85. What measurement as to length, beam, and gross tonnage would you recommend for such a service?—If you want a comfortable boat you cannot have as small a one as the "Takapuna"; you would require a bigger one than the "Rotomahana."

86. Do you know the "Rotomahana"? No. I have never put my foot on board of her. I have only seen her from outside.

87. What tonnage would you think would be required?—I should say that with a 2,500- or a 3,000-ton boat you could carry your passengers with comfort, and have plenty of room for them.

88. Would a 2,000-ton boat be of sufficient size to permit of her being driven in a three-quarter gale of wind?—Yes, if she were a well built boat you could drive her through it.

89. With a turtleback?—I should certainly recommend it. Harland and Wolff build them in that way for the White Star Company for the Atlantic trade. The "Ionic," too, which comes out here has one, and a very good thing it is.

90. Supposing the service was to be slower than 17½ knots, and that you were to run the 175 miles in eleven or twelve hours, would you make any difference in the size of the boat—would you lessen it?—You would not have quite so much comfort on board for the passengers as you would have on the bigger boat. Of course, you could make the boat smaller. You could make the cabins smaller, and you could cut down the saloon accommodation.

91. What I have in view is the capability of driving the boat in heavy weather; from that point of view, would you recommend a boat smaller than 2,000 tons?—Certainly not if the boat is to go through it comfortably.

92. Have you any idea of the cost of a steamer of 19½ knots with first-class fittings and passenger accommodation?—I have no doubt it would cost a great deal more if she were built by Harland and Wolff than if you had her built on the Tyne.

93. Say, then, at Harland and Wolff's?—Not under £30 a ton. You might get it perhaps for £20, but not of the same class. I reckon that a boat like the "Ruahine" or "Rimutaka" would cost £30 a ton.

94. Would there not be a difference in the cost per ton according to whether the speed was say 17½ knots or less?—Yes; I suppose that would make a difference. If you were to run nineteen knots you would have to make the boat stronger.

95. And the engines would be more costly?—Yes; they would be more costly. I have no doubt it would cost more per ton.

96. What would be your estimate of the coal consumed per indicated horse-power for 19½ knots, builders' guarantee?—New Zealand coal, I suppose, you mean?

97. Yes?—You could not do it, certainly, under 2 lb. per indicated horse-power per hour.

98. Would it be the same whether the speed was 19½ knots or less?—It would be less at a slower speed. Supposing you had a ship, and were going to drive her at nineteen knots, and decided to reduce it to seventeen knots, you would not be forcing her so much.

99. Have you any data to give the Committee of the horse-power required to run a 2,000-ton boat at eighteen knots?—You would want over 3,000 horse-power indicated.

100. *Mr. J. Hutcheson.*] Much would depend upon the model?—Yes, upon the model to a certain extent.

101. *Mr. Buchanan.*] How long have you been trading on the New Zealand coast?—Fourteen years.

102. What comparison would you make between the average weather here and that on the English coast?—We really have had worse weather on this coast than on the English coast during the fourteen years I have been here. Only the other night, coming through the Straits, we took a sea over the top of the "Ruahine" which broke the skylight, and we were 20 ft. above the water line then.

103. Was it a green sea?—It was a medium sea. It did not do much damage beyond breaking the skylight and flooding the saloon. That was on Friday night last.

104. At what speed were you going?—I suppose about twelve knots.

105. Head into it?—No; it was right on the beam.

106. Where was that?—Coming through Cook Strait, just before you get to Terawhiti. We were coming down from Waitara. It was a south-west wind, a little abaft the beam.

107. Perhaps that was a class of question that it is scarcely fair to ask a chief engineer, because he is not a deck officer?—Well, I saw the water, and I saw the skylight broken.

108. Presuming that you had to advise on the builder's guarantee of speed to run a boat at a running speed of sixteen knots, would you advise an eighteen-knot boat or a twenty-knot boat?—If you want to do sixteen knots an eighteen-knot boat would always do it. You could drive the engines with great economy; it is only when you begin to force that you waste coal. If you want to get sixteen knots in all weathers you must have an eighteen-knot boat to do it. Of course, in fine weather you could do it very easily, but if there was a strong head wind you would have to open out.

109. You think that two knots is a sufficient margin?—Yes; quite sufficient.

110. Then, as between single and twin screws which would you recommend?—Oh, twin-screws are much better. They might cost a little more.

111. How about economy of running day by day as between the two?—I do not think there would be much difference. It would be very little. If possible, the twin-screws would be a little more.

112. *Mr. Joyce.*] You have been running to New Zealand for the last fourteen years?—Yes.

113. How long were you in the "Rimutaka"?—Thirteen years.

114. How long have you been a marine engineer?—I have been going to sea about eighteen years.

115. And for the four years before you came to New Zealand in what trade were you?—In the general trade, running to Bombay, Calcutta, New York, and in the Mediterranean.