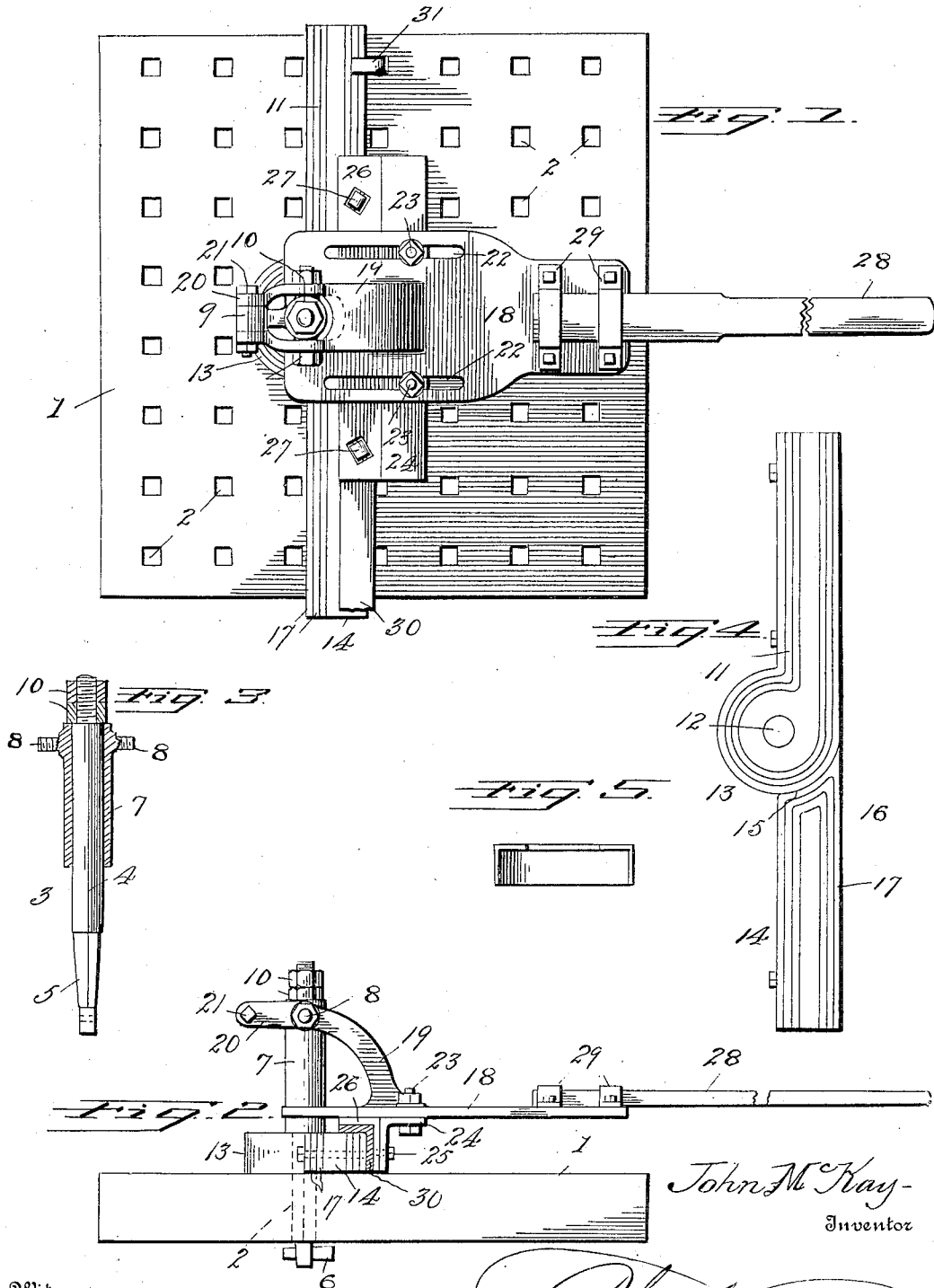


No. 827,553.

PATENTED JULY 31, 1906.

J. McKAY.
METAL BENDING MACHINE.

APPLICATION FILED DEC. 29, 1905.



Witnesses

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JOHN McKAY, OF NEWPORT NEWS, VIRGINIA.

METAL-BENDING MACHINE.

No. 827,553.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed December 29, 1905. Serial No. 293,842.

To all whom it may concern:

Be it known that I, JOHN McKAY, a citizen of the United States, residing at Newport News, in the county of Warwick and State of Virginia, have invented certain new and useful Improvements in Metal-Bending Machines, of which the following is a specification.

My invention relates to improvements in metal-bending machines, and refers to a machine of this character particularly adapted for bending sheet metal or angle-irons.

The primary object of the invention is to provide a machine for bending metal which may be quickly adjusted to receive material of different size and shape and to effect different angles of bend and which will accomplish the bending operation with a small amount of friction.

Another object of the invention is to provide a device of the character set forth which will be simple and durable in construction and consisting of but few parts, and therefore not liable to get out of order.

