No. 647,816. Patented Apr. 17, 1900.

J. C. DRESSEL.

SHEET METAL MOLDING AND ORNAMENTING MACHINE.

(Application filed Sept. 21, 1896.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

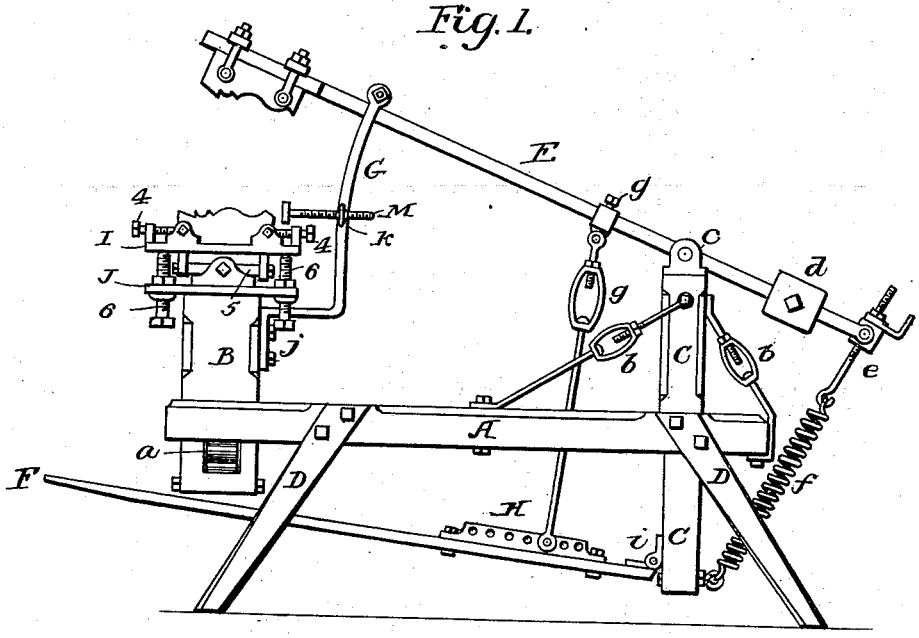

Fig. 2.

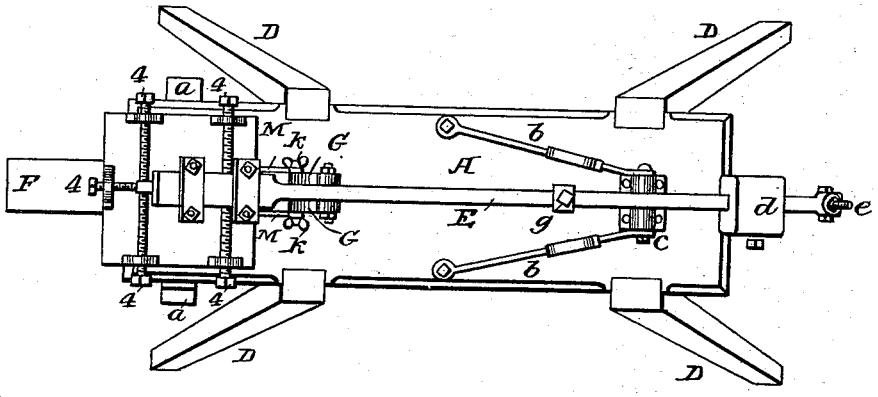

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Fig. 3.

