

219. I think you say that any practical man with three years' shop experience would be competent?—Yes; after examination. Nearly all the men engaged in the sale or manufacture of these oil-engines that I have seen are in favour of practical engineers being in charge. They say they get better results from them.

220. *Mr. Crowther.*] Has it come to your knowledge that even Mr. Henderson has not been allowed to drive an oil-engine?—No. Mr. Henderson has a private launch, and has not applied for permission.

221. Has not permission been denied him?—No.

222. I heard from him lately, and he told me that he had got a launch but he was not allowed to make use of it?—He is not allowed to make use of it, except for pleasure, after application through the Secretary of Marine and the approval of the Minister of Marine.

223. *Mr. Symes.*] You say that all machinery is more or less complicated. An ordinary individual could fix up a hydraulic ram without having a certificated engineer to work it?—Certainly; as long as his fall was all right.

224. What would be about the cost of fixing up a sailing-vessel with an oil-engine as a means of propelling it?—It would depend upon the power of the engine. For an ordinary vessel, I suppose it would cost £150.

225. What would be the cost of fixing an ordinary steam-engine for the same class of vessel?—Perhaps £60 more than that. These are only rough estimates.

226. Take it by power?—Well, perhaps a third more.

227. Do you not consider that it has been of great advantage to the settlers, living in places where it would be difficult to get ordinary steamers to go, to have these sailing-vessels fitted up with oil-engines?—Yes; but there is no place using oil-engines where steam-vessels could not go.

228. Is it not a fact that steam-vessels are the most expensive vessels you can have?—I do not think so.

229. Do you think there is any great amount of danger in the use of oil-engines?—You have as high a pressure in oil-engines as you have in the highest-pressed steam-vessels in New Zealand. The highest pressure is 200 lb. in the "Upolo," and you have an initial pressure of 180 lb. to 200 lb. and over in an oil-engine.

230. Are they just as dangerous, or more dangerous than the ordinary steam-vessels?—I do not recollect any vessel being stuck up with a steam-boiler in New Zealand. If you hear of a vessel being detained, it is always on account of the shaft breaking, or through a defect in the machinery. The boilers have to be so carefully made, that there is no accident likely to occur to a boiler.

231. Does the department insist on having a certificated engineer to drive an ordinary threshing-machine?—No.

232. Do you not think there is just as much danger in working the engine of an ordinary threshing-machine by an uncertificated man as in working an oil-engine on one of these boats?—I understand the Government are bringing in regulations to meet that matter now. I do not think so, because if there is any danger in connection with a threshing-machine, the men can run away, as they are on *terra firma*, but on board a ship, when on a lee-shore, or going up a river, if the engine jibs, the vessel is wrecked.

233. *The Chairman.*] What accident could happen to an oil-engine that would endanger life or cause shipwreck?—There was an accident at Waitara recently, where a vessel went ashore. The cylinder might burst up.

234. Would there be a danger to lives if there was an accident to the cylinder?—If it burst, it might blow a man's head off.

235. *Mr. Lethbridge.*] Having a competent man on board, he would not stop that?—He might from his knowledge prevent that.

236. *Mr. Symes.*] Was that vessel carrying a certificated engineer at the time?—Yes, a man with a third-class engineer's certificate.

237. An accident somewhat similar could have happened with an ordinary engine, and the breaking of a shaft or the propeller?—Defects will arise in any way, but a competent engineer can look out for them and prevent them before they go too far. An engineer is never understood properly. He goes down into dark holes, and does work which is never heard of, and engineers generally do not get half the credit they deserve for what they do.

WEDNESDAY, 23RD AUGUST, 1899.

ROBERT DUNCAN, Chief Inspector of Machinery, further examined.

1. *Mr. Lawry.*] I suppose, Mr. Duncan, you are accustomed to see reports in the newspapers of deputations that wait upon the Minister in reference to marine matters?—Sometimes I see them.

2. Do you remember reading a report of a deputation waiting on the Minister in Auckland in reference to these oil-engines?—No, I cannot say I do.

3. You do not remember that the Minister replied to the effect that he would recommend regulations to be issued by the department to provide for what is really contained in this petition—viz., "That a competent Examiner be forthwith appointed to conduct such examinations"?—No, I do not recollect that.

4. I understood you to say that the engineers were not hostile to the use of oil-engines?—No, they are not hostile.

5. Are you aware whether or not the engineers are opposed to these oil-engines being driven by men who have not certificates as marine engineers?—Yes, they are naturally opposed to that; but the owners of steam-vessels are equally opposed to that.