

I have implied, that they are more efficient, having regard to the conditions existing in the city and suburbs of Auckland. I do not think I need trouble the Commission any further at this stage. I had nothing more to do than to indicate the general outline of the matter which led up to the present position.

There is just one other matter I wish to refer to: We have endeavoured to obtain independent evidence outside New Zealand, in addition to certain independent evidence which will be called in New Zealand. By "independent evidence" I mean evidence of witnesses who have no connection whatever with the Auckland tramways. Some evidence will be called in New Zealand, and at least one witness from beyond New Zealand. We endeavoured to obtain evidence from Sydney, where they have been using the air brake on most of their cars and the magnetic brake on a few of their cars. The conditions in North Sydney are very similar to the conditions in Auckland. There they have the air brake without the track brake. In Auckland the air brake which we propose to install is the National Air Brake, and in addition we shall have a track brake, which is one more than they have in Sydney. We endeavoured to arrange for one or two witnesses to come over from Sydney to give evidence here, but, unfortunately, a Mr. Brain, their Chief Engineer, has left New South Wales quite recently, in order to attend some important conference in Europe, and was unable to come over. It makes them short-handed in their service, and the Sydney Government has been unable to spare any officer to come over here. When we ascertained that, a cable was sent from here, asking, if possible, for one of their officers to make a report—one who knew something of the Auckland conditions—declare it before a notary public, and forwarded it here, so that we might hand it to the Commission. It is, I submit, of some value, because it is a report of a gentleman of experience and independence. He is a gentleman perhaps known to the Commissioners, as I understand he was for many years employed in the New Zealand Railways Department, Mr. John Kneeshaw. I have a declaration made and drafted by him, and in no sense dictated or drafted by any one connected with the Auckland Tramway Company. I ask leave to read the declaration and to hand it in as evidence, of such value as the Commission may think it worth, considering the circumstance that Mr. Kneeshaw is not himself available for examination by the Commission. He is a Traffic Superintendent in New South Wales, and says he has had considerable experience there for a number of years.

*Declaration of John Kneeshaw.*

"I, John Kneeshaw, of Sydney, in the State of New South Wales, do solemnly and sincerely declare,—

"I am the Traffic Superintendent of the New South Wales Government Tramways, which position I have held for the last fourteen and a half years. Prior to taking up the present position I had had twenty-one years' railway experience in New Zealand and New South Wales.

"I have had considerable experience in connection with brakes on tramway rolling-stock, and it is one of the questions I gave attention to when visiting the United States of America and Canada.

"When the Ocean Street, Sydney, cable line was first opened for traffic in 1894 it was operated by track and wheel brakes, actuated by levers operated by hand. With a view to relieving the strain on the gripmen air brakes operated by axle-driven compressors were installed on both the grip cars and trail cars attached thereto. As these air brakes proved so satisfactory, they were subsequently adopted on the cable line at North Sydney. On both these lines there are exceptionally severe grades—in some cases up to 10 per cent. (1 in 10). When electric trams were first operated in the City of Sydney, in 1899, four-wheeled motor-cars, each hauling a four-wheeled trail car, were used, and similar air brakes to those in operation on the cable lines were adopted—that is, "Standard" air brakes, operated by axle-driven compressors, with brakes being actuated on the wheels of both motor and trail car by one operation from the air-brake controller, manipulated by the driver. Numbers of these cars, with the original brakes, are still in use. As additional rolling-stock was introduced on lines it was decided to adopt an improved type of air brake, then known as the "Christensen," by which the air-pressure is obtained by means of a compressor operated by an independent electric motor worked by current obtained from the overhead wire, and in connection with which there is an auxiliary reservoir, with which provision was made for a sufficiency of air to operate the brakes for a number of stops after the failure of current, in the event of such a contingency arising; and the great majority of cars now operated on the Sydney tramways are fitted with brakes of this description, and give very satisfactory results.

"From time to time experiments have been made with various other types of brakes; but the only other type that was continued in service was the Newell-Westinghouse magnetic brake, of which eighty-eight equipments were fitted to cars—namely, forty-four on vehicles of the four-wheeled type, and forty-four on vehicles of the bogie type.

"Shortly after the introduction of this type of brake there was considerable dissatisfaction on the part of the staff in connection with it, as a result of which investigations were made, and from the evidence it was found that the principal grievance on the part of drivers was that they had not the same confidence in the magnetic brake as they had in the air brake. While in the case of the air brake drivers could always ascertain what air-pressure they had available, there was nothing on cars fitted with the magnetic brake to indicate whether the brake was operative or otherwise, and, owing to instances occurring in which the brake failed through various causes, the drivers evinced considerable dissatisfaction. Later the staff became more accustomed to the magnetic brake, but they are still strongly in favour of the motor-driven air brake in preference. After careful consideration it has been decided in Sydney to discontinue the use of magnetic brakes on all rolling-stock; and the brakes previously in use are now being removed, and replaced with air brakes operated by motor-driven compressors.