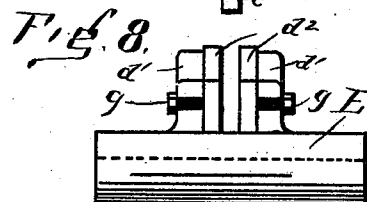
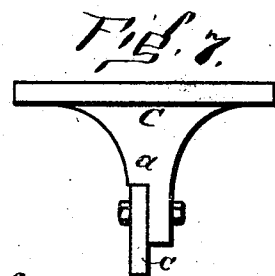
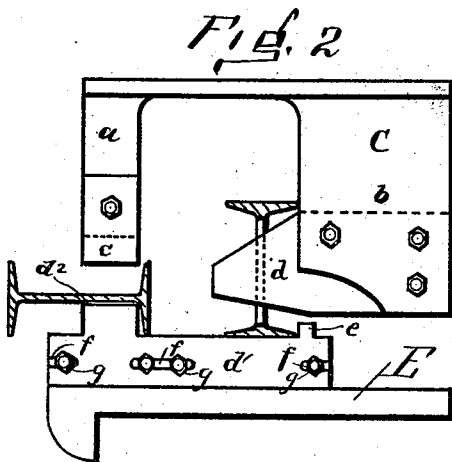
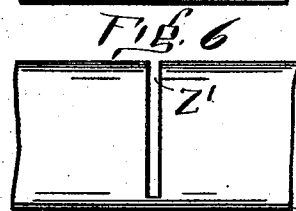
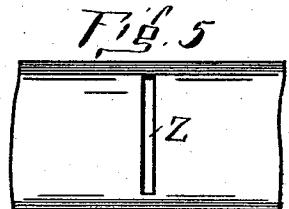
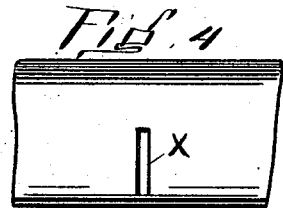
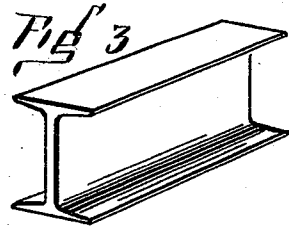
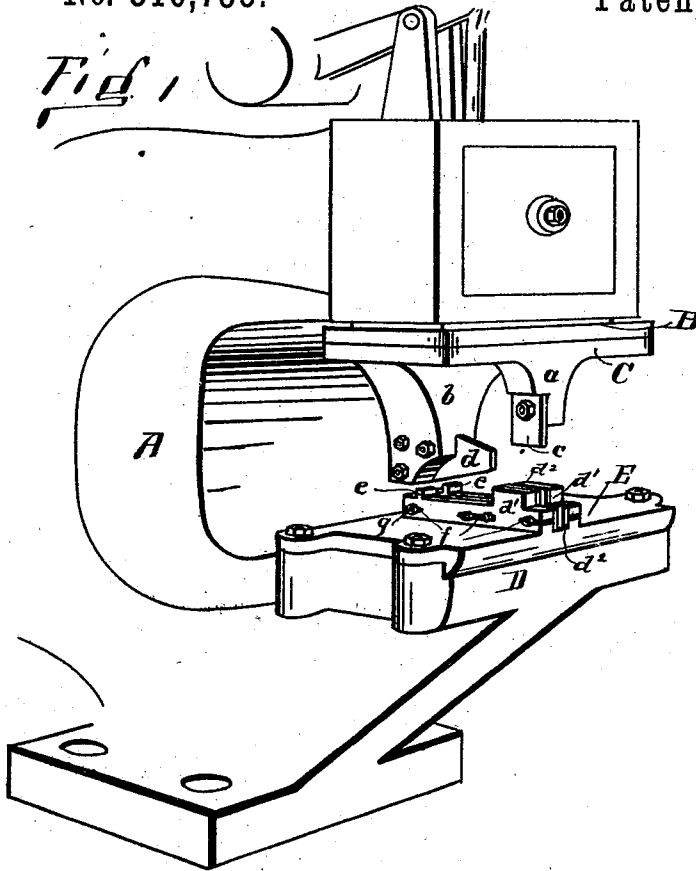


(No Model.)

D. HAMMOND.
SHAPE METAL CUTTING MACHINE.

No. 516,735.

Patented Mar. 20, 1894.



Witnesses:
J. H. Eller

INVENTOR,
David Hammond
By Fred W. Bond
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UNITED STATES PATENT OFFICE.

DAVID HAMMOND, OF CANTON, OHIO.

SHAPE-METAL-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 516,735, dated March 20, 1894.

Application filed October 9, 1893. Serial No. 487,549. (No model.)

