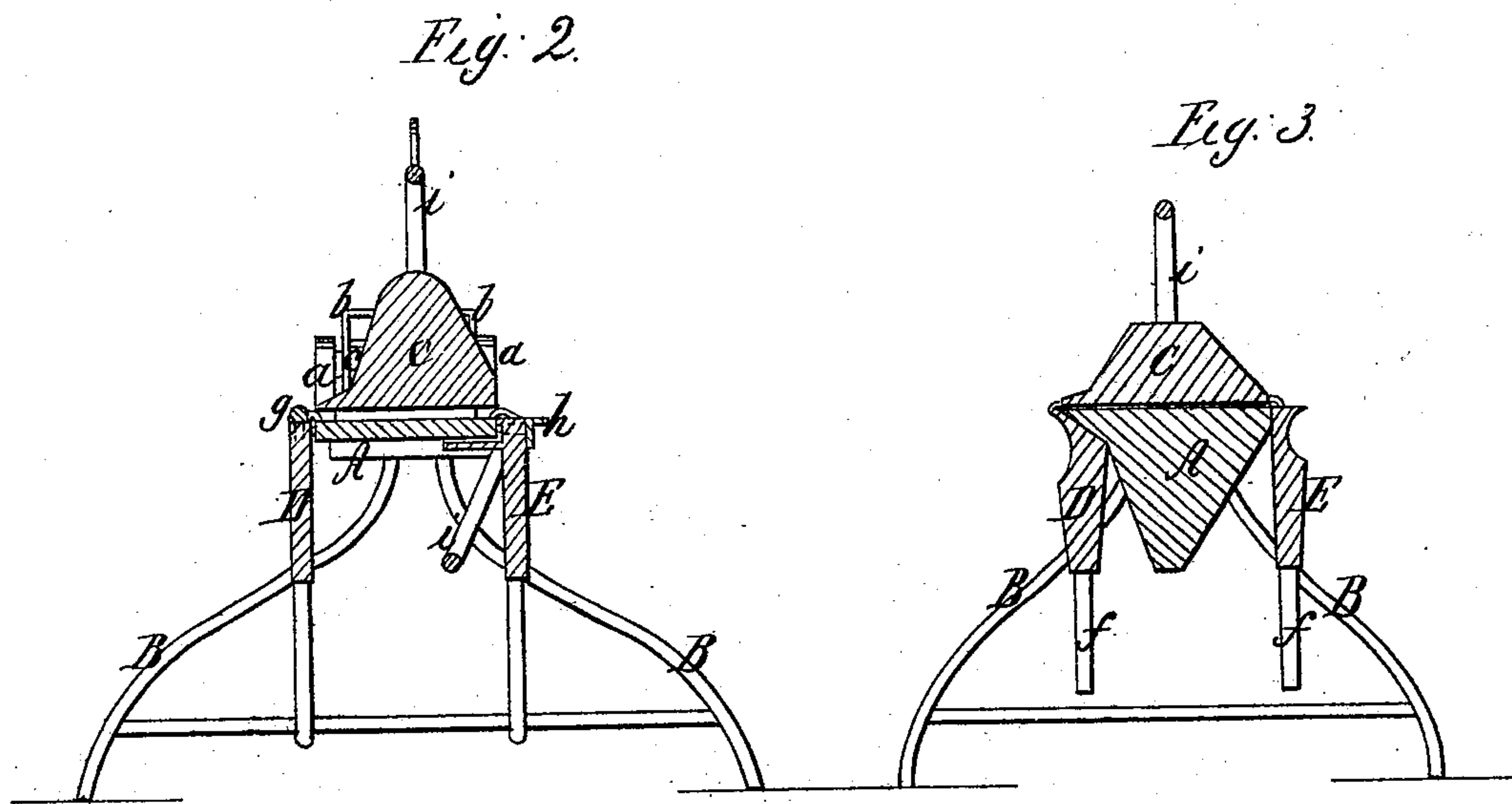
