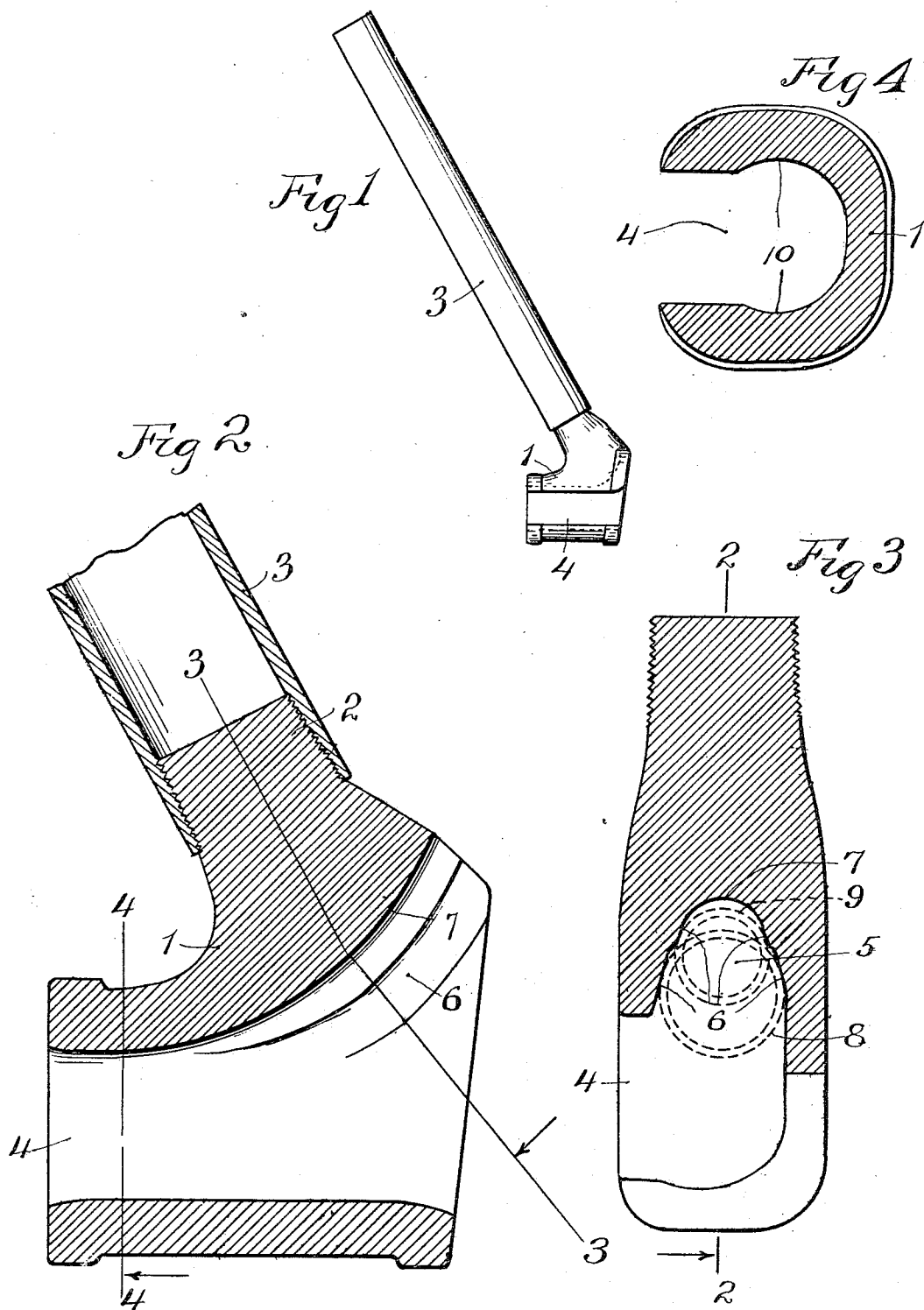


M. M. SILVEY.
 PIPE BENDER.
 APPLICATION FILED JUNE 10, 1918.

1,298,106.

Patented Mar. 25, 1919.



WITNESS:

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PIPE-BENDER.

1,298,166.

Specification of Letters Patent.

Patented Mar. 25, 1919.

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To all whom it may concern:

Be it known that I, MONTTIE M. SILVEY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Pipe-Benders, of which the following is a specification.

My invention relates to improvements in pipe benders.

The object of my invention is to provide a novel pipe bender, which is simple in construction, cheap to manufacture, which is strong and durable, which may be easily operated, and which in bending the pipe will not kink it.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing which illustrates the preferred embodiment of my invention,

Figure 1 is a perspective view of my improved pipe bender.

