A. W. WIMMER.

APPARATUS FOR MAKING PATTERNS AND MOLDS.

No. 187,076. Patented Feb. 6, 1877.

Fig. 1.

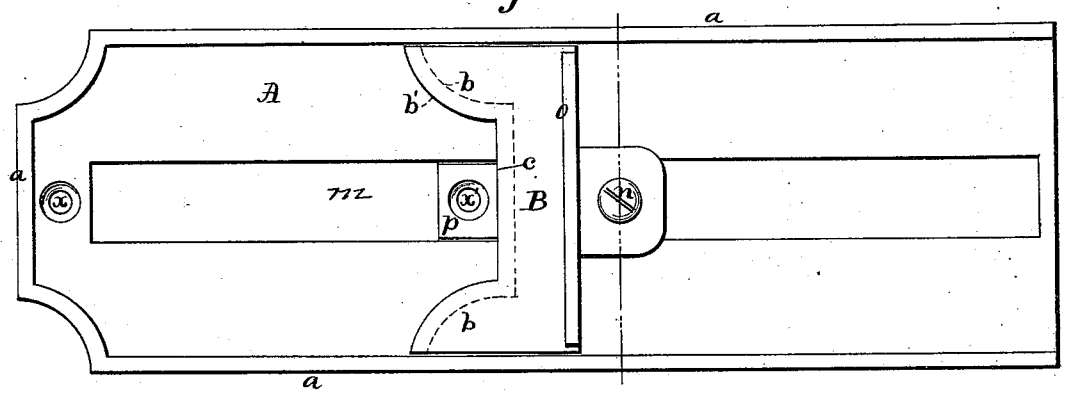


Fig. 2.

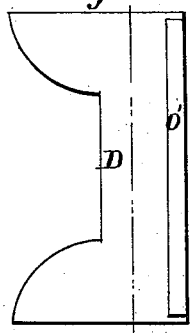


Fig. 5.

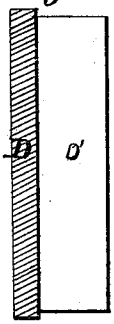


Fig. 4.

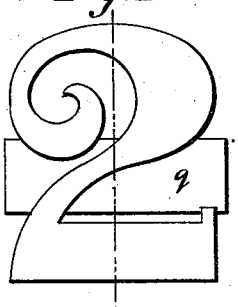


Fig. 7.

Fig. 8.

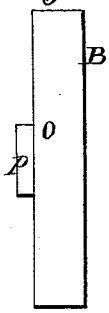


Fig. 3.

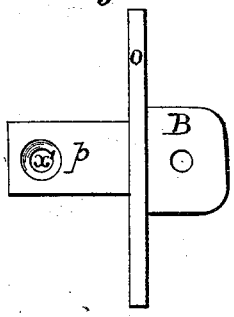


Fig. 6.

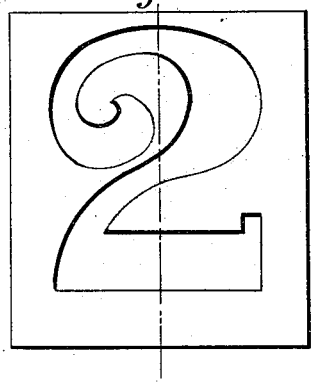
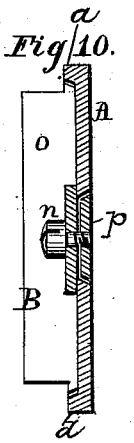


Fig. 9.

Fig. 10.



Witnesses:

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Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER W. WIMMER, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN APPARATUS FOR MAKING PATTERNS AND MOLDS.

Specification forming part of Letters Patent No. **187,076**, dated February 6, 1877; application filed June 19, 1876.

To all whom it may concern:

Be it known that I, ALEXANDER W. WIMMER, of the city and county of New Haven, and State of Connecticut, have invented a new and useful Apparatus for Making Patterns for Making Molds, and Making Molds for Casting Metal; 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 it, reference being had to the accompanying drawing, which forms a part of this specification.

The several figures in the drawing will be referred to as the elements which they illustrate are described.

