homogeneous structure. It has been submitted to competent judges, and pronounced to be of very superior quality, worth, at the least, from 5*l.* 10*s.* to 6*l.* per ton; and we are given to understand that iron of a much higher value can be produced by the process of Sir Francis. He is already favorably known by his applications of chemistry to this branch of metallurgy, and we augur well for the fortunes of the firm which acknowledges as its head a gentleman so intimately acquainted with every branch of science essential to its success. Preparations are, we understand, in progress for the erection of large blast-furnaces, and an extensive trade in charcoal, iron, and steel; and we congratulate the county of Devon on the prospect which this new development of its vast industrial resources opens up to its fortunate possessors. We are informed that Sir Francis Knowles will be able, by his processes (which are secured by patent), to produce every variety of iron and steel of the finest quality, so as to render Great Britain quite independent of foreign countries for those important raw materials of manufacture.—*Mining Journal.*

BACK GROUND,

TRANSPARENT OR INVISIBLE.

Take a large woolen blanket with long nap, the longer and rougher it is the finer will be the effect produced, stretch it on a frame of sufficient size, and suspend the frame at the centre of the upper end by a string fastened to a nail in the ceiling, from three to five feet back of the sitter. Having arranged this, fasten another string to the side of the frame, and while the operation is going on in the camera, swing the back-ground from right to left, continuing this during the whole time of sitting, and you have a clear, "transparent" back-ground, which throws the image out in bold relief, and renders the surface of the plate invisible. If equalled at all it is only by atmospheric back-ground. We consider it to be the best ever known, and think it needs but to be tried to afford satisfactory proof that it is so. Although used by few before, since the first edition of this work at least two-thirds of the artists have adopted its use; for any one can at once understand the principle and the effect which it produces. —*System of Photography*, 1849.

We find, in one of the foreign Magazines for 1843, a notice of a curious application of photogenic drawing. It says, "We have just heard of a curious and interesting practical application of a recent scientific discovery, which will somewhat startle our readers. The Chinese treaty was copied by the photographic process of Mr. Fox Talbot, and the copy so made, for the sake of securing perfect accuracy, is now deposited among the State papers."—Strange for the past, but not now.

SAND CLOCK.

The sand clock will be found a very convenient addition to the paraphernalia of the Daguerreian. By its aid he will be enabled to keep the exact time, with less trouble attendant than while using a watch. Mr. Constable, of England, is the inventor of this clock, and one can easily be made with but very little trouble. The following is the arrangement, as given by Mr. C. It consists of a glass tube about twelve inches long by one in diameter, half filled with fine sand, similar to that used for the ordinary minute glasses, and, like them, it has a diaphragm with a small hole in the centre, through which the sand runs. The tube is attached to a board, which revolves on a centre pin; on the side is a graduate scale, divided into half seconds: the tube is also provided with a movable index.

This instrument is attached, in a conspicuous place to the wall. The glass tube being revolved on its centre, the index is set to the number of half seconds required, and the sand coming down, the required time is marked without the possibility of error. We have used the minute glass, and found it very convenient.