No. 716,217. Patented Dec. 16, 1902.

M. GLENN.

PIPE VISE.

(Application filed June 14, 1902.)

(No Model.)

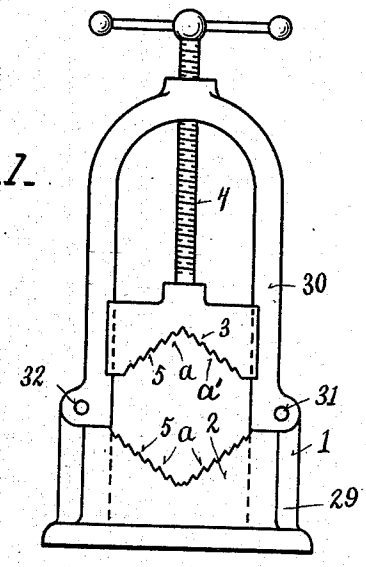


Fig. 1.

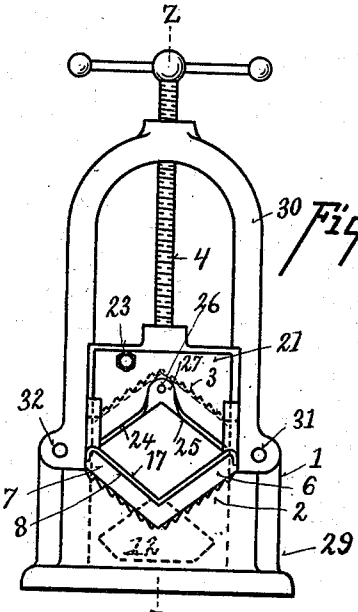


Fig. 2.

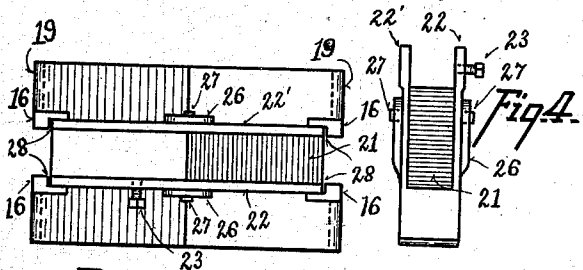


Fig. 7.

Fig. 4.

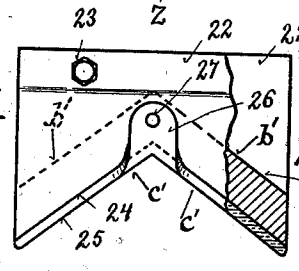


Fig. 3.

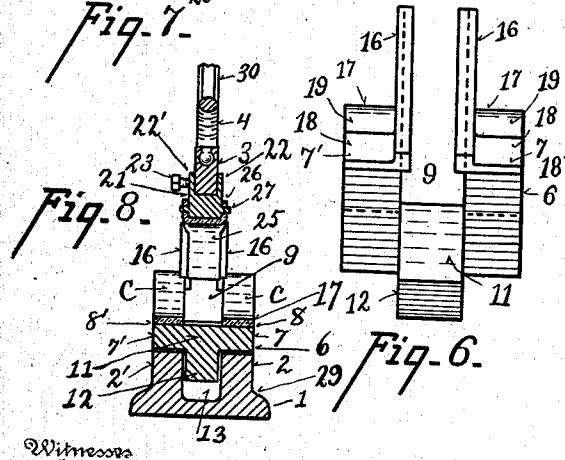


Fig. 8.

Fig. 6.

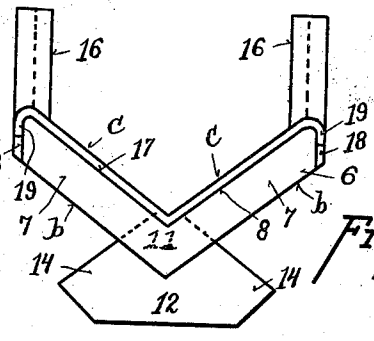


Fig. 5.

