United States Patent Office.

T. K. BOLTON, OF CLEVELAND, OHIO, EXECUTOR OF SAMUEL H. KIMBALL, DECEASED.

Letters Patent No. 88,182, *dated March* 23, 1869.

IMPROVED PROCESS OF MANUFACTURING SHEET-IRON.

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

To all whom it may concern:

Be it known that SAMUEL H. KIMBALL, late of Cleveland, county of Cuyahoga, and State of Ohio, did, in his lifetime, invent and discover a new and useful Process by which to Make Sheet-Iron, of the quality and finish known as Russia sheet-iron; and I hereby declare that the following is a clear and exact description of said process, as detailed by him previous to his death.

This invention relates to the production of an improved quality of sheet iron; and

It consists in the process of making the same, as will be more fully described hereafter.

In the manufacture of this iron, take blooms which have been made from Lake Superior, or any other suitable ore, and treat it in the usual manner adapted for converting it into refined-iron bars, after which it is to be rolled into sheets of the required dimensions for the market.

After the iron has been converted into sheets, as above described, it is to be placed in a bath of clear, pure water, by being placed in a vat for that purpose, or in any other suitable manner, surrounding it with such water, where it is to be allowed to remain until its surface becomes oxidized, when the surface of the sheets is to be rubbed, while in the water, or immediately after having been removed therefrom, with a whetstone, or other suitable material, until the oxide is entirely removed.

After again heating the sheets, put them in packs, of not exceeding six sheets, and roll them again. This produces the peculiar appearance of seeming hammer-marks, as seen in Russia sheet-iron. Continue to scale the sheets, as above described, as long as it may be necessary, then roll the single sheets in cold rollers until sufficiently smooth and polished, when they are in a condition to receive the lacquer.

There are various kinds of lacquer which may be used for smearing the surface of the sheets, but the kind preferred is composed of the following ingredients, and in about the following proportions:

One pint of muriatic acid; two ounces of corroded lead; one quart of filtered, or pure water; lamp-black sufficient to make the compound of the consistency of thin starch.

The above lacquer is to be applied to the surfaces of the sheets while they are slightly warm, and may be laid on with a brush, or in any other manner that will give an even coat to such surfaces.

After the lacquer has been applied, it is to be allowed to remain until sufficiently dry, when the sheets are to be again rolled, and the lacquer again applied, and the sheets rolled again. When this process is completed, the sheets are ready for the enamel.

The enamel, as above referred to, is to be applied as the lacquer, with a brush, or other material, and is compounded in the following manner:

One ounce of arsenic; two ounces of gum-arabic; one quart of filtered water; two-thirds of one quart of alcohol.

When the enamel is sufficiently dry, roll until the sheets become slightly warm, then enamel again, and roll the single sheets until finished.

Having thus described the invention,

What I claim, and desire to secure by Letters Patent, is—

The within-described process, for the manufacture of sheet-iron.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

T. K. BOLTON,
As Executor of S. H. Kimball's Estate.

Witnesses:
CHAS. H. ROBINSON,
EARL BUR.