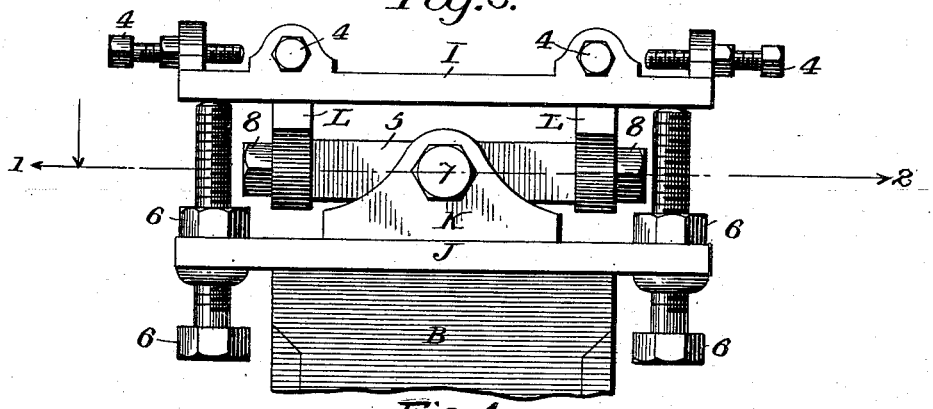


Fig. 4

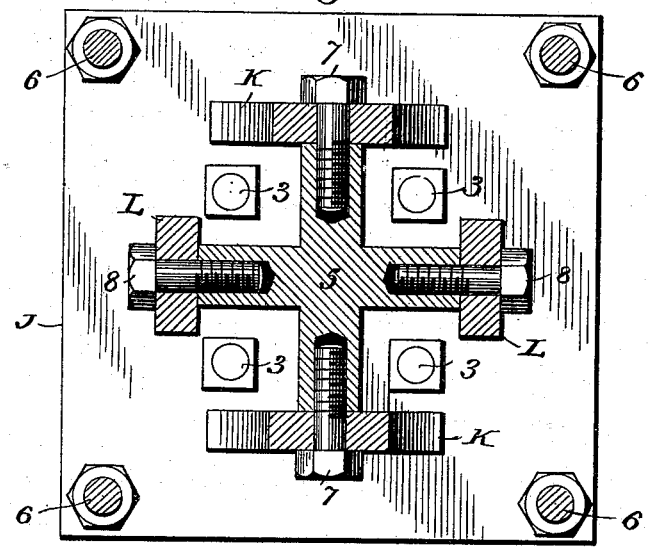
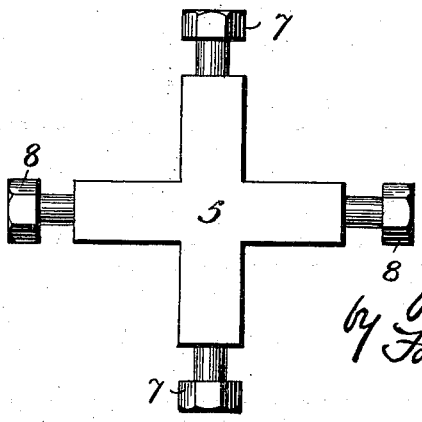


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHN C. DRESSEL, OF FRESNO, CALIFORNIA.

SHEET-METAL MOLDING AND ORNAMENTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 647,816, dated April 17, 1900.

Application filed September 21, 1896. Serial No. 606,519. (No model.)

To all whom it may concern:

Be it known that I, JOHN CHRISTOPHER DRESSEL, a citizen of the United States, residing at Fresno, in the county of Fresno, State of California, have invented a new and useful Sheet-Metal-Molding and Sheet-Metal-Ornamenting Machine, of which the following is a specification.

My invention relates to the improvements in curved sheet-metal-molding and sheet-metal-ornamenting machines, in which a die-holder is adjustable upon a bed-plate independently, so that the coincidence of the die upon the die-holder with the die of the hammer-arm may always be assured; and the objects of my improvement are, first, to make it adjustable in all its working parts; second, to afford facilities for the proper adjustment of the dies independently of each other in respect to the dies of the hammer and die-holder, and, third, to provide for an adjustment, so that the machine may be operated by a strong or a weak force. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the entire machine; Fig. 2, a top view of the entire machine. Fig. 3 is a side elevation of the adjustable die-holder and the bed-plate, referred to hereinafter; Fig. 4, a top view of the bed-plate as it appears after the removal of the die-holder on the line 1 2; Fig. 5, a top view of the cross holding the die-holder and bed-plate in proper relation to each other.

Similar letters and figures refer to similar parts throughout the several views.

