

first went into the matter of superheated steam missed the fact that the volume was increased.

Of course, the idea of eliminating condensation altogether is a big thing in steam engines. There are engines running to-day with the cylinder condensation amounting to 20 per cent. If you eliminate that loss you are going to get much greater efficiency.

Another thing, you take the reports from men who have been using superheated steam in Germany for ten years. They have been working at it daily and their reports have been all gradually got together and show improvements right along as far as water consumption per h.p. is concerned, and it is fair to say that if they are cutting down the water consumption there must be something in superheated steam.

For my part, I think if we have any locomotive men here who have been using engines of the superheat type after using the ordinary engines they will bear out my contention in regard to the superiority of superheated steam.

Mr. McRobert,—

Is there any means of regulating the temperature? For instance, if your steam went up to 700 degrees and the flash point of the oil was 550 degrees or 600 degrees, would the oil not burn and score your cylinders? Is there any means of regulating the temperature that would not require the constant attention of the engineer to prevent the carbonization of the cylinder oil?

Mr. Wickens,—

There is no doubt that the man buying the oil would know what temperature it would have to stand and if it flashed at 600 degrees he would not buy it.

To-day with forced oil feed it is not a difficult matter to get oil to all parts of the engine and keep every part properly lubricated without the constant attention of the engineer, therefore the matter of lubrication in regard to superheated steam I would not consider as an important factor against the scheme at all.

A short time ago I was at Smith's Falls and saw two Bettes & Morcom engines there 150 h.p. each. I forget the exact size of the cylinders. One was running 325 r.p.m. and the other 355. They run those engines with the smallest possible amount of clearance. There was only 1/32-inch between the piston and cylinder head at the top, and 1/16-inch at the bottom. If they had not been using superheated steam, the condensation under ordinary conditions would have