manufacturer will introduce an alloy of $\frac{1}{5}$ to $1\frac{1}{5}$ per cent. On this account, acid is used so repeatedly in cleaning the plates, that any particles of copper which have been rolled into the surface may be carried off. He explained his improvement to the iodine box, which consists in spreading the iodine all over the bottom of a tray lined with glass, and covering it with a piece of card-board, which becomes saturated with the fumes of the iodine, and on the silvered plate being placed over it, acts equally over its surface, instead of partially, as in the old system of placing the iodine in a mass in the centre of the tray. He had found this to be a great improvement. The shortest time in which he had obtained a photographic picture in England was 11 minutes; while, during a gloomy day in November, it took an hour and a half to procure a moderately good one.

“An Universal Screw-Jack.” By George England.

Universal
Screw-
Jack.

This machine, a model of which was presented to the Institution, is intended for raising heavy weights and moving them in any required direction; the vertical motion is similar to that of a common screw-lifting jack, and the lateral motion is communicated by a ratchet lever to a horizontal screw, working in bearings on a strong cast-iron bed with planed surfaces through a double nut attached to the base of the jack. The jack has been found useful for erecting heavy pieces of machinery, and for replacing railway carriages and locomotives on the rails when they have been accidentally thrown off.

“Description of a Traversing Screw-Jack.” By W. J. Curtis.

Railway
Screw-
Jack.

The screw-jack is attached to a plank with a rack in it, and slides in a groove in another plank which is placed beneath it, across the railway; in the lower plank is a rack, by means of which and a hooked lever, the jack, with the engine or any other weight resting upon it, is drawn easily across the rails and lowered to its proper position. By this apparatus, engines and carriages of considerable weight have been replaced on a railway by two men in a very short space of time.

A model of the machine was presented to the Institution.