UNITED STATES PATENT OFFICE.

ALFRED N. HOPKINS, OF BIRMINGHAM, AND GEORGE HATTON, OF HAGLEY, ENGLAND.

PROCESS OF ORNAMENTING SURFACES OF TIN-PLATE AND OTHER SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 286,823, dated October 16, 1883.

Application filed May 22, 1883. (No specimens.) Patented in England October 1, 1881, No. 4,252, and in France February 23, 1882, No. 147,520.

To all whom it may concern:

Be it known that we, ALFRED NIND HOPKINS, residing at Birmingham, England, and GEORGE HATTON, residing at Hagley, England, both subjects of the Queen of Great Britain, have invented certain new and useful Improvements in the Process of Ornamenting Surfaces of Tin-Plate and other Sheet Metal, and of articles made therefrom, applicable also to the ornamentation of other surfaces of metal, (for which we have received Letters Patent in England, No. 4,252, dated October 1, 1881, and in France, No. 147,520, dated February 23, 1882;) and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention consists in methods of producing designs or patterns upon surfaces of tin-plate and other sheet metal, and of producing designs or patterns upon articles made from tin-plate and other sheet metal, and upon other surfaces of metal, the operation being performed in such a manner that the design or pattern has the appearance of metal-work inlaid within a groundwork of japan, varnish, lacquer, enamel, or other suitable permanent material.

We produce the design upon tin-plate or other sheet metal, or upon articles made therefrom, or upon other surfaces of metal, in glycerine, or gum and sugar, or glue and treacle, or other suitable material, by penciling the same on by hand, or printing from lithographic stones, copper, or steel plates or rollers, or plates of zinc or other metal, (besides the metals mentioned,) or india-rubber stamps or wood blocks. We then coat the whole surface to be decorated with the groundwork material, (japan, color, lacquer, &c.,) and immediately wash with hot water, which dissolves the glycerine or other material in which the design was first formed, and consequently at the same time removes that portion of the groundwork material which lies upon the said glycerine or other material in which the design was first formed. The metal surface thus left bare now forms the design through the groundwork of japan or other material. The tin-plate, metal sheet, or other article, as aforesaid, is then stoved, in order to harden the japan or other groundwork, and the surface may, if desired, be further covered with different-colored lacquers or otherwise dealt with. If desired, nickel or other metal may be deposited on the pattern by the electro or other suitable process.

For the groundwork material referred to in this specification, the varnish we prefer to employ is known in the trade as "gold stoving varnish," and is used in the ordinary way to make the color forming the groundwork.

Having thus stated the nature of our said invention and particularly described and ascertained the manner of performing the same, we declare that what we claim as our invention, and desire to secure by Letters Patent, is—

The herein-described method of producing designs upon tin-plate and other sheet metal, and upon articles made therefrom, and upon other surfaces of metal, by first marking the pattern on the said tin-plate, metal sheet, or article made therefrom, or other surface of metal, in a material capable of being dissolved in water, then covering the whole surface to be decorated with the material to form the groundwork of the design, and afterward removing the groundwork material lying upon the pattern by dissolving in water the material in which the pattern was marked, and finally stoving in the usual manner, substantially as herein described, and for the purpose set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

ALFRED NIND HOPKINS.
GEORGE HATTON.

Witnesses:
THOMAS MARSTON,
GEORGE H. GOODMAN.