

F. M. CAMPBELL.

Machine for Making Metallic Moldings.

No. 129,001.

Patented July 16, 1872.

Fig. 1.

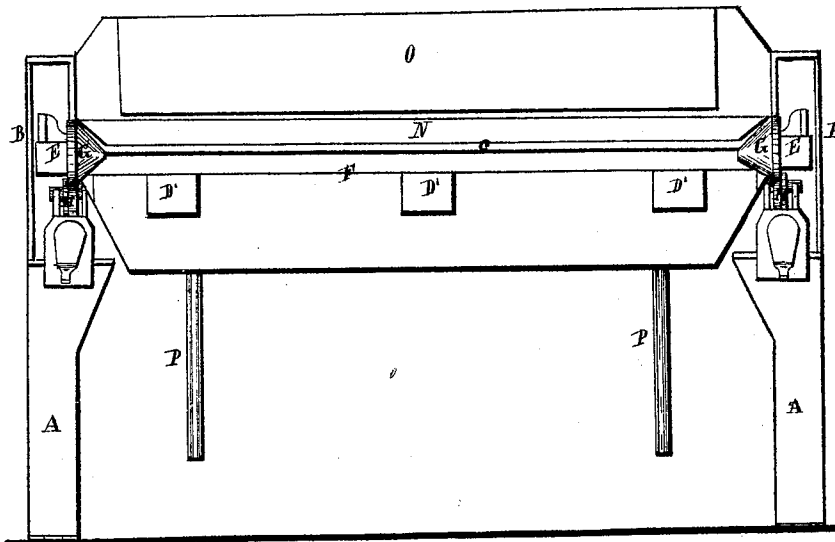
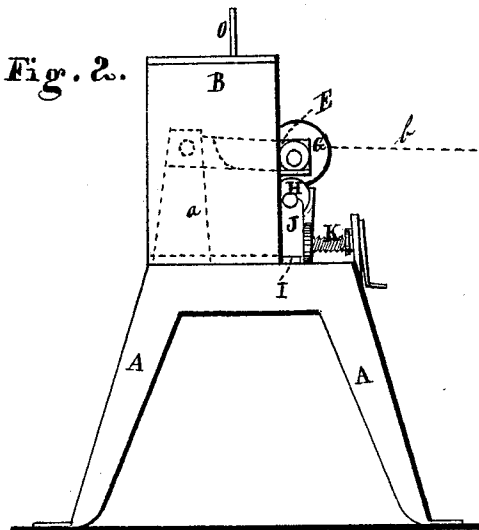


Fig. 2.



Witnesses.

A. Cornell
A. L. Alvord

Inventor.

F. M. Campbell.
Per Burridge & Co.
Attys

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Fig. 3.

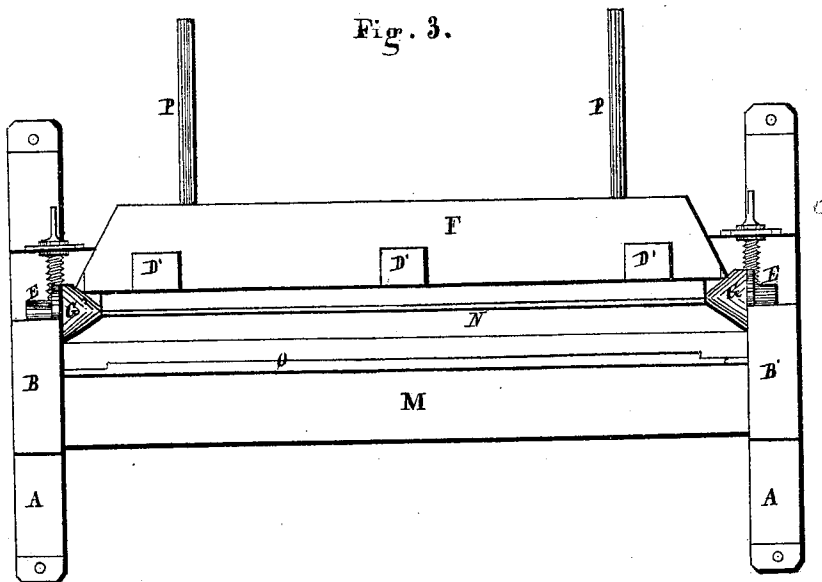


Fig. 4.

