F. W. HALLIN.

CONDUIT VISE.

APPLICATION FILED JULY 15, 1918.

1,317,973.

Patented Oct. 7, 1919.

2 SHEETS—SHEET 1.

Fig. 4.

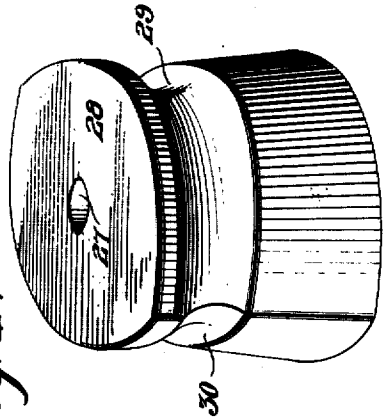
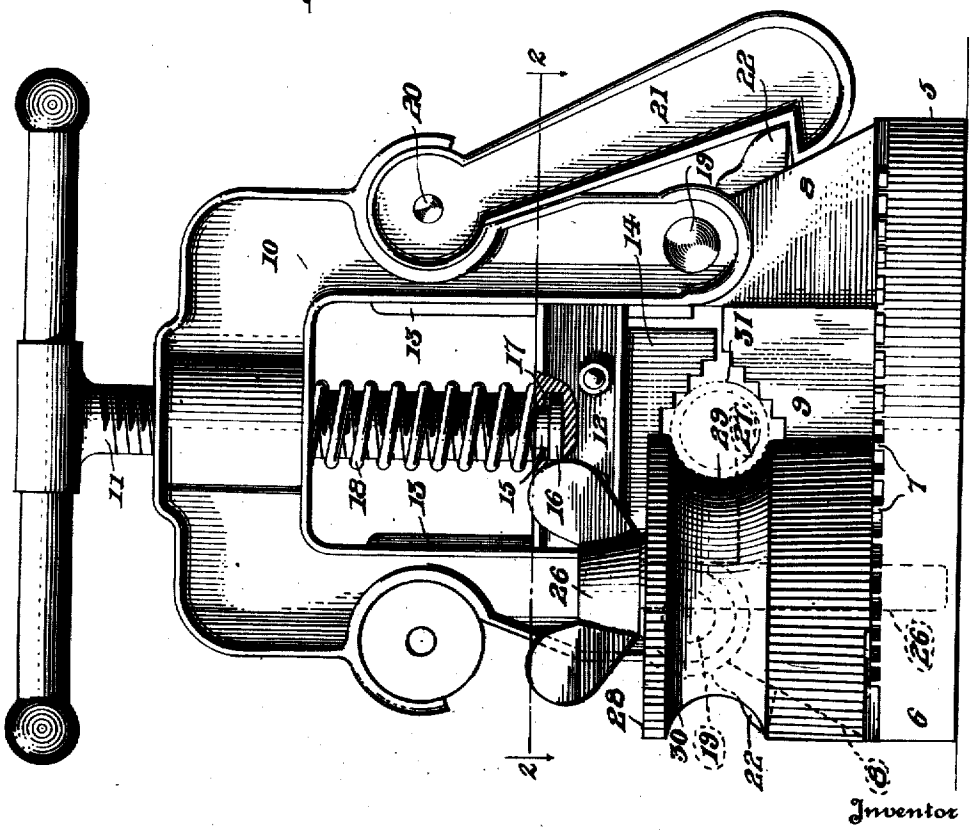


Fig. 1.



Witness

G. E. Walling

Inventor

Frank W. Hallin

By R. Morgan Elliott & Co

Attorney

F. W. HALLIN.

CONDUIT VISE.

APPLICATION FILED JULY 15, 1918.

1,317,973.

Patented Oct. 7, 1919.

2 SHEETS—SHEET 2.

Fig. 2.

