

have the cross centres of the piston valve chambers narrower than the cylinder centres, thereby necessitating the radius bar being connected to the valve spindle by an offset rocker arm arrangement, while with the Stephenson motion all these different designs are eliminated and the same style of motion is practically suited for all classes of engines.

I have ridden on a great number of engines with both Walscheart and steam gear and, in my opinion, the Stephenson link gear is the smoothest riding engine at high speed (having none of the surging movement found with the Walscheart gear); this, I believe, is lack of proper compression at high speed.

In getting up this paper I have endeavored to give you my experience from actual observation and I hope, therefore, that the members of this Club will give it a thorough discussion and point out any points that I may be going astray on, as a discussion on any paper is generally of a great deal more interest and instructive than the paper itself and, in this way, I will learn more from the discussion than the members will learn from the reading of this paper.

Chairman,—

We have all heard Mr. Wickson read this paper, which he has done very well. I have no doubt he will be able to enlighten some of us on any points that may not be clear to us.

I will ask Mr. Sharp to speak.

Mr. Sharp,—

I am not in a position to say anything on this subject. I came here to seek knowledge in regard to the Walscheart valve gear.

Mr. Battley,—

I have been very much interested in this subject and would like to ask Mr. Wickson who the pamphlet was written by that Mr. Duguid recommended us to get in regard to this question.

Mr. Wickson,—

The pamphlet was written by Mr. C. O. Rogers, travelling engineer for the American Locomotive Co., and published by the Railway World Publishing Co., Chicago.

Mr. Battley,—

There are quite a number of articles published on this sub-