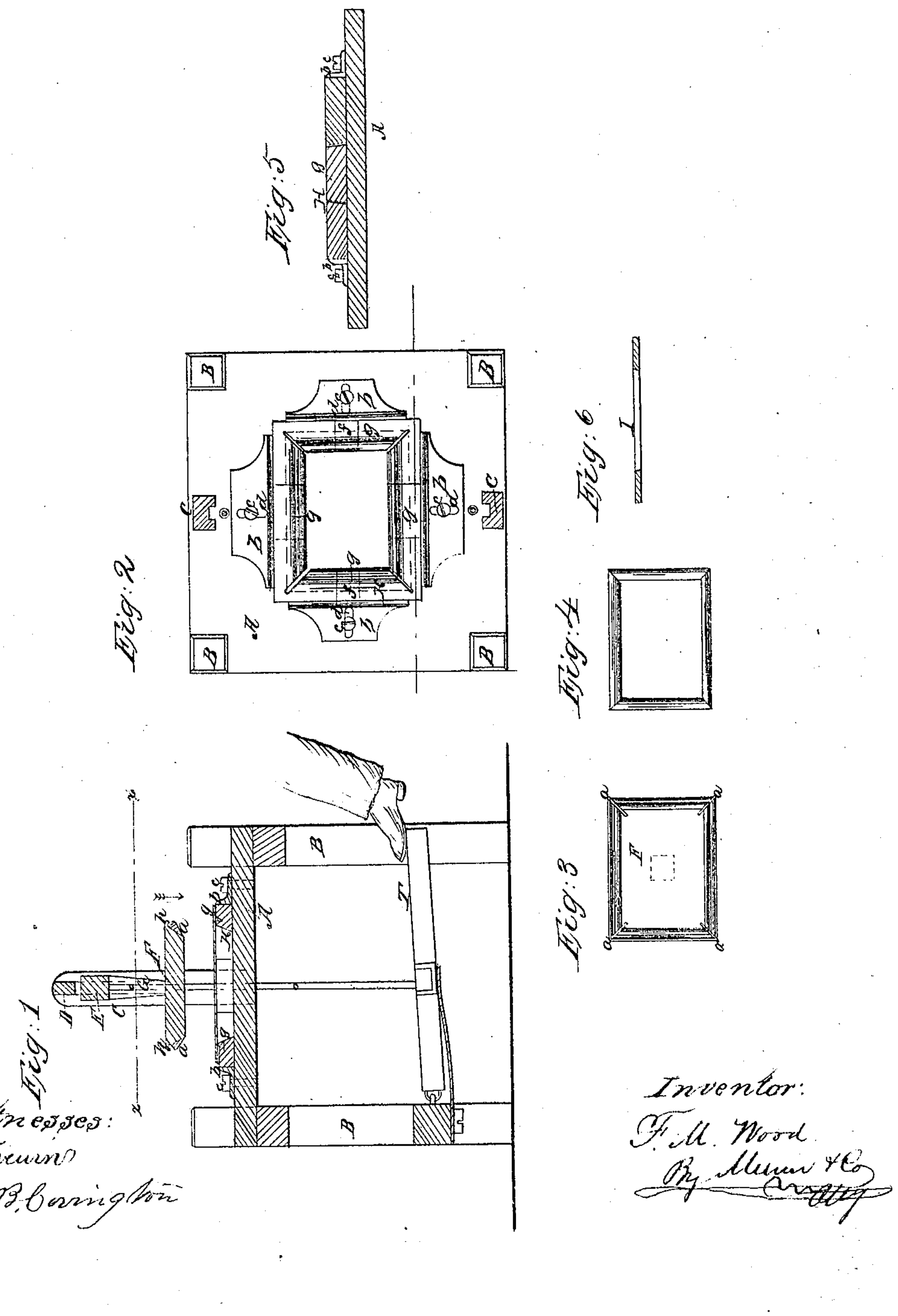
F. M. WOOD.

MACHINE FOR PRESSING SHEET METAL PANS.

No. 50,410. Patented Oct. 10, 1865.



