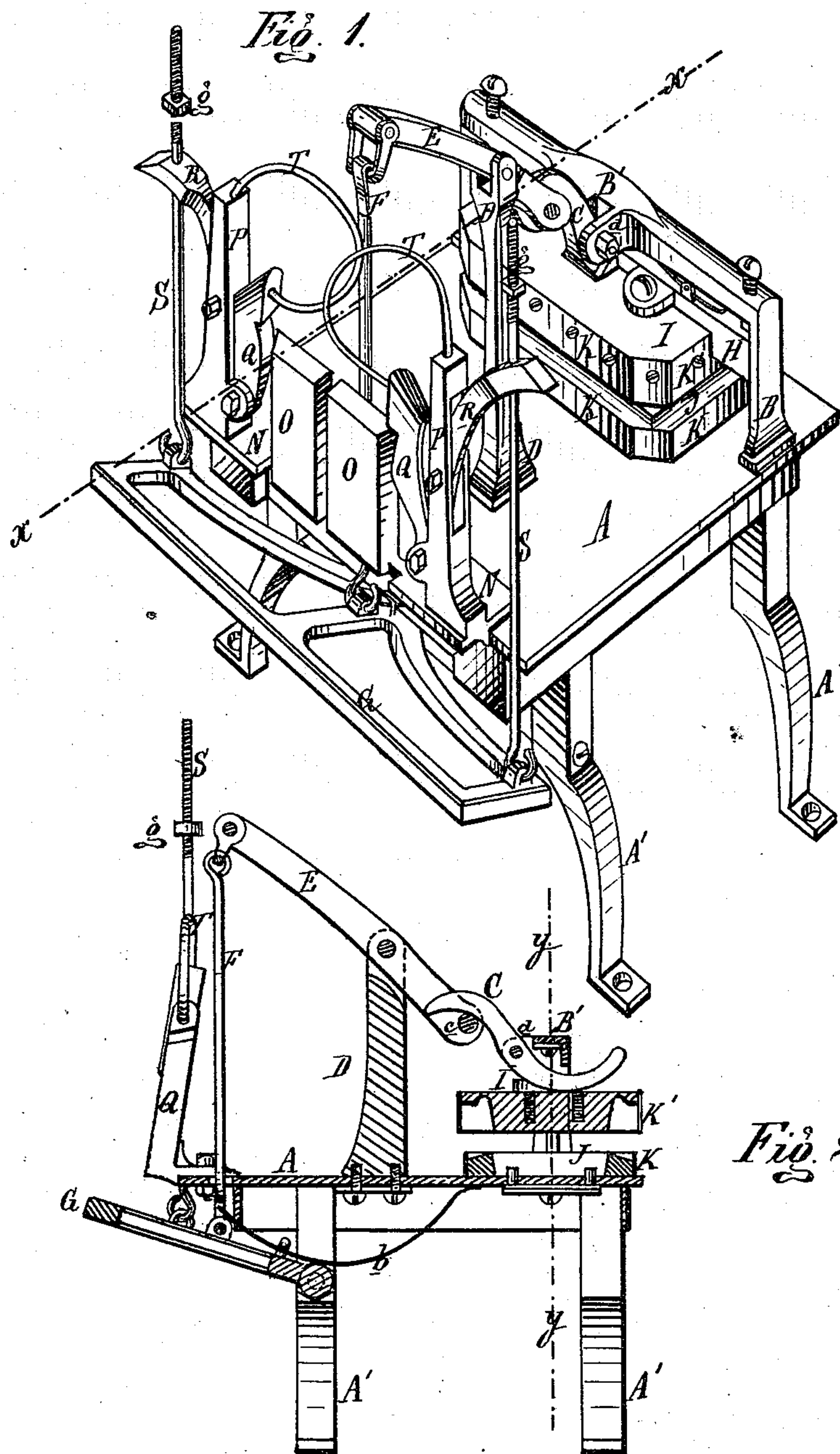


W. CHALMERS.
Pan-Forming Machine.

No. 164,520.

Patented June 15, 1875.



Attest:
Edward Barthel.
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Inventor:
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By Attorney
H. S. Sprague

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Fig. 3.

