

(No Model.)

W. VANDERMAN.
PIPE VISE.

No. 455,136.

Patented June 30, 1891.

Fig. 1.

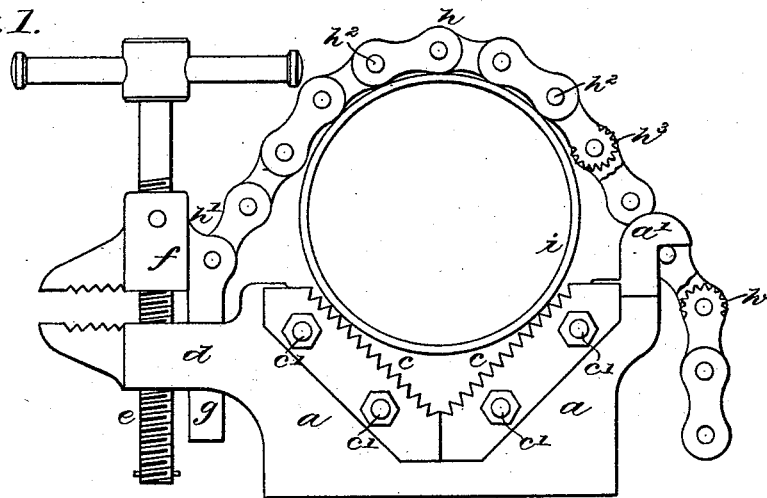
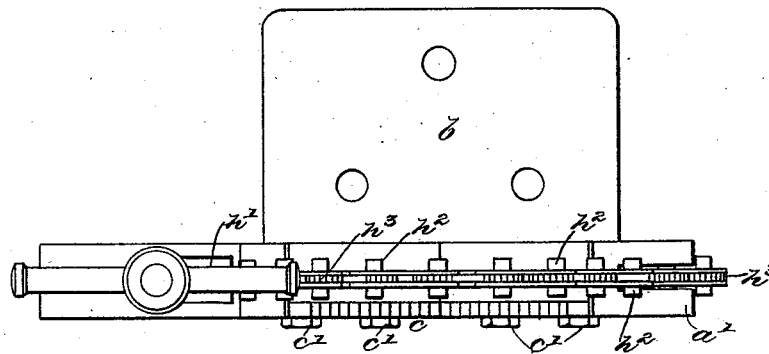


Fig. 2.



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PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 455,136, dated June 30, 1891.

Application filed April 14, 1891. Serial No. 388,905. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM VANDERMAN, of Willimantic, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Pipe-Vises, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a simple and convenient form of vise that is especially adapted for holding pipe of a size and kind that is used in sanitary and sewer work about houses while such pipe is being cut or in any way worked in a manner that requires the pipe to be rigidly held.

To this end my invention consists in details of the several parts making up the device as a whole and in their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a view in front elevation of a device embodying my invention. Fig. 2 is a detail top or plan view of the same, showing the manner of holding the pipe.

In the accompanying drawings, the letter *a* denotes the body of the vise, that is preferably made of metal cast to shape with a flange *b*, provided with holes through which screws or bolts may be driven for the purpose of securing the vise to a bench or other fixed structure. On one side, preferably the upper edge of the body part, is a V-shaped indentation, in which pipe-holding jaws *c* are secured. These jaws may be formed integral with the body; but it is preferred to make the jaws removable and to secure them, as by means of bolts *c'*, to the body part of the vise, a recess or shoulder, if desired, being formed in order to back up the jaws when in position. On one side the base has a projection *d*, forming the main jaw of a small vise, and through this main jaw a feed-screw *e* extends in a threaded socket, the threaded portion of the screw *e* passing also through a movable jaw *f*, that is borne on a slide-bar *g*, arranged to move in a socket in the main jaw back of the feed-screw and socket.

One end *h'* of the flexible clamp *h* is pivotally secured to the movable jaw *f* at about the end of the slide-bar, and this clamp is preferably composed of a chain-like arrangement

of links, the pivots *h*², that unite the several links, extending so as to form projections long enough to engage a recess in the hook-shaped anchor *a'*, that is formed on the side of the base opposite to that on which the small vise is located. The several links of this flexible clamp may be provided with a series of serrations *h*³, as shown where the chain is broken away in the drawings, or they may be of such other construction as will enable the chain to bind firmly about the pipe *i*, that is adapted to be held in the main vise.

The method of operating the vise to hold a pipe *i* is as follows: When the smaller vise (that on the left, as shown in Fig. 1) is open, a shoulder on the flexible clamp (as the projecting ends of one of the pivot-pins) is engaged under the anchor, and then, by means of the screw *e* operating to close the smaller vise, any desired degree of tension within the strength of the vise is brought upon the flexible clamp, closing it firmly upon the pipe *i* and pressing it into the grasp of the pipe-holding jaws *c*.

The peculiar form of flexible clamp employed as one of the holding parts in the larger vise is readily adapted to the larger adjustment and enables a pipe of large size to be as readily and quickly secured in the vise as one of smaller size, as the degree of adjustment in finally clamping and holding the pipe by means of the screw *e* will be the same in any case, whether the pipe be a comparatively small or a comparatively large one that is held in the main vise.

The jaws of the smaller vise may be plain in construction, but preferably are formed as pipe-holding jaws, the object being to provide a vise that will hold all the different sizes of pipe likely to be used in special classes of work and require the workman to carry but one vise in order to be provided with all the tools of this kind necessary for any particular job at a distance from the shop.

The shoulders that engage the anchor may of course be formed by the ends of the links, as well as by the projecting ends of the pivot-pins that unite the links, and I do not limit myself to any particular form of flexible clamp or to any particular construction of link or shoulder. The movable jaw *f* is of course swiveled to the feed-screw, so as to be

held against lengthwise movement thereon, while providing for a rotary movement of the screw within the jaw. The smaller vise may be dispensed with in the machine and the feed-screw used simply as a means for the final adjustment of the flexible clamp to a pipe.

I claim as my invention—

1. In combination with the body part of a vise having pipe-holding jaws, a flexible clamp attached at one end to an anchor or fixed part of the vise and at the other end connected to a clamp-tightening device, all substantially as described.

2. In combination with the body part of a vise having pipe-holding jaws, a flexible clamp removably attached at one end to an anchor or fixed part of the vise and at the other end connected to an adjustable block mounted on a feed-screw, and the feed-screw, all substantially as described.

3. In combination with the body part of a vise having pipe-holding jaws and an anchor on one side, a flexible clamp having shoulders or projections adapted to engage the anchor, and a feed-screw supported in a socket in the

body part of the vise and operatively connected to the other end of the flexible clamp, all substantially as described.

4. In combination, the body part of a vise having pipe-holding jaws and a projecting part forming a subordinate jaw, a movable jaw, a feed-screw adapted to open and close the jaws of the smaller vise, and a flexible clamp having one end secured to the movable jaw and the other adapted to be removably secured to a fixed part of the vise, all substantially as described.

5. As an improved article of manufacture, a combination-vise composed of a body part having renewably pipe-holding jaws, with a smaller vise arranged on one side of the body of the smaller vise and the other end adapted to be removably attached to a fixed portion on the main part of the vise, the said flexible clamp being composed of links having pipe-holding projections, all substantially as described.

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