No. 732,759. PATENTED JULY 7, 1903

J. R. LONG.

PIPE VISE.

APPLICATION FILED OCT. 17, 1902.

NO MODEL.

FIG. 1.

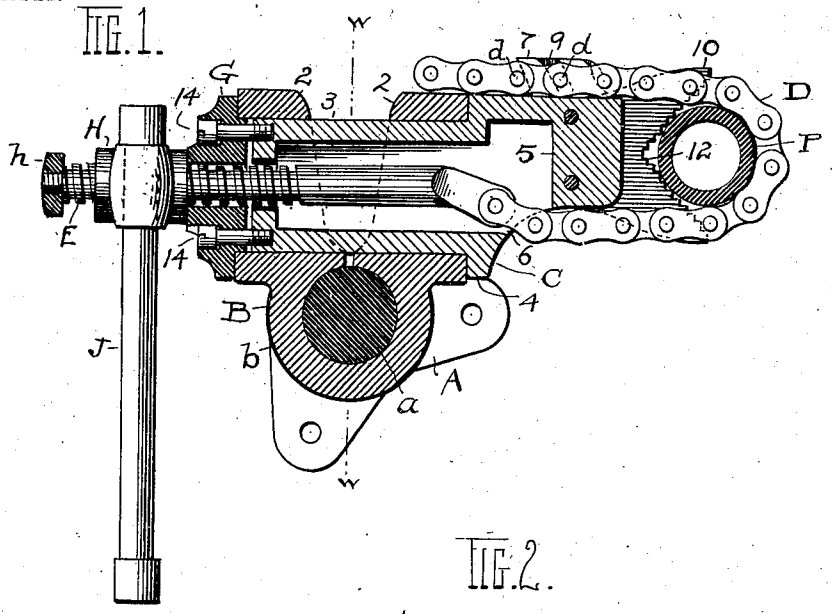


FIG. 2.

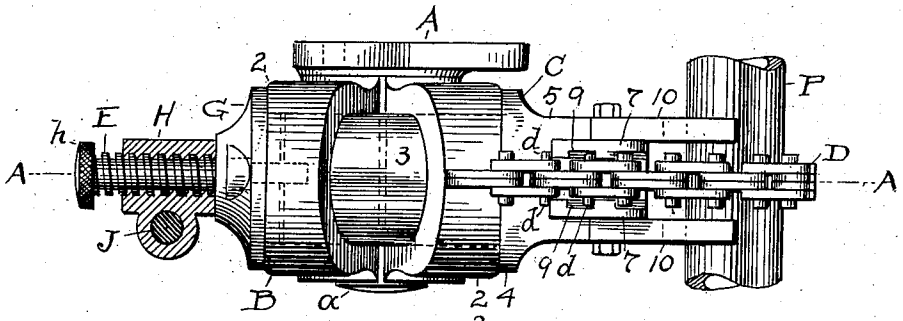
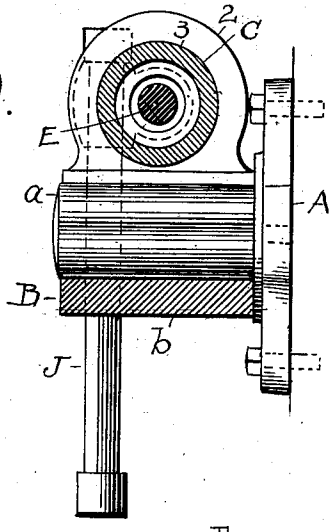


FIG. 3.



Attest

W. B. Moser

A. N. Moser.

Inventor.

John R. Long

By H. J. Fisher

Atty

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

No. 732,759. Patented July 7, 1903.

UNITED STATES PATENT OFFICE.

JOHN R. LONG, OF AKRON, OHIO.

PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 732,759, dated July 7, 1903.

Application filed October 17, 1902. Serial No. 127,624. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. LONG, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Pipe-Vises; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to pipe-vises; and the invention consists in an improvement in the style of pipe-vises disclosed and claimed, broadly, in my application for Letters Patent of the United States bearing Serial No. 127,623. In the said application I show a simple form of my new vise with provision for only a single form of adjustment, while in the present application I provide for two adjustments at right angles to each other, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal central sectional elevation of the vise on line A A, Fig. 2; and Fig. 2 is a plan view with a portion sectioned at the left. Fig. 3 is a cross-section on line W W, Fig. 1.

As thus shown, A represents a bracket having a trunnion or stud *a* of cylindrical outline standing out therefrom laterally at right angles to the body of the bracket, and the said body is constructed to be fastened by screws or bolts to a support of any available kind, such as a post or other supporting medium. In this case, as in the case above referred to, the vise is designed especially to be taken out to buildings under construction or to other work in progress and where it is necessary to have a vise on the ground to do the work properly and speedily, and hence also is the vise made as light in weight as is consistent with the work to be done. Now in such uses, as well as where a vise is permanently located, it is often desirable that the vise be provided with what constitutes in a sense a universal adjustment rather than a single adjustment, as in my other case above noted, and hence the bracket A has stud or trunnion *a*, upon which the secondary adjustment of the vise is effected, while the primary adjustment is between the base proper, B, and the jaw or jaw member C. In this instance, however, base B is an intermediate part having a tubular sleeve *b*, by which it is engaged upon trunnion *a*, and at right angles to this sleeve is the tubular bearing 2 for jaw C. A peculiarity of this base is its practically split or divided construction as far down as through the top of sleeve *b;* but it is integral at the bottom of said sleeve, and this divides the tubular bearing 2 into halves, which are shown in this instance as spaced apart, but may be close together. However, some space between them is necessary, as they are required to yield enough under pressure to lock the base on trunnion *a* against rotation when clamping of the parts occurs, as will hereinafter more fully appear. Then, again, I can spare metal at this point for lightness.

