(No Model.) 2 Sheets—Sheet 1.

T. PATTON.

PIPE VISE.

No. 260,777. Patented July 11, 1882.

Fig. 1

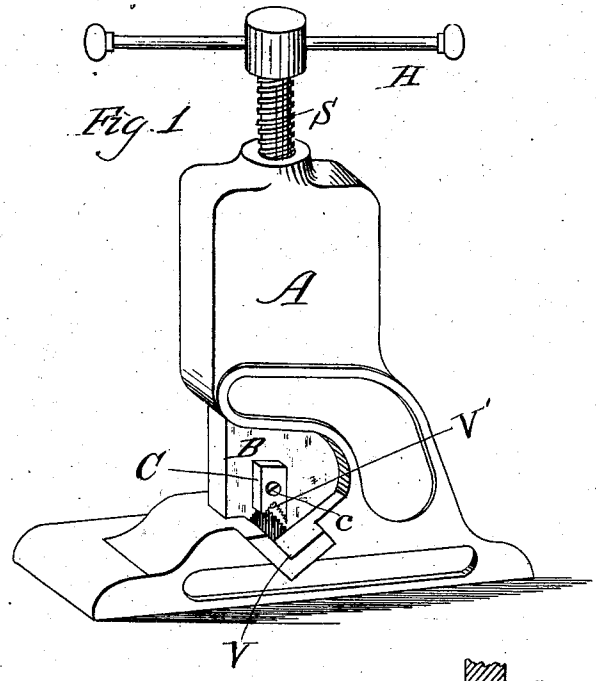


Fig. 2

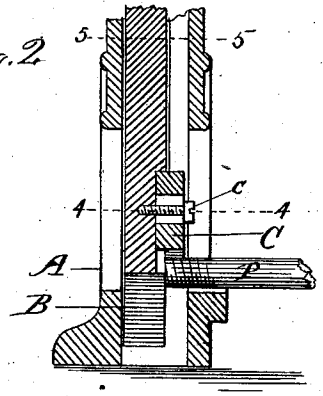


Fig. 3

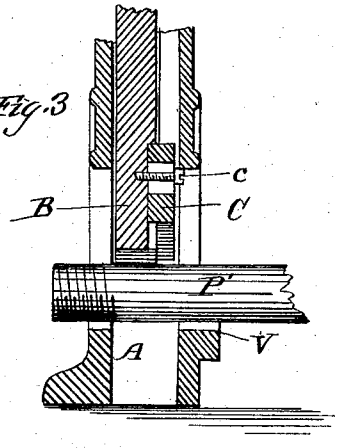


Fig. 4

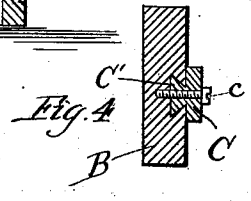
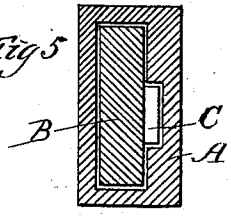


Fig. 5



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(No Model.) 2 Sheets—Sheet 2.

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PIPE VISE.

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Fig. 6.

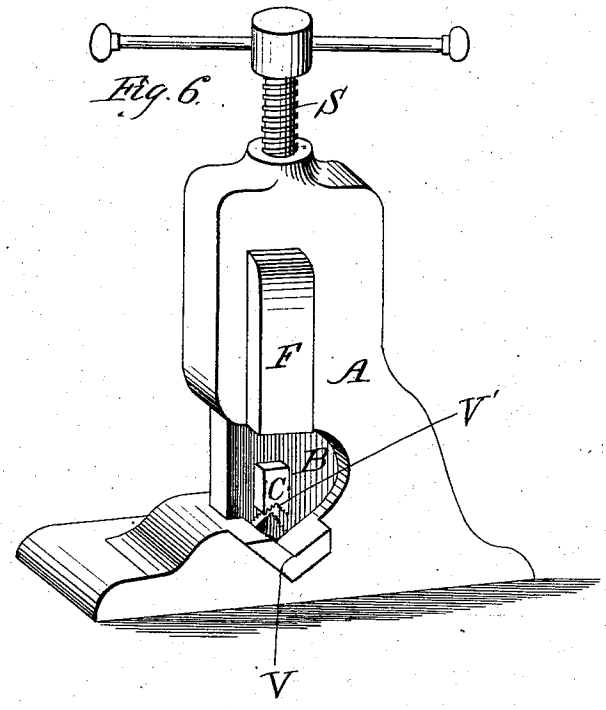
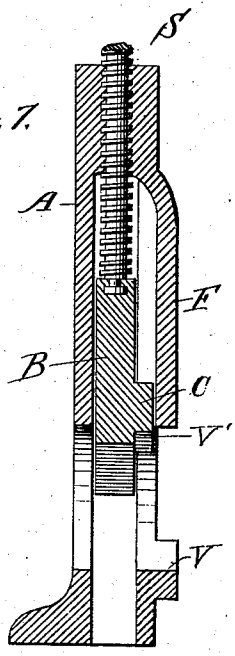


Fig. 7.



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UNITED STATES PATENT OFFICE.

THOMAS PATTON, OF CHICAGO, ILLINOIS.

PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 260,777, dated July 11, 1882.

Application filed March 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS PATTON, an alien subject of the Queen of Great Britain and Ireland, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Pipe-Vises, of which the following is a specification.

I am aware that many varieties of vises for holding pipe have been constructed, and that a number of Letters Patent have been issued in this department.

