S. M. JOHNSON.

WIRE BENDER.

APPLICATION FILED APR. 23, 1919.

1,316,243. Patented Sept. 16, 1919.

Fig. 1.

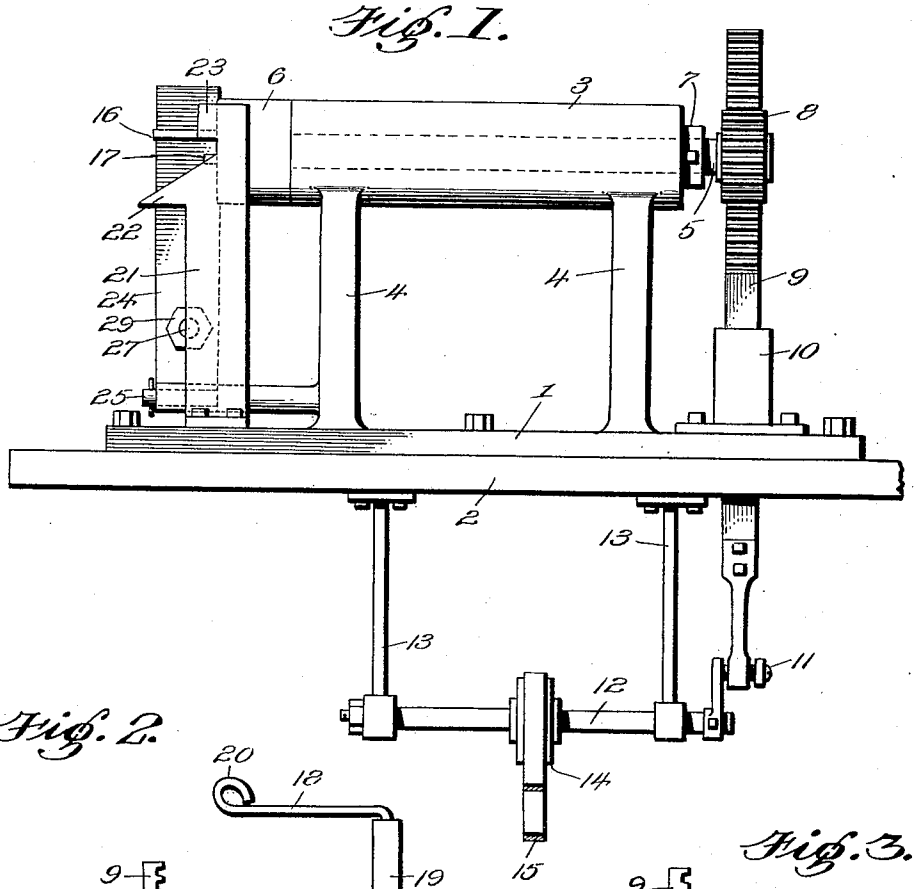


Fig. 2.

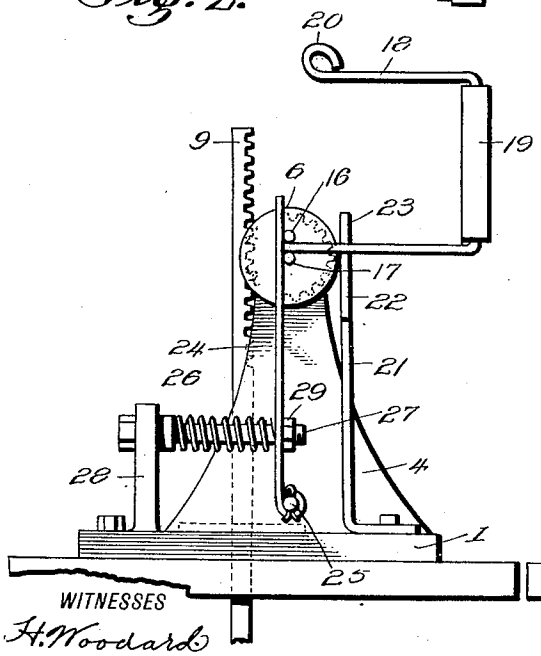
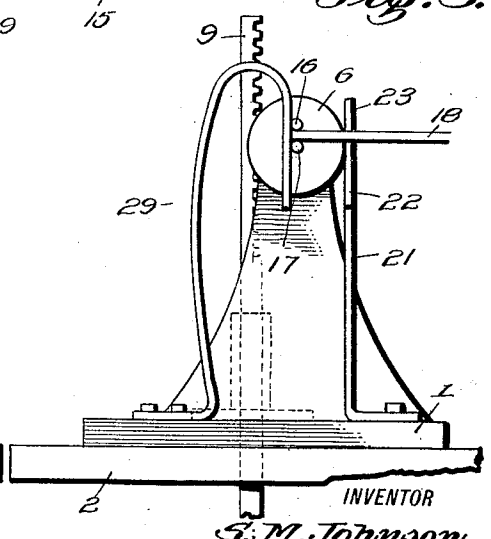


Fig. 3.



