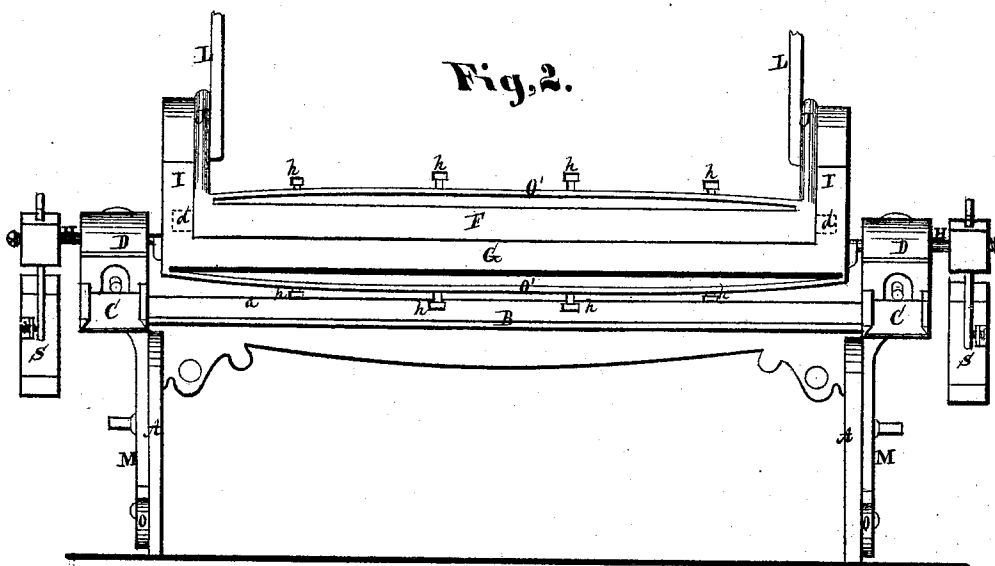
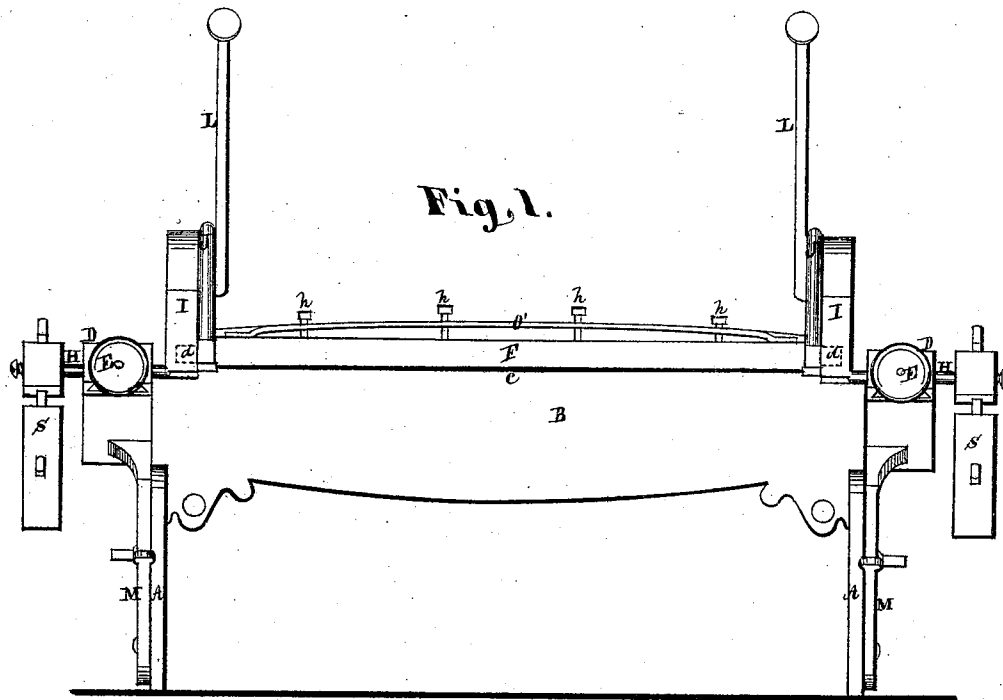


J. PARKIN & J. H. SMITH.

Improvement in Machines for Making Metallic Moldings.

No. 131,179.

Patented Sep. 10, 1872.



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Fig. 3.