To all whom it may concern:

Be it known that I, DAVID HAMMOND, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have
5 invented certain new and useful Improvements in Shape-Metal-Cutting Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings,
10 making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1, is a perspective view of the machine, showing my improvements properly attached, and adjusted. Fig. 2, is a side view of the die, showing a detached view of the blade carrying head or block. Fig. 3, is a view showing a section of an I beam. Figs. 4, 5, and 6, are views of beams, showing different cuts, to illustrate the manner of cutting a beam. Fig. 7, is an end view of the head or block, showing one of the cutting blades properly attached thereto. Fig. 8, is an end view of the die.

25 The present invention has relation to machines designed, and calculated for cutting metal beams or bars of various shapes, and angles, and it consists in the different parts, and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

35 In the accompanying drawings A represents the body of the machine which is constructed in the ordinary manner, reference being had to properly attaching my improvements.

It will be understood that the body A is to be provided with the necessary machinery to communicate a reciprocating movement to the plunger B, which machinery has no reference to the present invention, except to be used in connection with my improvements.

45 To the bottom or under side of the plunger B, is securely attached the block, or head C, which block or head is provided with the downwardly extended arms *a* and *b*, which arms may be located, and arranged substantially as illustrated in Fig. 1. To the arm *a*
50 is securely attached the cutting blade *c*, which

blade is designed for cutting the web of I beam or channel bars. To the arm *b*, is securely attached the cutting blade *d*, which blade is especially designed for cutting the flanges of I
55 beams or channel bars.

In the drawings I have illustrated my improvement applied to the cutting of I beams or bars; but it will be understood that my improvement can be applied to the cutting of all
60 forms of angled beams or bars, without departing from the nature of my invention.

To the bed D is securely attached the die plate E, which plate is provided with the flanges *d'*, said flanges being for the purpose
65 of holding the dies *d''* in proper position and adjustment. For the purpose of bringing the bars or beams designed to be cut in proper position with reference to the cutting blade
70 *d* the lugs or stops *e* are provided, which stops are preferably formed integral with the flanges *d'*. For the purpose of providing a means for resting the web of a channel bar or I beam upon the die, and at the same time clearing the flanges of said beams or bars the die and
75 flanges are elevated directly below the cutting blade *c*. For the purpose of adjusting the dies *d''* longitudinally, the slots *f* are formed in the flanges *d'*, and said dies securely held at the desired point of adjustment by means
80 of the clamping bolts *g* or their equivalents. In use the web of the bar or beam is first cut, and if the web is of greater width than the width of the cutting blade *c*, a sufficient number of cuts is given the web to entirely cut it.
85

In Figs. 4 and 5 the first two cuts are represented at X and Z. After the web has been properly cut the bar or beam is placed in the position illustrated in Fig. 2, which position brings the bar or beam in proper position for
90 the blade *d*, to cut the flange, which cut is represented at Z' Fig. 6, after this cut has been made the bar or beam is turned upside down, and the final cut made. For the purpose of providing a shear cut with the blade
95 *d*, said blade is beveled as illustrated in Figs. 1 and 2.

In use I prefer to have both cutting blades attached to one head or block; but it will be understood that a different plunger and head
100 can be used for each cutting blade without departing from the nature of my invention.

It will be understood that the cutting blade *c* may be formed of sufficient width to cut the entire width of the web at one operation; but in use it is not necessary that the entire width of the web be cut at one stroke as any desired number of strokes may be given.

For the purpose of providing a continuous down cut, the blades *c* and *d* are rigidly attached to the arms *a* and *b*, which blades follow the movements of the arms. For the purpose of providing a means that will cut both the web and the flanges of an I beam or channel bar by the up and down movement of the cutting blades, a die is so formed that the bar designed to be cut can be turned to bring the part designed to be cut into proper position with reference to the die and the cutting blades. Another reason for securely attaching the blades to the arms is to provide for direct action upon that part of the bar calculated to be cut.

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

1. The combination of the body A, provided with a plunger, the block or head C, provided with the arms *a* and *b*, having rigidly fixed to said arms the cutting blades *c* and *d*, dies *d*²

located below the cutting blades, the bed D, and the plate E, all arranged substantially as and for the purpose specified.

2. The combination of the body A, the plunger B, the block or head C, the arm *b*, having rigidly fixed to said arm the cutting blade *d*, the dies *d*², provided with elevated portions, or parts located below the cutting blades, the bed D, the plate E, provided with flanges and means for holding the dies in proper adjustment, substantially as and for the purpose specified.

3. The combination of the body A, the plunger B, the block or head C, provided with the arms *a* and *b* having rigidly fixed to said arms, the cutting blades *c* and *d*, the dies *d*² provided with elevated portions, the bed D, and the plate E, provided with flanges, having the stops or lugs *e* and means for holding the dies in proper adjustment, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID HAMMOND.

Witnesses·

F. W. BOND,

PETER J. COLLINS.