(Model.)

W. F. WEBER.

METHOD OF MAKING DIES.

No. 270,866. Patented Jan. 16, 1883.

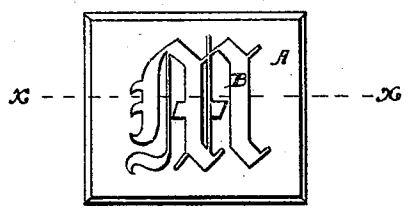
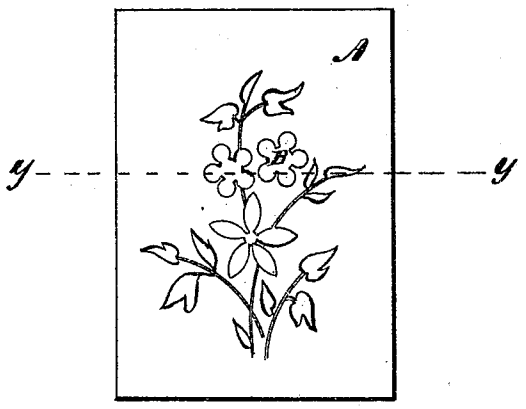


Fig. 1.



Fig. 2.

Fig. 3.



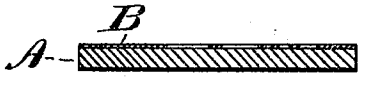


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM F. WEBER, OF NEWARK, NEW JERSEY.

METHOD OF MAKING DIES.

SPECIFICATION forming part of Letters Patent No. 270,866, dated January 16, 1883.

Application filed August 30, 1882. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM F. WEBER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Method of Making Dies; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates more especially to the peculiar method of making the dies, the object being to secure a more perfect die and at a less cost than is possible by the old process of chasing and cutting by hand.

The invention will be fully understood by reference to the accompanying drawings and description, and will be finally pointed out in the claim.

In the drawings, Figure 1 represents a plan view of the die having a raised letter or ornament thereon; Fig. 2, a section of the same on line *x;* Fig. 3, a plan of the die having a sunk-in ornament, and Fig. 4 a section of same through line *y*.

Similar letters of reference indicate like parts in each of the several figures.

In carrying out my invention it is of the first importance in some cases, as in the inlaying or embossing celluloid or other plastic or semi-plastic material, that the depth or height of the sunken or raised figure should be perfectly uniform, and the sunk-in surface be perfectly smooth and even—results which by the old process of cutting or chasing are practically impossible to attain, but which by my improved method are secured without the slightest difficulty.

In making the dies I use two plates, A and B, one of which, A, may be termed the "base-plate," the design being cut through or taken from the other, B, which is subsequently soldered fast permanently to the base-plate, leaving the design sunk in or raised thereon, as the case may be. The thickness of the plate or sheet B should be exactly equal to the desired depth of the sunken design or the required or desired height of the raised design, the object of which will be hereinafter explained.

The dies may be made in a flat, circular, or other form. The plate constituting the base—in fact, both plates—should, as already intimated, have a perfectly-smooth surface, unless, indeed, a roughened figure or background be required, when, as a matter of course, the said plates may be prepared accordingly.

The design is first outlined upon the surface of the thinner plate B, which plate, if the design is to be sunk in the die, should be, as above stated, equal in thickness to the desired depth of the design. When outlined the design is nicely pierced or cut out with a saw, and the edges or sides thereof made perfectly true and clean, after which the design or plate is flattened out between heated steel plates, if required, and soldered or otherwise firmly fastened upon the surface of the base-plate A, which latter may be of any required thickness, thus forming a solid and compact die. Very fine lines—such, for example, as to indicate the shading of the figures, flowers, leaves, &c.—may, if desired, be cut or hammered in after the plate has been soldered to the base-plate.

It will be of advantage, in order to facilitate the removal of the article from the dies, or vice versa, after making an impression, to have the edges or sides of the design slightly beveled, as will be understood.

In cases where the design is required to be only very slightly raised or sunk, the face-plate may be cemented to the back or base plate and the design cut thereon subsequently by an engraver's or other tool.

If the dies be made of copper, brass, or composition, and are to be used where a very heavy pressure is required, they may be embedded in an iron plate or block to prevent the softer metal from expanding or spreading.

The old way of making dies by cutting or chasing by hand is very slow, tedious, and expensive, and more especially so when the ornament or design is cut in relief, in which case the background has all to be cut away and hammered.

The dies may be applied to a variety of uses other than those already named, such as embossing upon leather, cloth, or other soft as well as hard material, and for book-binders' purposes, as will be readily understood.

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

A die composed of two plates of metal firmly united together, one of which forms the back or base and the other the design or ornament of the die, said design being cut through or from the face-plate before it is united to the back or base plate, as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of August, 1882.

WILLIAM F. WEBER.

Witnesses:
OLIVER DRAKE,
E. L. ROFF.