

cheaper because the steam boiler is discarded. The speed of all trains should be increased and general travel made more comfortable. The danger to property along the tracks from fire would almost be eliminated, and also the danger from fire in case of a wreck. The yearly losses from fires caused by locomotive engines is a very heavy burden for all roads to carry and any measure of relief would be welcome. The use of electricity on the train for lighting would be comfortable and cheap, and the facility of connecting the cab of a locomotive direct with a divisional despatcher, coupled with an electrically operated block system should reduce the accidents occurring to a minimum. The G.T.R. at Sarnia Tunnel have demonstrated what electrification can accomplish on heavy grades and under adverse circumstances. The New Haven, New York and Conn. R. R. for the last two years have proved what can be done in a congested district and the New York Central R.R. will soon show what can be done in the way of handling trains in the busiest terminal station on this continent, if not in the world. It is reported the New York Central will spend many millions upon this change, consequently the time is not far distant when good precedent will be established, and many places will avail themselves of the opportunity to follow suit.

If we look at the many urban trolley roads that are in successful operation, we find they have in many cases been cheaply built, the roadbeds are uneven, and in many cases follow the ups and downs of the highway they run upon. There has been no money spent in grading, even where they leave the public roads and cross the fields no great attempt is made to grade. In many cases the rail is light, and the roadbed poor.. We also find that most of them are operated from a steam power house, very few of which are up-to-date steam plants. Most of them are satisfied with a compound condensing engine plant that is reasonably efficient, using from 20 to 25 pounds of steam per h.p. per hour, and still in the face of all, these roads handle a very large passenger and freight traffic and are generally dividend earners. Their operations have been reasonably successful, and reasonably safe. Accidents upon them are few and not very expensive when they do happen. Now if we consider an electric locomotive running on one of our good railroads with first-class rails and roadbeds, double tracked and well graded with grades reduced so that steam locomotives can make fairly good time on them, it appears to me that the train movement can greatly be increased upon the same trackage at a greatly reduced cost for operation and upkeep. It is now reported that the New York Central will spend \$30,000,000 for electrification of the New York terminals and tunnels.

Chairman,—

I have no doubt you have all listened to Mr. Wickens