

(No Model.)

J. O'CONNOR.

DEVICE FOR FORMING LETTERS AND DESIGNS ON SHEET METAL.

No. 384,331.

Patented June 12, 1888.

FIG. 1.

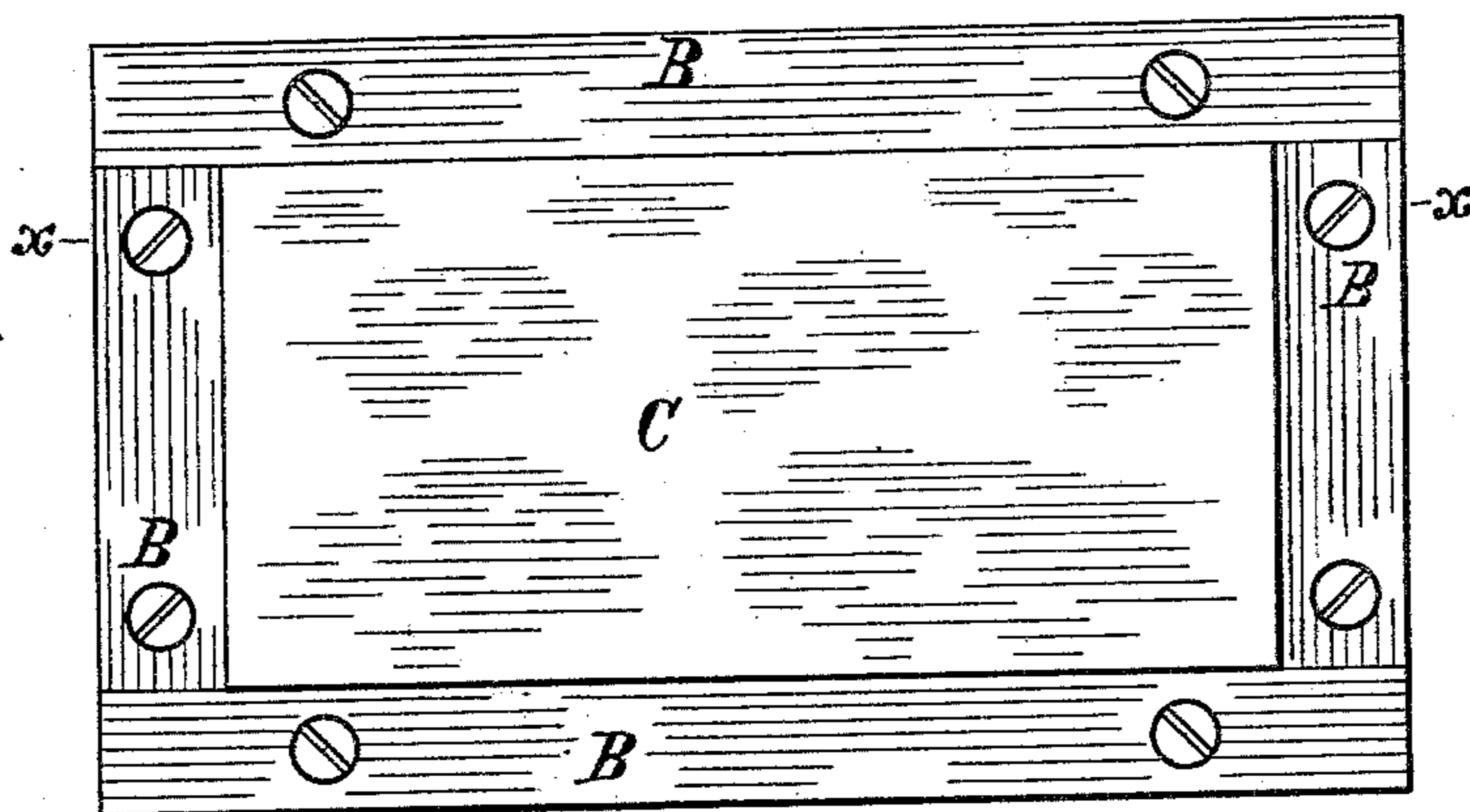


FIG. 2.

