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L. J. WANASEK
METAL BENDING MACHINE

2,401,031

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Fig. 1.

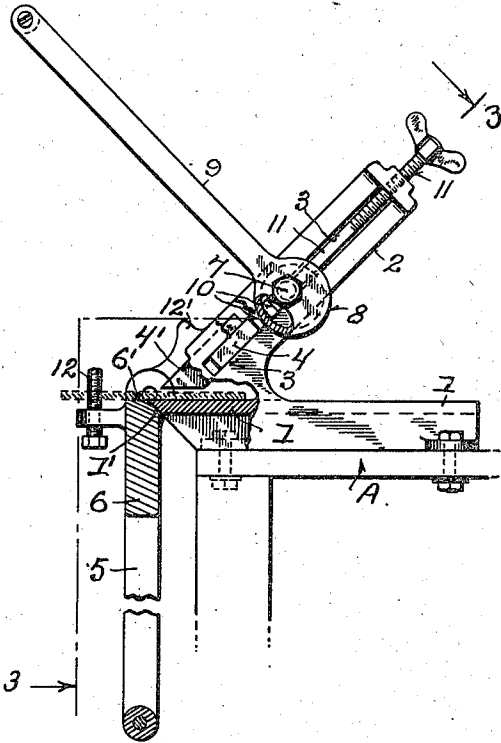


Fig. 3.

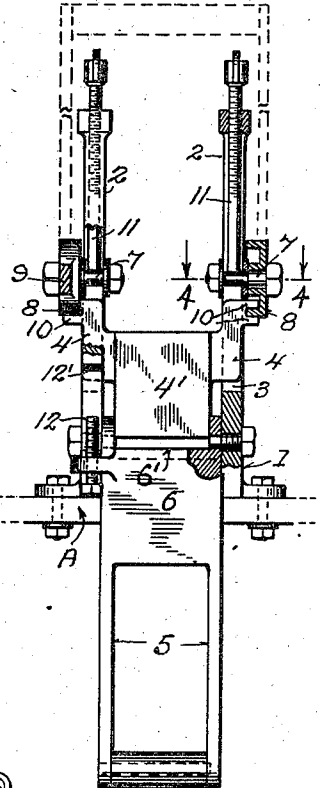


Fig. 2.

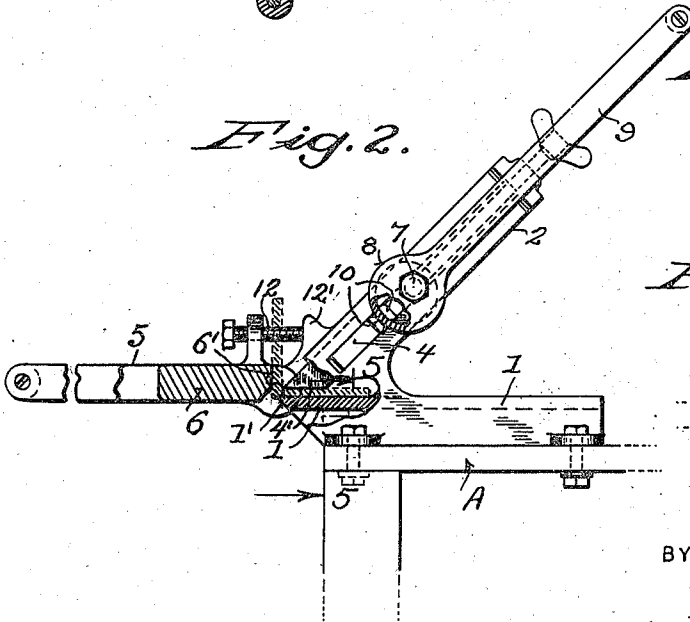


Fig. 4.

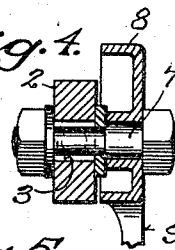
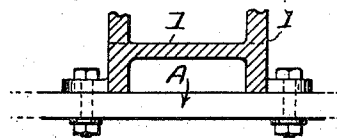


Fig. 5.



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METAL-BENDING MACHINE

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Application October 12, 1944, Serial No. 558,369

2 Claims. (Cl. 153-16)

My invention refers to metal bending machines and it has for its object to provide a simple, durable and economically constructed machine.

The specific object of my invention is to provide a bed having angle disposed arms in which is mounted a reciprocative head for clamping metal, in conjunction with an oscillatory anvil for bending the metal at a predetermined angle under lever control.

With the above and other minor objects in view, my invention consists in certain peculiarities of construction and combination of parts as will be fully set forth hereinafter with reference to the accompanying drawing and subsequently claimed.

In the drawing:

Figure 1 represents a side elevation of a machine embodying the features of my invention, with parts broken away and in section to more clearly illustrate structural features.