Witnesses:
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UNITED STATES PATENT OFFICE.

F. M. WOODS, OF YORK, ILLINOIS.

MACHINE FOR PRESSING SHEET-METAL PANS.

Specification forming part of Letters Patent No. **50,410**, dated October 10, 1865.

To all whom it may concern:

Be it known that I, F. M. WOODS, of York, in the county of Clark and State of Illinois, have invented a new and Improved Machine for Pressing Sheet-Metal Pans; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a horizontal section of the same, the line *x x*, Fig. 1 indicating the plane of section. Fig. 3 is an inverted plan of the male die or punch detached. Fig. 4 is a detached plan of a piece of sheet metal as the same appears when taken from this machine. Fig. 5 is a longitudinal section of one side of the female die detached. Fig. 6 is a detached sectional view of the frame which I use for increasing the depth of the die.

Similar letters of reference indicate like parts.

This invention relates to a machine for pressing sheet-iron intended to form the four sides of a pan at one time, and also to turn the groove on the edge of the pan to receive the wire. The operation is effected by the use of a punch and die. The punch is made of the proper size to correspond to the pan to be pressed, and it is provided with wings projecting from its corners in such a manner that by its action all four corners are depressed uniformly and the sides of the pan are prevented from getting wrinkled. The sides of the die are made in sections, and they are held in position by adjustable brackets in such a manner that by taking a greater or smaller number of sections for the die said die can be adjusted for pans of different sizes. The depth of the die is adjusted by placing under the die one or more thin frames, whereby said die can be accommodated to pans of different depth.

A represents a bench or table which is supported by four legs, B, and the top or platform of which is made of sufficient strength for the occasion. From this table rise two uprights, C, the upper ends of which are united by a bar, D, and said uprights form the guides for a beam or gate, E, that carries the punch F, and to which a rising-and-falling motion is imparted by a treadle, T, or other suitable means. This punch is secured to the beam by means of a stem or rod, G, the lower end of which fits in a corresponding socket in the punch, being fastened to the same by a suitable key, so that it can be readily removed and replaced by another punch of larger or smaller size. The form of the punch is made to correspond to the shape of the pans to be produced, and from its corners project wings *a*, which, when the punch is depressed, fit into corresponding slots in the corners of the die H, and which serve to depress the corners of the sheet metal uniformly and prevent the sides of the pan from becoming wrinkled, which they do if the sheet metal is somewhat weaker or softer in one corner than the other corner, and if from this or any other cause the depression of said sheet metal is not uniform.

The die H is arranged under the punch on top of the table A, and it is held in position by four (more or less) adjustable brackets, *b*. These brackets are secured to the table by screws *c*, which pass through slots *d*, as clearly shown in Fig. 2, or by any other suitable means, so that they can be readily expanded or contracted to correspond to dies of different size. The die H is constructed of a series of sections, which are made wedge-shaped, so that when the same are put together they hold each other in position, and either section is allowed to displace itself spontaneously and independent of its neighbors. Small wedges or sections *f* are inserted between the large sections and the corner pieces to hold the die in shape, and by removing the small wedges the entire die can be taken to pieces.

A series of small wedges may be provided to be inserted in the several sides of the die in order to adjust said die to larger or smaller pans. In order to adjust the die for pans of different depth, thin frames I are provided, which are placed under the die as required.

The die is provided with a gooove, *g*, near its inner edge and extending all round the same, and a lip, *h*, on the under edge of the punch is made to catch into this groove. By the action of this lip the requisite groove is turned on the edge of the sheet metal to receive the wire, and a very large number of pans can be pressed by the aid of this machine in a comparatively short time. The pans on leav-

ing the machine require but little hand-labor to be finished, and they are all uniform and free from wrinkles.

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

1. The arrangement of wings *a* in the corners of the punch, in combination with corresponding grooves in the corners of the die, substantially as and for the purpose described.

2. Making the die H in sections, substantially as and for the purpose described.

3. The adjustable brackets *b*, in combination with the die H, constructed and operating substantially as and for the purpose set forth.

4. The combination of movable frames I with the die H, substantially as and for the purpose specified.

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