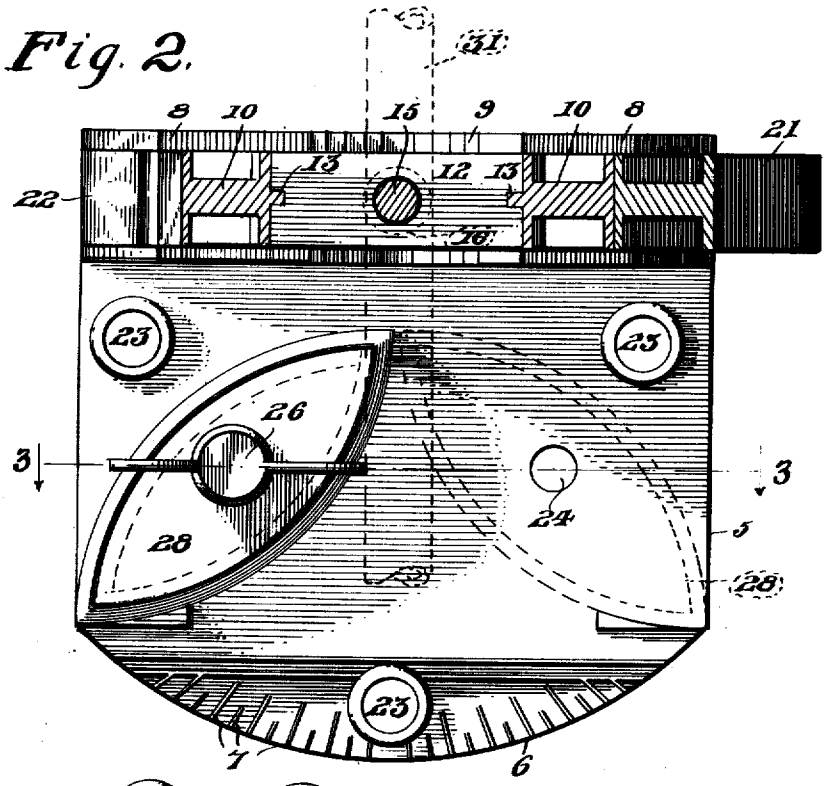
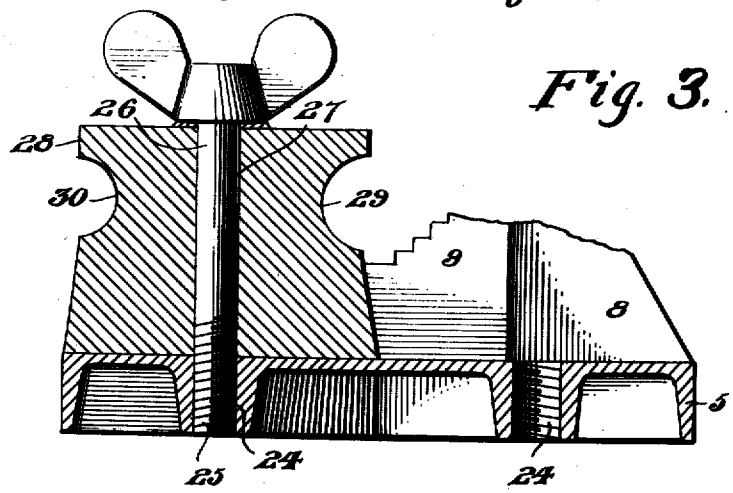


Fig. 3.



Witness
H. E. Walling.

Inventor
Frank W. Hallin

By R. Morgan Elliott & Co

Attorney.

UNITED STATES PATENT OFFICE.

FRANK WM. HALLIN, OF CRISTOBAL, CANAL ZONE.

CONDUIT-VISE.

1,317,973. Specification of Letters Patent. Patented Oct. 7, 1919.

Application filed July 15, 1918. Serial No. 244,923.

To all whom it may concern:

Be it known that I, FRANK WILLIAM HALLIN, a citizen of the United States of America, residing at Cristobal, in the Canal Zone, have invented certain new and useful Improvements in Conduit-Vises, of which the following is a specification.

This invention relates to certain new and useful improvements in pipe bending vises of that type wherein reversible dies are utilized against which the pipe or conduit may be shaped.

The primary object of this invention is the provision of a pipe bending vise having a novel form of die with provision for securing the same at opposite sides of the vise to permit bending of the pipe or conduit in either direction.

A further object of the invention is the provision of a means for holding the pipe while being bent which is of yieldable construction so that the pipe may be moved relative thereto by force although securely held against movement when being bent.

A still further object of the invention is the provision of a pipe bending vise having a reversible die of substantially flat iron form whose opposite sides are grooved in different sizes to accommodate pipes of varying diameters.

With these general objects in view and others that will appear as the nature of the invention is more fully understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and then claimed.

In the drawings forming a part of this application and in which like designating numerals refer to corresponding parts throughout the several views,

Figure 1 is a rear elevational view of the present invention with a die mounted on the base plate thereof, and a pipe indicated by dotted lines,

Fig. 2 is a view partly in plan and partly in section taken on line 2—2 of Fig. 1,

Fig. 3 is a vertical sectional view taken on line 3—3 of Fig. 2, and

Fig. 4 is a perspective view of the die.

Referring more in detail to the several views, the present invention provides a substantially rectangular base 5 having a rear arcuate edge portion 6 which is provided with a plurality of angle indications 7, the purpose of which will be hereinafter made clear. Adjacent the forward portion of the base plate 5, upstanding lugs 8 are provided, substantially between which is rigidly positioned a serrated pipe-engaging jaw 9.