My invention relates to pipe-vises which are open at the side; and it consists in attaching thereto a projecting grip and die for the uses and purposes hereinafter described. The form of pipe-vises which have long been in use (requiring the insertion of the pipe through an opening in the end) is much less convenient and desirable than those of a more modern construction, which are open at the side. It is, however, found that vises which have a die connected with a screw and so constructed that this die passes through an opening in the base operate frequently to bend pipe of light weight, particularly brass pipe, and, further, pipe-vises of this construction do not answer all the purposes desired, but are deficient in several respects. My invention is designed to remedy or overcome these defects. By having a projecting grip upon one side of the base of the vise, and by attaching upon the corresponding side of the principal die a small secondary or projecting die, I am enabled not only to overcome such defects, but, in addition, to secure several new advantages. A pipe-vise of the construction heretofore patented cannot be used for taking a lock-nut off from a pipe or tube.

I have illustrated my invention by the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved pipe-vise, showing my attachment thereto. Fig. 2 is a central vertical section of the same, showing a piece of pipe as held by means of my projecting die. Fig. 3 is a central vertical section, showing the operation of a pipe-vise when in use for purposes that do not require my attachment. Fig. 4 is a horizontal cross-section, showing one method of attaching my secondary die. Fig. 5 is a full horizontal cross-sectional view, showing the recess upon one side of the standard as used in one form of construction. Fig. 6 is a perspective view of my improved vise, showing the secondary die cast together with the principal die, and representing the projecting recess on one side of the standard as used by me in one form of construction. Fig. 7 is a vertical sectional view of the same.

Like letters refer to like parts in the several views.

A indicates the standard, inside of which the principal die, B, is operated by means of the screw S.

C is my improved secondary die.

C′ indicates the dovetail of the die C, which acts to hold the same in place in one form of construction.

V indicates my improved projecting grip, which acts, together with the secondary die, in grasping or holding the pipe.

V′ indicates the Λ-shaped or corrugated mouth of the secondary die, C.

c is the set-screw which aids in holding the secondary die, C, in place.

F indicates the outward-projecting recess on one side of the standard A as used in one mode of construction.

L indicates my projecting die when cast or otherwise made as a permanent or immovable part of the principal die, B.

My invention consists in attaching the secondary projecting die, C, to the one side of the principal die, B, and having the corresponding grip, V, on one side of the base, thus forming an independent vise to be used for purposes for which the main vise is not suitable.

As will be seen, my secondary die, C, has a Λ-shaped opening, V′, corresponding to the secondary grip, V, in the base, which is of like shape.

It is by no means necessary that the secondary die and corresponding grip just mentioned should be of the shape indicated, as the same may be made semicircular or of any construction that will answer the purposes of holding pipe. The exposed surfaces of each should be made corrugated, dentated, or roughened in some manner.

I place my improved secondary die, C, far enough up on one side and above the mouth of the main die, B, so that when the same is screwed down sufficiently to come within the recess of the base there is no opening remaining through the principal die. When in this position, as will be readily seen from the drawings, the side of the main die, B, forms a back for my secondary die, beyond which the end of the pipe to be held cannot pass. This is fully illustrated by Fig. 2. By this construction I have an independent pipe-vise adapted, as stated, to purposes for which the main vise, with which it is connected, cannot be used. I have no space across which the pipe, when placed in a vise, can be bent by the pressure of the die when operated by the screw. By this construction I am enabled to clutch and hold, for the purposes of cutting or screwing, a shorter piece of pipe than can be held by any other vise now in use. I can also hold brass tubing for cutting or screwing without bruising or denting the same. I am likewise able to hold without bending or injury a small pipe, which is liable to be bent on account of being of light weight or limited diameter. No other form of construction, to my knowledge, will permit the taking of a lock-nut from a pipe. It is not necessary that the projecting die C should be held in position by the dovetail C′ and the set-screw *c*.

If preferred, an equally desirable and possibly superior mode of construction would be that shown in Figs. 5, 6, and 7. The projecting or secondary die here is cast or otherwise made so as to be a fixed part of the principal die, and the outward-projecting recess F permits the free operation of this secondary die, C. This projecting recess permits the principal die, together with my secondary die, when the two are not detachable, to be readily placed within the standard and connected with the screw S. The only changes required for this form of construction are the making of the secondary die as a fixed part of the principal die and the adding of the recess to the side of the standard for the purpose stated.

It is not necessary to describe the material to be used in making a vise according to the description given, as any person having experience in the manufacture of iron-working machines and devices would know what to use.

My improvements may be made of either iron or steel; but the faces of both the secondary grip and secondary die should be of steel to give them sufficient grasping qualities.

As will be readily seen from the description given of the construction, as well as of the advantages and benefits to be derived from my improved construction for pipe-vises, my invention is inexpensive and possesses both novelty and utility.

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

1. In a pipe-vise, the secondary die, C, the secondary grip, V, and the standard A, having a recess, F, substantially as described, and for the purpose specified.

2. In an improved pipe-vise, the secondary die, C, the secondary grip, V, and the standard A, having a recess, F, in combination with the principal die, B, and the screw S, substantially as described, and for the purpose specified.

3. As an improvement in pipe-vises, the secondary die connected with the principal die upon one side, the secondary grip connected with the base of the vise upon one side, the dovetail for aiding in holding the secondary die in position, the set-screw which answers a like purpose, and the standard having a recess upon the same side with the secondary die, for the purpose of permitting the free action thereof, substantially as described, and for the purpose specified.

THOMAS PATTON.

Witnesses:
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