

148. And then, if it did roll, it would all roll together?—Not absolutely necessary. Ships roll so little now as compared with what they did in years gone by. There is no doubt that ships fitted with the bilge keel roll very little as compared with ships of ten years ago.

149. *Mr. Foster.*] But if it is, the friction is so slight as to be of no effect?—I think that can be disregarded.

150. Unless other conditions were so favourable that it only requires something to set it off?—Yes, I think you are right. In other words, the rolling of a ship of itself is not likely to cause sufficient friction to produce fire by the rubbing of one bale against another.

151. Then, to come back to the previous question: you formed no opinion in your own mind at all as to what may have been the cause of these fires?—No; I cannot give any feasible explanation, except I consider it is more likely to have occurred in the wool than in the flax.

152. You carried a cargo of wool, of course, in the last season?—Yes; we were the ship prior to the "Gothic."

153. Had you any reason to suppose that the wool was wetter last season than in previous years: did anything come under your notice as to the condition of the wool, or any remarks about it?—No; I had no reason to suspect that the condition of the wool was anything out of the ordinary.

154. Have you any suggestions to make, Captain David, as to precautionary measures ashore and afloat?—I think it would be advisable in the interests of all concerned if wool and flax or tow was subject to examination by some outside official other than the ships' people before shipment to test it in whatever way may be considered desirable.

155. Of course, you are aware that the Harbour Board to a very great extent does exercise that supervision?—Yes.

156. As to the carrying-out of the tests so far, I think the hand and the nose is pretty well depended upon to ascertain whether wool is heated. Have you any method in your mind which could be applied to give an actual test of the interior?—No; I must confess I have not.

157. Because that is where the seat of the trouble is, and it may be getting fairly bad inside before there is any outward indication?—Yes, exactly. It seems to me that short of opening the bale you have no real absolute proof.

158. It has been suggested that a sort of stiletto with a thermometer in could be used, but that would seem to be a big undertaking for some of our people?—Yes, a good deal would depend upon the muscles of the examiner.

159. *Captain Blackburne.*] Captain Bendall always used a steel spike; but that was only when his attention was called to a bale that was apparently heated?—Yes.

160. *Mr. Foster.*] It would require to be forced in with a hammer?—Yes.

161. But to test the temperature the thermometer would have to be in a tube?—Yes, on account of the risk of damaging the thermometer.

162. Are any steps taken during the voyage to ascertain the temperature of the holds in the various parts where inflammables of this kind are stored?—Yes, we take the temperatures daily. We take the temperatures of frozen cargo very regularly indeed, every four hours; but in any of the holds in which we have combustible materials I take it daily.

163. In the event of any serious heating, it would be quite detectable?—You would get a rise of temperature in passing from the Southern Ocean into the tropics; but the taking of these temperatures would give you at least some warning of anything abnormal in the condition of the cargo itself.

164. Of course, the increased temperature of water, &c., is a known quantity pretty well owing to the latitude?—Oh, yes. I think that by taking the temperature regularly, and taking the temperature of the outside air as a criterion, you would be able to gauge fairly accurately if the condition of the cargo was anything but what it should be. Any abnormal heating of the air would be detected easily.

165. *Captain Blackburne.*] We have had a letter from a gentleman at Wanganui, informing us of a bell which acts if the temperature rises to any great extent. Have you heard anything about it?—No; that is outside the scope of the average mariner. I dare say it is quite workable; but if you take the temperature—that is, you let the thermometer remain there for anything like a quarter of an hour, and do that twice a day, or if you have any reason to suspect, do it oftener—in fact, open the hatches and do it that way, but it is better to do it through the ventilators—I think that would be better than using appliances of that sort which have electrical conditions connected with them, I suppose. What I mean to infer is that such an arrangement might lead you to neglect other precautions which you might consider yourself justified in neglecting. You might be relying upon this apparatus, which, for all you know to the contrary, might be out of order. Personally, I do not think much of these devices, because the close personal attention which you would otherwise give you would probably neglect.

166. Of course you would require a great number of them?—Yes.

167. *The Chairman.*] You would rather rely upon the regular attention to the finding of the temperatures twice a day?—Undoubtedly. In respect to taking the temperatures of the meat, we do that without any automatic apparatus. It takes a considerable time, and is done every four hours, and there are thirty or forty thermometers to take the reading of, and I think it is a far better indication than by any automatic apparatus.

168. Besides, the man is there to report on the matter?—Exactly.

JAMES HENRY NAPIER ANDERSON BURNS sworn and examined. (No. 8.)

169. *The Chairman.*] You are the manager of the New Zealand Shipping Company?—Yes.

170. You understand the reason for the setting-up of this Commission, Mr. Burns: can you give us any enlightenment on the subject?—I am afraid I cannot as to the causes. However, we take what precautions we can in regard to finding out wet wool, or rather heated wool, and we have