

which an under-feed stoker was in operation, and which for some reason or another had not been giving satisfaction. I was in the plant three weeks before I discovered what the trouble was, and I consider that, considering what the trouble was, I found it very quickly. I went over the plant very carefully and in the end I found that the valve controlling the air supply had become disconnected, and after this had been fixed the furnace was started up again and is running satisfactorily to-day. The fault was blamed on the stoker, but you can see from this that the stoker was not responsible for the trouble.

Mr. Jefferis,—

I have been listening to the discussion of this paper, and I think it is a very good one.

The discussion brings this thought to my mind, is not about 75% of the troubles in connection with steam plants caused at the commencement by not having the plants properly installed? Would it not be better for the average owner when the necessity arises for extensions or improvements in his plant to hire the services of a consulting engineer? There is a great difference between designing plants and operating them. The average operating engineer commences as a fireman, or perhaps, as a machinist or something of that kind. His time is devoted to running the engine or repairing it, and when he is called upon by his employer in connection with the extension or improvement of the plant he wants to hold his position you know, so he advises his employer to the best of his ability. Naturally he makes mistakes, his advice is often wrong and his employer possibly in consequence of this dismisses him. Now, if a consulting engineer was employed it would be far better for the operating engineer. If the installation was not put in properly he would not be to blame and if the people who were manufacturing the appliances were placed under heavier penalties so that they had to fulfil their guarantee, it would be much better for the owner, and incidentally the operating engineer. Many a good faithful man has lost his position simply because he could not explain something which really should be explained by the man who designed the plant, and I think that if the engineers who are operating these plants would suggest to their employers, when the matter of installing large units of power or increasing the plant is brought up, the advisability of engaging a specialist along that line, it would be better for all concerned. A consulting engineer would be responsible for seeing that the manufacturer fulfils his guarantee.

I believe Mr. Wickens and Mr. Kastella will bear me out when I say that 40 or 50% of the plants in operation to-day are unsatisfactory for the reasons I have mentioned.