With these and other objects in view my invention consists of a bending-machine embodying a bed-plate, a post or spindle removably secured to the bed-plate, a former mounted on the spindle, said former consisting of a stationary member and a movable member, a plate pivotally secured to the spindle, a shaper-bar carried by said plate, an operating-lever secured to the plate, and means for locking the shaper upon the material to be bent.

My invention further consists of a bending-machine embodying certain other novel features of construction, combination, and arrangement of parts, substantially as disclosed herein.

Figure 1 is a top plan view of my improved bending-machine. Fig. 2 is a side elevation thereof, showing the material to be bent in section. Fig. 3 is a side elevation of the pintle or post, showing the sleeve and securing-nuts in section. Fig. 4 is a top plan view of the hinged former over which the work is bent. Fig. 5 shows one of the forms of the material after being curved in the bending-machine.

Referring to the drawings, the numeral 1 designates the bed-plate of my machine, which may be of any desired size and is formed with rectangular openings 2 at intervals therein. A post or pintle 3, having the

cylindrical portion 4, is formed on the lower end with the squared portion 5, adapted to fit in the openings in the bed-plate, and the post may be secured in the bed-plate by a cotter 6, as shown, or by any other suitable means. Mounted upon the post is the sleeve 7, provided near the upper end thereof with the pair of diametrically opposite lugs or extensions 8, and between these lugs and at right angles thereto is the locking extension 9. The sleeve is secured upon the post by means of the nuts 10. Upon the base of the post is mounted the former over which the metal is bent. This former consists of the stationary member 11, having an opening 12 for the reception of the post and the rounded end 13, and the movable member 14, hinged to the stationary member and having the curved recessed end 15, engaging the rounded end of the stationary member. The former as a whole when in the normal extended position presents a straight edge 16, over which the metal is bent, as will be described. The former is composed of laminations or leaves 17, so that it is adjustable. By removing the outer of these leaves the radius of bend is decreased.

A forked shaper-plate 18 has formed integral therewith an upwardly-extending arm 19, having openings therein which engage the lugs 8 on the sleeve and pivotally secure the plate to said sleeve. The arm 19 is provided with extensions 20 in rear of the pivotal point, which engage the locking extension 9 on the sleeve, and a bolt 21, passed through openings formed in the extensions 20 and 9, respectively, serves to lock the plate in the position for bending. The shaper-plate is formed with longitudinal slots 22 near the sides thereof, and passing through these slots are the bolts 23, secured to the angle-iron 24. To this angle-iron is secured by bolts 25 the shaper-bar 26, which in this case is in the shape of an angle-iron. Rollers 27 are mounted in the shaper-bar at an angle corresponding to the radial movement of the shaper-plate. These rollers serve to reduce the friction necessarily occasioned during the bending operation. An operating handle or lever 28 is secured to the shaper-plate by the brackets 29. The material to be bent is secured between the former and shaper and is indicated in section at 30 in Fig. 2. The free end of the metal to be bent may be retained by means of a plug inserted in one of the

openings in the bed-plate. The stationary member of the former is secured to the bed by the dog or pin 31.

From this description, taken in connection with the drawings, the operation of the device will be readily understood and its advantages appreciated. As the shaper and former are movable upon the bed, materials of various sizes and shapes may be worked. The shaper-bar being adjustable to receive work of different thicknesses and the shaper-plate being locked when in adjusted position, there is no chance of accidental slipping or buckling of the work. By providing the adjustable former the work may be bent at various radii, as desired.

I claim—

1. In a bending-machine, the combination with a bed-plate, a post mounted on said bed, of a hinged former mounted on the post and having one of its ends secured to the bed, a sleeve on the post, a shaper-plate pivotally secured to the said sleeve and carrying a shaper-bar.

2. In a bending-machine, the combination with a bed-plate, a post mounted on said bed, a hinged former mounted on the post having one of its ends secured to the bed, of a sleeve on the post, a shaper pivotally secured to the sleeve, and means for locking the shaper in engagement with the metal to be bent.

3. In a metal-bending machine, the combination with a bed-plate and a post mounted on said bed, of a hinged former pivotally

mounted on the post and having one end secured to the bed-plate, a sleeve on the post, a shaper-plate pivotally secured to said sleeve, a shaper-bar adjustably secured to the shaper-plate, means carried by the plate to engage a lug on the sleeve and lock the shaper against the work.

4. In a bending-machine, the combination with a bed-plate having openings therein, a post secured in one of the openings, a hinged former on the post, one end of the former secured to the bed and the other end having radial movement thereon, a sleeve on the post, a shaper-plate pivotally secured to the sleeve, means for locking the plate in position on the sleeve, a shaper-bar adjustably secured to the shaper-plate.

5. A bending-machine comprising a bed-plate and a post mounted on said bed, a hinged former mounted on the post and having one end secured to the bed, said post forming a pintle for the hinged leaf of the former, said former adjustable to bends of various radii, a sleeve on the post, a shaper-plate pivotally secured to the sleeve, means for locking the plate in position on the sleeve and a shaper-bar adjustably secured to the plate.

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

JOHN MCKAY

Witnesses:

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W. C. OWENS