

However, I have not had much practical experience for some years past on this subject, and am not prepared to say much about it, but it seems to me the matter so far has been confined to the consideration of the driving brake shoe on the locomotive. Now on a locomotive there are from four to eight driving brake shoes, and on a fifty car train, four hundred shoes on the car wheels. In my opinion these two classes of brake shoes should be regarded from a different standpoint I think the only shoe which should be used to-day on locomotive driving wheels is a shoe which has a steel casing, which will protect the braking portions from loss in case of breakage.

The manufacture of a shoe with a steel insert is somewhat difficult. Little variations may occur in the foundry in the flow of the metal around the steel insert, and the little corners, all make points where fractures are likely to occur. As I have said before, I think there should be a steel casing to prevent the broken portions breaking away. Of course if the shoes are not properly fitted against the head, they will prove unsatisfactory and often break, and it is a pretty hard matter on a dark or stormy night to see if a shoe fits right.

Removing the face of the driving brake shoe on the part where the rail wear occurs is a good practice.

It seems to me that if any inserted material is put in a locomotive driving brake shoe it should be soft. It is desirable to put an insert into a shoe of that description, because you have work for that shoe to do, which the ordinary grey cast iron will not do.

It seems to me that the question of tire wear by brakes on the locomotive driving wheels should be looked at from one standpoint and tire wear on the wheel, which is running along and is only required to carry weight, should be looked at from another. There is no question about it, the insert shoe is more destructive to the wheel. Cast iron brake shoes will do their work very effectively, but will often break and become dangerous. If we could get a satisfactory insert in these it would prove useful where tire wear is not important.

Data should be collected which will show which class of brake shoe is the cheapest in the long run. We know for a great many years oak blocks were used as they were afraid the wheels would not be strong enough to stand the strain, but we have come to the cast iron brake shoes on stronger wheels. Of course shoes that last the longest are the best from the round-house point of view.

Now if anyone would tell us exactly what the difference in cost is, that is what it all has to come down to,—the cost of an insert shoe on a car wheel as compared with an ordinary cast iron one, and used under same conditions. When we