

116. You were in what are known as "tramps"?—Yes; some of them carrying 4,000 tons.
117. And their speed?—Nine and a-half to ten knots.
118. When you spoke of fast boats you simply spoke from what you have heard and read, and not from your own experience?—The boats I have come in to this colony are the fastest I have been in. The others were tramp boats.
119. Do you know anything of the boats running between England and Germany and France?—Yes.
120. The latest additions?—I have only read of them. I have not seen them.
121. *Mr. J. Hutcheson.*] What type of engines should you advise to be put into these boats?—Triple-expansion engines; three cranks.
122. Twin screws?—Certainly.
123. Is there any exact relation as between an engine's working-speed as shown by the revolutions on the indicator and the indications on the cherub-log?—No; it varies entirely with the weather and currents.
124. My question bears on the question of reserve horse-power and boiler-capacity: is it possible that your indicator might show a speed of eighteen knots, when in reality the vessel might only be travelling fifteen knots?—Yes, current would do it. If they knew they had a current to contend with they would allow for that.
125. Then the engine-room record is not a true record of the distance travelled?—No; there is slip also to be allowed for, and it varies from five to forty in different weathers.
126. Is that a greater quantity with a large single propeller than with twin-screws?—There is not a noticeable difference.
127. If you were charged with carrying out this service in a state of high efficiency, in order to insure having a boat at either end ready to leave port, what is the least number of boats you would have?—I should think you would do very well with two boats.
128. But if there is a break-down and you must maintain the service?—Then you should have a third one for a stand-by.
129. If it were an absolute necessity that the service must be maintained to connect the two termini, do you not think that a third boat would be an indispensable necessity?—I do not think that you would really require a third boat.
130. In your experience as a marine engineer, do you not think that if the engines are not attended to in time and minor repairs made at once when they occur that the consequences are sometimes disastrous?—Of course, they require well looking after.
131. Could you not imagine a serious mishap in the engine-room necessitating the regular boat being laid up for a time and an inferior boat being put on, and her being stuck up for perhaps thirty-six hours?—Yes.
132. Seeing that this is a mail service, is it not an ordinary precaution to have a stand-by boat?—I do not think so. I think two boats could do it if they were well looked after.
133. You can imagine these boats will be running almost continuously with very short time in port to effect ordinary repairs; it will be one continuous drive from port to port through all weathers; would it not be a rather severe ordeal on the engines?—At times a boat would have to lie up for repairs.
134. Have you had any experience in yards or engine-shops, either before you went to sea or since, which would make you acquainted with the building-regulations to fulfil the Admiralty conditions in regard to merchant cruisers?—No; I have not.
135. From your general knowledge and from what you have read and heard, do you know that there is any difference in the construction of a vessel intended to carry guns, but intended also to trade in ordinary times?—I think you will find there is some difference.
136. You cannot give the Committee an idea of what compliance with the Admiralty conditions would mean in the cost of these steamers?—I could not tell you that.
137. *Mr. Buchanan.*] *Mr. Hutcheson* has been putting some questions to you as to the power of continuous running without time for minor repairs; now, in oversea traffic, you have to run four or five days without a chance of making minor repairs?—No chance whatever.
138. Would not the stoppage in port each day from, say, 10 in the morning to 5 in the afternoon, give a chance of effecting the slight adjustments which would principally be necessary to avoid danger from loose bearings or imperfect fixtures?—Yes, a sort of general overhaul could easily be done during the hours they would be in port; but, supposing you broke a cylinder-top the same as the "Otarama" did at sea, then it would take you some time to make repairs. Since we have been on the coast we burst our main steam-pipe, and had to take it down. It took three days to do that and to effect the repairs, and then you have to allow several hours for putting it up again. If you had twin screws, you could go on with one engine and do your ten knots. You could have half your boilers in use, and clean the others, and you could drive with one engine and disconnect the other so as to repair anything that was wanted.
139. The six-monthly overhaul, or whatever is the custom, would be of much shorter duration in a steamer where there was an opportunity every day for ordinary repairs as compared with what would be required in an oversea boat like the "Ruahine"?—Yes. Supposing you had four boilers, you could go on with three, and take off one, and then the surveyor could go in and inspect it. It would take nearly a day for it to cool down, and then you have to take the scale off, so that that would take about three days. That would be just about the time it would take; one day to cool down, one day to survey and clean, and a day to run it up. It takes twenty-four hours to get the steam up in a cleaned boiler, for it is wise to do it quietly.
140. How often are boilers overhauled?—We do it at each end.
141. But in these proposed boats would once in six months be sufficient?—Yes.
142. Not once in twelve months?—No; once in six months you must look over your boilers.