8. And what, in your judgment, should be the indicated horse-power of a 2,000-ton vessel to drive her eighteen knots?—You would get eighteen knots out of a 2,000-ton vessel with an indicated horse-power of 4,700. That is the result of trial trips.

9. What should be the consumption of coal per hour to drive a vessel of 2,000 tons sixteen knots?—Do you mean colonial coal?

10. Say Westport coal?—About 2 lb. per indicated horse-power per hour.

11. Is not 2 lb. per hour per indicated horse-power rather high?—Not with Westport coal. That is equivalent to, or rather under, 1½ lb. of Welsh coal. That is what is used always by the navy in trial trips. It is from that that the calculations are made.

12. What number of engineers and stokers would be required for that class of vessel?—You have rules which deal with that.

13. Would you give us your experience?—It would require five engineers for the sixteen-knot vessel, I suppose one storekeeper, three greasers, twelve firemen, and nine trimmers. It would depend upon where the bunkers were situated for number of trimmers required.

14. What increase would be required for an eighteen-knot vessel?—You would require one storekeeper, six greasers, and, say, eighteen firemen, and in a short trip the same number of trimmers might do. Of course, in a long voyage the coals get further and further back in the bunkers, and there is a longer distance to carry them. That would not apply in a short trip, such as that between this and Lyttelton, which, with an eighteen-knot vessel, you could run in ten hours.

15. For this particular service, would you give the preference to twin-screws?—Certainly. The practice now at Home is for all passenger-steamers to have twin-screws.

16. *Mr. Joyce.*] Would five engineers be sufficient for such a vessel with twin-screws?—It would all depend upon the kind of vessel.

17. *The Chairman.*] Twin-screws would not necessitate ten engineers instead of five?—No; but you would require at least six greasers.

18. Will you be good enough to give the numbers for twin-screws?—You would require six engineers, twelve firemen for sixteen knots and eighteen for eighteen knots, and the number of trimmers would remain the same on a short voyage.

19. Then, the only difference would be an additional engineer?—You would require six greasers instead of three.

20. *Mr. Joyce.*] What trades have you been running in?—I have been in the River Plate trade and the Atlantic, and also out here.

21. Have you had any experience in vessels of the "Rotomahana" class, and vessels of her size?—No.

22. *Mr. Buchanan.*] Are you in a position to give the Committee any information with regard to the cost?—Only from what I have read, just as any member of the general public. Of course, it is largely controlled by the class of vessel and the state of trade.

23. Assuming that it is a first-class vessel?—It would range between £25 and £50 per ton gross measurement.

24. That is, to build a first-class passenger-steamer?—Yes; I could give you, as an instance, the "Teutonic." She cost £250,000, and she is between 9,000 and 10,000 tons, but perhaps that is scarcely a fair instance, because the builders are shareholders in the company.

25. You make a reserve allowance of half a knot an hour in a short run?—Yes; that is allowing for the ship being dirty—not having been recently in dock.

26. In your assumption, with regard to a sixteen-knot vessel, did you take the sixteen knots from the builders' trial?—Yes.

27. What would that mean in actual practice for such a run as we have in contemplation without unduly pressing the boat?—They could get about 85 per cent. in the ordinary running on a long voyage or succession of voyages without dry-docking.

28. In dealing with a so-called sixteen-knot boat you would expect only to get 85 per cent.?—Yes; on the builders' trial everything is clean. There is no scale on the boilers, and the hull is clean because she has just been turned off the slip.

29. In arranging for such a service as we have under discussion would you stipulate for a margin over the sixteen knots, so as to allow for adverse weather, and still make sixteen knots an hour?—I should go according to the indicated horse-power. I should consider I was doing my duty as long as the engines worked up to the indicated horse-power, whether the ship was going the speed or not.

30. *Mr. Duthie.*] In the trade for which this steamer would be required there are seldom beam winds; they are generally head winds?—Yes.

31. The probable requirements for passengers would be for two hundred and fifty, both forward and in the saloon. There would require to be cargo-space for, say, 500 tons, and the distance to be run is about 175 knots. We want a steamer that will have comfortable accommodation for the people, and we want to do the passage in twelve hours; what sized vessel do you think would be most suitable to fulfil these conditions?—I think you should have a long vessel to make her comfortable in rough weather. I should say a vessel of between 2,000 and 3,000 tons would be suitable.

32. That seems a large tonnage for the number of passengers and the quantity of cargo?—You require length in the vessel if you want speed, and what is even more effectual is light draught. I was reckoning on a vessel with 16 ft. draught. I do not know whether that would be suitable for getting into Lyttelton Harbour. I have been aground there in getting in.

33. *The Chairman.*] But that was not with a 16 ft. draught?—No; with my own ship.

34. *Mr. Duthie.*] Do you think that nothing less than a 2,000-ton vessel would do?—Not with the weather you have here.