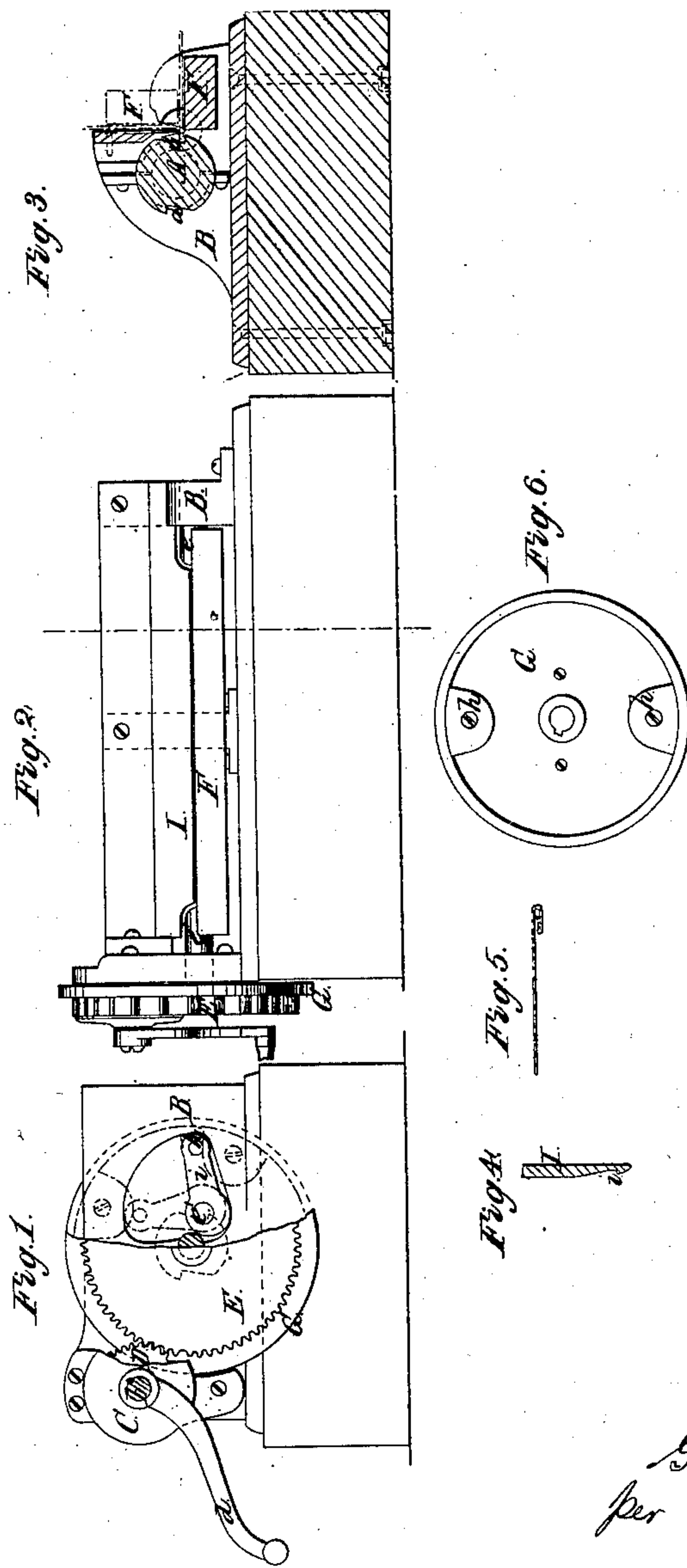


G. H. GOLDSMITH.
SHEET METAL FOLDING MACHINE.

No. 78,734.

Patented June 9, 1868.



Witnesses.
Alex. T. Roberts
H. C. Ashketter

Inventor.
G. H. Goldsmith
per Munnell
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE H. GOLDSMITH, OF WAVERLY, ILLINOIS.

IMPROVEMENT IN SHEET-METAL-FOLDING MACHINES.

Specification forming part of Letters Patent No. 78,734, dated June 9, 1868.

To all whom it may concern:

Be it known that I, GEORGE H. GOLDSMITH, of Waverly, in the county of Morgan and State of Illinois, have invented new and useful Improvements in Machines for Double-Lapping Sheet Metal; 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, in which—

Figure 1 is an end view of my improved machine. Fig. 2 is a front view of the same. Fig. 3 is a cross-sectional view through the line *x x*, Fig. 2. Fig. 4 is a detail section of the blade-bar. Fig. 5 exhibits the double lap formed by the machine. Fig. 6 is a sectional view of the barrel of the main cog-wheel.