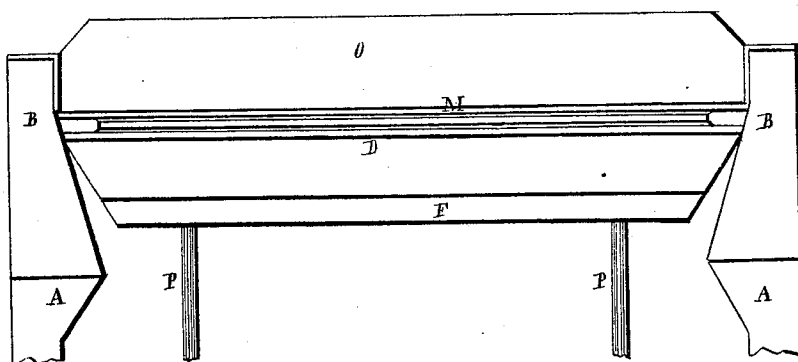


Fig. 5.



Fig. 6.



Witnesses.

Ch. Cornell
A. G. Alvord.

Inventor.

F. M. Campbell.
Per. Burridge & Co.
Atty's

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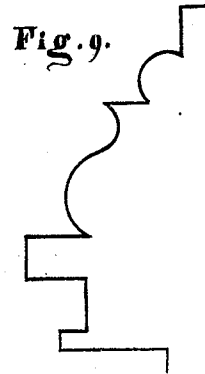
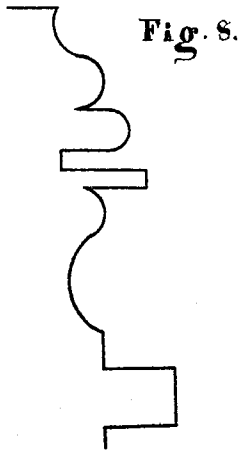
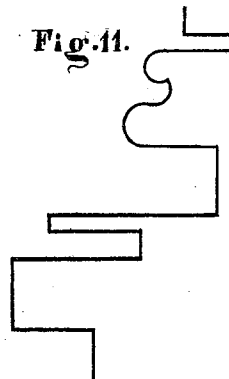
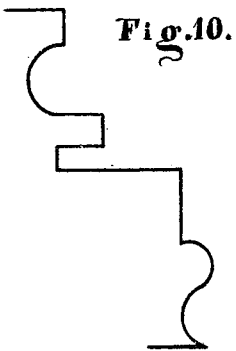
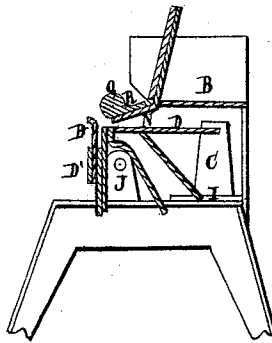


Fig. 7.



Witnesses.

A. Cornell
A. B. Almond

Inventor.

F. M. Campbell.
Per Burridge & Co.
Atty.

UNITED STATES PATENT OFFICE.

FRANK M. CAMPBELL, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF HIS
RIGHT TO ANDREW C. HOGENDOBLE.

IMPROVEMENT IN MACHINES FOR MAKING METALLIC MOLDINGS.

Specification forming part of Letters Patent No. 129,001, dated July 16, 1872.

To all whom it may concern:

Be it known that I, FRANK M. CAMPBELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Machine for Making Metallic Moldings; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

Figure 1 is a front view of the machine. Fig. 2 is an end view. Fig. 3 is a plan view. Fig. 4 is a view of the opposite side of Fig. 1. Figs. 5 and 6 are detached sections. Fig. 7 is a transverse section. Figs. 8, 9, 10, and 11 are forms of the work done on the machine.

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

SPECIFICATION.

The nature of this invention relates to a machine for making sheet-metal moldings for cornices, &c., and the object thereof is to so construct said machine that it shall clamp the metal and hold it while it is being bent, thereby making the machine self-operative as to the clamping. It also relates to the use of certain formers used in connection with the brake, whereby curved members of the molding are made. Said former is operated by means of the brake of the machine, and the object of its use is to produce a more even and regular curve, and with less labor, and in less time than it can be done in the ordinary machine. Of this machine the following is a more full and complete description:

In the drawing, Fig. 1, A represents a pair of legs, on each of which is mounted a frame, B. In each of said frames is a standard, C, Fig. 7, also indicated by the dotted lines *a*, Fig. 2. In the upper end of said standard is journaled the rear edge of the table D, Fig. 7, which permits the front edge of the table to move upward and downward for a purpose presently shown. Projecting forward from each end of the table is an arm, E, Fig. 2. In the front ends of said arms is pivoted the brake F, the upper edge of which is in the axial line of its rotation, and parallel with and in close relation to the edge of the table D, with which it co-operates in bending the metal, as will hereinafter be shown. On each end of the brake is secured a cone-shaped burr, G, Fig. 3,