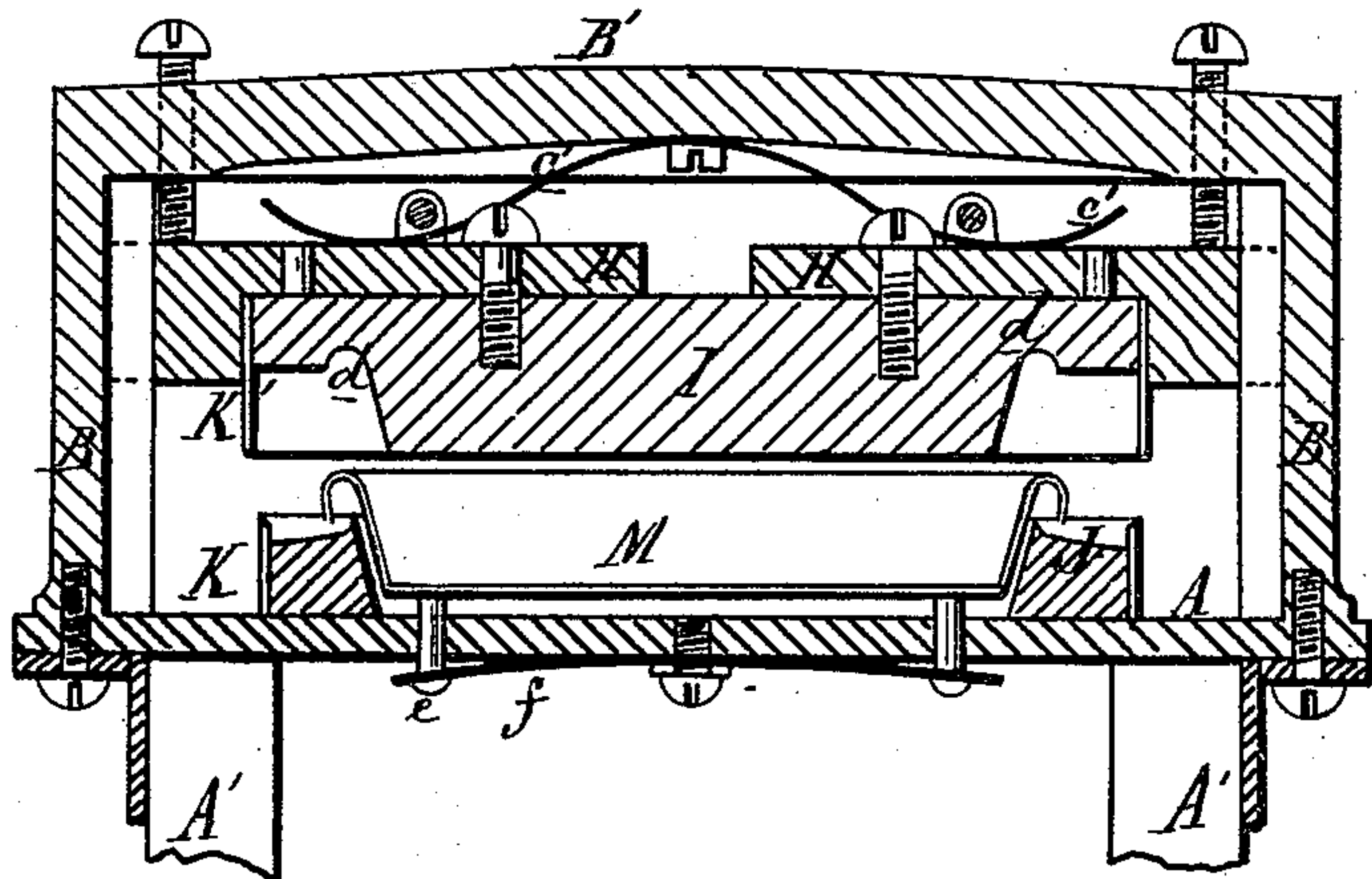


Fig. 4.

