supply, let, hire, and sell to any person, mine, or building motive or electric power or electricity, or any other power, upon such terms and conditions as in this Act contained.

Testing.

45 The Projectors shall, before supplying any person, mine, or building with motive or electric power, electricity, or any other power, put up and erect suitable apparatus at some testing-place for the purpose of testing the normal strength and electric power and motive force of the power supplied by them, (and the Minister may from time to time appoint a person to test the strength and electric power of the motive force to be supplied by the Projectors.)

Projectors may let meters.

46 The Projectors may let for hire to any consumer of motive power or electricity supplied by measure, any meter or instrument for measuring the quantity of motive power or electricity supplied and consumed, and any conduits and apparatus for the conveyance, reception, and storage of the motive power or electricity, for such remuneration in money as may be agreed upon between the Projectors and the consumer, which shall be recoverable in the manner hereinafter mentioned: (Provided that in no case will the charge exceed One Shilling and Sixpence per unit.)

Meters not distrainable, &c.

47 Such meters, instruments, conduits, and apparatus shall not be subject to distress for rent of the premises where the same are used, or

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to be attached or taken in execution under any process of any Court of Law or Equity, or under or in pursuance of any adjudication, sequestration, or order in bankruptcy or other legal proceedings against or affecting the consumer of the motive power or electricity, or the occupier of the premises or other the person in whose possession the meters, conduits, instruments, and apparatus may be.

Meter to be supplied and maintained by consumer.

48 Every person who shall have agreed with the Projectors for a supply of motive power or electricity by measure shall, at his own expense, unless he hire a meter from the Projectors, (in which case such meter must be to the satisfaction of the consumer) provide a meter, and keep and maintain the same in good working condition to the satisfaction of such officer as may be appointed by the Projectors; and in the event of any repairs being required notice in writing shall be immediately given by such person to the Projectors, and a registration of the quantity used shall be taken before such repairs are effected.

Notice of removal, &c. of meter.

49 Every person requiring to remove or alter the position of any meter shall give Six days' notice in writing to that effect to the Projectors, and a registration of the quantity of motive power or electricity shall be taken before such removal or alteration is made.

Penalty for neglect to provide meter.

50 If any person who under the provisions hereinbefore contained ought to provide any meter neglect or refuse, after having been required by the Projectors so to do, to provide such meter, he shall, for every such day during which such neglect or refusal continues, forfeit a sum not exceeding Two Pounds.

Penalty for neglecting to give notice of repairs of meters.

51 If any person who has provided any meter as aforesaid fail to give the notice hereinbefore required of any repairs required for such meter, he shall forfeit a sum not exceeding Ten Pounds, and a further sum of Five Pounds for each day (if more than one) that such meter remains unrepaired.

Motive power may be cut off if meter not in order.

52 If any person refuse or delay to have such meter properly repaired and put in correct working order after having been required by any officer of the Projectors so to do, the Projectors may shut off the supply of motive power or electricity from the premises of such person, either by cutting the conduits or service-pipe, or otherwise, until such meter shall have been properly repaired and certified by some officer of the Projectors to be in proper working order.

Penalty for fixing uncertified meter.

53 If any plumber or other person fix or refix any meter upon any premises supplied with motive or electric power by the Projectors without having first obtained a certificate from the Projectors that the said meter has been examined and found in correct working order, he shall forfeit a sum not exceeding Ten Pounds.

For removing meter without notice.

54 If any person remove or alter the position of, or in any way interfere with, any meter without giving such notice as aforesaid, he shall for each such offence forfeit a sum not exceeding Twenty Pounds over and above the damage which he may be found liable to pay in any action at law at the suit of the Projectors.

Power to officers of Projectors to inspect meters.

55 The officers of the Projectors may enter any house, building, or lands to, through, or into which motive power or electricity is supplied by the Projectors by measure in order to inspect the meters, instru-

ments, conduits, and apparatus for the measuring, conveyance, reception, or storage of motive power or electricity, or for the purpose of ascertaining the quantity of motive power or electricity supplied or consumed, and may from time to time enter any house, building, or lands for the purpose of removing any meter, instrument, conduit, or apparatus the property of the Projectors; and if any person hinders any such officer from entering or making such inspection, or effecting such removal, he shall for each such offence be liable to a penalty not exceeding Five Pounds; but, except with the consent of a Justice, this power of entry shall be exercised only between the hours of Nine in the forenoon and Four in the afternoon.

Notice to lay conduits.