My invention relates to patterns for making molds for casting metal plates bearing any number or letter, word or words, as desired, and to making the mold for the same; and consists in the following apparatus: a slotted plate, removable characters, (used to express numbers,) removable letters, and an adjustable slide, and an end plate, which are hereinafter more fully set forth and claimed.

A, Figure 1, is an oblong plate, made with or without the raised border *a*, having a slot or opening, *m*, in its central part, as shown in the drawing. It is provided with a screw-hole, *x*. B is an adjustable slide, fastened in any position on the plate A by the screw *n*, which screws into a piece held by its beveled edges in the slot or opening, as appears in Fig. 10. The portion *b* of the slide, which moves on the plate A, equals in thickness the height of the border *a*. Its edge *c* corresponds in shape with the border *a*, on the end of the plate A. It has an elevated or raised part or core-print, *o*. To its under side a piece, *p*, is attached, of the same thickness as the plate A, which piece moves in the slot or opening *m* in the plate A, and is provided with the screw-hole *x*, for a purpose hereinafter specified.

The slide shown in Fig. 3 differs in no respect from the slide B, above described, except in the omission of the flat part *b b*, moving on the plate A. In Fig. 8, an end view of this modification of the slide B shows the side and elevation of the core-print *o*.

The figure 2 shown in Fig. 4 is a common raised metallic number, the kind used to fasten on plain surfaces. To its under side a rectangular oblong piece, *q*, is soldered, which fits in the slot *m* in the plate A, and holds the figure in the right position on the plate. The length of *q* is such as to properly separate the figure from other figures, when more than one are used. This figure 2, provided with a piece on its under side, is a sample of the ten characters used to express numbers which I employ in making my pattern. Letters are also furnished with a plate, *q*, for the same purpose.

The figure 2 shown in Figs. 6 and 9 are blocks of the same thickness as the plate A, and are not furnished with a plate, *q*. These figures and like letters are sunk beneath the surface of the plate A. When these are used to make a pattern, the slot in the plate A is of sufficient width to receive their whole length, and the slide B (shown in Fig. 3) is used, the plate A being without the border *a*. The pattern made in this way has a plain surface, with sunk letters or figures.

The end piece D, or, as it is more commonly called, the "chill," (shown in Figs. 2 and 5,) is the same in its outline as the slide B, Fig. 1. It is of the same thickness as the plate A, including the border *a*, and has a thickness equal to the sum of the thicknesses of A and and B, and is of less width than the slide B, as indicated by the curved dotted line on slide B in Fig. 1. The height of its flange *o'* is the same as the height of flange *o* on slide B. In other words, it is narrower than the slide B by the width of the border *a*. This end piece, inserted into the mold, intercepts the flow of the melted metal beyond it, and forms both ends of the casting alike. When blocks with sunk letters are used, its thickness will be the thickness of the blocks.

With the ten characters used to express numbers and with letters made as above described, I make my pattern by putting the number, letter, or letters to form a word or words onto the plate A, where they are held by the adjustable slide B. This pattern I mold in the usual way in a two-part flask. The pattern being placed on a plate or board, I put one part of the flask over it and fill the same with sand, and tamp in the usual way. This part of the flask is then reversed, the plate or board removed, and the other part of the flask

is put on and filled with sand. The parts of the flask are then separated, the pattern withdrawn, a space cut, and the end piece D inserted into the imprint of the mold which was formed by the clasp B. Since the end plate D is narrower than clasp B, a part of the impression made in the mold by B will be left unfilled by D. This unfilled part is of the size and shape of the part of B between the lines *b b'* of Fig. 1. This unfilled space in the mold receives the metal for one end of the border *a*, when the parts of the flask are put together, and the mold is ready for the melted metal.

The holes *x x* in the pattern form projections in the mold, around which the metal sets to form the holes in the casting for screws, whereby it is attached to any desired surface.

I claim as my invention—

1. The apparatus herein described for making patterns for molding, consisting of the plate A, adjustable end border and clasp B, characters used to express numbers, and letters, substantially as and for the purpose described.

2. The plate A, in combination with the adjustable end border and clasp B, substantially as set forth.

3. The end piece D, to intercept the flow of the melted metal into a part of the impression in the mold formed by end border B, substantially as set forth.

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Witnesses:

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