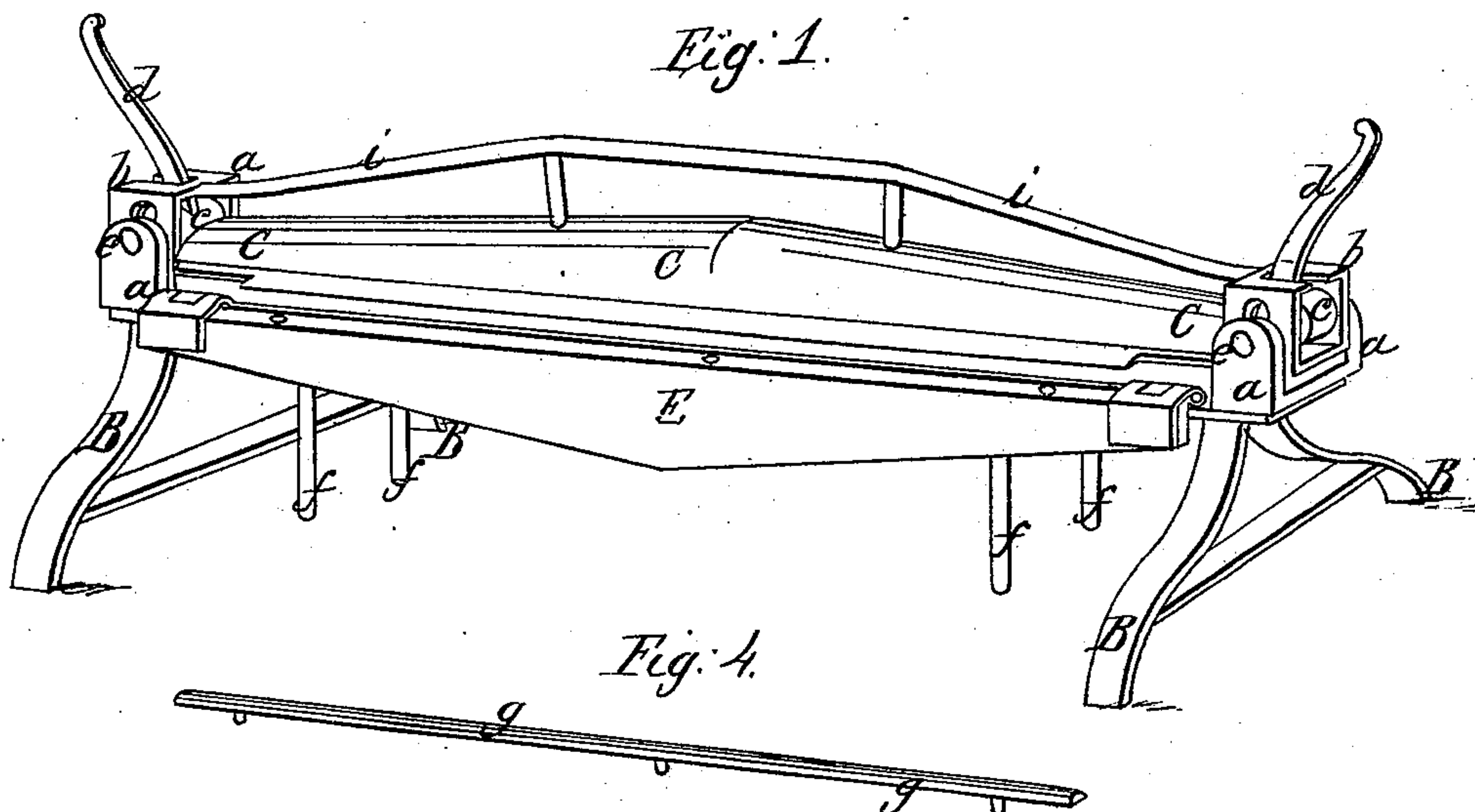