Figure 2 a similar view illustrating the machine after it has completed a bending operation.

Figure 3 is a view in elevation taken from planes indicated by line 3-3 in Figure 1, with parts in section.

Figure 4 an enlarged detailed sectional elevation of the eccentric actuating mechanism, the section being indicated by line 4-4 of Figure 3. And

Figure 5 a fragmentary sectional end view particularly illustrating the machine bed, the section being indicated by line 5-5 of Figure 2.

Referring by characters to the drawing, A indicates any standard bench having secured thereto a bed 1, the front end 1' of which is beveled. The side walls of the bed, at its front end, have extending upwardly therefrom a pair of rearwardly inclined angle arms 2, which arms are formed with slots 3. Reciprocatively mounted in the arm slots are wings 4 of a clamping head 4', the bottom end of the head being vertically tapered to a point in approximate alignment with the end 1' of the bed.

A stirrup 5 is pivotally mounted between the bed arms in close proximity to the front bed edge and the knife edge end of the clamping head 4'. The stirrup is also formed at its pivoted end with an anvil 6. The upper face 6' of the anvil being upon the same plane as the bed face, and it is also beveled at one edge to nest snugly against the front beveled edge of the bed when the stirrup is in its normal inactive position.

Adjustably mounted in the arm slots above the wing head are aligned trunnion bolts 7, which

bolts carry flanged eccentrics 8, the same having connected levers 9 extended therefrom.

The wings 4 of the head terminate with jaws 10, which jaws engage the flanged edge of the eccentrics 8. When said eccentrics are properly aligned and adjusted they are held in their position by rods 11, which are in threaded union with caps of the arms and their lower ends about the trunnion bolts. Hence, when it is desired to adjust the space between the end of the head 1' and the face of the bed for thick or thin material, the bolts 7, and their associated parts, are moved up and down and thereafter set to resist bending strain by the rods.

From the foregoing description when it is desired to bend a strip of metal, it is fed through the bed to the bending point of the beveled edge with the desired length forward of said edge. The lever 9 is then rotated from left to right, whereby the eccentrics will force the head 4' solidly against the metal at the point of bending. The stirrup carrying the anvil 6 is then rotated upon its axis in a clockwise direction, whereby it will be moved to the position indicated in Figure 2, causing its flat anvil face to bend the material at a right angle, if a right angle bend is required. It should be noted that the lever 9, which may be termed a bail in one piece with the eccentrics, when moved back and forth, will cause the clamping head 4' to be positively raised and lowered in a bending operation and that the said clamping head is positively adjusted up and down for different thicknesses of material to be bent, and when so adjusted the rods 3 will prevent slippage. Owing to the leverage, this bending operation requires a minimum of power and can be effected quickly. Thereafter the stirrup is dropped to its inactive normal position and the metal strip or rod may be removed.

It will be noted that the stirrup is provided with an adjustable set-screw 12 which engages a stop lug 12' that extends from the arm or arms, whereby the correct angle is assured, and should it be desired to form an acute angle, the set-screw is adjusted to permit further clockwise movement of the stirrup.

While I have shown and described my invention minutely as to detail, it is understood that I may vary the structural features within the scope of the claims.

I claim:

1. A bending machine comprising a bed terminating with a front beveled edge, rearwardly inclined arms extending from the front of said

bed having slots therein, a clamping head having wings slidable in the arm slots said clamping head having a beveled edge aligned with the edge of the bed, pairs of spaced jaws extending from the wings, adjustable trunnion bolts extending through the arm slots, flanged eccentrics journaled on the bolts engaging the spaced jaws, whereby the clamping head is positively raised or lowered upon oscillation of the eccentrics, rods in threaded union with the top portion of the inclined arms in abutting engagement with the trunnion bolts, whereby said bolts are held against slippage, connected actuating levers extending from the eccentrics forming a bail, a bending lever pivoted to the bed in approximate alignment with the front beveled edge thereof, and a flat faced anvil carried by the bending lever normally aligned with the front edge of the bed.

2. A bending machine comprising a bed terminating with a front beveled edge, rearwardly inclined arms extending from the front of said

bed having slots therein, a clamping head having wings slidable in the arm slots said clamping head having a beveled edge aligned with the edge of the bed, pairs of spaced jaws extending from the wings, adjustable trunnion bolts extending through the arm slots, flanged eccentrics journaled on the bolts engaging the spaced jaws, whereby the clamping head is positively raised or lowered upon oscillation of the eccentrics, rods in threaded union with the top portion of the inclined arms in abutting engagement with the trunnion bolts, whereby said bolts are held against slippage, connected actuating levers extending from the eccentrics forming a bail, a bending lever pivoted to the bed in approximate alignment with the front beveled edge thereof, a flat faced anvil carried by the bending lever normally aligned with the front edge of the bed, and adjustable set screws carried by the bail engageable with the inclined arms.

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