

No. 707,306.

Patented Aug. 19, 1902.

J. A. DALY.

METHOD OF ELECTRODEPOSITING METAL ON LACE.

(Application filed Oct. 18, 1901.)

(No Model.)

Fig. 1.

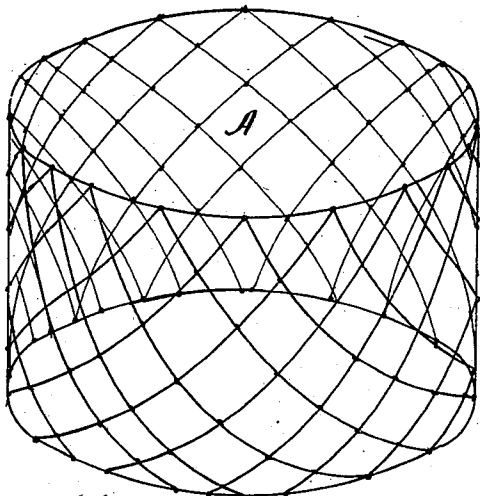


Fig. 2.

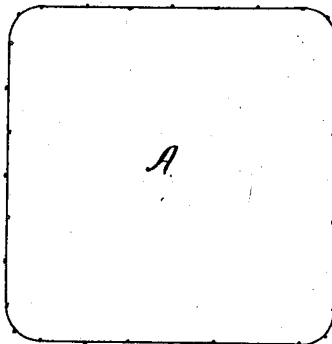


Fig. 3.



Fig. 5.

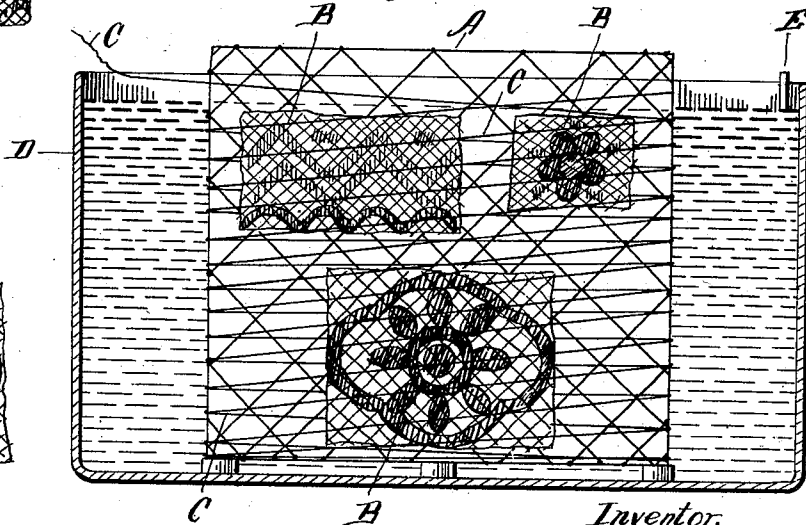
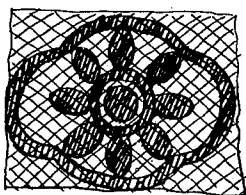


Fig. 4.



Witnesses.

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METHOD OF ELECTRODEPOSITING METAL ON LACE.

SPECIFICATION forming part of Letters Patent No. 707,306, dated August 19, 1902.

Application filed October 15, 1901. Serial No. 78,735. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN ANDREW DALY, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Methods of Electrodepositing Metal on Lace, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to the method of electrodepositing metal on lace, leather, and other flexible material.

Heretofore it has been customary to cast or cover lace or other flexible material with metal—such as copper, silver, gold, or alloy—by first providing the lace or other material with a surface conductor. Black-lead is a conductor of electricity; but as it is not a metal and does not become adherent to a subsequent electrodeposit it is preferred that the lace or like article be covered by a bronze or metallic coating held on by an adhesive gum or varnish or otherwise, as found advisable. Lace so coated has generally been stretched in a frame and a number of wires connected to the body of the lace, so that when immersed in the electroplater's bath the electrodeposit may start at several points and cover the surface evenly. If metallic connection is made at only a few points, the metallic deposit is apt to be uneven, for reasons obvious to the electroplater.

