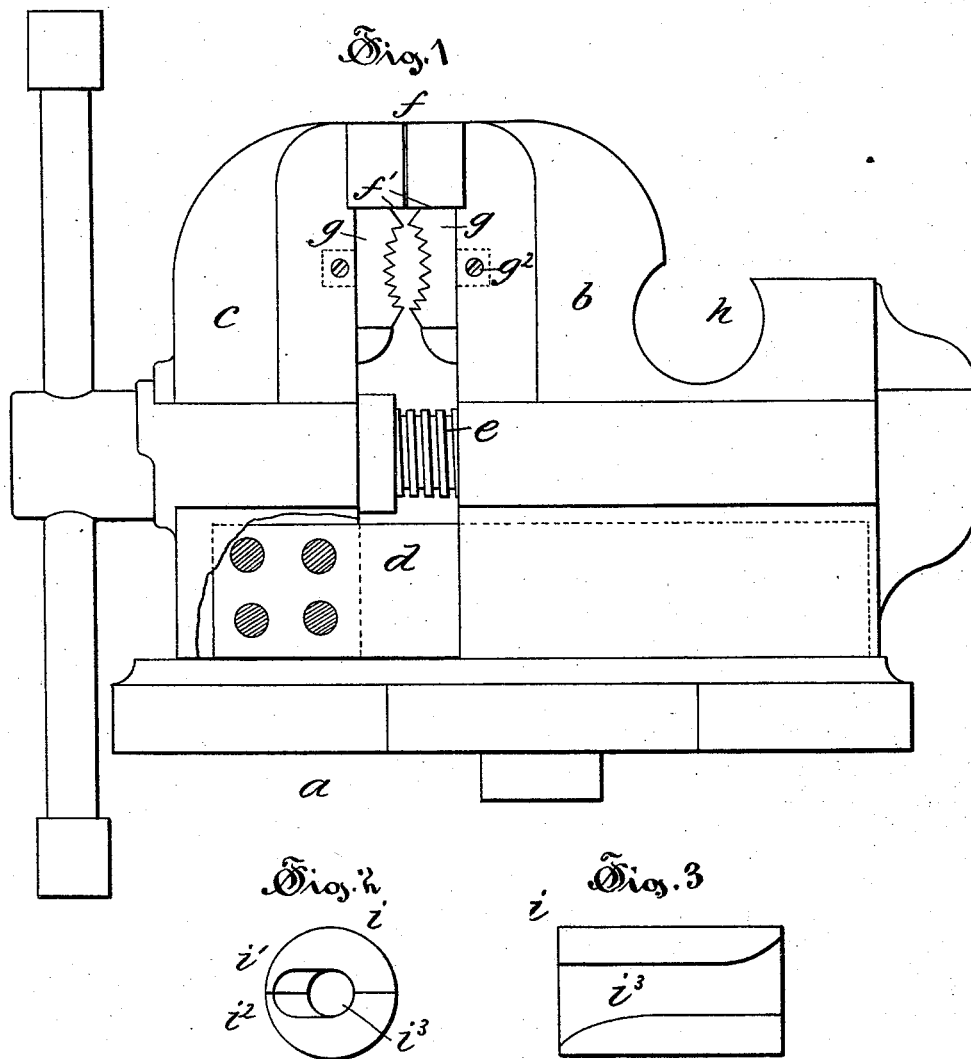


W. VANDERMAN.  
PIPE VISE.

No. 455,369.

Patented July 7, 1891.



Witnesses:  
Harry P. Williams.  
Arthur B. Jenkins.

Inventor,  
William Vanderman,  
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Fig. 4

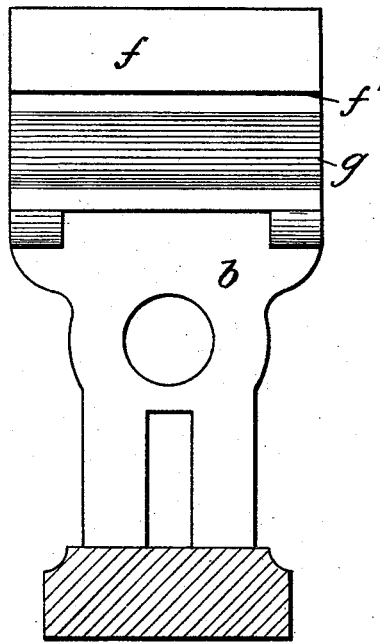


Fig. 6

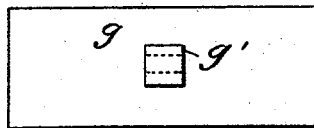
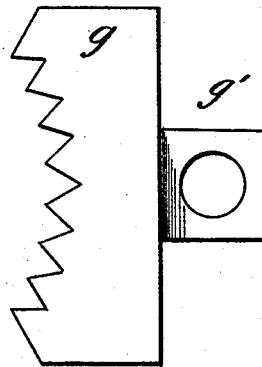


Fig. 5



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# UNITED STATES PATENT OFFICE.