Witnesses

Geo. H. Platt

Herbert F. Hardee

Inventor

Martin Glenn

By A. D. Merkle

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARTIN GLENN, OF CINCINNATI, OHIO.

PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 716,217, dated December 16, 1902.

Application filed June 14, 1902. Serial No. 111,707. (No model.)

To all whom it may concern:

Be it known that I, MARTIN GLENN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Pipe-Vises, of which the following is a specification.

My invention relates to pipe-vises, and has for its object the providing of a pipe-vise suitable for gripping both hard pipes, such as iron pipes, and for clamping soft pipes, such as brass pipes, without injury to the pipes; and my invention consists in the parts and in the construction, arrangement, and combinations of parts hereinafter more fully described and claimed.

In the drawings, Figure 1 is a side elevation of a pipe-vise as is ordinarily used in gripping iron pipes. Fig. 2 is a side elevation of my improved device. Fig. 3 is a side elevation, partly in vertical cross-section, of the upper soft-pipe-clamping jaw of my improved device. Fig. 4 is an end elevation of the same. Fig. 5 is a side elevation of the lower soft-pipe-clamping jaw. Fig. 6 is an end elevation of the same. Fig. 7 is a plan view showing the upper and lower soft-pipe-clamping jaws in assembled form; and Fig. 8 is a central vertical cross-section of my improved device, partly broken away, taken on the line *z z* of Fig. 2.

1 represents the frame of a pipe-vise, having a pair of toothed or stepped lower gripping-jaws 2 2′ and an upper toothed gripping-jaw 3, the screw 4 when turned raising and lowering the upper jaw for gripping the pipe between the jaws. The jaws 2 2′ and 3 are provided with steps or teeth 5, adapted to bite into a hard pipe, such as an iron pipe, for preventing turning thereof when gripped.

6 is a supplemental lower-clamping-jaw frame, comprising a pair of clamping-jaws 7 7′, having smooth surfaces 8 8′, separated, as at 9, for receiving the upper supplemental clamping-jaw, with a bridge-piece 11 between the lower jaws 7 7′. The supplemental lower-jaw frame also has a depending lug 12, taking into the space 13 between the lower toothed gripping-jaws 2 2′, the lug 12 having sideward extensions 14 for properly seating the supplemental lower-clamping-jaw frame between the lower toothed gripping-jaws. The lower supplemental jaw-frame also has a pair of upward extensions 16 at each side thereof, forming guideways for the upper supplemental clamping-jaw, as hereinafter explained. Each of the lower supplemental jaws may have a gasket 17, preferably of soft lead, placed thereon, a rabbet 18 being provided at each end of each of the jaws for receiving the turned-over end 19 of the gasket 17 for the purpose of positioning the gaskets on the lower clamping-jaws.

An upper supplemental-clamping-jaw frame 21 has upwardly-extending side flanges 22 22′, between which the upper toothed gripping-jaw 3 is adapted to take a set-screw 23, clamping the upper jaws together for causing the supplemental jaw-frame 21 to move with the toothed clamping-jaw 3 when the screw 4 is manipulated. The upper supplemental-jaw frame is provided with smooth clamping-jaws 24. A gasket 25, of soft lead or other suitable material, is provided as a facing for the upper clamping-jaw. This gasket may have ears 26 turned over the sides of the jaw 24 and taking over teats 27 on that clamping-jaw for holding the gasket in place. The supplemental-jaw frame 21 slides in ways 28, formed in the extensions 16, the jaw 24 taking between the pair of jaws 7 7′.

The frame 1 may consist of a base part 29 and a yoke 30, hinged at 31, with a pin 32 rigidly holding the yoke and base part together, thus permitting the yoke to swing upon the base part for the ready insertion or removal of the supplemental-clamping-jaw frames.