Similar letters of reference indicate corresponding parts.

This invention refers to a machine chiefly used by tinsmiths.

It consists of an automatic brake-bar for bending the tin with a double lap at its edge, together with the other devices perfecting the operation of the whole, as will now be more fully set forth.

In the drawings, A is the roller, having one or more flutings, *a*. This roller is provided with bearings in the general frame B of the machine, as shown. A cap, C, bolted to the frame, as shown, incloses a pinion, D, and furnishes an outer bearing for the shaft *b* of the same. To this shaft a crank, *d*, is affixed. The pinion D engages with a cog-wheel, E, mounted on the reduced end of the roller A for the purpose of rotating the said roller in the operation of bending the edge of the sheet.

The brake-bar F is provided with reduced circular ends *e e'* in the usual manner for the purposes of permitting the said brake-bar to vibrate. These circular ends are notched to allow the lateral withdrawal of the bended sheet, as heretofore done; but in the machines for this purpose, as heretofore made, the brake-bar was actuated by a separate handle, so that the formation of a double lap upon a sheet required two or more separate movements.

In my machine the double lap is formed by simply turning the crank *d* till the brake-bar is raised twice, and adjusting the sheet with one hand for both movements of the said bar.

The mechanism accomplishing this result will now be described.

Attached to and forming part of the cog-wheel E is a hollow barrel, G, the interior of which is better shown at Fig. 6. Near the interior periphery of this barrel the cam-blocks *h* are affixed in any suitable manner, as with screws.

To the end *e'* of the brake-bar is affixed an arm, *i*, having a stud-pin, *k*, projecting therefrom, as shown, so that when the barrel G revolves the cam-blocks *h* will impinge against the stud-pin *k*, and as the said barrel revolves the arm *i* and consequently the brake-bar F are brought to a vertical position, as shown by the red section F' at Fig. 3. The barrel G and ends *e e'* of the brake-bar being eccentric and the axis of vibration of the brake-bar being somewhat lower than that of the roller A and its barrel G, the cam-blocks *h* rise above the stud-pin *k* and disengage from it, as shown by the red outline at Fig. 1, whereby the brake-bar falls to its first position, as shown in Figs. 2 and 3. The single or first lap being thus formed, the crank is turned till the second fluting of the roller A comes to the edge of the blade-bar I, or a little below, when the sheet is caught in the fluting and the crank *d* turned again, when the second cam-block again raises the brake-bar, thereby forming the second bend and completing the operation, which leaves the sheet bent, as shown at Fig. 5.

To permit the perfect bending of the sheet the blade-bar is formed with a channel, *l*, running along its lower edge, whereby space is provided for the accommodation of the increased thickness due to the second bend, which conduces greatly to the successful operation of the machine.

By my improved machine one person can accomplish twice the work possible with the machines as heretofore made.

Various modifications of the cam-blocks are possible which would probably accomplish the raising of the brake-bar in a similar manner, and I have contemplated several methods for the same, but have set forth in the foregoing what I consider to be the best arrangement of the parts for the general purpose of raising automatically the brake-bar.

My invention is simple, cheap, and durable, and its successful and perfect operation will

cause it to be appreciated by all sheet-metal workers who use it.

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

1. The cog-wheel E, bearing cam-blocks *h* or other equivalent device, substantially as shown and described, for the purpose of operating the brake-bar F, all as set forth.

2. The arm *i* and stud *k*, or the equivalent thereof, substantially as shown and described, in combination with the brake-bar F and cog-wheel E, all as and for the purpose set forth.

3. The fluted roller A, substantially as shown and described, in combination with the

blade-bar I, break-bar F, and cog-wheel E, all as and for the purposes set forth.

4. The channel *l* of the blade-bar I, substantially as shown and described, and for the purpose specified.

5. The pinion D and cog-wheel E, substantially as shown and described, in combination with the roller A, brake-bar F, and blade-bar I, all as and for the purpose set forth.

GEORGE H. GOLDSMITH.

Witnesses:

MOSES F. FREEMAN,
ISREAL SHAWGO.