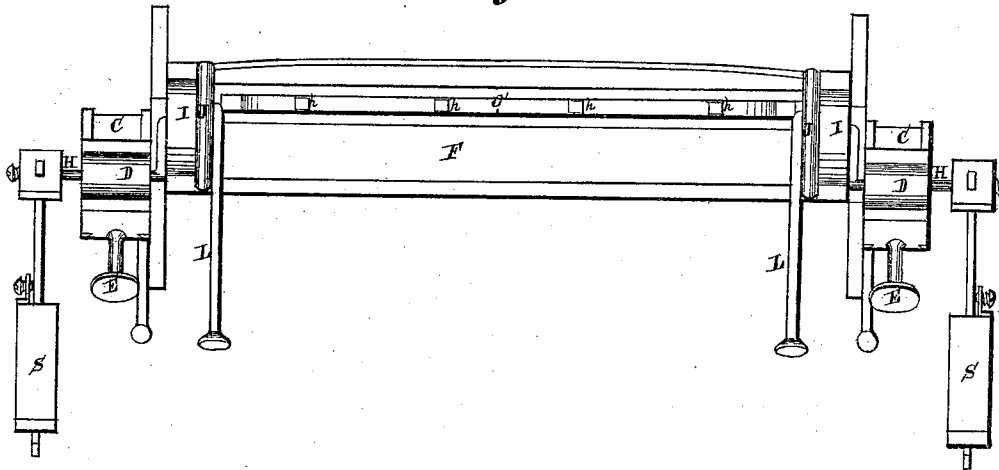


Fig. 4.

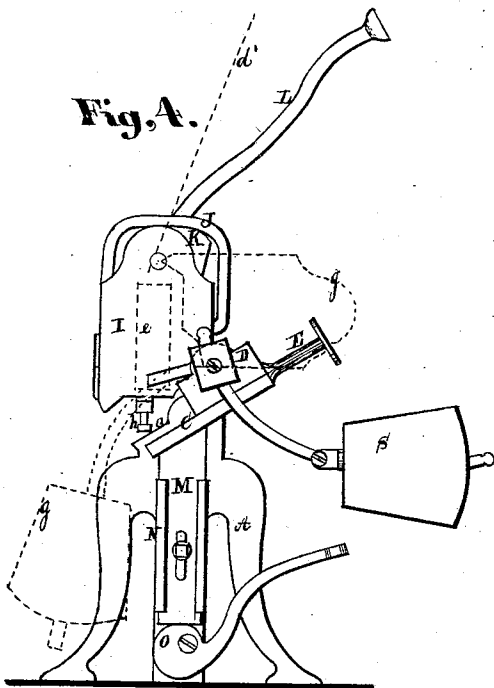
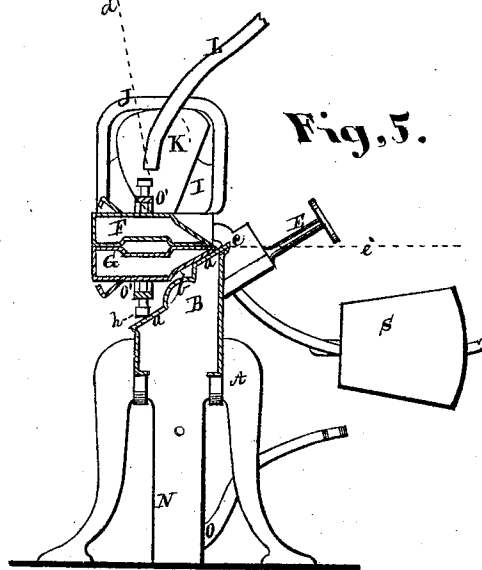


Fig. 5.



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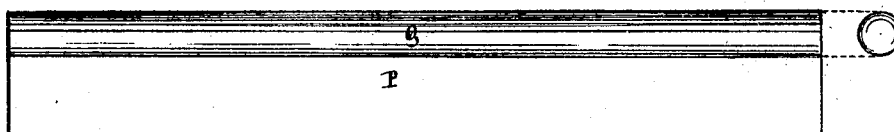
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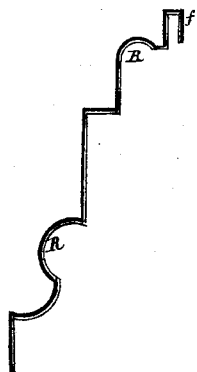
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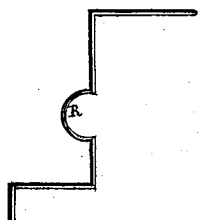
Fig, 6.



