

DISCUSSION.

Mr. W. H. German, in opening the discussion, said the subject was one that entitled it to a good deal of consideration. The numerous points involved had to be well thought out, and their relation to the subject carefully considered. It was a matter of much comment that so small an amount of power was returned for the time expended in lifting tackle. On the question of screw-jacks he would not dwell. The factor of safety seemed to him most important.

Mr. J. L. C. Rae said the author had given them a very valuable record of facts and figures on the subject he had dealt with. There was, no doubt, some factor needed in reference to the safety of lifting tackle.

Mr. E. J. Clarkson said that he personally favoured the chain blocks worked by the worm and wheel. He had tackle thoroughly examined before proceeding to lift weights above the ordinary. Jacks were in use every day, but the wedge he discarded as much as possible. He also preferred wire ropes to chains in blocks, as they gave fair notice of a break, and results in his case had been better.

Mr. J. Scoular said it must be conceded that the author's paper was a very valuable one, but he might have enlarged on his subject by introducing hydraulic tackle. We all used the old ordinary appliances, but what was required was something new, and to learn something about it. Compressed air jack apparatus should prove very useful in marine work, and perhaps the author could throw some light on the subject. He considered there was a future before air in connection with lifting gears.

Mr. R. Sinclair said engineers seemed always to neglect the subject of lifting tackle, as they only use it when it could not be dispensed with. He was of opinion that

there was no real power control over compressed air, which was against it.

Mr. H. Ross said the paper was a very valuable one on a very necessary subject. Screw lifts were considered good lifting tackle, but they were given greater efficiency than they were entitled to. The results in many cases were far from satisfactory.

Mr. Hector Kidd said the factor of safety depended upon how freely it is used and what for. Passing chains through a fire was a good method, as the blacksmith would readily detect a flaw. The paper covered a very large ground. The danger of lowering anything was much more so than in lifting, and it was always well to lower back from the winch gently and avoid risks. The efficiency of the gear would be right if well lubricated and cared for.

Mr. Jas. Shirra, in response, said he had to thank the members for the kindly remarks passed on his paper. He felt he had in reality got some information for his own benefit, and was amply justified in writing the paper. The question of friction was a very complicated one in every way. The pneumatic gear was extensively in use in England, and seemed to give general satisfaction, and should in time find its way out here in general use.
