

UNITED STATES PATENT OFFICE.

NATHANIEL L. BRADLEY, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE
BRADLEY & HUBBARD MANUFACTURING COMPANY, OF SAME PLACE.

PROCESS OF FINISHING METAL.

SPECIFICATION forming part of Letters Patent No. 516,469, dated March 13, 1894.

Application filed January 8, 1894. Serial No. 496,115. (No specimens.)

To all whom it may concern:

Be it known that I, NATHANIEL L. BRADLEY, of Meriden, in the county of New Haven and State of Connecticut, have invented a
5 new Improvement in Processes of Finishing Metals; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improved process for finishing metals in imitation of the antique, the object being to produce an attractive, durable and rich finish in great
10 variety of effect, inasmuch as no two pieces are just alike, though all have the same general character.

In carrying out my invention, which is applicable to cast or sheet metal of any description, I first spatter the surface to be finished with a liquid composition, not attacked
20 by the acid to be subsequently employed. The spattering of this liquid may be done by a brush, or in any other manner which may be found to be effective. I have found the article known commercially as japan to be
25 well suited to this step in the process, but do not limit myself to its use. After the metal has been spattered, it is preferably baked to harden the japan, or other liquid, for the purpose of drying the same quickly, but it may
30 be dried in the open air just as well if time be given. After the japan has been well dried, I subject the spattered surface to the action of an acid, such as nitric acid. The acid will eat away the surface of the metal
35 wherever the same is exposed between the spattered japan. Then after the metal has been eaten sufficiently deep, the treated surface is cleaned so as to remove all of the acid, and also the japan. The surface will now be
40 found to be filled with irregular depressions located below its original surface, which will now form, as it were, salient points, though flat. The depressed portions of the surface are then filled in with a pigment of any desired
45 color. Then the salient points of the metal are covered with pigment of a different color, which is kept away from the pigment filling the depressions. By preference the whole surface is then finished. For that purpose I may employ a composition containing

a large percentage of wax, which gives the completed surface a soft effect, or I may use a varnish.

It will be clear that no two pieces of metal finished by my improved process can be alike,
55 inasmuch as two pieces can never be spattered alike. By making the spattering light or heavy, great variety of pleasing effects may be secured. The effect of the finished metal is that of a metal corroded by the action of time.

The finished metal may be used in a great variety of forms or designs and for a great variety of purposes and is particularly adapted for use in lamps and fancy articles.
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I would have it understood that I do not limit myself to treating any particular metal, nor to employing any particular spattering liquid nor acid, nor pigment, nor to applying the pigment by any particular means, but
70 hold myself at liberty to make such changes and variations in the process described as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what
75 I claim as new, and desire to secure by Letters Patent, is—

A process of finishing metals in imitation of the antique, consisting in first spattering the surface to be finished with a liquid composition of a character not attacked by the acid subsequently employed, then subjecting the surface so spattered to the action of an acid which will eat away the unspattered portions of the metal, then cleaning the metal to
80 remove the acid and the spattered material, then filling in the depressions formed by the action of the acid with a pigment, and then applying pigment of another color to the salient points or remaining portions of the original surface of the metal, substantially as described.
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In testimony whereof I have signed this specification in presence of two subscribing witnesses.

NATHANIEL L. BRADLEY.

Witnesses:

W. A. HALL,

H. A. W. PRUGEMANN.