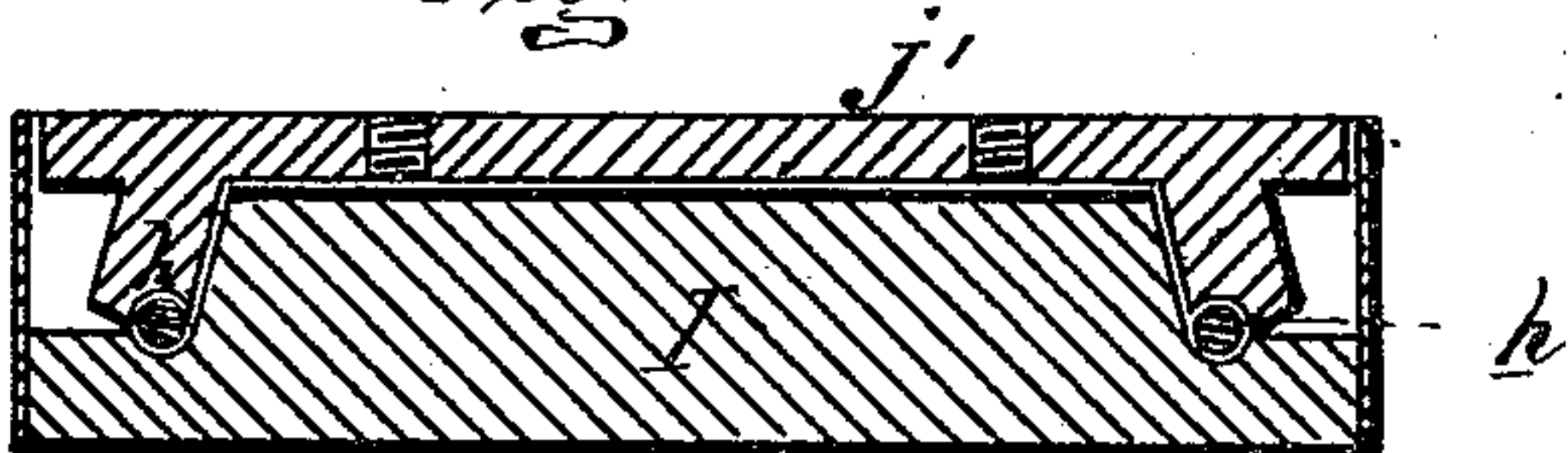


Fig 5.