The block A, block B, and block C, and the standards D D constitute the framework of the machine. Block B is secured to block A by means of wedges *a a*. Block C is held in position by the rods and turnbuckles *b b*. The hammer-arm E is secured to block C and works on the pin *c*. To the hammer-arm E are attached the movable weight *d*, the adjustable screw *e*, and the spring *f*, as referred to hereinafter, and also the adjustable lever-rod and turnbuckle *g g*, as hereinafter set forth, and die *h*, attached to the end of the hammer-arm E. The foot-lever F is attached to block C by means of a hinge *i*. To the foot-lever F is bolted the adjustable plate H, as hereinafter set forth. The die-holder I is mounted on the bed-plate J, and the bed-plate J is secured to block B by means of bolts 3 3 3 3 in Fig. 4.

That portion of Fig. 3 above the dotted line 1 2 constitutes the die-holder I, and that portion below the dotted line 1 2 constitutes the bed-plate J. The dies are secured in the die-holder I by means of bolts 4 4 4 4 and provided with lock-nuts. The die-holder I and the bed-plate J are secured to each other by cross 5. (Indicated in Figs. 4 and 5.) The cross 5, Fig. 4, is secured to the bed-plate J by bolts 7 7 and to the die-holder I by bolts 8 8 in Fig. 4, lugs K K of Figs. 3 and 4 being a part of bed-plate J, and L being a part of die-holder I.

The die-holder I is adjustable to the bed-plate J in any direction by means of the bolts and lock-nuts 6 6 6 6 6 6 6 6, Figs. 3 and 4, as referred to hereinafter. The guide G is attached to the block B by means of bolts *j j*. To the guide G is attached the gages M M, which are adjustable by means of the thumb-screws *k k*, which form a guide to hold the sheet metal during operation. The die-holder I is adjustable upon the bed-plate J independently by means of the cross 5, Fig. 5, so that the coincidence of the die upon the die-holder I with the die *h* of the hammer-arm E may always be assured. I prefer to carry out this feature of my invention in the manner shown in Figs. 3 and 4, where it will be seen that four bolts, with their proper lock-nuts, rise vertically from the under side of the bed-plate J, through which they pass. A most accurate adjustment of the die-holder can be effected by the manipulation of these bolts and lock-nuts.

The weight *d* is secured to the hammer-arm E and adjustable, so as to increase or lessen the operating force. The rod and turnbuckle *g g* are adjustable upon the hammer-arm E and also on the foot-lever F by means of the bolt passing through the plate H.

I am aware that prior to my invention sheet-metal-molding machines have been made with male dies operating in conjunction with female dies. I therefore do not claim such a combination broadly.

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

1. The combination in a machine of the

character described, of a bed-plate, a cross-plate or frame pivoted upon said plate to rock in a vertical plane in one direction, and a die-holder pivotally supported upon the cross-plate and adapted to rock transversely thereto in a vertical plane, substantially as described.

2. In a machine of the character described, the combination with the weighted oscillating hammer-arm, of the rod *g* adjustable on said arm and being itself adjustable as to length, the foot-lever, and adjustable connections between said lever and the lower end of the said rod, substantially as described.

3. In a machine of the character described, the combination with the weighted oscillating hammer-arm, of the rod *g* adjustable thereon and provided with a turnbuckle, the foot-lever, a perforated plate secured to the foot-lever and adapted to receive the lower end of said rod adjustably, and a spring connecting the weighted end of the hammer-arm with the main frame, substantially as described.

4. The combination in a machine of the character described, of a bed-plate, a universally-adjustable die-holder mounted on said plate, an oscillating hammer and an arm therefor, and an operating-rod adjustable on the arm and being itself adjustable as to length, substantially as described.

5. In a machine of the character described, the combination of the bed-plate, a die-holder, and a cross and fastening-screws adjustably uniting said holder with said bed-plate, substantially as described.

6. In a machine of the character described, the combination of the bed-plate provided with oppositely-disposed raised lugs, a die-holder mounted above the bed-plate and having depending lugs at right angles to the lugs on the said plate, a cross-shaped plate confined within or arranged between the lugs, and screws passing through the lugs and entering the ends of the members of the cross-plate, substantially as described.

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