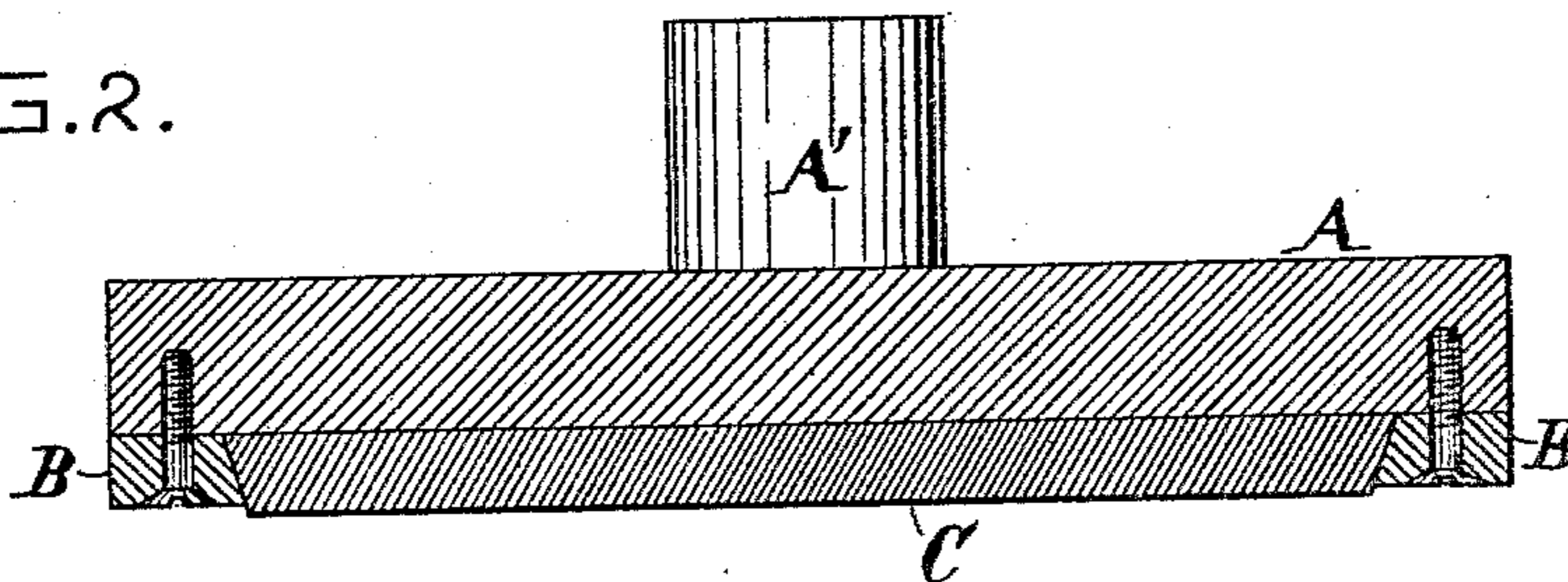


FIG. 3.

