(No Model.)

D. K. BEALS.

SHEARS FOR IRON.

No. 323,389. Patented Aug. 4, 1885.

Fig. 1.

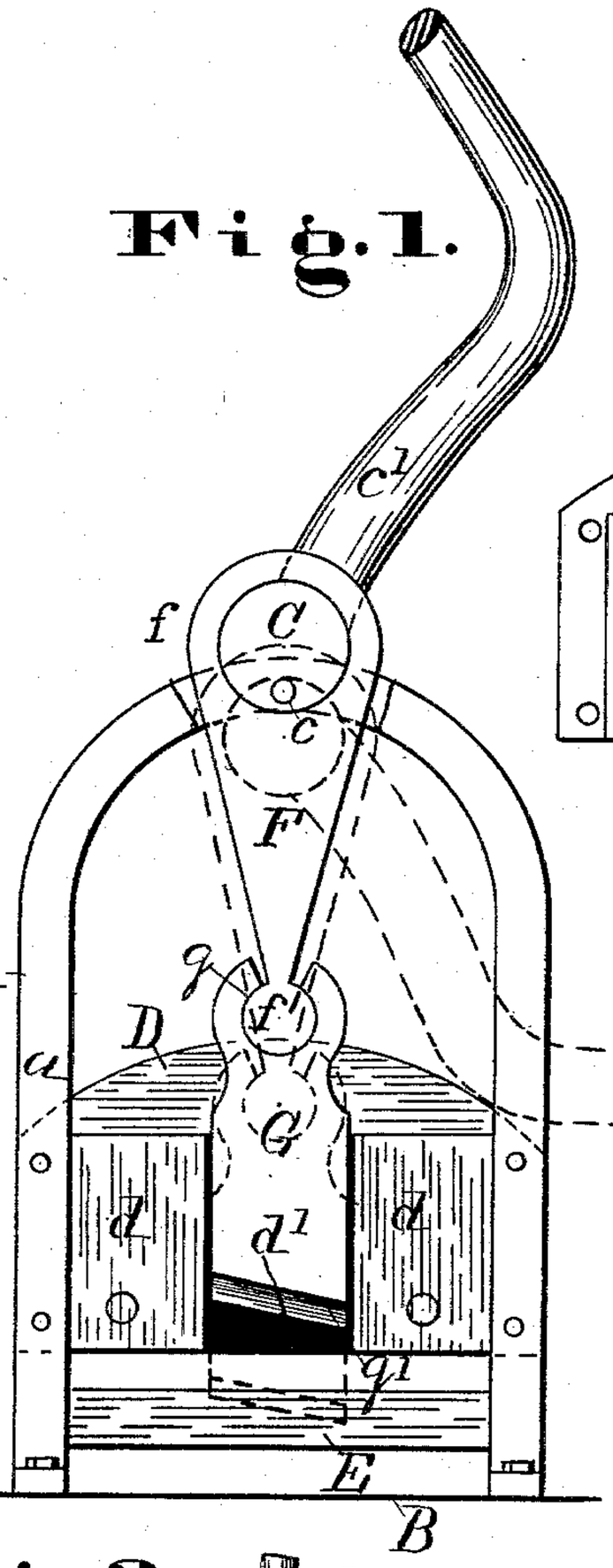


Fig. 4.

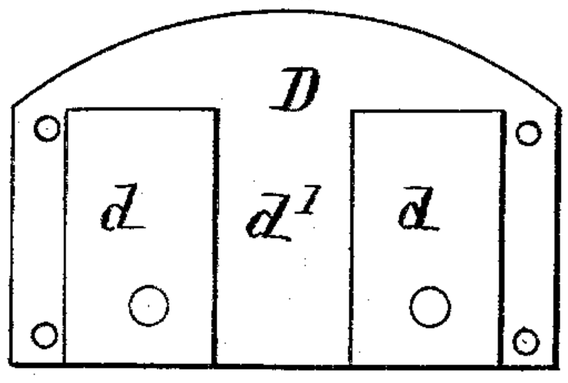


Fig. 3.

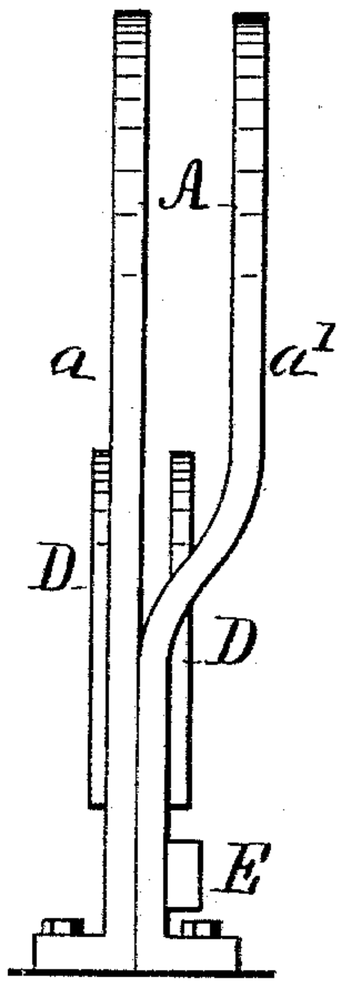
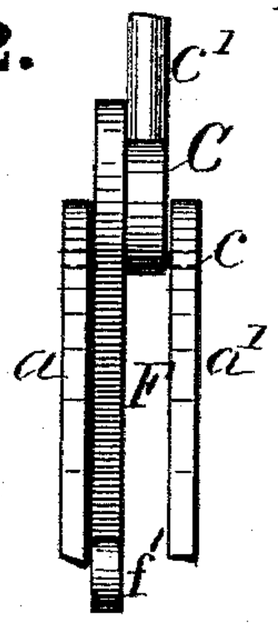