56 After conduits or wires have been laid and erected and put up under the authority of this Act for the supply of motive or electric power to any street or part thereof, the Projectors shall cause a notice in the form contained in the First Schedule hereto, or to the like effect, to be published in a newspaper circulating in the town in the Divisions.

Conduits laid by owner or occupiers.

57 Any owner or occupier of any dwelling-house or part of a dwelling-house, mine, building, or property within the said Divisions, who shall wish to have motive power or electricity brought into his premises, and shall have paid or tendered to the Projectors the rate or charge in respect of such motive power or electricity by this Act directed to be paid in advance, may, with the consent of the Projectors first had and obtained, open the ground between the conduits of the Projectors, or erect poles and put wires and conductors thereon between and to communicate with the conduit, poles, and wires of the Projectors, and carry and run electricity therein and thereon, having first obtained the consent of the owners and occupiers of such ground.

Notice to Projectors of laying pipes.

58 Such conduits shall be of a strength and material approved of by some officer of the Projectors; and every such owner or occupier shall, before he begins to lay such conduits, give to the Projectors Two days' notice of his intention to do so.

Communication with pipes of Projectors to be made under the superintendence of surveyor.

59 Before any conduit or wire is made to communicate with the conduit or wires of the Projectors, the person intending to lay such conduit, or put up such poles and wires, shall give Two days' notice to the Projectors of the day and hour when such conduit or wire is intended to be made to communicate with the conduits or wires of the Projectors; and every such conduit or wire shall be so made to communicate under the superintendence and according to the directions of the surveyor, or other officer appointed for that purpose by the Projectors. The conductor, communicator, distributor, conduits, or wires put up to connect with the conduits or wires of the Projectors shall be supplied by the Projectors at cost price to any person requiring the same, at his request and costs.

Service conduits may be removed after giving notice.

60 Any person who shall have laid down any conduit, wire, or other works, or who shall have become the proprietor thereof, may remove the same after having first given Six days' notice in writing to the Projectors of his intention to do so, and of the time of such proposed removal; and every such person shall make compensation to the Projectors for any injury or damage to their conduits, wires, or works which may be caused by such removal.

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Power to break up pavements.

61 Any such owner or occupier may open or break up so much of the street or pavement (if any) as shall be between the conduits of the Projectors and his house, building, or premises, or of any sewer or drain therein, for any such purpose as aforesaid (doing as little damage as may be, and making compensation to the Local Authority for any such damage done in the execution of any such work).

Provided always, that every such owner or occupier desiring to break up the pavement of any street, or any sewer or drain therein, shall be subject to the same necessity of giving previous notice, and shall be subject to the same control, restrictions, and obligations in and during the time of breaking up the same, and also reinstating the same, and to the same penalties for any delay in regard thereto, as the Projectors are subject to under the provisions of this Act.

Protection of the motive power: In case of any breach of this part of this Act motive power may be cut off.

62 If any person supplied by motive power or electricity by the Projectors wrongfully does, or causes or permits to be done, anything in contravention of any of the provisions of this Act, or wrongfully fails to do anything which under any of those provisions ought to be done for the prevention of the waste, misuse, or undue consumption of motive power or electricity, the Projectors may (without prejudice to any remedy against him in respect thereof) cut off any of the conduits or wires by or through which motive power or electricity is supplied to him or for his use, and may cease to supply him with motive power or electricity as long as the cause of injury remains or is not remedied.

Penalty for waste of motive power.

63 If any person supplied with motive power or electricity by the Projectors wilfully or negligently causes or suffers any conduit or other apparatus to be out of repair, or to be so used or contrived that the motive power or electricity supplied to him by the Projectors is or is likely to be wasted, misused, or unduly consumed, he shall for every such offence be liable to a penalty not exceeding [One hundred] (Fifty) Pounds, and a further sum of [Fifty] (Five) Pounds for each day (if more than one) that such offence continues.

Penalty for destroying works, &c.

64 If any person shall unlawfully and maliciously destroy, injure, or damage, or attempt to destroy, injure, or damage, any conduit pipe, wire, or apparatus, or any of the works constituted under the authority of this Act, or unlawfully and maliciously do any act calculated to render any part or parts of the machinery or works of the Projectors or their assigns unworkable or defective, or whereby any motive power, electricity, or other power is or may be lost, wasted, misused, destroyed, or interrupted in any way, he shall be deemed guilty of a Felony, and liable to imprisonment, with or without hard labour, for any term not exceeding Seven years.

