Whitworth & Co. had supplied a number of hydraulic cranes for use in parts of Russia, where the cold is even more severe than in Canada, and that they were operating with entire satisfaction, the danger of freezing being overcome by drawing off the water from the machines when not in use or where this is not practicable by using petroleum or by treating the water with glycerine. I was told that this latter mixture is supplied as part of the equipment in the first place, and that the wastage in operation is so little as to make the cost of future supplies of glycerine negligible.

Messrs. Reyrolle & Co.

Another works visited in the Newcastle district was that of Messrs. Reyrolle & Co., makers of electric switchgear. This business was started in London 26 years ago by Mr. Reyrolle, the present proprietor, assisted by about ten employees. Here, again, we see the effect of specializing in one line of manufacture. By concentrating their attention upon the perfecting of electric switchgear, this firm has been able to establish a reputation which, for that particular line of work, is probably second to no other in the world. They now employ about 500 hands making nothing but electric switchgear, for which they obtain orders from all parts of the world. I was particularly interested to see switches in course of construction for both the Boston and Chicago Edison Companies. Messrs. Reyrolle & Co. have paid particular attention to perfecting a line of switchgear for mining work and sub-station control. This gear appears to be as near fool-proof as it is possible to make it. All the gear is made up of individual units, which are absolutely standardized,

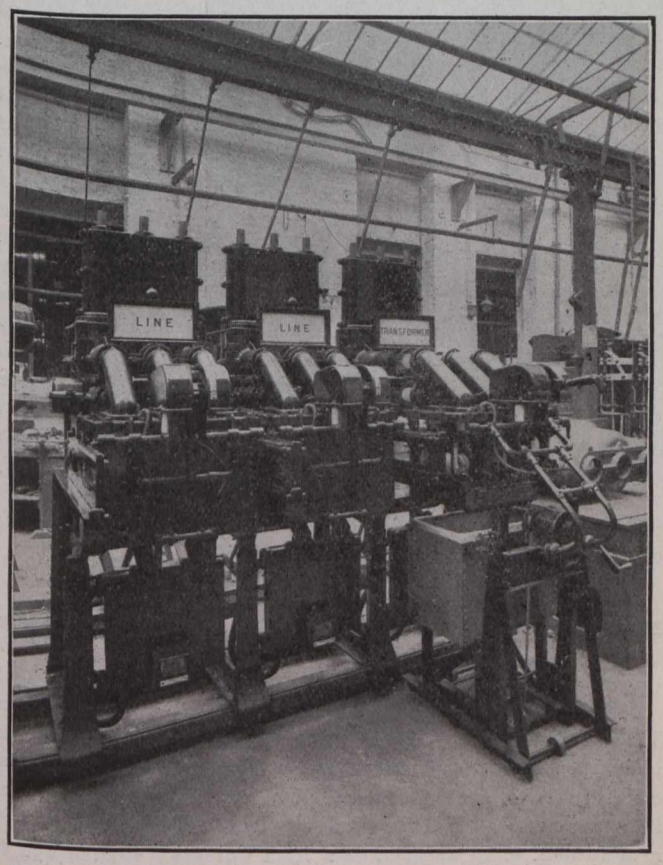

Fig. 1.—Front View of Switch Manufactured by Reyrolle & Co., for Shipment to the United States.

and can, therefore, be replaced by, or interchanged with, other units of a similar size.

Another switchgear shown on the accompanying photographs was awaiting despatch to another large American power company. The first photograph shows the front view of this switchgear with the switch controlling the transformer circuit isolated and the oil tank lowered on a truck to be supplied for this purpose. The second photograph shows the back view of the same gear.

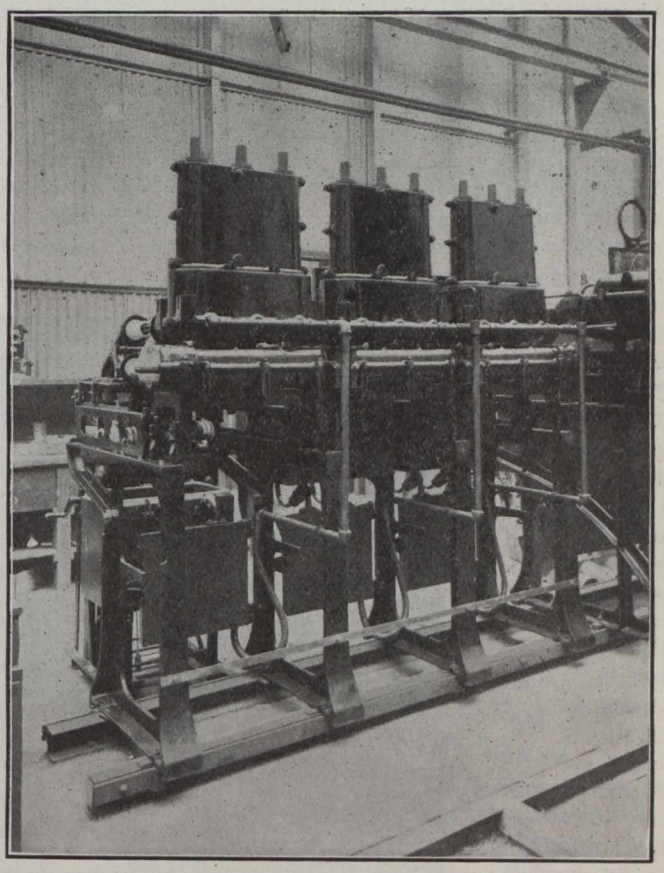

Fig. 2.—Rear View of Switch Gear Manufactured by Reyrolle & Co., for Shipment to the United States.

I was informed that this firm had installed in the Northumberland and Durham district alone about 750 similar panels. These were included in 120 sub-stations in that district and some idea as to the reliability of this gear will be gathered from the fact that the generating plant capacity of the power stations amounts to over 100,000 k.w.

Plans were in hand for power station switch panels to control generator circuits of sizes up to 12,000 k.v.a., and I have heard since that they are making the power and sub-station gear for Sheffield corporation power station at Neepsend, where 40,000 k.w. generating plant is to be installed.

Messrs. Cammel, Laird & Co.

While in Sheffield I was afforded an opportunity of going through the Cyclop Works of Messrs. Cammel, Laird & Co. Sheffield steel is synonymous with best quality steel the world over, and of all the many steel workers in that city the name of "Cammel-Laird" ranks at the top as specialists in the manufacture of high-grade steel.

The fact that they employ in their combined works at Sheffield and Birkenhead and Penistone over 16,000 workpeople, is, in itself, some indication of the enormous output from these works. The total area covered by the combined works is over 160 acres. The management are justly proud of the immense business that has been built up and is now under their charge, and I was furnished with very full information as to the history of the company and its progress since its first organization in 1837.