the base of which forms the shoulders of the journals of the brake. In the edge of the base of said cones is cut a notch of a curve corresponding to the edge of the friction-rollers H, Fig. 2, and into which notch the roller fits, as shown in said Fig. 2. The standards C referred to are each secured to a slide, I, Fig. 2, arranged in the bottom of the frame; also to said slides are secured the stays J, in which the friction-rollers have their bearing. The slides are operated for adjusting the brake by means of the adjusting-screws K, of which L are the handles whereby they are turned. M, Figs. 3 and 4, is a beam, the ends of which are firmly secured to the sides of the frames B and above the table D, as shown in Fig. 7. The front edge of the beam projects downward, forming a kind of jaw, N, Figs. 1 and 7, which edge approaches close to the front edge of the table, and is parallel therewith. Running lengthwise the beam is a brace, O, Fig. 4, the purpose of which is to add resisting strength or stiffness to the beam.

Having described the construction and the arrangement of the machine, the practical working of the same is as follows: One edge of a sheet of metal of which a molding is to be made is inserted between the jaw N and the edge of the table in a horizontal position, as indicated by the dotted line 6, Fig. 2, and immediately over the edge of the brake, which at this time is permitted to hang down, as shown in Fig. 1, in which position of the brake, its edge, and the table is a short distance below the edge of the jaw, leaving a narrow open space, *c*, Fig. 1, between them for the admission of the sheet of metal. The space *c* is caused by the dropping down of the brake and table, in consequence of the friction-rollers, referred to, coming in direct relation with the notches in the edge of the cones, into which the rollers roll when the brake is in the position shown in Fig. 1, thereby allowing the brake to fall the depth of the notch. The sheet of metal thus inserted in the machine is clamped therein by the upward movement of the brake, which the operator pulls upward by the handles P. This movement causes the rollers to run out of the notches, or in other words, the notches leave the rollers in consequence of the rotary movement of the brake, and causes the edges of the cones to run upon

the face of the rollers, thereby moving upward the brake and the table, between which and the jaw the metal is firmly clamped. This clamping of the sheet in the machine is done immediately that the brake begins to move, and therefore before much if any pressure is applied for bending the metal. The continual movement of the brake forces upward the sheet over and upon the edge of the jaw N, thereby forming a sharp angle or crimp in the sheet, said angle being more or less than a right angle, according to the distance that the brake may be turned. The sheet is removed from the machine for further operation by returning the brake to its first position, thereby dropping the table and brake by the engagement of the notches with the rollers as aforesaid. The sheet is now withdrawn, and again inserted the other side up, and a second angle or crimp made in the same way, and so on. The operation is repeated as the nature of the molding may require. In combination with the angular members of the molding, curved ones or beads are made by the use of a former, Fig. 6. Said former consists of a bead, Q, and feather R. This former is used in connection with the machine by laying the feather on the top of the jaw, care being taken to have the bead upward, as shown in Fig. 7. For this purpose the brake and table are drawn forward by the adjusting-screws A', so far from the edge of the jaw as to allow the edge of the brake to be on the front side of the bead. This being done a forcing-bar, B', Fig. 5, is adjusted in the brake by inserting the lugs C' in the loops D', seen on the side of the brake. Said bar is parallel with the edge of the brake and with the bead of the former with which it co-operates. It also sets back a little from the edge of the brake, and slightly above it, as shown in Fig. 7. The metal to be operated on is inserted in the machine under the former. The brake is now raised as before. The bar as the brake rises forces the sheet over and upon the bead of the former, thereby making a round mold in association with the angular ones pre-

viously made. Round members of different sizes are made by the use of different sized formers; the same bar, however, will answer for several different sized formers.

A difference in the size of the angular members of the mold depends upon the distance that the sheet is inserted in the machine; if the members are to be small, then the sheet is so far inserted as to bring the angle formed close to the edge of the brake; and so per contra. Figs. 8, 9, 10, and 11, represent forms of the work done in the above-described machine, but which can be changed or modified as the style of molding required.

This machine is simple in its construction, and works easily, as the friction-rollers on which the brake rests, causes the movement of the brake to be done with but little exertion.

Claims.

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

1. The brake F, movable table D, and arm E, constructed and arranged to operate in relation to the jaw N, in the manner as and for the purpose set forth.

2. The brake F, cones G having a notch therein, as arranged in combination with the friction-rollers H, table D, and jaw N, substantially in the manner as and for the purpose specified.

3. The combination of the slide I, arm E, friction-rollers H, table D, brake F, and cones G, all constructed and arranged to operate in relation to each other, and in combination with the jaw N, in the manner substantially as described, and for the purpose set forth.

4. The forcing-bar B', as arranged to operate conjointly with the brake F, and in combination with the former Q, in the manner as and for the purpose specified.

FRANK M. CAMPBELL.

Witnesses:

W. H. BURRIDGE,
J. H. BURRIDGE.