No pipe to be fixed to consumer's pipe without permission of Projectors.

65 It shall not be lawful for the owner or occupier of any premises supplied with motive power or electricity by the Projectors, or any consumer of the motive power or electricity of the Projectors, or any other person, to affix, or cause or permit to be affixed, any conduit, wire, or apparatus to a conduit or wire belonging to or used by such owner or occupier, consumer, or any other person, or to make any alteration in any such communication, or conduit, or wire, or in any apparatus connected therewith, without the consent in every such case of the Projectors. And if any person acts in any respect in contravention of the provisions of this Section he shall for every such offence be liable to a penalty not exceeding Five Pounds, without

prejudice to the right of the Projectors to recover damages from him in respect of any injury done to their property, and without prejudice to his right to recover from him the value of any motive power or electricity wasted, misused, or unduly consumed.

Penalty for unlawfully taking water from reservoirs.

66 If any person, not being supplied with motive power or electricity by the Projectors, wrongfully takes or uses any water from any reservoir, watercourse, conduit, or any water-power from any pipe or conduit belonging to the Projectors, or from any pipe or conduit leading to or from any such reservoir, watercourse, conduit, or pipe, or from any cistern or other like place containing water or water power belonging to the Projectors, or supplied by them for the use of any customer of the motive power or electricity of the Projectors, he shall for every such offence be liable to a penalty not exceeding One hundred Pounds.

Inspection of premises supplied with motive power.

67 The surveyor or other person appointed for that purpose by the Projectors may, between the hours of Nine o'clock in the forenoon and Four o'clock in the afternoon, enter into any house or premises supplied with motive power or electricity by the Projectors in order to examine if there be any waste or misuse of such motive power, and if such surveyor or other person at any such time be refused admittance into such dwelling-house or premises for the purpose aforesaid, or be prevented from making such examination as aforesaid, the Projectors may turn off the motive power supplied by it from such house or other premises.

Penalty for throwing dirt therein

68 If any person throw or convey, or cause or permit to be thrown or conveyed, any rubbish, dirt, filth, or other noisome thing into any [such stream, reservoir, aqueduct, or other] (of the) waterworks [as aforesaid,] (belonging to the Projectors) or wash or cleanse therein any cloth, wool, leather, or skin of any animal or any clothes or other thing, or otherwise render the water therein offensive or unwholesome, he shall for every such offence forfeit a sum not exceeding Ten Pounds.

Penalty for letting (tailings) [foul water] flow thereinto.

69 If any person cause [the water of any sink, sewer, or drain, steam engine, boiler, or other filthy water or any] tailings belonging to him or under his control to run or be brought into any [stream, reservoir, aqueduct, or other] (of the) waterworks belonging to the Projectors, [or shall do any other act] whereby the water of the Projectors shall be fouled, he shall for each such offence forfeit a sum not exceeding Twenty Pounds, and a further sum of Twenty Shillings for each day (if more than one) that such offence continues.

Penalty for nuisance in Divisions.

70 Where any owner or occupier of any land within the Divisions or adjacent to any reservoir or source of supply does or permits to be done on his land any act, or permits to remain thereon any matter or thing which, in the opinion of the [Projectors] (local authority) is likely to injure the water supply, if notice to discontinue or remove the same be given to him in writing by the Projectors and if he neglect or refuse to discontinue such act or to remove such matter or thing, he shall for each such offence forfeit a sum not exceeding Ten Pounds, and a further sum of Forty Shillings for each day (if more than one) that such offence continues.

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Accessories.

71 Where the doing of any act or thing is made punishable by this Act, or by any By-law in force under the authority of this Act, with any penalty, fine, or forfeiture, the causing, procuring, (and) permitting, [and suffering] such act or thing to be done shall be punishable in like manner.

Where several houses supplied by one conduit each to pay.

72 Where several houses or parts of houses, buildings, or mines in the separate occupation of several persons are supplied by one common conduit or wire, or where motive power or electricity is supplied to courts, alleys, and rights-ofways by conduits or otherwise, the several owners or occupiers of such houses or parts of houses, buildings, or mines, or of the several houses or parts of houses in every court, alley, or right-of-way, shall be liable to the payment of the same rates for the supply of motive power as they would have been liable to if each of such several houses or parts of houses, buildings, or mines had been supplied with motive power from the works of the Projectors by a separate pipe.

Projectors may make charges.