Buttles & Murphy

Bending Sheet Metal.

N^o 95,650.

Patented Oct. 12, 1869.



Witnesses;

James D. Patton
Edmund Mason.

Inventor;

Buttles & Murphy.
By atty A. B. Stoughton.

United States Patent Office.

C. A. BUTTLES AND DENNIS MURPHY, OF MILWAUKEE, WISCONSIN.

Letters Patent No. 95,650, dated October 12, 1869.

IMPROVEMENT IN MACHINES FOR BENDING SHEET-METAL FOR CORNICES, &c.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that we, C. A. BUTTLES and DENNIS MURPHY, of Milwaukee, in the county of Milwaukee, and State of Wisconsin, have invented certain new and useful Improvements in Machines for Bending, Folding, or Shaping Sheet-Metal into Cornices or other shapes or forms; and we do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the machine;

Figures 2 and 3 represent vertical transverse sections through the machine; and

Figure 4 represents, detached from the machine, one of the attachable and removable "formers" used, at times, for shaping cornices, &c.

Similar letters of reference, where they occur in the separate figures, denote like parts of the machine in all of them.

We are aware that there are machines used for folding and bending sheet-metal, and, of course, lay no claim to any such machines in general, but only our construction of machine, which is adaptable to bending or shaping metal cornice, mouldings, or other similar things, used in architecture; and

Our invention consists in a machine composed essentially of a brake, clamp, hinged folding or bending wings, and removable, changeable, or auxiliary formers, for making the shorter bends or members of such cornice or other similarly shaped or bent article.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same, with reference to the drawings.

A represents a bed, supported on legs B, or otherwise, on which is supported a clamping-bar or head, C, by means of the lugs *a a*, &c., on said bed.

In a cage, *b*, made on each end of the clamping-bar or head C, there is placed a cam or eccentric, *c*, which is worked by a lever, *d*, said cam or eccentric being pivoted to the lugs *a a*, by a pin or journal, *e*.

By rolling these cams on their axes, by means of their perspective levers, the head or clamping-bar is raised, lowered, and held, as the operation may require, and anything placed between the head and bed of the machine may be rigidly held or clamped there, whilst the projecting portion or portions of it may be bent or shaped, as will be explained.

To each side of the bed-piece A, and at or near each of its ends, there is hinged the wing-formers D E, which have levers, *f*, connected with them, so that they may be swung or moved on their hinges, and

brought up into a vertical, or nearly so, position against the bed and clamp-pieces.

These wings D E may be formed, as shown in fig. 2, of plane surfaces; or, as shown in fig. 3, they may have partially plane and partially rounded or concave surfaces.

In fig. 2 we have shown certain removable or auxiliary appliances, which are used for making small "members" of a cornice or moulding; that to the left of fig. 2, and shown in red lines, is a "half-round," and held to the top edge of the wing D by dowel pins in the "half-round," as shown at *g*, fig. 4, which take into suitable holes in said wing.

On the other wing, E, a piece, *h*, may be attached in a similar way, except that its dowel-pins go in horizontally, and into holes formed in said wing.

The piece *h* is of an angular or L-form, and both of these pattern-pieces *g h* are removable or replaceable, or others of different forms or outlines may be substituted for them, so that cornice of different forms may be made on one machine.

The machine may be made light and portable, and when so made, the bed and clamp, one or both, may be trussed, as at *i*, to make them rigid, or, for heavier or stronger machines, they may be made of solid metal.

The wings D E can be used with or without the auxiliary pieces or patterns *g h*, and this, too, whether the wings, as in fig. 3, have a portion of the contour of the cornice pattern on it or not, as in fig. 2.

The sheet-metal to be operated upon is placed properly on the bed, the clamp or head brought down tight upon it, to hold it firmly, then the wing is raised up by its levers, and gives a bend or form to the projecting portion of the sheet, corresponding to that of the wing or its appendage, and forms one of the members of the cornice. Then, by rearranging, reclamping, and again bending, by the same or the other wing, another bend, form, or member is added, and so on.

In making short bends or curves, the distance between which is less than the width of the clamp, and that cannot be conveniently done between the clamp and bed, the wing E of the pair may be raised up into a horizontal, or nearly so, position, and the sheet to be bent or shaped inserted vertically between said wing and the bed. The wing is then let down, which clamps the sheet, and the latter may then be bent over the wing or the "former" thereon.

To facilitate this operation, a part of the folder or "former," or both, may be removable, or the hinges, by which the folder is hung to the bed, so arranged as that it will swing the folder far enough out to readily admit the sheet between itself and the bed-piece.

Having thus fully described our invention,
What we claim therein as new, and desire to secure
by Letters Patent, is—

1. In a machine for bending sheet-metal cornice,
the combination of the bed, clamp, and hinged wings
or sides D E, arranged and operating in the manner
herein described and represented.

2. Also, in combination with the bed, clamp, and
hinged wings or side-pieces, the removable and replace-

able pattern-pieces *g h*, or their substitutes, for form-
ing the smaller members of cornice, substantially as
herein described.

C. A. BUTTLES.
D. MURPHY.

Witnesses:

R. H. LAY,
L. B. JUNEAU.