An inverted U frame 10 has a screw 11 threaded therethrough as shown in Fig. 1 and loosely attached to the lower end of said screw 11 is a movable cross-head 12 slidably guided upon the ribs 13 of the frame 10 and carrying another serrated jaw or pipe-engaging member 14. The loose connection between the member 12 and the screw 11 is shown clearly in Fig. 1 and consists broadly in providing a reduced end 15 of the screw 11 with a head 16 arranged in a relatively larger recess 17 of the member 12. This construction allows a slight vertical movement of the member 12 relative to the screw 11, which movement is yieldably opposed by a helical spring 18 bearing against the member 12 at its lower end and against the upper portion of the frame 10 at its upper end.

The lower or free ends of the parallel legs of the U frame 10 are connected to the upstanding lugs 8 detachably and pivotally by a suitable pin 19, one position of which is indicated by dotted lines in Fig. 1 and the other of which is indicated by full lines in the same figure. Pivotally attached as at 20 to one side of the frame 10 is a hook member 21 adapted to detachably engage a lateral rigid lug 22 extending from the adjacent lug 8 so as to maintain the frame 10 in the operative position indicated in Fig. 1.

By providing pins 19 and 20 so as to be readily withdrawn, the U frame 10 may be allowed to hinge either to the right or left in case the operator is working near an obstacle such as a wall at one side of the bench to which the present device may be attached by means of bolts extending through apertures 23 in the base plate 5.

Rearwardly of the lugs 8 and U frame 10, the base plate 5 is provided with suitable threaded apertures 24 adapted to receive the threaded end 25 of a winged bolt 26 which is extended through the central aperture 27 of the die 28, to secure the latter in position upon the base plate 5 as more clearly shown in Figs. 2 and 3. The die 28 is substantially of flat iron form having oppositely curved arcuate sides provided with grooves therein as at 29 and 30 of differing widths to accom-

modate different sized pipes and it is readily apparent that by loosening the bolt 26, the die 28 may be manually turned to present the desired side thereof toward the metal of the base plate 5, so that the pipe 31, indicated by dotted lines in Figs. 1 and 2, may be bent thereagainst. It is often desirable to place the die 28 at the opposite side of the base plate 5 from that indicated in full lines in Fig. 2 and as indicated by dotted lines therein, and the provision of the threaded apertures 24 at each side of the base plate 5, permits this to be done. The graduations 7 are provided at suitable points so that the die 28 may be readily positioned in order to limit the bending of pipe 31 at any desired degree.

It is noted that the base plate 5 on which the bending die 28 is located, is the usual bed plate which forms the base of practically all pipe vises and extends to the rear of the vise, the bending of the pipe being accomplished rearwardly of the device, while the straight end of the pipe in front of the vise may be readily measured, cut and threaded all with one placing of the pipe.

The spring 18 takes up the slack which may occur between the bill of the hook 21 and the lug 22 in addition forcing the jaw 14 downwardly with sufficient pressure to maintain the pipe 31 in the vise. This holds the conduit in place without being firmly clamped by the screw and obviates the necessity of clamping the jaws of the vise by turning the screw 11 each time a length of pipe is inserted to be bent. The trigger 21 at the side is released to remove the conduit and the hook engaged with the lug 22 to clamp the pipe in place.

While the form of the invention herein shown and described is believed to be the preferred embodiment thereof, it is to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. A pipe bending vise including a horizontal base plate having a pipe holding vise mounted thereon adjacent the front edge thereof, a reversible die having an arcuate grooved side and arranged upon the upper face of the base plate rearwardly of the vise, and means including an upright pivot member to detachably and pivotally secure said die on the base plate at either side of the longitudinal center thereof.

2. A pipe bending vise including a horizontal base plate having a pair of transversely alined spaced parallel threaded apertures therethrough at opposite sides of the longitudinal center thereof, a pipe holding vise mounted on upper face of said base plate adjacent the front edge thereof, a reversible die arranged upon the upper face of said base plate rearwardly of the vise, and an upright threaded bolt extending downwardly through said die and adapted to engage one of said threaded apertures to detachably and pivotally secure the die in position at either side of the longitudinal center of the base plate.

3. A pipe bending vise including a base plate having a pipe clamping vise mounted transversely thereon adjacent the forward edge thereof and provided with an arcuate series of angle graduations thereon adjacent and along the rear edge thereof, a reversible die upon said base plate between the pipe clamping vise and said graduations, and means including an upright pivot member to detachably pivotally secure said die upon the base plate at either side of the longitudinal center thereof.

In testimony whereof I affix my signature.

FRANK WM. HALLIN.