73 The Projectors are hereby authorised to make such charges, rates, and tolls for the supply of motive power or electricity as may be agreed upon by them and the persons to whom such motive power or electricity is supplied by the Projectors.

Rates to be recoverable from occupier.

74 The rates, charges, and tolls for motive power or electricity, and all sums due to the Projectors under this Act, shall be paid by and be recoverable from the occupier of the premises, or the person requiring, receiving, or using the supply of motive power or electricity.

Recovery of rates and charges.

75 If any person refuse or neglect to pay on demand to the Projectors any rate, charge, or sum due to the Projectors under this Act, the Projectors may stop the motive power or electricity from flowing or going into or on the premises in respect of which such rate, charge, or toll is payable by cutting off the conduit or wire to such premises by such means as the Projectors shall think fit; and the Projectors may sue for and recover the rate, charge, or toll due from such person with costs, and with the expenses of cutting off the motive power or electricity.

Entry by agents.

76 Wherever by this Act authority is conferred on the Projectors to enter upon any land for the purposes of this Act, or to do any act in or relating to the construction or maintenance of any work, the same authority shall extend to all persons acting by direction of the Projectors, and to all necessary agents, assistants, servants, workmen, means, and appliances whatsoever.

Penalties, &c., to be summarily recovered before two Justices.

77 All offences against this Act or any By-law made hereunder shall be heard and determined in a summary way by any Two Justices of the Peace in the mode prescribed by *The Magistrates Summary Procedure Act.*

[Appropriation of penalties.]

[78 Except where hereinbefore otherwise directed, all penalties for offences against this Act shall be applied to the use of the Projectors, or, at the discretion of the convicting Justices, any portion not exceeding a moiety thereof shall be applied to the use of the persons prosecuting, and the remainder to the use of the Projectors; and all penalties or portions of penalties to be applied to the use of the Projectors shall be paid to the Secretary or Manager of the Projectors.]

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Appeal.

79 Any person convicted of any offence against this Act or any By-law made hereunder may appeal against the conviction in the mode prescribed by *The Appeals Regulation Act.*

Power to award costs.

80 In all proceedings whatever for the recovery of any rates or charges under this Act, and in all other proceedings before Justices in pursuance of this Act, it shall be lawful for the Justice or Justices in his or their discretion to award and order that the defendant shall pay such costs as to such Justice or Justices shall seem just and reasonable in that behalf; and in case where such Justice or Justices, instead of making an order as aforesaid, shall dismiss the information or complaint, it shall be lawful for him or them in his or their discretion to award and order to the defendant such costs as to such Justice or Justices shall seem just and reasonable; and the sums so allowed for costs shall in all cases be specified in the orders or order of dismissal as aforesaid, and the same shall be recoverable in the same manner and under the same warrants as any penalty or sum of money adjudged to be paid in and by such order is to be recoverable; and in cases where there is no such penalty or sum to be thereby recovered, then such costs shall be recoverable by distress and sale of goods and chattels of the party, and in default of such distress by imprisonment, with or without hard labour, for any time not exceeding One month, unless such costs be sooner paid.

Persons under Act entitled to notice of action.

81 No action shall lie against any person for anything done in pursuance of this Act unless notice in writing of such action, and of the cause thereof, is given to the defendant One month at least before the commencement of the action, and such action is commenced within Three months after the cause of action has accrued; and in any such action the defendant may plead the general issue, and give this Act and the special matter in evidence; and no plaintiff shall recover in any such action if tender of sufficient amends has been made before such action brought, or if a sufficient sum of money has been paid into Court by or on behalf of the defendant after such action brought, together with the costs incurred up to that time; and if a verdict passes for the defendant, or if the plaintiff becomes non-suit or discontinues such action, or if, upon demurrer or otherwise, judgment is given against the plaintiff, the defendant shall recover his full costs as between attorney and client, and have the like remedy for recovering the same as any defendant has by law in other cases; and, though a verdict is given for the plaintiff in any such action, such plaintiff shall not have costs against the defendant unless the Judge before whom the case is tried certifies his approbation of the action and the verdict obtained thereupon.

Damage to be made good in addition to penalty.

82 If through any act, neglect, or default on account whereof any person shall have incurred any penalty imposed by this Act, any damage to any conduit, main, pipe, wire, or other property of the Projectors used in connection therewith shall have been committed by such person, he shall be liable to make good such damage, as well as to pay such penalty; and the amount of such damages shall, in case of dispute, be determined by the Justices by whom the party incurring such penalty shall have been convicted; and on nonpayment of such damages on demand the same shall be levied by distress, and such Justices, or one of them, shall issue the warrant accordingly.

