

knocked the heads out of those cylinders at once. In the contract for these engines they called for a pressure of 140 lbs. at the throttle and they superheated the steam 160 degrees. They had no difficulty with regard to the lubrication. They were oiled under pressure.* About 25 lbs. was the pressure used, and the oil circulated round and round. The engines had been running 18 months and they had never had a wrench on them and they were fully loaded all the time.

I do not think that any trouble should be encountered with regard to the lubrication. The great trouble, to my mind, should be with the valves. I saw some photographs in regard to the Buckeye-mobile engine, the valve of which had been running eight months, and as far as the photos were concerned the condition of the valve was perfect.

I think that the Germans are using superheated steam up to 800 degrees. In cases of this kind they do not use an ordinary valve. They have specially constructed pistons and the cylinders are made of special metal and the steam valves are two Poppett valves, so that there is no rubbing at all. In all cases where superheat is as high as that special arrangements must be made to handle the steam at this temperature.

Mr. Marshall Wright,—

I have been running one of the new superheater locomotives on the Grand Trunk and find a great saving in fuel. Instead of the fireman having to shovel coal down from the back of the tender during the 184-mile trip, we cannot get the front gates open at the end of the 184 miles.

The only trouble I find with the superheater engines is that I cannot get my train started nearly as quickly, but once I get the train started they do much better work. With the old slide valve and saturated steam I could get the train started and do far quicker work than we are able to do now. However, the saving in coal must be great. I have started out in the old days from Sarnia with eight cars and by the time we got to Hamilton the fireman would have to start shovelling the coal down from the back of the tender. Now, with the same size tender we make the 184 miles, and as I said before, are not able to open the front gates at the end of the trip.

We have on one or two occasions had a little trouble with our flues. I find that if the flues start leaking on the superheater engines, you are just about down and out, whereas with the old way you could nurse the engine along and limp in with your train. However, we have had none of this trouble for the last two months.