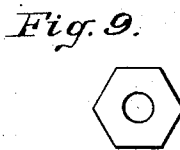
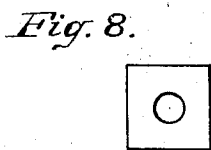
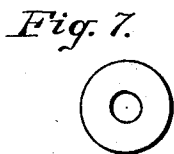
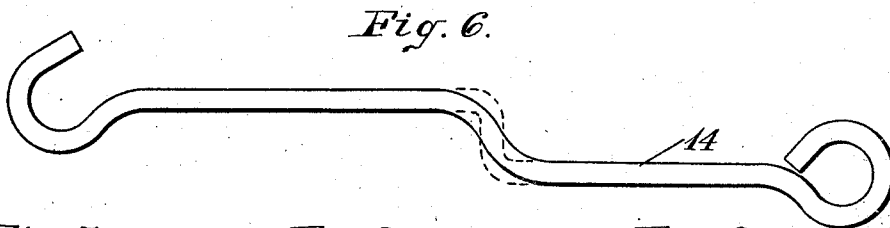
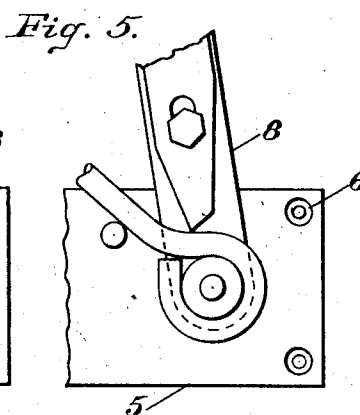
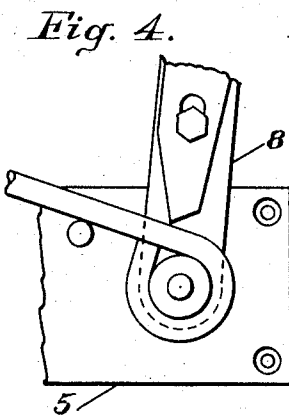
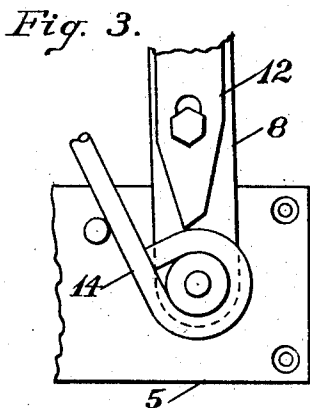
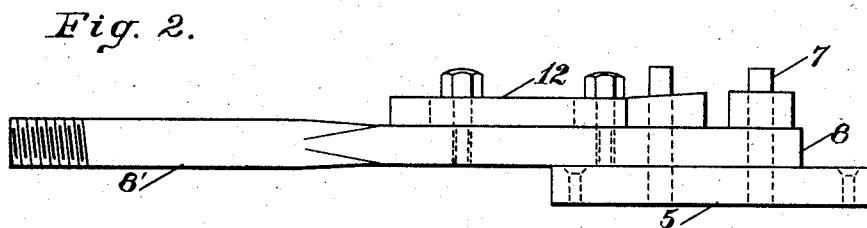
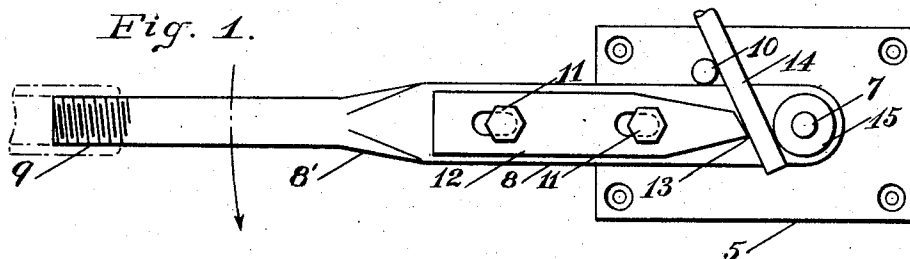


W. R. & J. E. BLACKMAN.
 BENDING MACHINE.
 APPLICATION FILED APR. 27, 1910.

997,364.

Patented July 11, 1911.



Witnesses:

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J. R. Grollope.

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John E. Blackman.
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UNITED STATES PATENT OFFICE.

WILLIAM R. BLACKMAN AND JOHN E. BLACKMAN, OF FITCHBURG, MASSACHUSETTS.