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[Transient offenders.]

[**83** It shall be lawful for any officer or servant of the Projectors, and all persons called by them to their assistance, to seize and detain any person who shall have committed any offence against the provisions of this Act, and whose name and residence shall be unknown to such officer or servant, and convey him with all convenient despatch before some Justice without any warrant or other authority than this Act; and such Justices shall proceed with all convenient despatch to the hearing and determining of the complaint against such offender.]

Notices.

84 Any notice required by this Act, or any By-law or Regulation made thereunder, to be served on or given to any owner or occupier of any building, land, mine, or premises, or to any person, may be in writing or partly printed, or may be wholly printed. And it shall be sufficient for all purposes of this Act, unless the said Act in any case prescribes a different course to be pursued, if any such notice is sent by post to the owner by registered letter addressed to his last known place of abode or business, or is served on the owner or occupier of such building, land, or premises, or left with some inmate apparently over the age of Fourteen years living at the place of abode of such owner or occupier, or (if there be no occupier) if such notice be posted on some conspicuous part of such building or land; and any notice required to be served or given in respect of any public street, road, or lane may be served on or sent by post as aforesaid to the secretary or clerk, or left at the office of the local authority having control of such street, road, or lane, or the portion thereof affected by the notice.

Signature of notices.

85 Any notice required to be given by the Projectors under this Act shall be sufficient if signed by the Projectors or by their solicitors.

Rights, powers, &c., under this Act may be assigned, &c. to incorporated companies.

86 It shall be lawful for the Projectors, at any time after the passing hereof, to assign, transfer, convey, and release to any company duly incorporated for that purpose, or to any local authority, association, syndicate, partnership, person, or persons, all or any of the rights, powers, authorities, privileges, liabilities, and obligations conferred and imposed upon them by this Act, together with all or any of the lands, tenements, and hereditaments, estates, chattels, and effects of every kind acquired by them under or in pursuance thereof, and purchased, occupied, or used in connection with the construction, maintenance, and working of the works hereby authorised; and upon and after the completion of such assignment, transfer, conveyance, and release, the said company, local authority, association, syndicate, partnership, person, or persons, their officers, agents, and servants, may lawfully exercise and enjoy all the rights, powers, authorities, and privileges, and shall be and continue to be subject to all liabilities, obligations, penalties, and forfeitures to which the Projectors or their officers, agents, or servants would have been entitled or subject had no such assignment, transfer, conveyance, and release been completed: Provided, however, that nothing herein contained shall prejudice or affect any rights accrued, actions or proceedings taken against, or liabilities, obligations, penalties, or forfeitures incurred by the Projectors before the completion of the said assignment, transfer, conveyance, and release.

Minister may resume land upon notice.

87 It shall be lawful for the Minister, with the consent of the Governor in Council, at any time after the expiration of Twenty-one years from the date of this Act being assented to by the Governor, or

at any time thereafter, to give the Projectors notice of the intention of the Crown to resume any land comprised in any lease granted under the authority of this Act, and of the intention of the Crown to purchase the whole or any part of the land, machinery, and works belonging to the Projectors, and which have been acquired, made, or erected under the authority of this Act.

Compensation upon resumption of land comprised in lease.

88 The amount of compensation to be paid to the Projectors upon the resumption by the Crown of the land comprised in any lease, and the purchase of such land, machinery, and works, shall not exceed the actual cost of *bonâ fide* construction of such machinery and works, with an amount added equal to Twenty per centum on such cost of construction.

In case of difference amount of purchase money to be settled by arbitration.

89 If the Minister and the Projectors cannot agree upon the sum to be paid as the purchase money of the said land, machinery, and works, the question shall be referred to Two or more arbitrators, to be mutually agreed upon by the Minister and the Projectors, or, failing such agreement, the reference shall be made in the manner hereinafter provided.

How arbitrators to be appointed.

90 If the Minister and the Projectors do not agree upon the arbitrators as aforesaid, the reference shall be made to Four arbitrators, of whom the Minister shall appoint Two, and the remaining Two shall be appointed by the Projectors.

Appointment by Governor in Council.

91 If the Projectors fail to appoint such arbitrators within Fourteen days after being thereunto requested in writing by the Minister, then the Governor in Council may appoint such Two arbitrators; and the arbitrators so appointed shall, for the purposes of this Act, be deemed to be appointed by the Projectors.

