This is only a few things I have noticed as I am not brought into contact with the shoe question.

Mr. Patterson,—

In listening to the remarks of Mr. Harkom on this brake shoe question, I think he has struck the key note of the whole situation when he states the question of which brake shoes should be made is really a matter of cost to the company applying them.

I remember making a test a number of years ago (I refer particularly now to driver and tender brake shoes). The test was made between the Lappin and the ordinary grey iron brake shoes. The results as far as I remember, were that the Lappin brake shoe lasted considerably longer than the ordinary grey iron brake shoe, but that when it came to the question of comparative costs, the company were not warranted in adopting the patent brake shoe.

Other tests have been made at later periods and in fact we are now making a test of the Acme brake shoe on our road, but as the tests have not been completed yet, we have no data to give. While, perhaps, in earlier tests, the special brake shoe did not show up to advantage owing to the light power and slow speed which trains ran, at the present time with our high speed trains and heavy power, a new order of things has been brought about.

I do not think we have any shoe on the market that exceeds the ordinary grey iron shoe in braking power, but there are objections to this shoe on account of the comparative weakness of the body metal, causing rapid wear and consequeatly frequent renewals. Second, the structural weakness when in service when subjected to blows or high heating. There has been a great many different classes of brake shoes in service on different roads, but there does not appear to be any special standard adopted by any number of roads.

What we require in railway service is a brake shoe that will give a maximum service without injury to the wheel with high retarding power. It must withstand the heaviest loads of application and be capable of standing the increased rate of heating caused by the introduction of high speed brake with its increased pressure applied to the revolving wheels.

While there is no question about the high retarding power of the grey iron brake shoe, its cheapness and easy application to brake head, I am satisfied that a brake shoe with a steel insert properly fastened so as to not weaken the shoe (which is the case in a number of present designs) and with a steel back which should be properly fused on the cast iron so that it would not allow pieces to drop away from the steel back in case of breakage of the cast iron portion of shoe, would be the ideal design of shoe.