ject; I have some of them myself and would like to obtain the one mentioned.

Mr. Stortz,—

Mr. Chairman and Gentlemen,—I happened to have charge of the first engine, No. 705, equipped with the Walscheart valve gear on the Grand Trunk Railway. This engine was equipped for test purposes and was applied to a cross compound consolidation engine, which I consider did not give the same opportunity for a fair test as when applied to a simple engine. This test, which covered three or four years, with general repairs about every twelve months, during which time the cylinders were changed to try out piston inside admission valve in place of outside admission valve. Prior to this change it was almost impossible to ride on the engine when travelling over twenty miles per hour. After the cylinder was changed this trouble was lessened and the engine rode more smoothly.

From a point of service with this test this engine was not able to do anything that could not be done with an engine equipped with the Stephenson gear. As a matter of fact, the engine equipped with the Stephenson gear appeared to be a little better, as far as this type of locomotive is concerned. Further experience with the Walscheart gear, when applied to the simple superheated engine, will not bear out my last remark in regard to the compound engines. In fact the Walscheart gear appears to give a little better service when applied to the simple superheated engine than when equipped with the Stephenson gear. While the Walscheart gear is practically in its initial stage in Canada, it has been in service many years, as stated by Mr. Duguid's paper.

As early as 1895 I had some experience with a valve gear that was practically the same as the Walscheart on the Southern Pacific Railway. This company had 75 per cent. of their power equipped with this gear, which gave excellent service. As far as the mechanical design of this valve motion, I think Mr. Wickson has made this quite clear and I have nothing to add to his explanations. In regard to the roundhouse maintenance, the Walscheart gear is decidedly an improvement over the Stephenson gear, as there is practically no roundhouse maintenance from one general repair to another. Nuts do not work loose on the Walscheart gear, and if there are any engineers present I shall be glad if they will take note of this remark; there is more damage done by engineer's inspection of this gear than the roundhouse maintenance amounts to, caused by the engineers striking the nuts on case hardened pins breaking the ends of pins; this is unnecessary and should be