

with a great deal of interest. Mr. Wickens is to be complimented upon tackling such a subject as this, especially as he is not a traction man. Personally I think there has been many good points brought out.

I notice Mr. Wickens especially mentions snow trouble in connection with the operation of the electric locomotives. I would like to ask Mr. Wickens his reason for thinking the snow would interfere with the operation of the electric locomotives more than in the case of the steam locomotive.

Mr. Wickens,—

Nearly all our railroads spend a great deal of money annually for snow plows, and you often hear of a train being snowed up twenty-four hours. We have also found that the electric cars or locomotives do not seem to do as well in the snow as when they get the rail and wheel without any snow between them, and the reason I spoke of this matter is, that I think this will be one of the difficulties when we have very bad snow storms. I think it goes without saying, if I may use that term, that it is a little more difficult to handle an electric locomotive when you are troubled with sleet and snow. I do not know, however, that it will be a difficulty that cannot be overcome.

Chairman,—

I am sorry but I take a very different view of that part of the paper. I do not know of anything worse than a dead locomotive in a snow storm. Now as regards getting snow between the wheels and the rail, that will, in all likelihood, happen more frequently with the steam locomotive than with a good heavy electric locomotive. There is nothing you can do with the steam locomotive which you cannot do with the electric locomotive. Your units are not going to be tied up on the road the way they are now frequently tied up. It can be pointed out also that there has not been an instance where the electric locomotives are not running when the steam locomotives have been tied up, although a few years ago the electric locomotives were in their infancy. To-day we have devices which we had not a few years ago for cleaning the rails of snow, and there is no doubt in my mind that there will be greater improvements which will keep the lines open under all conditions.

As regards sleet on the overhead wire, that is a thing of the past. It is an undisputed fact that the tractive power of the electric locomotive is 50 per cent. greater than the steam locomotive. If the electric locomotive has the weight it can propel itself while the steam locomotive does not propel itself.