Appointment of arbitrators to supply vacancies.

92 Upon any reference being made to arbitrators under this Act, if before the matters referred to them are determined any arbitrator dies, becomes incapable or unfit, or for Seven consecutive days fails to act as arbitrator, the Minister or the Projectors, as the case may be, shall appoint an arbitrator in his place.

Appointment of arbitrators by Governor in Council to supply vacancies.

93 If the Projectors fail, within Fourteen days after being thereunto requested in writing by the Minister, to appoint an arbitrator in place of the arbitrator so deceased, incapable, unfit, or failing to act, then the Governor in Council may appoint an arbitrator; and the arbitrator so appointed by the Governor in Council shall, for the purposes of this Act, be deemed to be appointed by the Projectors.

Appointment of arbitrator not revocable.

94 When any appointment of an arbitrator is made, the Minister or Projectors shall have no power to revoke the appointment without the previous consent in writing of the Projectors or the Minister, as the case may be.

Appointment of umpire by arbitrators.

95 Upon the appointment of arbitrators under this Act, whether by mutual agreement or otherwise, they shall, before entering on the business of the reference, appoint by writing under their hands an impartial and qualified person to be their umpire.

Appointment of umpire by

96 If the arbitrators do not appoint an umpire within Seven days after the reference is made to the arbitrators, then the Governor in

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Council may appoint an umpire, and the umpire so appointed shall, for the purposes of this Act, be deemed to be appointed by the arbitrators.

Governor in Council. Appointment of umpire by arbitrators to supply vacancy.

97 Upon any reference being made to arbitrators under this Act, if, before the matters referred to them are determined, their umpire dies, or becomes incapable or unfit, or for Seven consecutive days fails to act as umpire, the arbitrators shall by writing under their hands appoint an impartial and qualified person to be their umpire in his place.

Appointment of umpire by Governor in Council to supply vacancy.

98 If the arbitrators fail to appoint an umpire within Seven days after notice in writing to them of the decease, incapacity, unfitness, or failure to act of their umpire, then the Governor in Council may appoint an umpire; and the umpire so appointed shall, for the purposes of this Act, be deemed to be appointed by the arbitrators so failing.

Succeeding arbitrators and umpires to have powers of predecessors.

99 Every arbitrator appointed in the place of a preceding arbitrator, and every umpire appointed in the place of a preceding umpire, shall respectively have the like powers and authorities as his respective predecessor.

Reference to umpire.

100 If the arbitrators do not, within such a time as the Minister and the Projectors agree on, or, failing such agreement, within Thirty days next after the reference is made to the arbitrators, agree on their award thereon, then the matters referred to them, or such of those matters as are not then determined, shall stand referred to their umpire.

Powers for arbitrators, &c. to call for books, &c., and administer oath.

101 The arbitrators and the umpire respectively may call for the production of any documents or evidence in the possession or power of the Minister or the Projectors, or which the Minister or the Projectors can produce, and which the arbitrators or the umpire thinks necessary for determing the matter referred, and may examine witnesses on oath, and may administer the requisite oath.

Procedure in the arbitration.

102 If the Minister and the Projectors do not otherwise agree, the arbitrators and the umpire respectively may proceed in the business of the reference in such manner as they and he respectively think fit.

Award made in due time to bind all parties.

103 The award of the arbitrators or of the umpire, if made in writing under their or his respective hands or hand, and ready to be delivered to the Minister and the Projectors within such time as may be agreed on, or, failing such agreement, within Thirty days next after the reference is made to the arbitrators or to the umpire, shall be binding and conclusive on the Minister and the Projectors.

Power for umpire to extend period for making his award.

104 Provided always that (except where and as the Minister and the Projectors otherwise agree), the umpire from time to time by writing under his hand may extend the period within which his award is to be made, and if it be made and ready to be delivered within the extended time, it shall be as valid and effectual as if made within the prescribed period.

Awards not to be set aside for informality.

105 No award made on any arbitration in accordance with this Act shall be set aside for any irregularity or informality.

Costs of arbitration and award.

106 Except where and as the Minister and the Projectors otherwise agree, the costs of and attending the arbitration and the award shall be in the discretion of the arbitrators and the umpire respectively.

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Accounts of cost of construction to be submitted to Auditor-General.

