ever from the valve used with the Stephenson link. The whole difference between the two gears lies in the different mechanism for moving the valve and does not extend to the valve proper.

In the Walscheart gear the piston valve takes steam on the inside just the same as the valve with the Stephenson gear.

The ports are single and the same in both cases.

Mr. McRobert,—

Some people say that the travel of the valve is equal to twice the lap and the lead. If you measure it up with a tram you will find it is more than this due to the straightening up of the rod.

Mr. Wickson,—

Suppose that the link block is placed exactly in the centre of the link. This is connected to the radius rod and even though the link oscilates the radius rod will be perfectly stationary and will therefore transmit no motion to the valve from the eccentric rod. So long as the crosshead moves, however, the combination lever will transmit to the valve, motion equal to twice the lap and the lead and this will occur so long as the crosshead is moving provided the gear is in good order. The moment, however, that the link block is moved above or below the centre of the link, the motion from the eccentric crank is transmitted to the valve. This motion is not altogether added to or subtracted from the motion of the crosshead, but is a combination of the two.

Chairman,—

What has Mr. Saylor to say?

Mr. Saylor,—

One of the great difficulties with the Stephenson gear we experience is on account of the eccentric straps breaking, this is due to the strap wearing, also the bolts come loose which causes them to break.

The Walscheart is no doubt all right, but we have not yet had it long enough to tell much about it. However, there is one point in its favor and that is that it will be easy for the engineers to lubricate and they will also be able to look over the parts and detect any loose nuts much easier than with the Stephenson gear. In regard to the wear of it we have not had sufficient experience on the Grand Trunk as yet with this gear to determine as to its length of service.