in the supersaturated gases which have passed through the washers tends to agglomerate and fall in the immediate neighborhood. Additional pulverised fuel fired boilers are in course of erection and these will be provided with cyclone arrestors and electrical precipitators in series, with final discharge through a chimney 300 ft. high. While this additional plant must of necessity increase the mass rate of dust emission it is not expected to increase the local deposition appreciably because the gases will be discharged in a hotter and dry condition and at a greater altitude. High chimneys for all the boilers and the substitution of electrical precipitators for the wet washers (to avoid wetting and cooling the gases) are possible solutions but cannot be realised without closing down the plant and undertaking major reconstruction.

In a second plant water sprays were fitted at the bases of the chimneys although the inspectors had recommended a dry dust arrestor. A substantial quantity of dust is brought down by this means but difficulty is being experienced because of severe corrosion of the working parts of the pumps.

"Noiseless" Bogie for Tramcars

Fitted with "noiseless" bogies of the P.C.C. type, a tramcar built by the Melbourne and Metropolitan Tramways Board has been placed in service to obtain operating experience. A full description of the tramcar was published in the September issue of "Electrical Engineer and Merchandiser," pages 180-182. The accompanying illustration shows the P.C.C. bogie which is of the B3 type supplied by the St. Louis Car Co., U.S.A. Each is provided with two 55 h.p., 300 V motors which drive through a carden shaft and hypoid gears to the axles.

Because of the special construction of the wheels no brake shoes are fitted to the tyres. Retardation of the car is effected by dynamic braking on the motors, and by drum brakes on the armature shaft. A magnetic track brake, for emergency use, is also fitted. The magnetic track brake shoes are mounted parallel to the rails between the wheels of each bogie (see illustration).

The bogies are fitted with bolsters supported at each end by large compound helical springs and supplied with a rubber internal buffer spring to take the overload. There are no side radial bearings on the bogies, the whole of the load being taken on the conical centre bearing in the bolster.

● **Tramcar bogie of P.C.C. design. This bogie is one of two used in the new "noiseless" tram recently placed in service by the Melbourne and Metropolitan Tramways Board.**