

United States Patent Office.

HIRAM TUCKER, OF NEWTON, MASSACHUSETTS.

Letters Patent No. 90,894, dated June 1, 1869.

IMPROVEMENT IN ELECTRO-PLATING AND GILDING CAST-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 I, HIRAM TUCKER, of Newton, in the county of Middlesex, and State of Massachusetts, have invented an Improvement in Electro-Gilding and Plating of Cast-Iron; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

My present improvement relates to coloring the surfaces of cast-iron articles, in whole or in part, in imitation of other metals, for the ornamentation thereof, said other metals being applied by the electro-metallurgic process.

In making such application of electro-deposited metals, it is impossible to produce a deposit which will be enduring, provided the deposited metal is unprotected, without making the deposit of such thickness as will make its application expensive, either in time or cost, or both; and the object of my improvement is to provide a means for protecting on articles of cast-iron, a very thin coat, or a mere blush of electro-deposited metal, sufficient only to give to the cast-iron the color and appearance of the metal deposited thereon, so that the surfaces of the cast-iron may be inexpensively ornamented, or surfaced with a coating that shall practically have the same value as a deposit thick enough in itself to be proof against injury from contact or from atmospheric influences.

My improvement consists in coating surfaces of cast-iron articles by first electro-depositing the metal which is to be presented to the eye in the finished article, either directly on the cast-iron, or on a foil laid thereon, or on a sub-coating of electro-deposited metal, the outer electro-deposit being only thick enough for a

covering, giving the color and appearance of the metal which is electro-deposited, and then covering the outer electro-deposit with a varnish, preferably using a copal-varnish, or a varnish having an oil base.

In practising my invention, I first smooth or polish, preferably by grinding, the parts of the cast-iron to be electro-coated. If a sub-layer of metal is used, it is applied to said surfaces, either as a foil or as an electro-deposit, on which the outside coating of metal is electro-deposited; but usually the show-coat of metal is to be deposited directly on the smooth or polished surface of the cast-iron, and then the show-coating of deposited metal, in either case, is to be varnished.

The varnish when skilfully applied does not materially detract from the appearance of the show-coating, and affords an impermeable transparent coating, which acts as a perfect preservative or guard to the show-coat of deposited metal against oxidation or discoloration, either of the show-coating or of the metal base beneath.

Most commonly, gold will be the metal to be deposited to form the show-coating, but in some instances cheaper metals will be used, especially to form contrasts.

I claim the improvement in surfacing cast-iron articles, by show-coating them with a thin electro-deposit, and varnishing the same, substantially as described.

Also, cast-iron articles, having a thin show-coat of deposited metal protected by varnish, substantially as described.

HIRAM TUCKER.

Witnesses:

FRANCIS GOULD,

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