

A purchasing agent to really purchase economically, should, if he is not merely purchasing to detail specification, follow the life of the product he purchases from the time it is new until it is scrapped; he should consult everyone who has anything to do with the direct use of it; he will thus learn its good points, its bad points, its durability and its efficiency compared with other products of a similar nature. If the buyer does this he can compare value in relation to price; and then the railway, instead of having a one-man buyer, will have the entire organization as a buyer, since the knowledge and experience of the entire organization will enter into each purchase.

The first place to look for leaks in railway work and to cut them out is in the purchasing department. The only excuse for purchasing cheap and inefficient equipment and supplies is a very stringent capital account. If an organization is suffering from lack of capital one cannot hope to obtain the greatest efficiency. Private corporations are often handicapped in this way, but the average railway corporation is not.

#### POSSIBILITIES OF SAVING IN RAILWAY OPERATION AND MAINTENANCE.

The heart of this subject is reached when we discuss efficiency in the operation, maintenance, and repair of railways. This is such a big subject, that I cannot hope to more than touch it here and there. The object is to get the members interested in this subject of efficiency, because co-operation, I believe, is the backbone of efficiency, and the more railway men there are looking for ways and means of cutting out leaks, the more efficiently will railways be operated, and the more valuable to himself and to the railway will each railway man be.

A factory superintendent—an acquaintance of mine—by co-operation—that is, by getting all his foremen and even the men imbued with the idea of cutting out leaks—saved over \$12,000 a year by eliminating wastes—and that in a factory which previous to this was better organized than 95 per cent. of the factories in Canada.

#### CO-OPERATION AND SCIENTIFIC MANAGEMENT IN OBTAINING EFFICIENCY.

There is the waste of time and the waste of materials. These are separate yet closely related. "Scientific Management," or "Efficient Management," as it might well be called, will be the means of eliminating a lot of waste in railway work. In fact it is only by the adoption of the principles of scientific management in some form or other that many of the wastes so prevalent can be eliminated. On the other hand by means of a little co-operation and by the exercise of ordinary good