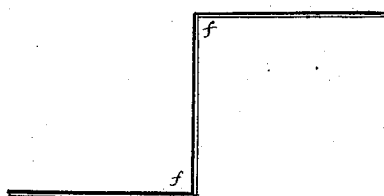
Fig, 7.



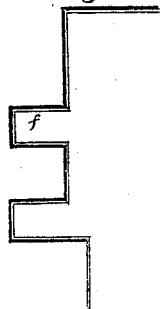
Fig, 8.



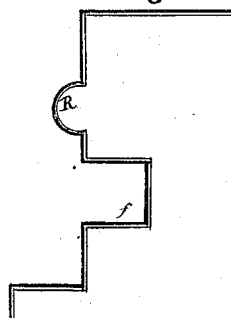
Fig, 9.



Fig, 10.



Fig, 11.



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UNITED STATES PATENT OFFICE.

JOSEPH PARKIN AND JAMES H. SMITH, OF CLEVELAND, OHIO.

IMPROVEMENT IN MACHINES FOR MAKING METALLIC MOLDINGS.

Specification forming part of Letters Patent No. 131,179, dated September 10, 1872.

To all whom it may concern:

Be it known that we, J. PARKIN and J. H. SMITH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Machine for Making Metal Moldings; and we 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.

SPECIFICATION.

Figure 1 is a front view of the machine. Fig. 2 is a view of the opposite side of Fig. 1. Fig. 3 is a plan view. Fig. 4 is an end view. Fig. 5 is a transverse section. Figures on Plate 3 will be referred to.

Like letters of reference denote like parts in the different views.

The nature of this invention relates to a machine for bending sheet metal; and the object thereof is to make metal moldings for cornices, &c., by means of a pair of jaws, in which the metal is held while it is being bent over the edge of a brake, and which jaws may be so adjusted in their relation to said brake that variable-width moldings can be made, thereby varying the style, more or less, as may be required. The invention also has for its object a cam device for operating the jaws, and whereby they are brought over the edge of the brake for bending the metal. The invention also relates to an adjusting device or head, whereby the said jaws can be made to approach or recede from the head of the brake, for the purpose of bending different thicknesses of metal; and, furthermore, it relates to certain bars above and below the jaws, whereby the said jaws are strengthened.

A more full and complete description of the above said machine is as follows:

In the drawing, A A represent a pair of legs, on which is mounted the brake, consisting, in part, of a table or bed, B, Fig. 1. It will be observed on examination of Fig. 5 that the face of the table consists of two incline planes, *a a*, and a convex rib or bead, *b*, and that the upper edge *c*, Fig. 1, thereof is a sharp straight edge parallel to the side B, and that it projects slightly beyond said side B, as shown in Fig. 5. On each end of the table is secured, in guides C, Figs. 3 and 4, a head, D. Said head is made to slide therein by adjusting-

screws E, for a purpose presently shown. F G are a pair of jaws—G, the lower one of which, is journaled in the heads D on shaft H, so that it may have a transverse vibratory movement. Between the end pieces or standards I I is fitted the jaw F. Each end of the jaw is provided with a lug, indicated by the dotted line *d*, Figs. 1 and 2. Said lug is made to fit in a corresponding groove cut in the inner side of the end pieces, and in which they slide on moving the jaw in a vertical direction or in direction of the standards. Said grooves are indicated by the dotted lines *e*, Fig. 4. Each end of the jaw F is also provided with a yoke, J, Figs. 4 and 5, in which is fitted a cam, K, Fig. 5, provided each with an arm or handle, L. Said cams are pivoted to the sides of the standards or end pieces, and are operated for lowering and raising the jaw by the handles referred to, and for a purpose hereinafter described. The guides C, above referred to, are each attached to a stem or slide, M, Fig. 4, fitted to and working in guides N formed on the outside of the legs, as shown in said Fig. 4. At the lower end of the stem or slide M is pivoted a cam, O, whereby said slide is raised upward, thereby elevating the heads D, and consequently therewith the jaws F G, for a purpose presently shown. It will be seen, on examination of the drawing, that the edges of the two jaws F G and the edge *c* of the brake are parallel to each other and near one common axial line. The edge *c* of the brake is stationary, whereas the edges of the jaws are adjustable by means of the screws E and cams O, so that said edges can be made to approach or recede from the edge of the brake either vertically or horizontally, as may be required.

