(No Model.)

E. WRIGHT.

PIPE VISE.

No. 598,130. Patented Feb. 1, 1898.

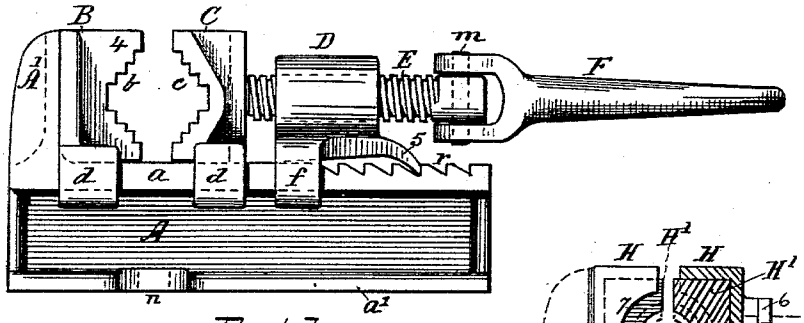


Fig. 1

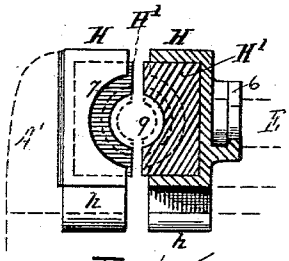


Fig. 6

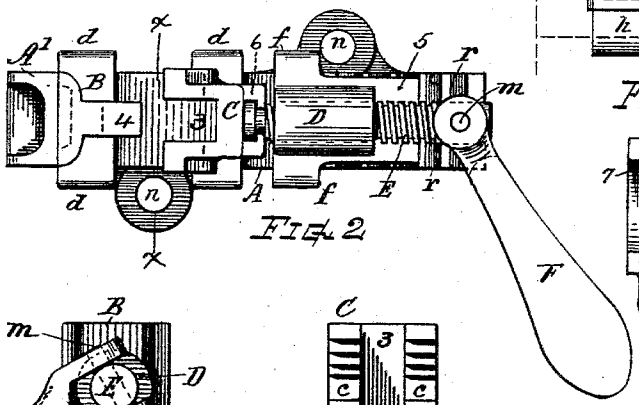


Fig. 2

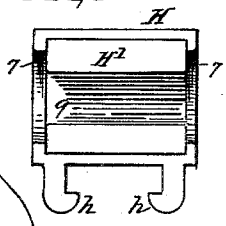


Fig. 7

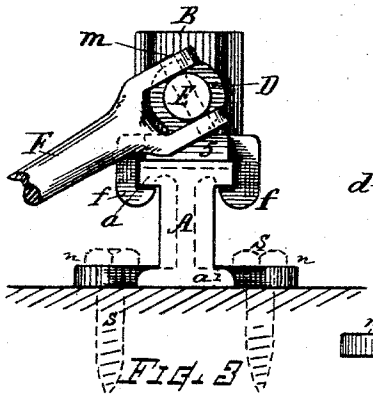


Fig. 3

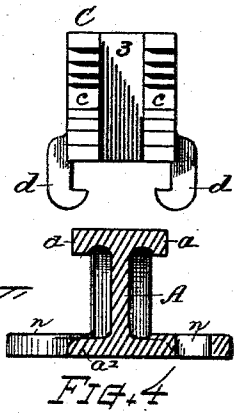


Fig. 4

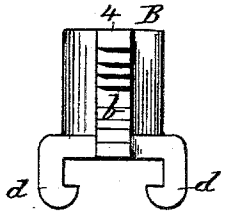


Fig. 5

Witnesses.

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PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 598,130, dated February 1, 1898.

Application filed February 8, 1897. Serial No. 622,474. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WRIGHT, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Pipe-Vises, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

My invention relates to improvements more especially applicable to that class of vises employed by plumbers and steam-fitters, the object being to provide a light, clean, and efficient portable pipe-vise, simple and inexpensive for manufacture and which can be conveniently carried by the workmen among their tools and attached for use to any suitable object, and which, while light and readily adjustable, will accommodate large or small pipes of the usual sizes employed in building work.

Another object is to provide a vise for the purposes named with detachable interchangeable jaws for smooth pipes.

The minor objects and details of structure are hereinafter more fully set forth.

These objects I attain by the mechanism shown in the drawings, wherein—

Figure 1 is a side view of a pipe-vise embodying my invention. Fig. 2 is a top view of the same. Fig. 3 is an end view. Fig. 4 is a section of the body at line $x\ x$ and a face view of the moving jaw detached from the body-bar. Fig. 5 is a face view of the stationary jaw. Fig. 6 shows a side and section of the interchange jaws, and Fig. 7 is a face view of one of the interchange jaws.

My vise consists of detachable parts severally constructed and combined as follows:

A denotes the bed or body, consisting of an I-shaped bar having a laterally-flanged top a and a flanged base a', the top being formed with parallel square edges and an upwardly-standing head A′ at its farther end, while a series of ratchets r are provided on its top surface at the front end.