In practice in clamping the hard pipe, such as iron pipe, it is found necessary to use toothed or stepped clamping-jaws in order to get a bite on the pipe, which teeth or steps would injure a soft pipe, such as a brass pipe. In my improved device the same vise will answer both purposes of gripping hard pipe and clamping soft pipe by the introduction of the supplemental clamping-jaws. From the drawings it will be seen that each of the toothed gripping-jaws has its gripping-face formed with a depression whose sides are arranged at substantially right angles, as shown at *a a′*, and that the seat for the supplemental clamping-jaws on the toothed gripping-jaws are arranged at substantially the same

angle, as shown at *b b'*, and that the jaw-faces of the supplemental-clamping jaws are also arranged at substantially the same angle, as shown at *c c'*. If desired, rosin or other adhesive substance may be placed on the gaskets for affording additional grip to the soft pipe.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the opposing toothed gripping-jaws of a pipe-vise, each of the gripping-jaws having toothed gripping-faces extending at substantially right angles to each other to each side of the median line of the jaws for forming wedging toothed hard-pipe-gripping faces, of supplemental opposing soft-pipe-clamping jaws comprising a pair of separated clamping-jaws with a bridge-piece between them and an opposing clamping-jaw, with the said supplemental clamping-jaws having seating-faces for the toothed gripping-jaws seated against and arranged to be clamped between said wedging toothed gripping-jaws when clamping soft pipe, said seating-faces also extending at substantially right angles to each other to each side of the median line of said jaws and substantially similarly to the angles of the faces of the toothed gripping-jaws, and opposing soft-pipe-clamping faces for the said supplemental clamping-jaws extending in planes at substantially the said angles to each side of the median line of said supplemental clamping-jaws for forming soft-pipe-clamping jaws having wedging soft-pipe-clamping faces and wedging seating-faces extending at substantially the angles of the said wedging hard-pipe-gripping faces, substantially as described.

2. In a pipe-vise, the combination with a frame, an upper gripping-jaw, a pair of lower gripping-jaws, and a screw for raising and lowering the upper gripping-jaw, of a supplemental upper-jaw frame taking against the upper gripping-jaw, means for securing the same thereto for moving therewith, a supplemental lower-jaw frame comprising a pair of lower jaws adapted to rest on the pair of first-named lower jaws, a bridge-piece for the supplemental frame connecting the pair of supplemental lower jaws, and a depending lug on the supplemental frame taking between the pair of first-named lower jaws.

3. In a pipe-vise, the combination with the frame, the upper gripping-jaw and the pair of lower gripping-jaws, of the lower supplemental frame comprising a pair of lower supplemental jaws, a bridge-piece between the latter with a depending lug extending between the first-named lower jaws, an upper supplemental jaw-frame, upward extensions thereon taking to the sides of the first-named upper jaw, means for securing the supplemental upper jaw to the first-named upper jaw, and upper extensions on the lower supplemental-jaw frame for receiving and guiding the upper supplemental-jaw frame.

4. In a pipe-vise, the combination with a frame, an upper gripping-jaw, a pair of lower gripping-jaws, a lower supplemental clamping-jaw frame provided with a pair of clamping-jaws having a bridge-piece between them and a lug extending between the lower pair of gripping-jaws, an upper supplemental clamping-jaw, a gasket for each of the supplemental jaws, and means for securing the gasket to its jaw.

5. In combination, supplemental clamping-jaws for a pipe-vise comprising a pair of separated clamping-jaws, a bridge-piece between them and a lug extending therefrom, and an opposing clamping-jaw, constructed and arranged for insertion in a pipe-vise and resting against and being clamped between the jaws of the pipe-vise, substantially as described.

In witness whereof I have signed my name hereto in the presence of two subscribing witnesses.

MARTIN GLENN.

Witnesses:
GEO. W. PLATT,
HERBERT F. HARDEN.