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID K. BEALS, OF STRASBURG, ILLINOIS.

SHEARS FOR IRON.

SPECIFICATION forming part of Letters Patent No. 323,389, dated August 4, 1885.

Application filed May 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, DAVID K. BEALS, a citizen of the United States, residing at Strasburg, in the county of Shelby and State of Illinois, have invented certain new and useful Improvements in Shears for Iron; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to shears for metal; and it consists in certain novel features of construction, which will be first fully described, and then pointed out in the claims.

In the drawings accompanying and forming part of this specification, Figure 1 represents a side view of the invention, partly broken away to show the joint of the eccentric and the upper blade sliding in proper ways. Fig. 2 is an edge view of the upper part of the machine, showing how the eccentric and depending arm are connected. Fig. 3 is an edge view of the frame, showing the shape of the uprights *a* and *a'* and the attachments of the plates D D. Fig 4 is a view of one of the plates D, showing the attachment of the clips *d d* and the formation of the slot *d'*.

In the accompanying drawings, A represents the standard or main frame of the machine, composed of two side portions or uprights, *a* and *a'*, of similar contour, and having their relative parts generally similar. The uprights *a* and *a'* have their tops similarly rounded or otherwise properly shaped, and their lower ends bolted oppositely to any proper support, B, as shown. Both uprights *a* and *a'* may be made equal, similar, and parallel; but the upright *a'* is preferably made with its upper end separated from and parallel to the upper part of *a*, and bending inward about its central portion, so as to lie flush against the inner surface of the upright *a*, to which it is properly secured.

C is an eccentric pivoted between the uprights *a* and *a'* at the point *c* in the median line at the top of the frame A, and *c'* is an arm or lever attached to the same, by means of which it may be rotated.

D D are plates fixed transversely across the frame A near its central portion, one of which plates is fixed to the outer surface of the upright *a*, and the other to the outer surface of the upright *a'* opposite and parallel to the former.

d and *d* are side clips fixed between and separating the plates D D in such manner as to leave centrally between the same the vertical rectangular slot *d'*, for a purpose hereinafter mentioned.

E is the lower blade of the shears, (or a bar to support the metal sheet when only one blade is used,) the same being fixed transversely across the frame A at any proper point to bring it within acting distance of the upper blade. The blade or bar E is preferably fixed to the outer surface of the upright *a* horizontally below the bend of the same.

F is an arm depending from the eccentric C, which fits snugly into a proper opening, *f*, in the upper end of the same, and *f'* the lower end of said arm, made circular or spherical, so as to form a proper joint with a socket fixed to the upper edge of the bar which carries the upper blade of the machine.

G is a rectangular piece of metal fitting and sliding vertically within the slot *d'* between the plates D D. The upper end of said piece has made in it the proper circular or spherical opening, *g*, to form with the lower rounded end of the arm F a ball-and-socket joint, *g'*, in the lower edge of the piece G, and is formed with a suitable cutting-blade having its cutting-edge inclined at a proper angle from the horizontal to give it, when acting in connection with its lower blade or bar, E, the necessary amount of shears.

It should be mentioned in connection with the description of the construction of the machine that the point *c* of the eccentric C is placed in such relation to the actuating-lever *c'* that at any and every point at which the latter may be it will exercise the same force upon the piece G, which carries the upper blade, *g'*.

By means of the two parallel uprights *a a'*, I provide a guide for the lever-arm *c'*, and also

efficient means for holding the eccentric and its ring in contact.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for cutting metal, the combination of the standard A, consisting of parallel upright frames *a a'*, the side plates, D D, the clips *d d*, arranged between said plates D and having their inner edges separated, whereby to provide the guide-slot *d'*, the lower blade, E, the upper blade, G, operating in slot *d'*, the lever C', and the connection F, substantially as set forth.

2. In a machine for cutting metal, the combination of the parallel uprights *a a'*, the plates D, extended between the vertical arms of said uprights and provided centrally with an intermediate groove, *d'*, the knife E, the knife G, operating in slot *d'*, the eccentric C, pivoted between the upper ends of the uprights *a a'* and provided with lever-arm *c'*, and the arm F, connected with knife G and having a circular opening fitted over eccentric C, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID K. BEALS.

Witnesses:
J. N. STORM,
MARTIN HAMM.