

J. N. Woodward,
Swaging Sheet-Metal.
N^o 69,060. Patented Sep. 17, 1867.

Fig: 1.

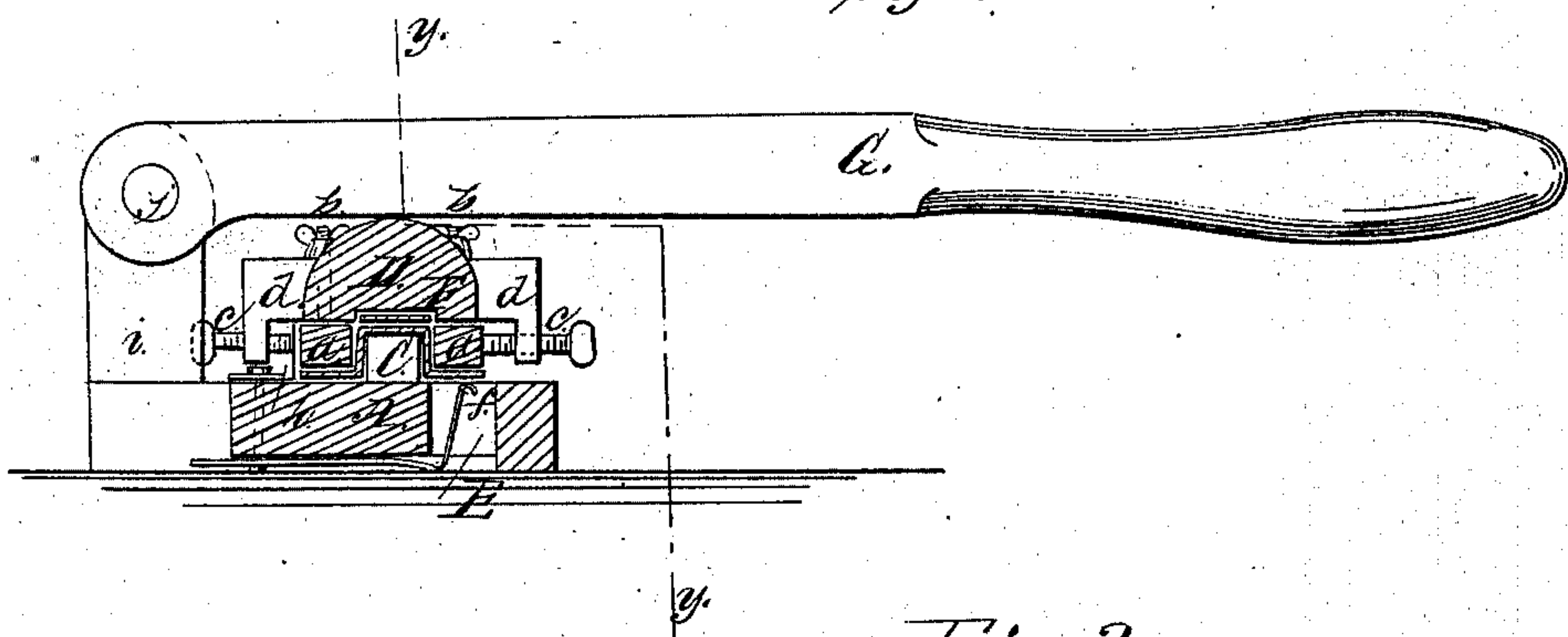
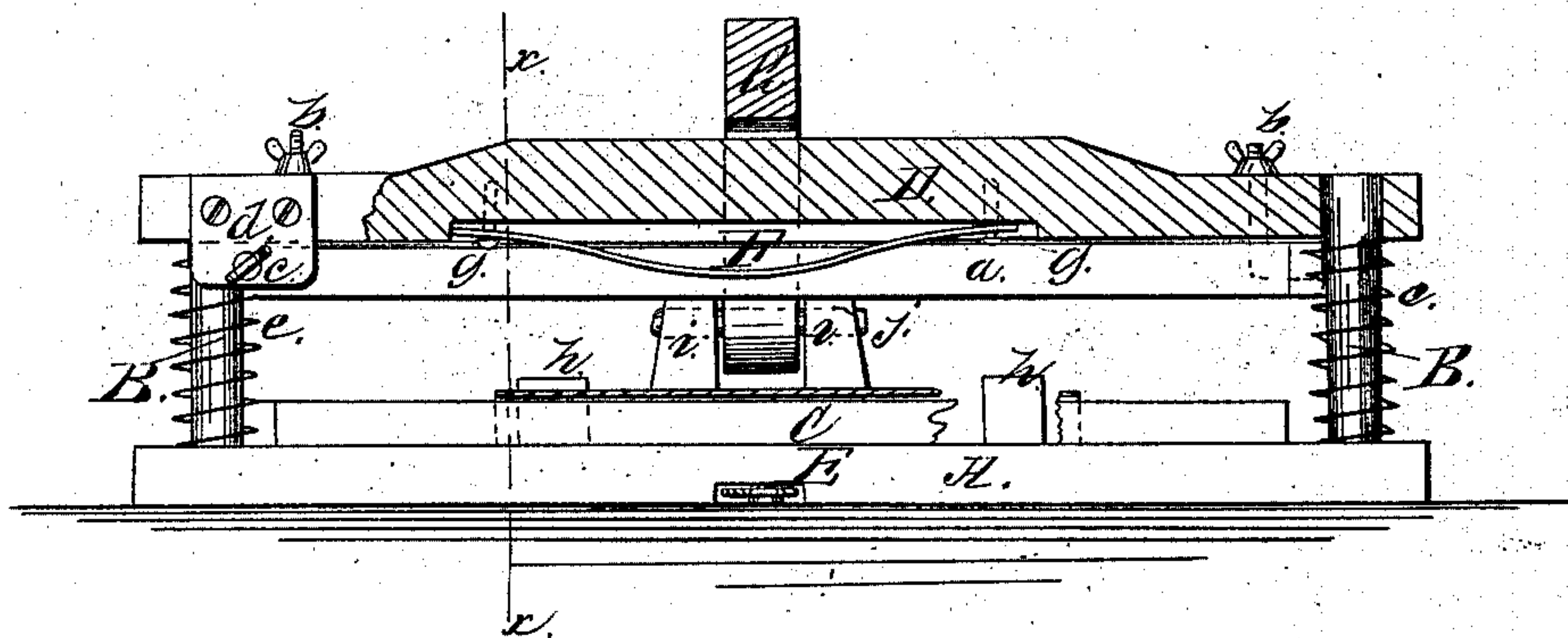