In my present improvement I take the articles of lace or other flexible material and cover the surface thereof with an electrical conductor in any usual manner. Thus I may rub powdered graphite into the threads of the lace or cover the surface of the flexible non-conducting article with graphite in any suitable manner; or I may cover the lace or other flexible material with an adhesive varnish and then sift or apply a fine bronze or similar metallic powder; or I may apply to the lace a coating of nitrate of silver, as has been practiced, to give such material a surface which is a conductor of electricity. I prepare an open-work wire basket, preferably, but not necessarily, of cylindrical form and of a metal which is a good conductor of electricity. Instead of stretching the lace in a frame after it has been surface-coated with an electrical conductor I lay the lace on the wire basket or form and wind a fine metallic

wire round and round the basket and form and the lace thereon. This I find can be done much more quickly than the material can be stretched and wired in a frame.

Figure 1 is a perspective view of a wire basket, grating, or form. Fig. 2 is an end view of a polygonal form. Figs. 3 and 4 are plans supposed to represent pieces of lace. Fig. 5 shows a section of a plating-tank and an elevation of a wire basket therein, the wire basket having pieces of lace held thereon by wires coiled about the same.

A indicates an open-work basket or form composed, preferably, of copper wire.

B B indicate pieces of lace or other flexible material having the surface or such parts as are to receive a metal deposit coated with an electrical conductor, as has been explained.

C denotes a fine copper wire, which may be coiled round and round the basket A and the pieces B thereon. This will hold the pieces B extended, and the wires of the basket A, as well as the wire C, will come in contact with the lace or fabric at a great many points.

The wire C has contact with the wires of basket A above and below the basket and at other points, so that for purposes of conductivity the basket is a continuation of wire C. The wire basket, with the flexible articles wired thereon, is then placed in the usual plating vat or tank D, the liquid in the tank extending above the articles to be plated. Battery connections are then made in usual manner to the wire C and the conductor E, which enters the tank, and the work of electrodeposition begins. As the articles B are touched by the conductors A C at many points, the deposit of metal begins at each of these points and proceeds with great rapidity. A very few minutes serves to secure a deposit sufficient to give stiffness to the articles B. The basket and its articles are then removed from the tank or plating-trough and the wire C uncoiled. If left too long in the vat, the wire will be soldered to the articles and the work thus destroyed. A slight stiffening deposit of metal having been made on the article or articles B, these can then be suspended from metallic hooks or clips and returned to the bath or immersed in a second bath, where the electrodeposit of metal may continue as

long as desirable. By binding the materials directly to the wire basket or form as described I save more than ninety per cent. of the time required to prepare such articles for the electro-bath in the usual way. I am enabled to
5 secure a fine quality of work by coiling the wire C closely when the work is very open and at greater distance where the work is close, as the electrodeposit is much slower on
10 open-work than on compactly knitted or netted lace.

Modifications of my device will readily suggest themselves to persons familiar with the art of electroplating.

15 What I claim is—

1. The method of electrodepositing metal on lace and other flexible articles, which consists in preparing the surface of the flexible article to be coated with an electrical con-

ductor, then binding the article to an open- 20 work metallic base by coils of wire having metallic connection to said base, then immersing in a plating-tank for a primary deposit, then removing the wire and base and completing the deposit in usual manner. 25

2. The method of electroplating metal on lace, which consists in preparing the surface of the lace with an electrical conductor, holding the lace in extended position between wires and making a slight electrodeposit there- 30 on, then removing the wires and completing the deposit in usual manner.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN ANDREW DALY.

Witnesses:

M. J. LOTT,
CHAS. E. HUNTER.