107 For the purpose of ascertaining the actual cost of *bonâ fide* construction work under this Act, the Projectors shall, upon the completion of the said machinery, works, and apparatus constructed under the authority of this Act, and thereafter from year to year, submit to the Auditor-General accounts and proper vouchers of all construction works; and upon computing the amount of compensation to be paid to the Projectors in the event of any lease, and the works connected and used therewith, being resumed and purchased, the amount of the accounts as passed by the Auditor-General shall be deemed to be the actual cost of the construction of the said machinery and works under the authority of this Act.

Audit.

108 The accounts of the Projectors in and about the construction and maintenance and working of the works authorised by this Act shall be annually audited, and shall be subject to all the provisions of *The Audit Act*, 1888, in the same manner in all respects as if such Acts had been specifically mentioned therein.

How Act to be read on completion of assignment, &c. under the last preceding section.

109 Upon the completion of any such assignment, transfer, conveyance, or release as in the Sections mentioned, this Act shall be read so that whenever the word "Projectors" occurs it shall be omitted and the name of the Minister, company, local authority, association, syndicate, partnership, person or persons so purchasing or acquiring the said land, machinery, and works shall be read and taken to be inserted in its stead.

Company may make By-laws.

110 Subject to the provisions of this Act, the Projectors may from time to time make, alter, and repeal By-laws—

For regulating the form of contract to be entered into with the Projectors and any other person, and generally for carrying into effect the purposes of this Act:

As to supplying motive power or electricity or other power:

For the appointment of a scale of charges for motive power, electricity, or other power supplied by measure, and the minimum quantity thereof to be charged for where the same is so supplied:

For determining the time at which any charge for motive power, electricity, or other power shall be payable, and whether in advance or not:

For regulating the form, material, dimensions, construction, and arrangement of pipes, conductors, conduits, wires, and other works supplying motive power, electricity, or other power from the pipes, conduits, or wires of the Projectors to adjacent premises, the time of executing and the notices to be given for such works, the superintendence thereof, the making good and replacing ground which may be displaced in the course of such works, and for inspecting all works or appliances at reasonable times, whether situate within any building or otherwise:

For regulating the construction, disposition, custody, and inspection of meters:

For preventing the waste or misuse of motive power, electricity, or other power supplied by the Projectors:

For compelling persons using motive power, electricity, or other power supplied by the Projectors to keep their conduits, wires, and other appliances in proper repair, for preventing

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any alteration of or interference with such conduits or wires without permission from the Projectors, for repairing such conduits or wires and appliances so as to prevent waste of motive power or electricity or other power, and for recovering the cost of such repairs:

For preventing the use, directly or indirectly, of motive power, electricity, or other power supplied by the Projectors, by persons unauthorised by the Projectors:

For preventing persons from wilfully or negligently breaking, injuring, or interfering with any conduit, lock, cock, valve, engine, or work belonging to the Projectors, and from doing any other wilful act whereby the motive power, electricity, or other power supplied by the Projectors may be wasted.

By-laws to be approved and published.

111 Every such By-law shall, after approval by the Governor, and after such approval has been signified to the Projectors, be by them published at least once in the *Gazette*; and no such By-law shall have any force or effect until it has been published in the *Gazette*, and every such By-law shall, when so published, be binding upon and be observed by all persons, and shall be sufficient to justify all persons acting under the same.

Penalties in By-laws.

112 Every such By-law may state a maximum penalty for the breach thereof, not in any case exceeding One hundred Pounds; and may also state, in case of continuing offences, a further penalty not exceeding Twenty Pounds for each day after notice of the offence shall be given by the Projectors.

Evidence of By-law.

113 The production of the *Gazette* containing any such By-law shall in any action at law or suit in Equity, or any arbitration, or any proceeding in any Court, be sufficient evidence that such By-law as it is printed in such *Gazette* has been duly made and published as hereinbefore provided.

Security to be given for completion of work.

114 The Projectors shall, within Three months after the passing of this Act, place on fixed deposit in some Bank in *Hobart* to be approved of by the Minister, in the name of the Treasurer of the Colony, the sum of (One thousand Pounds) as a security for the due construction of the works authorised by this Act within [Three] (Four) years from the passing of this Act; and if the Projectors do not commence the construction of the said works in a *bonâ fide* manner before the First day of *August*, One thousand eight hundred and ninety-two, (and expend upon the said works not less than Ten thousand Pounds before the First day of *May*, One thousand eight hundred and ninety-five,) the said sum of (One thousand Pounds) and the interest accrued thereon shall be forfeited to Her Majesty, and shall become part of the Consolidated Revenue Fund of the Colony.

