

of. So many operation sheets are treated with deserved ridicule by the men, owing to the assumption that a machine can be operated all day long at the same rate, that one single piece can be machined under the most favourable conditions of newly ground tools, and no allowance made for distorted, hard or bad castings.

While looking at this standard practice card, attention is called to the advantage of the extended use of various size chucks fastened to the regular tables of boring mills over the method of attempting to do all classes of work on the one large chuck or four independent jaws usually furnished with these machines.

And now I find, that while I have fully occupied the time allotted for the paper I have left untouched many forms of shop efficiency that we could profitably discuss, but, if I have succeeded in showing that, after all, shop efficiency is not so much a matter of modern machinery, not so much strict discipline, and not so much complex organization, although these are all very desirable, as the thorough understanding of men, I shall feel repaid for having had the temerity to appear to-night before such a distinguished body as the Central Railway and Engineering Club of Canada.

Chairman,—

Any person who has been in a Machine Shop any length of time cannot help but profit by a paper of this kind. I am a machinist myself, having served my apprenticeship of seven years in the Northern Railway Shops. I started when I was twelve and was through when I was nineteen. They do not do that now.

I was just thinking how much the methods have changed since then, and shop efficiency has been got down to a science. We started right at the bottom which was on a bolt-making machine and were transferred from one machine to another until we finally got to the large lathe where they turn locomotive driving tires, which was then conceded to be the best machine in the shop, but it is now considered a very common job, as compared with working on some of the other machines.

There were very excellent points brought out in Mr. Westbrook's paper in regard to quelling discontent among the men.

Every new machine that comes into a shop nowadays when seen by the men they say, why that machine is going to do twice as much work as the old one; some one is going to lose his job. But seldom does any one have to go, as the employer who wishes to get good results, always has room for the skilled mechanic.

I would just like to say a few words in regard to scale on