Fig: 2.



Witnesses:
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United States Patent Office.

JOHN N. WOODWARD, OF AURORA, ILLINOIS.

Letters Patent No. 69,060, dated September 17, 1867.

IMPROVED BENDING MACHINE.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN N. WOODWARD, of Aurora, in the county of Kane, and State of Illinois, have invented a new and improved Device for Bending or Swaging Sheet-Metal Plates for Covering Sashes for Green-Houses, Skylights, etc., etc.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved device for bending or swaging sheet-metal plates for covering the exterior portions of sashes for green-houses, skylights, etc., etc.

The object of the invention is to obtain a device for the purpose specified which will be simple in construction, capable of being manipulated with facility, and which will admit of the work being performed with rapidity and in a perfect manner. In the accompanying sheet of drawings—

Figure 1 is a transverse vertical section of my invention, taken in the line *x x*, fig. 2.

Figure 2, a front sectional view of the same, taken in the line *y y*, fig. 1.

Similar letters of reference indicate corresponding parts.

A represents a bed-plate, having a vertical rod, B, secured in each end of it, with a longitudinal rib, C, on the bed-plate between the two-rods, said rib being of square or other form in its transverse section, corresponding to the form of the sash strips which the swaged sheet metal is to cover. D represents a cap, having a hole in it near each end to admit of being placed on the rods B B. This cap has two longitudinal bars *a a* secured to its under side by screw-bolts *b b*, the latter passing through oblong slots in the cap to admit of the bars *a a* being adjusted at a greater or less distance apart to suit the width of the rib C, said bars *a a* being prevented from casually moving by lateral set-screws *c c*, which pass through pendent ears *d d* at the front and rear sides of the cap D, as shown clearly in fig. 1. On the vertical rods B B there are placed spiral springs *e*, on which the cap D rests; and in the bed-plate A there is fitted a spring, E, which passes up through a mortise, *f*, in the bed-plate, as shown clearly in fig. 1, the mortise *f* being sufficiently wide to admit of the spring being adjusted further forward or backward, to suit the width of the plate to be swaged. F is a spring, constructed of a steel strip, bent or curved in semi-elliptic form, and having its ends notched longitudinally to fit on pins *g* in the under side of the cap D, between the two bars *a a*. On the rear part of the bed-plate A there are two adjustable gauges *h h*; and two upright lugs *i i* are attached to the rear of the bed-plate about midway between the gauges, a lever, G, being secured between the lugs *i i* by a pin, *j*.

The operation is as follows: The sheet-metal strips are cut of the required length and width, and placed on the rib C underneath the cap D, the latter being kept elevated by the springs *e e*, and the gauges *h h* admitting of the strips being adjusted centrally over the rib, so that an equal portion will project over or beyond each side of the rib. The operator then, by means of the lever G, forces down the cap D, and the bars *a a* will swage the metal strip down over the rib and on the bed-plate A, as shown in fig. 1. In forcing down the cap D the spring F is compressed, and the spring E shoved down, neither of said springs interfering with the swaging operation. On releasing the lever G the springs *e* on the rods B B will raise the cap D, while the spring F will prevent the swaged strip from sticking between the bars *a a*; and the spring E will raise the swaged strip up from the rib C, so that it may be readily detached or removed.

The device, it will be seen, is extremely simple and efficient, may be operated with the greatest facility, and manufactured at a trifling cost.

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

1. The rib C on the bed-plate A, in combination with the cap D and adjustable bars *a a*, said parts being arranged to operate substantially in the manner as and for the purpose set forth.
2. The springs F E, respectively in bed-plate A and cap D, arranged in connection with the rib C and adjustable bars *a a*, to insure the ready removal of the swaged sheet-metal strip, substantially as described.
3. The combination of the cap D, provided with the adjustable bars *a a*, and placed on the rods B B, having springs *e* upon them, the rib C on the bed-plate A, and the lever G, all arranged for joint operation substantially as and for the purpose set forth.

JOHN N. WOODWARD.

Witnesses:

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