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Letters Patent No. 98,354, dated December 28, 1869.

IMPROVEMENT IN PLATING IRON FOR THE MANUFACTURE OF HINGES, &c.

The Schedule referred to in these Letters Patent and making part of the same

We, JOHN J. CROOKE, of Southfield, in the county of Richmond, and State of New York, and LEWIS CROOKE, of the city, county, and State of New York, have invented certain Improvements in Plating Rough Metals for Hinges, and other purposes, of which the following is a specification.

Nature and Object of the Invention.

Our invention relates, more particularly, to plating or depositing a coating of finer metal upon rough plates of iron, for hinges, and consists in, first, subjecting the iron to the pickling-process in diluted acid; second, coating it with tin, or similar metal, by dipping it in the melted metal, or otherwise; third, rolling it, with sufficient pressure, to bring the tin, or other soft metal, to an even surface; and, fourth, depositing the metal, required to form the finished surface, by a battery.

General Description.

In carrying our invention into effect, we first take plates of ordinary plate-iron, such as is commonly used for hinges, and remove the scale, by subjecting it to the action of a bath of diluted acid, or, in other words, to what is known as the pickling-process, so as to leave a clean surface, on which tin can be readily deposited, and to which it will adhere.

These plates being thus prepared, we then dip them in a bath of melted tin, or any of the soft alloys of tin, which covers them with a rough coating of tin, or the aforesaid alloys.

We then pass those plates, thus covered or coated, between highly-polished rollers, under sufficient pressure to give an even surface to the softer metal, or alloy, with which it is covered, but not sufficient to effect the character of the iron, and unfit it for bending into shape, or other operations which may be required to complete its manufacture.

The plates are then made into hinges, or whatever they are to be manufactured into, and such parts as may have been made rough by such manipulation may then be restored, by burnishing, or otherwise.

The hinges, or other articles, are then coated, by the battery-process, with the metal with which they

are to be coated, to form the external surface, and may afterward be burnished, or not, as may suit the wants of the trade, and the taste of the manufacturer.

For the outside surface of but-hinges, we prefer a plating of pure nickel, though silver, or any other metal, may be used.

We are aware that pickling iron, or other metal, to prepare it to receive a coating of tin or soft metal, is a common process, and we do not claim that there is anything new in plating upon a coating of tin, nor in applying the plating-metal by means of a battery.

Generally, however, rough metals, for nice work, have been prepared for plating, by finishing them by filing, or grinding and polishing, or other equivalent means.

Those processes are, however, too expensive to be employed generally in the manufacture of hinges, while, by the process we have described, an iron hinge, handsomely plated, and having the advantage of the strength of iron, combined with the beauty of a nickel surface, can be furnished as cheaply as a brass hinge of the same size.

In our process, after the metal has been pickled, and coated with tin, the necessary evenness of surface is given by the rolling-process, above mentioned, which gives an even surface to the tin, without at all injuring the iron for the further process to which it must be subjected.

Claim.

We claim—

Plating metals, by the process described, that is to say, by first subjecting the rough metal to the pickling-process, then coating it with tin, or other soft metal, suitable to form a foundation for plating, then rolling the metal, to produce an even surface of the tin, or its equivalent, and then applying the plating-metal, substantially as hereinbefore set forth.

JOHN J. CROOKE.
LEWIS CROOKE.

Witnesses:

THOS. P. How,
L. W. How.