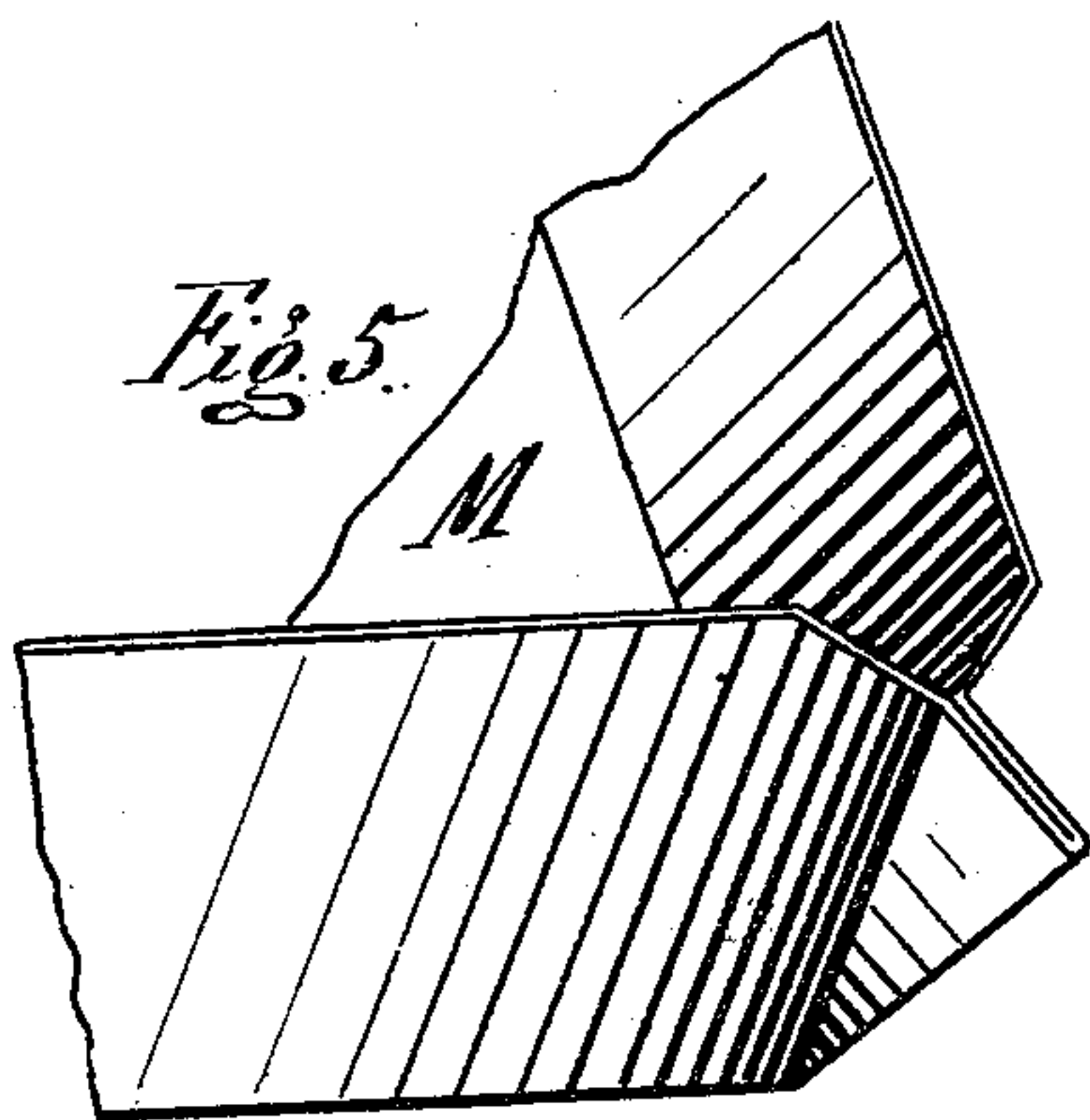
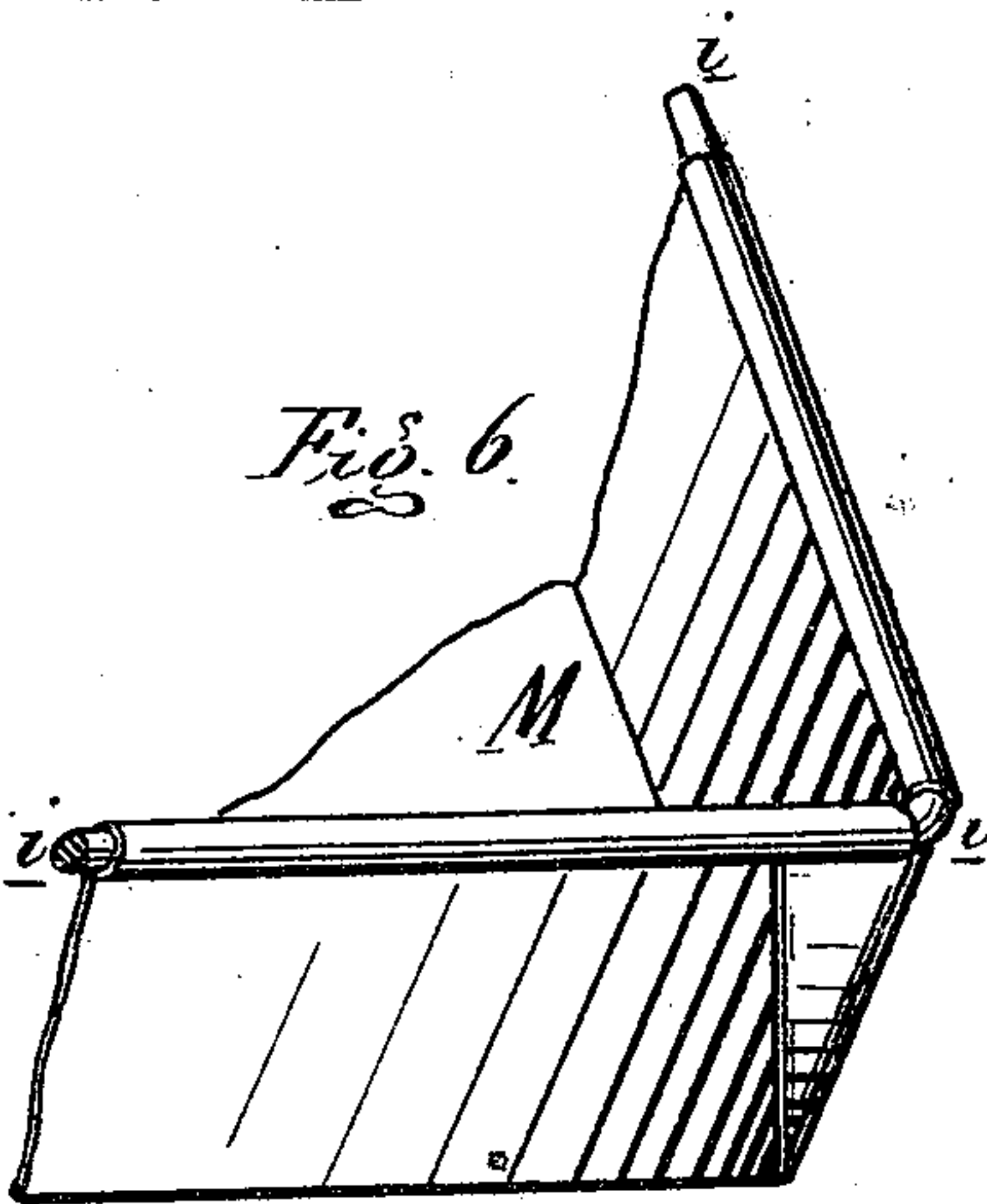


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM CHALMERS, OF DETROIT, MICHIGAN.