WITNESSES

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WIRE-BENDER.

1,316,243. Specification of Letters Patent. Patented Sept. 16, 1919.

Application filed April 23, 1919. Serial No. 292,025.

To all whom it may concern:

Be it known that I, SMITH M. JOHNSON, a citizen of the United States, and a resident of Middlefield, in the county of Geauga and State of Ohio, have invented certain new and useful Improvements in Wire-Benders, of which the following is a specification.

My invention is an improvement in wire benders, and has for its object to provide a device of the character specified especially adapted for forming the loops or eyes on bails, wherein a disk is provided, having pins extending laterally therefrom for engagement by the wire to bend the same when the disk is rotated, the device having a guide for facilitating the engagement of the wire with the pins, and having means for limiting the movement of the wire between the pins to the proper degree.

In the drawings:

Figure 1 is a front view of the improved bender;

Fig. 2 is an end view;

Fig. 3 is a similar view of a modified construction.

In the embodiment of the invention shown in Figs. 1 and 2, the machine comprises a suitable base 1 which may be secured to a table 2 or the like, and this base has a long bearing 3 connected therewith by means of standards 4, the bearing being horizontal. A shaft 5 is journaled in the bearing, and this shaft is provided at one end of the bearing with a cylindrical head or disk 6.

At the opposite end a collar 7 is adjustably connected with the shaft, to insure its proper position in the bearing, and beyond the collar a pinion 8 is secured to the shaft. A rack bar 9 is mounted to move vertically through the base and table in a bearing sleeve 10 secured to the base, and the lower end of the rack bar is connected with a crank 11 on an operating shaft 12 journaled in bearing brackets 13 depending from the table.

This shaft has a pulley 14 which may be connected by means of a belt 15 with a suitable source of power (not shown) for driving the operating shaft. A pair of pins 16 and 17 extends laterally from the outer face of the head 6, one of the pins 16 being eccentric to the disk and of greater length than the pin 17, which is concentric with the disk and shaft.

The wire 18 to be bent, which, in the present instance, is shown as partially formed in a handle 19 for a pail or the like, is inserted between the pins and is formed into the loop in a manner to be described. It will be understood that the pins are so spaced that the wire will just pass between them. Each of these bails, as shown, is substantially U-shaped, comprising a body upon which a grip is mounted to rotate, and arms in the free ends of which the loops or eyes 20 are formed. In order to form the loop or eye the free end of the wire is inserted between the pins 16 and 17, and it will be obvious that a rotation of the shaft 5 will cause the pin 16 to bend the wire around the pin 17 to form the loop 20.

To facilitate the proper spacing of the wire between the pins a guide 21 is secured to the base adjacent to the head 6. This guide has an extension 22 at its upper end, and this extension has an inclined upper face, extending upwardly and inwardly to the space between the pins, when the said pins are in a vertical plane. Just above the inner end of this surface is a lug 23 for limiting the upward movement of the wire with respect to the pins.

In placing the wire it is slid over the inclined surface of the extension 22 between the pins, and the head is then rotated to bend the wire. A spring stop is provided for limiting the movement of the wire between the pins to the proper extent. This stop is a plate 24 which is pivoted to a pin 25 on one of the standards 4 and the upper end of the plate is spring held at the proper position with respect to the head by means of a coil spring 26. This spring encircles a bolt 27 which passes at one end through an opening in the plate 24 and is held at the other by a bracket arm 26 on the base. A nut 29 is threaded on to the bolt on the opposite side of the plate from the spring.

In use, the bail, held as shown in Fig. 2, has one of its arms inserted between the pins 16 and 17, the inclined surface of the extension 22 acting as a guide for this purpose. The end of the wire is engaged with the spring stop 24, and now when the head is turned a loop or eye will be formed in the free end of the bail arm.

The construction shown in Fig. 3 is the same as that shown in Fig. 2, with the exception of the stop for the wire. The stop in this arrangement is a spring plate 29

which is secured at one end to the base and the other end is bent over and downward into position to be engaged by the bail wire 18 at the proper point.

I claim:

1. A device of the character specified comprising a suitable support, a shaft journaled on the support and provided at one end with a head, means for rotating the shaft, said head having an eccentric and a concentric pin on its outer face for engaging a wire between the same to bend the wire, and a yielding gage normally resting against the pins on the opposite side from where the wire is inserted.

2. In a device of the character specified, a head mounted to rotate and having an eccentric and a concentric pin on one face for engaging a wire between the same to bend the wire, and a yielding gage normally resting against the pins on the opposite side from where the wire is inserted.

SMITH M. JOHNSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."