

Mechanical track-brake.

The use of a mechanical track-brake for the Auckland service was supported by the officers, motormen, and several expert witnesses (J. H. Brennand, page 37 A ; W. Rockland, page 41 A ; W. G. T. Goodman, page 44 A).

*Evidence relating to the Newell Electro-magnetic Combined Track and Wheel Brake.*

A number of motormen now in the employ of the Auckland Electric Tramway Company who had previously worked with the magnetic brake in Glasgow stated that they found it to be liable to failure—often to partial failure and skidding—and that they had little confidence in the brake. Further, that its use as a service brake had been prohibited, being confined to “coasting” and to emergency stops.

Evidence was also given that the equipment of the Auckland stock with this brake would involve an expenditure of from £50,000 to £60,000, and occupy a period of two years (J. H. Brennand, page 37 A ; W. G. T. Goodman, page 44 A).

Magnetic brake unsuitable for Auckland.

Mr. W. G. T. Goodman, electrical engineer and general manager, Adelaide tramways, called on behalf of the Auckland Tramway Company, stated that he had considerable experience with the magnetic brake, and was responsible for its installation on the Dunedin and on the Adelaide tramways. He had a very high opinion of the magnetic brake, but did not consider it to be the proper brake for use under all conditions. He found that at a high rate of speed very heavy currents were generated, the equipment suffered, and the brake might fail to act. If it were used for “coasting,” motors of greater capacity than that required for the propulsion of the car must be provided. He considered the brake unsuitable for Auckland conditions. At Adelaide he had restricted its use to stops from below fifteen miles per hour, and had prohibited its use when “coasting.”

Wellington evidence.

The officials of the Wellington tramways gave evidence that they were satisfied with the magnetic brake (M. Cable, page 49 W), and considered it suitable for Wellington conditions, but admitted (M. Cable, page 50 W) that instructions had been given to motormen to use this brake as little as possible, though the making of service stops with it was not prohibited.

Cases had been known of field magnets refusing to excite after car had been standing in shed, and recently there had been a good deal of flashing round commutators (H. Leah, page 54 W).

Three to twenty miles per hour was considered to be the speed-range over which the brake is effective (S. Richardson, pages 52 and 53, W).

Dunedin evidence.

At Dunedin evidence was to the effect that the magnetic brake was used for all stops, that complete failure was practically unknown, though partial failure or failure to act on the earlier notches was not uncommon ; this was attributed to the motormen misjudging the speed.

It had not been found that the motor commutators or armature windings suffered from the use of the brake.

From three to twenty miles per hour was considered to be the range of speed of effective control.

Accidents to cars.

Evidence as to accidents to cars fitted with the magnetic brake was given by F. E. de Guerrier (page 40), J. H. Brennand (page 36), M. Cable (pages 49 and 50), and E. E. Stark (page 68).

*Evidence relating to Pneumatic Wheel-brake.*

The evidence of the motormen who had been in charge of the two Auckland cars fitted with the pneumatic wheel-brake was that no trouble of any kind had been experienced by them in handling these cars. They had complete confidence in the brake, and considered that, in conjunction with the track-brake, it was eminently fitted for the Auckland service.