IMPROVEMENT IN PAN-FORMING MACHINES.

Specification forming part of Letters Patent No. **164,520**, dated June 15, 1875; application filed September 18, 1874.

To all whom it may concern:

Be it known that I, WILLIAM CHALMERS, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Machine for Pressing and Wiring Tin Pans, of which the following is a specification:

Figure 1, Sheet 1, is a perspective view of the machine complete. Fig. 2 is a longitudinal vertical section of the same at *x x*. Fig. 3, Sheet 2, is a cross-section of the press at *y y*. Fig. 4 is a similar section of the wiring-matrix and die, as they appear at the completion of the process of wiring a pan. Fig. 5 is a perspective view of one corner of a pan as it comes from the forming-press. Fig. 6 is a similar view of a finished pan.

In the drawing, A represents a table, mounted on suitable legs A', and at each side of which, near the rear edge, a pair of posts, B, are erected, connected by a girt, B', having a pair of jaws, *a*, projecting from the front edge, between which a reverse-curved lever, C, is pivoted. D is a standard, erected on the table, about the center thereof, and to its top is pivoted a lever, E, whose front and longer arm is connected by a rod, F, with a treadle, G, hung to the front legs of the machine, and which treadle is thrown upward by a leaf-spring, *b*. The short arm of the lever E is bifurcated, and provided with a roller, *c*, which takes under the front arm of the lever C. H is a cross-head, sliding up and down the posts B, which are provided with guides on their inner faces. This cross-head is raised, when free, by a light leaf-spring, *c'*, attached to the under side of the yoke B'. I, Figs. 1 and 3, is a die, which presses the sheet metal into the pan shape in a matrix, J, detachably secured to the table, the die being secured to the under side of the cross-head.

Before pressing the pan, however, the sheet or plate is laid on the matrix, which has an upward-projecting knife, K, surrounding its four sides, which have their corners cut off, as seen in Fig. 1. Four long shear-blades, K', are secured to the sides and ends of the die, as well as a shorter one at each corner, (which is cut off,) which shear the shape from the plate just before the die presses the latter in-

to the matrix to form the pan. A half-round groove, *d*, Fig. 3, around the base of the die turns over the edge of the pan, making it ready to receive the wire.

At the completion of the pressing process the pan M, Fig. 3, is thrown up, partially out of the matrix, by a leaf-spring, *f*, under the table, having a stud, *e*, at each end, passing up through a hole in the table, to facilitate its removal.

To turn down the doubled lip or gusset in each corner, I bolt two plates, N, by bolts through slots in them, to adjust them, as to width of pan, to the front edge of the table. The inner end of each plate has a vertical cast-metal block, O, the two forming the exact shape and size of the interior of the upper end of a pan placed on them. On each outer end of said plates N I erect a standard, P, to the lower inner face of which I pivot a forming-jaw, Q, having an oblique angular notch in the upper part, which just fits the corner of the adjacent block when thrown over onto it.

In a slot in the standard I pivot a lever, R, whose curved inner end bears against the back of the forming-jaw, while a rod, S, passes from the end of the treadle up through a slot in the long arm of each lever R, above which a nut, *g*, is threaded on the rod, so that when the treadle is depressed these nuts will catch the levers R, and throw the forming-jaws over onto the blocks, and thus turn the lips at the corners of the pans flat down on their ends, as seen in Fig. 6, when the pan is ready for wiring, previous to which the matrix J must be removed from the table, and the die I from the cross-head. The latter is turned upside down, and secured to the table in the place of the matrix, while another matrix, J', Fig. 4, is secured to the cross-head. This matrix J' has a groove, *h*, around the lower inner edge, so that when a pan is laid on the die, bottom up, with a wire laid in the upturned edges, the matrix, when brought down, will catch the edges of the metal in its groove *h* and roll them over the wire *i*, pressing the wire firmly in place.

A bent-wire spring, T, has one end secured

to the top of each standard P, and the other to each forming-jaw Q, to draw the latter away from its block.

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

The adjustable plates N N, blocks O O, standards P P, forming-jaws Q Q, levers R R,

and rods S S, in combination with the table and treadle, substantially as and for the purpose set forth.

WILLIAM CHALMERS.

Witnesses:

H. S. SPRAGUE,

C. E. HUESTIS.