Fig. 2 is an enlarged vertical sectional view on the line 2—2 of Fig. 3, of the head and a lower portion of the handle.

Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a cross section on the line 4—4 of Fig. 2.

Similar reference characters designate similar parts in the different views.

1 designates the head of the pipe bender which is provided with an inclined screw-threaded stem 2, to which is fitted the screw-threaded lower end of a handle 3, which, preferably, is a piece of pipe.

The head 1 in one side is provided with a longitudinal groove 4 which extends from one end of the head to the other end, and the side walls of which are undercut, as shown in Fig. 4, to prevent the pipe accidentally slipping sidewise out of the groove 4.

The groove 4 at one end is provided with a laterally curved portion 5 provided with oppositely disposed converging side walls 6, Fig. 3, which are preferably straight and which are adapted to embrace opposite sides of the pipe which is to be bent.

The bottom 7 of the laterally curved portion 5 is outside of and spaced apart from any circle to which the converging side walls 6 are tangent. The bottom 7 is thus spaced apart from any pipe which has its side walls embraced by the converging walls 6. By reason of this construction, that por-

tion of the pipe which is at the inner side and next to the bottom 7 will not touch the bottom, but the portion of the pipe which is being bent will be held and embraced only at its opposite sides. This will permit the free compression of the material during the bending operation, thereby preventing the formation of transverse kinks in the inner curved portion of the pipe, such as are formed in pipe benders in which the pipe in the bending operation bears against the bottom of a groove.

In Fig. 3, I have shown in dotted lines two pipes 8 and 9 of different diameters in positions which they will respectively assume in the bender in the bending operation. It will be noted that the walls 6 are tangent to opposite sides of each of the pipes, and that the bottom 7 is spaced apart from each of the pipes and is outside of and spaced apart from any circle to which the walls 6 are tangent. The pipes 8 and 9 will thus be held only at opposite sides, thus leaving the upper sides of the pipes, as viewed in Fig. 3, spaced apart from the bottom 7 so as to be free to compress. If the upper sides of the pipes 8 or 9 touch against the bottom 7, the friction of the latter upon the pipe would hold the material from free compression and kinks would result.

It will thus be seen that the bender is adapted to bend a pipe of any diameter, which will enter the groove 4 laterally and which is of sufficient diameter to prevent its touching the bottom 7 of the curved portion of the groove.

The under cut portions 10 of the side walls of the groove 4, Fig. 4, prevent the pipe from accidentally slipping laterally out of the groove 4.

In the operation of my invention, the pipe is slipped laterally in the groove 4 and laid on the floor, with the handle 3 in the upwardly extending inclined position shown in Fig. 1. The handle 3 is then swung to the right, as viewed in Figs. 1 and 2, upon which the pipe will engage the converging side walls 6 of the laterally curved portion 5 and will be bent without kinks being formed in the concave side of the bent portion.

By slipping the pipe lengthwise to the left, any desired length may be bent, a small portion at a time. The bender may then be slipped lengthwise from the pipe.

I do not limit my invention to the struc-

ture shown and described, as modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention.

5 What I claim is:

1. A pipe bender comprising a head and a handle attached thereto, the head having in one side extending from end to end a longitudinal groove for receiving the pipe to be bent, the groove at one end having a laterally curved portion with converging side walls for embracing the pipe, the bottom of said curved portion between said side walls being outside of and spaced apart from a circle to which the side walls are tangent.

2. A pipe bender comprising a head and a handle attached thereto, the head having in one side extending from end to end a longitudinal groove for receiving the pipe to be bent, the groove at one end having a laterally curved portion with converging straight side walls for embracing the pipe, the bottom of said curved portion between said side walls being outside of and spaced apart from a circle to which the side walls are tangent.

3. A pipe bender comprising a head and a handle attached thereto, the head having in one side extending from end to end a longitudinal groove for receiving the pipe to be bent, the side walls of the groove being undercut, the groove at one end having a laterally curved portion with converging side walls for embracing the pipe, the bottom of said curved portion being outside of and spaced apart from a circle to which the converging walls are tangent.

4. A pipe bender comprising a head and a handle attached thereto, the head having in one side extending from end to end a longitudinal groove for receiving the pipe to be bent, the side walls of the groove being undercut, the groove at one end having a laterally curved portion with straight converging side walls for embracing the pipe, the bottom of said converging portion being outside of and spaced apart from a circle to which the converging walls are tangent.

In testimony whereof I have signed my name to this specification.

MONTTIE M. SILVEY.