

experimental stage, that it had not been perfected by the patentee, and he was asking for further time before installing it.

104. In the meantime do you not think an effective brake should be put on the cars while we are waiting for the patentee to perfect that brake?—I think effective brakes should be on all the time, but it would be hardly fair to the company to ask them to install new brakes on the cars which were not tested. The tests were made principally for finding out the behaviour of the air brake. The test was favourable for the air brake.

105. Were you present at those tests?—No.

106. It was on a wet morning on College Hill, and that is about the worst possible test a brake could have on a greasy rail?—A greasy rail is the worst test you can have.

107. With reference to the evidence given before the Brakes Commission, do you remember a man coming in a cab—a man named Lowe?—Yes.

108. The union brought him in a cab and sent him home in a cab?—Yes.

109. The Commissioners were rather considerate with him in his weak state?—Yes.

110. That was one instance where a man gave evidence of an accident he received from the brakes. Do you remember another man named Jansen, where his wife came down with a doctor's certificate to say that he was too ill to come down? You recollect that?—Yes.

111. Is it within your knowledge that 150 sets of the magnetic brake have been withdrawn from the Sydney service, and the air brake substituted?—I have not heard of that.

112. Part of the finding of the Commission dealt with glass fronts, did it not?—Yes.

113. At present there are forty cars out of ninety-two which are fitted with glass fronts?—Yes.

114. That is in nineteen months. You were the engineer who had supervision over the construction of such works as the Mangaweka Viaduct and the Makatote Viaduct?—Yes.

115. Do you think it is showing superhuman diligence to get sixteen glass fronts installed or fitted in sixteen months?—No, not if the financial side of the position was adequate.

116. I suppose you are aware that the profits of the Auckland Tramway Company have not been the least in New Zealand public ventures?—Only from what I have gathered from the newspapers.

117. Outside the brakes, there has not been very excessive diligence shown in putting on the glass fronts if they have only put on forty in sixteen months?—It would not appear to be so.

118. The reason given to us was that they were short of timber. Can you imagine that in a timber district like Auckland?—Not for such a long period as that.

119. *The Chairman.*] What would you consider a reasonable time?—I think, if I were asked, I should give the company about twelve months to fit the whole of their cars. It is a work that cannot be rushed, because they can only draw one or two cars from traffic at one time to install the fronts, and to do it at a greater speed than that they would have to disorganize the traffic to a great extent.

120. What brakes do they have on the trams in Dunedin?—The same as in Wellington—the magnetic brake, the hand-brake, and the electric brake.

121. And Christchurch has the air brake in addition?—No; the Christchurch brakes consist of the hand wheel-brake, the air wheel-brake, and the electric brakes in connection with the motors.

122. *Hon. Mr. R. McKenzie.*] You stated just now that the local authorities, and I presume the Auckland Tramway Company also, take sufficient precaution to train their motormen before they take charge of the cars. What are the precautions?—A man is taken on, and he has to travel with an experienced motorman for some time—for several weeks.

123. Are you sure it is not a fortnight?—I am not sure.

124. Would you consider a fortnight sufficient?—On an easy road. I would not put a man on a difficult road after a fortnight's training. In addition they receive a training in regard to the construction of the cars in the sheds.

125. But you do not say a fortnight would be sufficient, especially if the training is limited to two hours a day or night?—That would not be sufficient.

126. Did you conduct the test made with the air brakes on the two cars in Auckland?—No.

127. Did you see the results of the tests?—Yes.

128. Were they considered satisfactory?—Satisfactory for that class of brake.

129. And satisfactory where they were tried?—Yes.

130. That was the report that came to the Department?—Yes.

131. There were seven sets of Freund brakes supposed to be ordered some time ago?—Yes.

132. Do you think it is right that the Government should allow this company to run the trams as they are doing while the tests are going on, and while a number of people are being killed and others maimed?—No; I think some definite action should have been taken before this.

133. We have had tests already with two air brakes, and they were reported satisfactory, and now we are to have tests made with the Freund brake?—As regards that particular brake.

134. The conclusion came to on the report was that the test was satisfactory with the air brake, and now we are to have the same test with the Freund brake for some indefinite period, and if that proved unsatisfactory we should have to wait another year before we got another test. Will that be the position?—Yes, practically.

135. What system have they got in Dunedin?—The same as in Wellington.

136. And in Christchurch?—The hand wheel-brake and Christenson's air brake.

137. Supposing the Government were to appoint a Royal Commission of Mr. Stuart Richardson and others, Mr. Richardson having been connected with tramway brakes for several years, and they were to say that the air brake was sufficient, do you not think the Government would be justified in demanding that those air brakes be installed within the next twelve months?—Yes.