BENDING-MACHINE.

997,364.

Specification of Letters Patent. Patented July 11, 1911.

Application filed April 27, 1910. Serial No. 558,060.

To all whom it may concern:

Be it known that we, WILLIAM R. BLACKMAN and JOHN E. BLACKMAN, citizens of the United States of America, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Bending-Machines, of which the following is a specification.

This invention relates to a metal-bending tool and has for its object the provision of a device of the character described, adapted to bend hooks and eyes of various forms or to bend metal bars to various shapes.

It is a further object of the invention to provide a device capable of accomplishing the foregoing objects and of such light weight and small size that it may be readily transported from place to place. This tool is therefore particularly useful for plumbers and other mechanics, forming a part of their kit of tools so that they may have a metal-bending tool at hand at all times and thereby obviate the necessity of returning to the shop to bend bars, pipes, or other pieces of metal.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing: Figure 1 is a side elevation of a metal-bending tool constructed in accordance with the invention; Fig. 2 is an edge view thereof; Fig. 3 is a side elevation illustrating one position of the tool when forming an eyelet; Fig. 4 illustrates another position of the tool; Fig. 5, a third position of the tool; Fig. 6 illustrates a metal bar, several portions thereof having been bent by this tool; Fig. 7 illustrates a form of collar employed when forming round eyelets; Fig. 8 illustrates the form of collar employed when forming square eyelets; and, Fig. 9 illustrates a form of collar employed when forming hexagonal eyelets.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawing: The numeral 5 designates a plate adapted to be clamped in a vise or to be fastened by screws, not shown, to a bench or post, said screws passing through the screw-holes 6. Pivotaly mounted upon a pin 7 is a swinging lever 8, the outer portion thereof 8' forming a handle. If desired, this handle may be lengthened by screwing an additional piece

9 thereon. An outstanding stud 10 projects from the face of the plate 5.

Adjustably mounted upon the lever 8 by means of the slot and bolt connections 11 is a plate 12 the end of which has a sharpened or chiseled edge 13 to adapt it to bite into the metal of the rod or other piece 14 to be bent. The pin or stud 7 receives a collar 15 and the shape of this collar determines the shape of the eyelet that is formed. If this stud carries a round collar such as is shown in Fig. 7, a round eyelet will be formed; and if it carries either of the collars shown in Figs. 8 and 9, a square or hexagonal eyelet will be formed.

In operation the metal piece 14 to be bent is placed in the position illustrated in Fig. 1, and the handle 8' is then moved in the direction of the arrow. The sharpened edge 13 at this time bites into the metal of the piece 14 and carries it around the collar 15, bending it to the shape of said collar. In Fig. 3 the lever 8 is shown after it has completed its travel around the collar. Then the piece 14 is removed from the collar and turned over so as to bring its straight side against the sharpened edge of the plate 12 as illustrated in Fig. 4. Further movement of the lever will then bend the eyelet to the form illustrated in Fig. 5. Fig. 6 illustrates some of the bends that may be made by means of this tool. If desired, the wire may be tapped with a hammer to cause it to more closely conform to the shape of the collar if this be found necessary. In any event, the removable collar renders it possible to secure bends of varying forms. When a welded eye is desired, the end of the wire may be prepared for welding before the eye is bent to form. In other words, a sufficient length of wire is set in advance of the sharpened edge 13 to produce the desired weld, after which the end of the wire is prepared for welding and the eyelet is bent to form, as hereinbefore set forth.

From the foregoing description it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its pur-

view such changes as may be made within the scope of the appended claim.

Having described our invention, what we claim is:

5 A portable bending machine comprising a base plate having a series of screw openings therein; a pin projecting outwardly beyond the longitudinal center of the plate, a lever pivoted thereon at one end and having a
10 flattened portion for engagement with the plate, bolts carried by the lever, a slotted member engaged slidably with the bolts and having a sharpened inner end adapted to bite into the piece to be bent, a stud also pro-

jecting upwardly from the plate to limit the 15 movements of the lever and anchor said piece and collars adapted to be rotatably and removably fitted on said pin, whereby eye-lets of different sizes and shapes may be formed. 20

In testimony whereof, we affix our signatures in the presence of two witnesses.

WILLIAM R. BLACKMAN.
JOHN E. BLACKMAN.

Witnesses:

GARDNER K. HUDSON,
O. H. TAFT.

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