A. M. KITTREDGE.

DIES FOR SHEET METAL MOLDINGS.

No. 184,085. Patented Nov. 7, 1876.

FIG. 1.

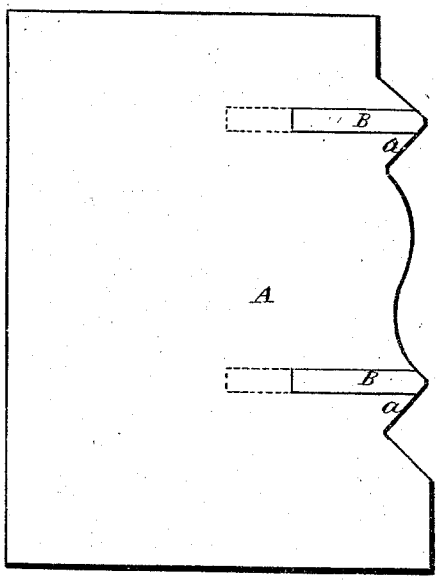


FIG. 2.

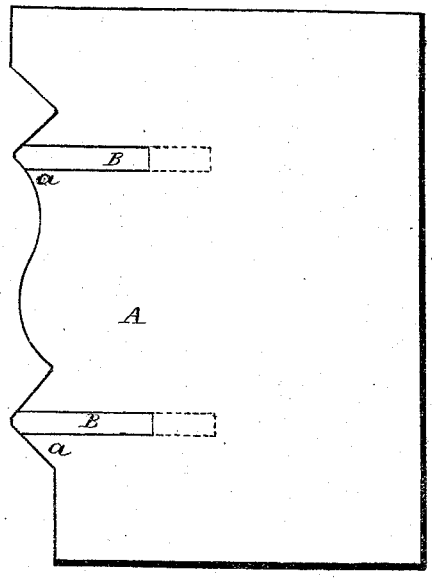


FIG. 3

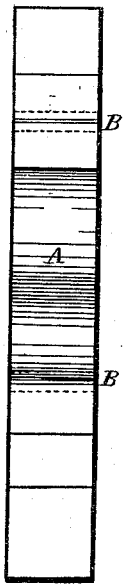


FIG. 5.

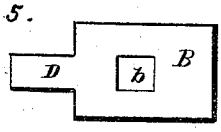


FIG. 6.

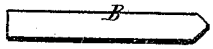
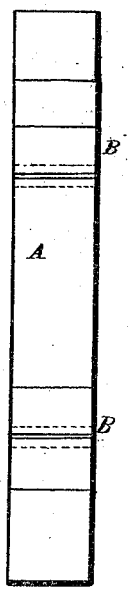


FIG. 4.



Witnesses.

E. M. Cross

L. C. Moore.

Inventor.

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UNITED STATES PATENT OFFICE.

ARTHUR M. KITTREDGE, OF SALEM, OHIO.

IMPROVEMENT IN DIES FOR SHEET-METAL MOLDINGS.

Specification forming part of Letters Patent No. **184,085**, dated November 7, 1876; application filed March 27, 1876.

To all whom it may concern:

Be it known that I, ARTHUR M. KITTREDGE, of Salem, Columbiana county, and State of Ohio, have invented certain new Improvements in Dies for Sheet-Metal Moldings; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings, making part of the same.

Figures 1 and 2 are side views of a male and female die. Figs. 3 and 4 are views of the faces of Figs 1 and 2. Fig. 5 is a detached section. Fig. 6 is an edge view of Fig. 5.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to dies for forming sheet-metal moldings; and the object of the same is to render said dies more perfect and durable, by making the more prominent points of the members of the die of steel, or of other metal harder than that of the body of the die.

To this end the dies are made as follows: The body of the die is composed of soft metal, as zinc, tin, or a composition of both, or equivalent metals, which shall be much harder than hard wood, of which this class of dies are sometimes made, but not so hard as iron. As aforesaid, this class of dies have been made of hard wood; but in practice it is found that they wear out very soon, or lose the sharp clear outline of their form by the repeated blows which they receive while being used. Soft metal has been substituted for wood, but still the prominent sharp lines of the angular members wear away and become dull, ill-shapen, and therefore the work done by them is consequently more or less faulty and imperfect.

To render the salient lines or angles of the moldings of the dies stronger and more enduring, we take a piece of hard metal, as iron or steel, of the shape shown in Figs. 5 and 6, which may be termed a pointer. Said pointer is about equal in thickness to that of the point of the angle of the member *a* of the molding composing the face of the die, and is in width equal to the thickness of the same, as will be seen in Figs 1 and 2, in which A represents the dies, and the pointer inserted therein, forming a termination of the apex of the angular member. Said dies consist of comparatively thin blocks of metal, and are cast in a mold. In said mold the pointers are properly adjusted at the apex of the angular members.

The molten metal, when poured into the mold, incloses the pointers, the hole *b*, Fig. 5, therein fills with metal, and prevents the pointer from coming out and from lateral displacement, while the shoulder formed by the stem D prevents it from settling into the body of the die by the repeated blows it receives while being in use.

The angular members of the molding being thus pointed with hard metal, they will, as a consequence, wear much longer and preserve their integrity of shape better than dies made without such points, and the work produced by them will necessarily be more perfect.

I do not claim welding or casting together separate metals to unite the same at the points of contact to form a coalition at the junction of the different metals; but what distinguishes my improvement in dies is making part thereof of soft metal, and cast to connect with the wearing and prominent points prepared hard metal, as before described.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with dies made of soft metal, for forming sheet-metal moldings, pointers consisting of harder metal than the body of the dies, and joining the prominent or salient lines or edges of the angular members of said molding, substantially as herein described, and for the purpose specified.

A. M. KITTREDGE.

Witnesses:

W. H. BURRIDGE,

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