

# UNITED STATES PATENT OFFICE.

ROBERT LANHAM, OF LONDON, ENGLAND.

## MANUFACTURE OF PRINTING-SURFACES FROM LACE OR SIMILAR WORK.

SPECIFICATION forming part of Letters Patent No. 306,625, dated October 14, 1884.

Application filed February 19, 1884. (No specimens.) Patented in England July 28, 1883, No. 3,707, and in Belgium February 15, 1884, No. 63,994.

*To all whom it may concern:*

Be it known that I, ROBERT LANHAM, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements in the Manufacture of Printing-Surfaces from Lace, Embroidery, or Similar Work, (for which I have obtained a patent in Great Britain, No. 3,707, bearing date July 28, 1883,) of which the following is a specification.

My invention relates to the manufacture of plates or molds for use in obtaining upon paper, leather, or other material impressions, imitations, or fac-similes of lace, embroidery, or other work having raised or sunk portions.

In order to enable those skilled in the art to practice my invention, I will now proceed to describe the same in detail.

To obtain plates for printing and embossing patterns or designs of very fine and costly lace upon paper or other material, I prefer to employ the following process—that is to say: I first saturate the lace with a fine solution of plumbago and allow it to dry, and I then shake the lace to free the same from any superfluous plumbago which may adhere thereto. After the lace is thus prepared, I put a coating of size, paste, or gum on a piece of non-absorbent paper and lay the lace with its back downward upon the said paper while the same is moist. I then apply pressure evenly or uniformly upon the whole face of the lace, so that the back thereof will be coated with the size, paste, or gum. The lace is then quickly raised and placed with its back downward upon a polished metal slab or plate which has been previously coated with plumbago. I then place a frame around the pattern to be reproduced and pour melted wax into the said frame, using great caution in order to prevent the formation of air-bubbles. When the melted wax has set, I remove the lace from the said wax and produce an electrotype in cameo or relief from the wax mold thus formed, in order to obtain a matrix. After the said matrix has been thus obtained, it is "backed up" with metal, and another electrotype is taken therefrom, in order to obtain the sunken or intaglio plate for embossing and printing. I prefer the above method of making the wax mold; but

a mold can, if desired, be obtained by forcing the lace into the wax by pressure. Great care must be taken in separating the said sunken or intaglio plate or electrotype from the matrix. I find that the best result is obtained by melting the backing from the matrix and then backing up the said sunken plate to prevent twisting or warping of the same, and to strengthen the said plate and permit the matrix to be easily peeled off or removed from the face thereof.

For lace which is very much raised and has a pattern which "overhangs"—that is to say, one part of which overlaps another—I proceed as follows, viz: I lubricate the lace and lay it with its back downward on a very smooth polished metal slab or plate. I then place a beveled frame around the said lace to form a box, and pour very finely-mixed plaster-of-paris into the said box and work it over the face of the lace with a camel's-hair brush or otherwise, so that the plaster will fill up all the interstices of the lace and exclude air. I then fill up with the plaster to the top of the frame and draw a straight-edge across the same, in order to give the back of the plaster mold an even surface. When the plaster is sufficiently set, but before it is thoroughly dry or hard, I turn over the frame with the plaster therein. The lace will then be found embedded in the face of the said plaster. I then very carefully raise the lace from the plaster, beginning at one corner. It will be found that the overhanging parts of the mold will rise with it. After this I allow the mold to thoroughly set and bake it in the usual manner and cast a plate from it, as above explained, which plate I use as a matrix. I then produce an electrotype-plate directly from this matrix, which plate can be used for printing or embossing.

In using the plates obtained as above described I prefer to print and emboss at one operation.

It is obvious that I may apply my invention to other materials or work than lace or embroidery—for example, to fabrics upon which a pattern in relief is formed by weaving or otherwise.

What I claim is—

1. The method herein described of producing fac-simile copies of lace and other ornamental fabrics, which consists in lubricating the back of such fabric, laying the lubricated back on a smooth surface, making an impression of the fabric by pouring melted wax thereon, producing an electrotype from the wax mold to obtain a matrix, and then obtaining a printing or embossing plate from such matrix, substantially as described.
2. The method herein described of manufacturing plates for obtaining fac-simile copies of lace, embroidery, and like ornamental fabric, which consists in coating the back side of the fabric with a lubricant, laying such lubricated

side out on a smooth surface, producing an imitation of the fabric by applying a soft or plastic substance thereon, taking an electrotype from the soft or plastic mold to obtain a matrix, and finally obtaining the printing or 20 embossing plate from such matrix, substantially as set forth.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ROBERT LANHAM.

Witnesses:

DAVID YOUNG,  
JOHN E. BOUSFIELD.