Deposit to be repaid.

115 On the completion of the said works to the satisfaction of the Minister the said sum of (One thousand Pounds) shall be repaid to the Projectors; and until such sum is repaid to the Projectors they shall be entitled to receive, unless such sum is forfeited as aforesaid, interest thereon half-yearly as from the day of deposit.

Date of completion of work.

116 The said works authorised by this Act shall be completed before the First day of *May*, One thousand eight hundred and ninety-five.

117 If the said works authorised by this Act are not completed and finished to the satisfaction of the Minister within the time mentioned in the last preceding Section, the powers, authorities, and privileges conferred by this Act upon the Projectors, and any lease granted by the Crown or any person to the Projectors, shall cease to be void. Forfeiture.

118 Notwithstanding anything in this Act contained, it shall be lawful for the Governor, with the advice of the Executive Council, on the Address of both Houses of Parliament, to extend the time for the completion of the works authorised by this Act. Extension.

☞ (Minister)

119 The [Judges of the Supreme Court] may from time to time make, alter, and rescind Regulations for the following purposes :— Regulations.

I. For prescribing the form of any notice required by this Act, and the mode of service thereof, and the persons upon whom the same may be served :

II. For prescribing the mode in which proceedings shall be taken before any Justice of the Peace or arbitrator or umpire, and for regulating the practice and procedure, and for the fees to be paid thereon :

[III. For prescribing the mode in which appeals shall be brought before the Supreme Court :]

IV. For determining the person or persons whose receipt for compensation money or whose signature to any agreement for compensation shall be binding.

120 The rent and compensation to be paid by the Projectors to the Minister for the powers, rights, and authorities in this Act contained, and for the use and supply of any water or the lease of any land, shall be estimated and calculated in the following manner :— Rent of water.

Until the works authorised by this Act shall be finished and completed to the satisfaction of the Minister, the annual sum of One hundred Pounds shall be paid for all the powers, rights, privileges, and authorities given or granted under this Act; from and after the completion to the satisfaction of the Minister of the works authorised by this Act, the following rents shall be paid; viz.—For the First year, One hundred Pounds; for the Second year, One hundred and fifty Pounds; for every year after the Second year the rents shall be increased by Fifty Pounds up to and inclusive of the Ninth year, and from and after that time the rent shall be Five hundred Pounds for every year.

121 The Projectors, incorporated and registered in *Melbourne*, in the Colony of *Victoria*, under the name of "The *Australasian* Rights Purchase Association, Limited," shall register with the Registrar of Companies under *The Companies Act*, 1869, the name and place of abode or business of the person appointed by such Projectors to carry on the business of the Projectors in *Tasmania*, and also the situation of the Office of such Projectors; and the person so registered shall be deemed to be the Agent of such Projectors, and such Office shall for all purposes be the Registered Office of such Projectors. Projectors to have a Registered Office in *Tasmania*.

122 Upon such registration the said Projectors may sue and be sued in their corporate name in *Tasmania*, and the liability of and proceedings against such Projectors shall be in the same manner as if

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such Projectors had been duly registered in *Tasmania* under the provisions of *The Companies Act*, 1869.

123 Sections Forty-three, Forty-four, Forty-five, and Forty-six of *The Companies Act*, 1869, shall be incorporated with this Act, and shall apply to the Projectors aforesaid in the same manner and to the like effect as if the Projectors had been duly registered under the said Act.

SCHEDULE.

WARRANT OF DISTRESS.

Warrant of Distress.

To Constable at

WHEREAS of in *Tasmania*, is liable to pay the sum of , due to the Projectors as the lessee of a meter in or on a certain house, building, tenement, land, or premises situated in street in , and now occupied by : And whereas the sum of being due and payable on account of the use, supply, or consumption of motive power or electric power [as the case may be] and as is made to appear to me on the signing of this my Warrant, was duly demanded by the Projectors on the day of in the year of the said who has not yet paid the same: These are therefore to require and authorise you forthwith to levy the said sum of , together with the costs of these presents, by distress and sale of the goods found by you in or on the said house, building, tenement, land, or premises, according to Law, and that you certify to me on the day of what you shall do by virtue of this Warrant.

Given under my hand and seal this day of in the year of our Lord One thousand eight hundred and

(L.S.) J.P.

WILLIAM THOMAS STRUTT,
GOVERNMENT PRINTER, TASMANIA.