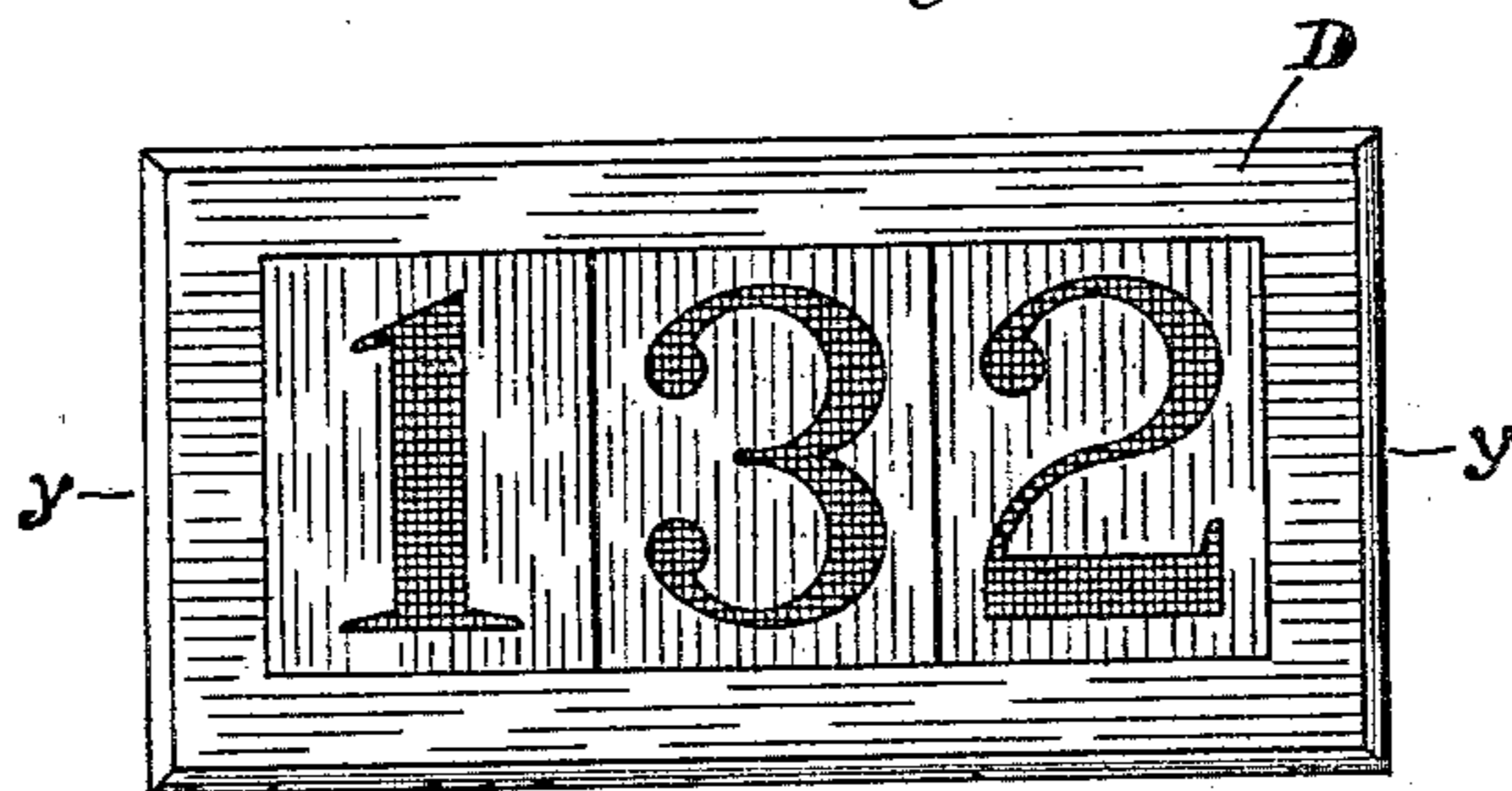
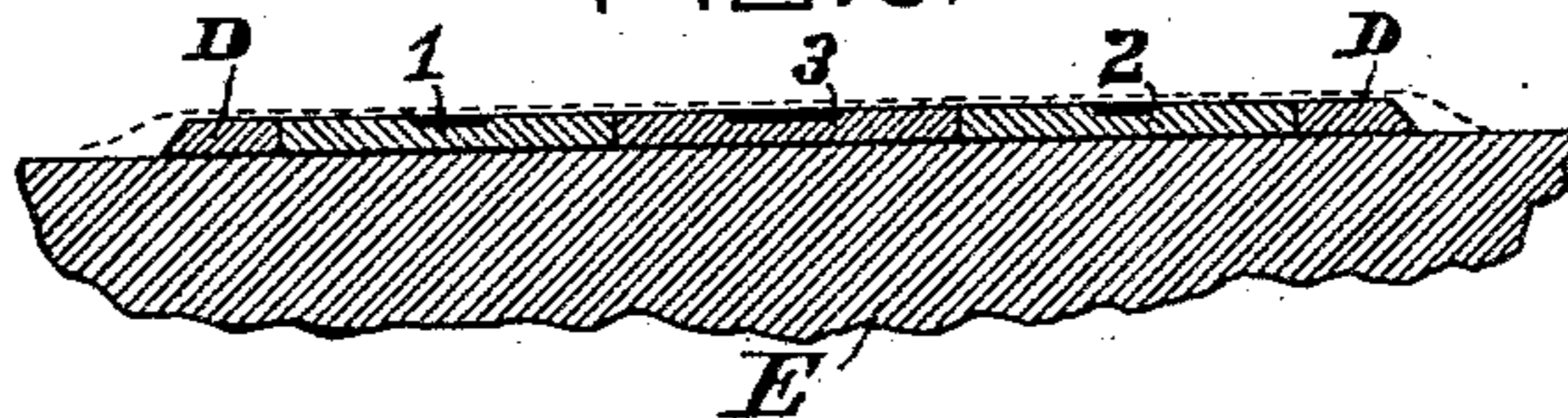