The jaw or jaw member C has a hollow cylindrical barrel-shaped body 3 projected into the bearing 2 of the base from what is regarded as the front of the vise, and a shoulder 4 resting against said bearing to limit its movement to the rear. It is also provided with a solid head 5 and an opening 6 in the neck of said head for chain D, connected through this opening with screw E. The other end of chain D is detachably or adjustably engaged with a set of lugs 7 on the head of the jaw and constructed to be engaged on ends of cross-pins *d*, which connect the double links of chain D. These lugs are spaced apart to let the chain lie between them and have inclined inner slots 9, as well as rear walls adapted to be engaged by pins *d*, so that there is a double, and hence a strong engagement, of the chain on said lugs.

The jaw member C is preferably cast and also is provided with a set of jaw-plates 10, set into shouldered recesses on opposite sides of head 5 and bolted or screwed thereto. The engaging edges of said plates extend outward beyond head 5 and are substantially V-shaped, with serrated edges 12, so as to take a firm grip upon pipe P, while chain D is arranged to coöperate with these jaws and comes between them. After bringing the chain around the pipe the slack is taken up as fully as possible, when the chain is engaged on lugs 7, and then the gripping of the pipe is effected by or through screw E.

G represents a cap or end piece which is the equivalent of a cap, resting against the rear end of tubular bearing 2 and loosely secured by screws 14 to the end of the jaw barrel or body 3. This allows both jaw and cap to be clamped against the ends of said bearing, at the same time to prevent rotation of the jaw when clamping has been effected. Now it will be seen that the screw does not itself turn when it is tightened, but it is free to slide in cap G and is operated by a preferably sleeve-shaped nut H on said screw and having its bearing against said cap and provided with a suitable handle J. With this construction the jaw D may be freely rotated about its axis in base B, while said base may be as freely rotated on bracket A and its trunnion *a;* but when the screw is tightened by turning nut H and the divided bearing 2 is clamped between cap G and shoulders 4 not only is the jaw member clamped or held from axial rotation, but the split base A is clamped on trunnion *a* and rotation thereon is for the time prevented. Thus the clamping mechanism, which first of all engages the pipe and holds it securely, works also to lock the vise on both its otherwise loose bearings. Necessarily the base B has at least enough spring in its make-up to rest loosely on its support A normally and to come together and lock on said support when clamping of the parts occurs.

It will be particularly noticed herein that the jaw member has no rectilinear movement at all, but only an axial rotary movement, and that the end surrenders are in cap H.

What I claim is—

1. A pipe-vise consisting of a suitable support, a divided base rotatable thereon and provided with a tubular bearing in its top, a jaw axially adjustable in said base and mechanism adapted to lock said base and said jaw in the same operation, substantially as described.

2. A vise-support having a trunnion, a divided base rotatably supported on said trunnion, a jaw axially rotatable in said base and held against lengthwise movement, and mechanism adapted to lock the jaw and the base at the same time against movement, substantially as described.

3. A suitable support and a base having a divided upper portion and rotatably seated on said base at its lower portion, in combination with a jaw axially rotatable in the upper portion of the base and provided with a shoulder engaged against the base to prevent endwise movement therein, and means to lock all said parts rigidly together in the same operation, comprising clamping mechanism engaging the upper portion of the base and constructed to lock the jaw and the base against rotation, substantially as described.

4. The vise-support and the base rotatable thereon and divided transversely in two separate parts in its upper portion, thereby affording room to draw said portions toward each other and lock the base on its support, in combination with a jaw in said base having a shoulder bearing against the front thereof to prevent endwise movement, a cap fixed to the rear end of said jaw and bearing against the rear side of said base, and a screw, nut and chain to lock all said parts rigidly together, substantially as described.

5. The support having a trunnion, the base having a sleeve fitting on said trunnion and divided transversely from its top down through said sleeve to the trunnion and integral in its lower portion, the vise-jaw supported in the upper portion of the base and means connected with said jaw adapted to bear against the sides of the base and clamp it tight upon its support, substantially as shown.

6. In pipe-vises, a base and a support therefor on which the base is rotatable, said base being divided transversely down to said support, in combination with a jaw in said base, a locking-screw and a chain engaged therewith and with the said jaw, a cap secured to the outer end of the jaw and supporting said screw and a nut in the screw bearing against said cap, said jaw being held against endwise movement in the base, whereby when said nut is tightened the said parts are rigidly bound together, substantially as shown.

Witness my hand to the foregoing specification this 6th day of October, 1902.

JOHN R. LONG.

Witnesses:
R. B. MOSER,
A. N. MOSER.