B and C indicate the jaws, each provided with side ears d, fitted to embrace the sides of and lock under the flanged top a of the body-bar, the jaws being thus adapted to slide on and off at the fore end thereof. Said jaws have concaved notched faces b and c. The face of one jaw is vertically recessed or bifurcated, as at 3, while the face of the other jaw is formed single, as at 4, and adapted to pass into the space between the opposite jaw-faces, thus enabling the jaws to be closed onto small-sized pipes. The back of the stationary jaw is adapted to seat firmly against the head A′, as shown in Figs. 1 and 2.

D indicates the screw-stock, formed with a pair of underlocking ears f, a backward downwardly-curved flange 5, that serves as a pawl in the ratchets r, and a hub in which the screw E is threaded, said screw extending through the stock, so that its end impinges against the back of the jaw C. If in any instance desired, the end of the screw can be grooved and interlocked with a pocket 6 upon the back of the jaw, as indicated in Fig. 2; but this attachment of the screw is not essential. To the outer end of the screw there is pivoted by a transversely-disposed pin m a swinging lever F, the end of said lever being combined with the screw in such manner that its handle can be swung from one side to the other, around the end of the screw, in a plane coincident with the screw-axis. This allows the lever to be used when it would otherwise interfere with the end of the bar A and also permits it to hang down out of the way at either side of the bar. (See Fig. 3.) The outer end of the lever is preferably made broad and flattened for a convenient handle.

The base-flange a' is provided with ears and holes n, through which to insert coach-screws S for securing the vise to any convenient object—as a beam, a post, or a bench—at the place where used.

The jaws B and C and the stock, with the screw E, can be readily removed from or replaced on the bar A.

H H indicate interchange jaws for holding smooth, polished, or plated pipes and to be interchangeably used in place of the notched face-jaws B and C. Said jaws H are made with box-shaped castings provided with underlocking ears h to slide onto the flanged top a of the body-bar A. The ends of the box have their flanges cut away, with a rounded space, as at 7. Within the box-casting is fitted a removable face-block H′, of wood or

other suitable substance that will not injure the smooth pipe-surface, and having across the face thereof a semicylindrical concavity 9 of a size to fit upon and hold the pipe. The wood face-blocks H′ are removable from the jaw-boxes H and may be changed for others of similar character, but in which the concavity 9 is larger or smaller, so as to fit a different size of pipe. (See dotted lines on Fig. 6.)

In the operation the pipe is placed between the jaws and against the notched concave face of the stationary jaw B. The jaw C is then slipped along the bar against the pipe, and the screw-stock D is moved forward until its tail or pawl 5 falls into the desired ratchet-notch *r*. The screw E can then be turned by the pivoted lever F until the vise firmly grips the pipe between the jaws. If the pipe is of small diameter, the projecting ends at top and bottom of the jaw-faces lap past each other, the part 4 entering the space 3 of the dual-faced jaw, thereby permitting the jaws to close together to the full extent of their face-cavities. For releasing the pipe the screw is first loosened; but if greater space is desired the operator lifts its outer end or tilts forward the screw-stock. The tail 5 of the stock is thus raised and released from the ratchet *r*, when the stock, screw, and jaw are free to be retracted to any extent desired.

I do not herein claim, broadly, the feature of removability for vise-jaws, nor of a ratchet for holding a screw-stock, as I am aware that vises having removable jaws and a screw-stock adjustable along a ratchet upon a bed-block have been heretofore devised, but of different construction from the improved means hereinbefore specified and defined as my invention.

What I claim as my invention is—

1. In a pipe-vise the body-bar of I shape section having the laterally-projecting flanged top with square parallel edges, the upturned head at one end, and transverse ratchets in its top surface, the two removable jaws and screw-stock each having downwardly and inwardly underlocking ears that embrace the flanged top of the body-bar, said screw-stock having thereon a rigid backwardly-curved flange that serves as a pawl in said ratchets, and the vise-screw threaded in said stock and provided with a lever-handle, as set forth.

2. The interchange jaws adapted for a pipe-vise of the character described, said jaws each consisting of a rectangular open-faced box-shaped casing H having ears *h h* thereon for engaging the flanges on the body-bar, and semicircular recesses 7 in the end portions, in combination with the rectangular removable face-block H′ of soft material, fitting within said casing, and having a transverse semicylindrical groove 9 across its gripping-face, said face-block adapted for ready interchange with similar face-blocks having a groove of larger or smaller dimension, substantially as and for the purpose set forth.

3. In combination with the ratcheted T-flanged body-bar and the removable jaw that slides thereon, the screw-supporting stock having the longitudinal hub portion with the jaw-actuating screw threaded therein independent of the jaw, said stock provided at its fore part with underlocking ears that loosely clasp the body-flanges, and having the integral backwardly-projecting downwardly-curved flange adapted for engagement with the body-ratchets and releasable therefrom by lifting the outer end of the screw and tilting forward the stock, substantially as set forth.

Witness my hand this 4th day of February, A. D. 1897.

EDWARD WRIGHT.

Witnesses:
CHAS. H. BURLEIGH,
FRANK A. HUMPHREY.