FIG. 4.



FIG. 5.



Witnesses.

Frank L. Millward.

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Inventor.

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By his Attorney Geo. J. Murray.

# UNITED STATES PATENT OFFICE.

JAMES O'CONNOR, OF NEWPORT, KENTUCKY, ASSIGNOR TO WILLIAMS & O'CONNOR, OF CINCINNATI, OHIO.

DEVICE FOR FORMING LETTERS AND DESIGNS ON SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 384,331, dated June 12, 1888.

Application filed August 4, 1887. Serial No. 246,096. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES O'CONNOR, a citizen of the United States, and a resident of Newport in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Means for Forming Letters, Designs, &c., in Sheet Metal, of which the following is a specification.

My invention relates to the improved means for forming letters, designs, &c., from thin sheet-metal plates.

The invention will be first fully described in connection with the accompanying drawings, and then particularly referred to and pointed out in the claims.

Referring to the drawings, in which like parts are indicated by identical reference-letters wherever they occur throughout the various views, Figure 1 is a plan view of the counter-holder, and counter in place in it. Fig. 2 is a longitudinal section of the same through line *x x*. Fig. 3 is a plan view of the die-frame and dies in place. Fig. 4 is a central transverse section of the same, and Fig. 5 a longitudinal section through line *y y* of Fig. 3.

Referring to the parts, A is the counter-holder, which is to be attached by its shank A' to the movable plunger of any suitable press. It has secured to its face metal strips B, the inner edges of which are beveled or undercut to retain the elastic counter C, which is preferably rubber.

D is a steel frame beveled around its outer edges, and also upon its two longitudinal inner edges, as seen in Fig. 4, for the purpose of retaining the type or sunken dies 1, 2, and 3 in place. These dies are preferably made of

steel, and may have letters, figures, or ornamental designs formed *in intaglio* upon their faces. These type are placed in the frame, and the frame with the type is placed upon the anvil E of the press. A thin plate of metal (shown in dotted line, Figs. 4 and 5) is placed upon the frame, which is fitted with the letters, figures, or designs, and the rubber counter brought down with sufficient force to compress the plate into the depressions of the type and down around the outer edge of the frame. After the plate is removed the depressions upon its face are filled in with any suitable enamel.

By reason of the strips B the rubber counter is prevented from spreading when pressure is applied, and sufficient force may be applied to bring the design up sharp without danger of fracturing or cracking the plate; and by means of the die-frame I am enabled to "set up" any figures for a number-plate or letters for a name-plate, using quads for spacing the same, as in type-setting.

What I claim as new is—

1. The combination, substantially as specified, of the die-frame D, the interchangeable loose steel type fitted to said frame, the rubber counter, and counter-holder, said counter-holder having a shank for attaching it to the movable plunger of a die-press.

2. The combination of the rubber counter C, the counter-holder A A', and strips B, the die-holder D, the removable dies, and anvil E, substantially as shown and described.

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Witnesses:

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