The practical operation of the above-described machine is as follows: A sheet of metal of which the cornice is to be made is placed between the jaws F G. The jaws are opened for the admission of the edge of the metal by pushing upward the cams K by means of the handles L, as indicated by the dotted lines *d'*, Figs. 4 and 5. The action of said cams upon the yokes forces them upward, and also the jaw F to which the yokes are attached. The edge of the sheet of metal, on being thus inserted in the jaws, is therein held fast by pulling forward the handles, thereby bring-

ing the lower side of the cams upon the upper side of the jaw F, by which means it is forced down upon the lower jaw G, thereby clamping the sheet of metal between them. A sheet of metal thus placed in and clamped between the two jaws is indicated by the dotted line *e'*, Fig. 5. The metal is now bent by pulling upon the handles L, thereby causing the jaws to turn upon or near the edge of the brake and thus bend the sheet over it, forming a right angle, as may be seen at *f*, Fig. 9, and other figures. The position of the machine when thus turned for crimping the metal is as indicated by dotted lines *g*, Fig. 4. The sheet of metal thus operated upon is taken from the jaws, which are opened for that purpose by the cams K above described. The sheet is then replaced in the jaws the other side up and clamped therein as before, and again broken over the edge of the brake, forming another angle, thereby adding another form to the work. The sheet is again removed as before and turned over and once more clamped in the jaws and operated on in the manner as above said, thereby producing a square bead or member of a style of molding, and so on, as often as that particular form or member may be required to complete the style of molding, but which, however, may be varied or modified by having the plane between the angles of more or less length, as shown in the Fig. 9 referred to, and also in Fig. 8 and others. A round member of the molding is made in connection with the square or angular members by a former, Fig. 6. Said former consists of a plate, P, on the edge of which is a round bead or bar, Q. The application of the former to the machine is by inserting the feather or plate P thereof in the jaws F G under the sheet of metal. The two are then clamped together and the metal turned down over it by hand, thereby forming a round member of the molding in connection with the angular ones, as seen at R, Plate 3. By the use of different-sized formers variable-size members can be obtained and their relation to the angular ones modified and varied according to the style of molding required. When very sharp angles are needed for the square members, the jaws are adjusted by the screws E, so as to be near the edge of the brake. This adjustment of the jaws will allow of the angles for the members to be bent closer to each other than when the jaws are further back from the edge. Therefore much smaller members of the molding can be made when the jaws are near the edge than when

distant therefrom, and angles of variable sharpness and size are easily and readily made as the nature of the style of molding may demand. In the event that a thick piece of metal is to be bent, or metal that is weak, and therefore will not bear being bent at a sharp angle without cracking, the jaws are raised more or less above the edge of the brake by means of the cams O, which will push upward the jaws so much as may be necessary for the purpose. This upward adjustment of the jaws will allow the metal to bend without cracking, as the line of bending will not be sharp, but more or less rounded, and thus cause less strain upon the metal. For the purpose of preventing the jaws from springing while in the act of bending the sheet over the brake, each one is supported by a brace, O', Figs. 1 and 2, the extreme ends of which are fixed to the ends of the jaws in a rigid manner, and form in connection therewith an arch through which set-screws *h* are inserted. By this means the jaws are strengthened through their entire length and prevented from springing back from the edge of the brake while applied to the sheet, and bending it over the brake, which requires great power to accomplish it and great strength of parts to sustain it. In order that the jaws may be easily operated counterbalance-weights S are attached thereto, as shown. The weights of the jaws by this means are balanced, and therefore they can be easily turned and operated for the purpose above specified.

Claims.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The heads D and adjusting-screws E, in combination with the jaw F, in the manner as and for the purpose specified.
2. The cam O, in combination with the slide M, head D, and jaw F, substantially in the manner, as and for the purpose set forth.
3. The jaws F G, table or bed B, in combination with the cams K, yokes J, the several parts being arranged to operate substantially as and for the purpose set forth.
4. The jaw F, screws E, and heads D, in combination with the jaw G, cam O, and slide M, when the several parts are constructed and arranged to operate substantially as described.

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Witnesses:

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