WILLIAM VANDERMAN, OF WILLIMANTIC, CONNECTICUT.

## PIPE-VISE.

SPECIFICATION forming part of Letters Patent No. 455,369, dated July 7, 1891.

Application filed May 3, 1889. Serial No. 309,448. (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 device that may be used for ordinary purposes, and also for the special purposes of a pipe-fitter; and to this end my invention consists in the peculiar details of the several parts making up the bending and pipe-holding device 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 side elevation of a vise embodying my improvements with parts cut away to show construction. Fig. 2 is a detail end view of the removable bushing adapted to fit in the pipe-bending groove. Fig. 3 is a detail view, in horizontal section, of the same. Fig. 4 is a detail face view of the vise-jaw and removable pipe-jaw. Fig. 5 is a detail end view of the removable pipe-jaw. Fig. 6 is a detail back view of the same.

In the accompanying drawings, the letter *a* denotes the main part or body of the vise; *b*, the fixed jaw, and *c* the movable jaw that is borne on the sliding bar *d*, the vise being fitted with a feed-screw *e*, by means of which the jaws of the vise are opened and closed. This feed-screw fits in a threaded socket in the main body of the vise, and it is provided with a lever-handle by means of which the jaws of the vise may be forcibly brought together. The vise-jaws are provided with the flat holding-faces *f*, that project toward each other from the respective jaws and form the shoulders *f'*, below which are mounted the removable pipe-jaws *g*. These pipe-jaws are placed so that the main holding-faces of the vise overhang the grasping-faces of the pipe-jaws, and the latter are located with their upper edges close against the under side of the shoulders that hold them against any rotary or upward sliding movement. Each pipe-jaw is provided with a series of grasping-teeth arranged in the concave surface of

the jaw in a curved piece, as illustrated in the end views in the drawings, and the back of each removable jaw is provided with a projecting stud *g'*, that fits into a socket or recess in the main jaw of the vise, so as to hold this pipe-jaw against any downward or end-wise play. This jaw may be firmly clamped in place by means of a set-screw *g''*, seated in a threaded socket and binding against the stud, into the socket of which the inner end of the set-screw may project.

The sliding bar is made of steel, in order to give greater strength, and the end is perforated and tinned, so that when the sliding jaw is cast about it it will make a firm connection, and this strengthening of the sliding bar is an important feature, owing to the breaking strain that is brought upon the vise by the use of the pipe-jaws for the purpose of bending pipe when held by the jaws, and also to enable a firm grasp upon the pipe to be taken for the purpose of holding the vise while cutting a thread upon the pipe.

The main body of the vise is provided with an open bending-socket *h*, that is located back of the main jaw, and is adapted to hold the removable bushing *i*, that is preferably made in two or more sections *i'* *i''*, having the tapered and rounded opening *i'''* therethrough. These bushings fit into the bending-socket *h* in the vise, and are held against removal by the overhanging upper edges of this open socket. A pipe of considerably less diameter than the bending-socket may be placed therein and the sectional bushing slipped into place and the pipe then bent to form an offset in the pipe, or it may be bent in opposite directions upon opposite sides of the vise, the sectional bushing being slipped out in parts, so as to enable the pipe to be removed from the hold of the bushing and socket. Owing to the hold afforded by the overhanging edges of the open socket, it may be used for straightening as well as for bending several sizes of pipe without requiring the socket to be reduced in size by the use of the sectional bushing. If the socket has an inside diameter of two inches, pipes or tubes of one and seven-eighths, one and one-half, and one and one-fourth inch, respectively, in diameter can be straightened, bent, or similarly

manipulated without requiring any additional holding means than that required by the peculiar shape of the socket.

An advantage of the removable pipe-jaws  
5 located back of the overhanging faces of the main jaws of the vise provides the vise with the pipe-holding jaws that do not in the least interfere with the uses of the vise for holding ordinary work, and at the same time greatly  
10 increases its capacity as to the class of work that can be held by it. The peculiar location of the jaws and arrangement of the teeth in the concaved grasping-surfaces add greatly to the strength of the hold, while the  
15 removable character of the jaws enables worn or broken parts to be readily replaced, the pipe-jaws being made interchangeable in the standard sizes.

I claim as my invention—

20 1. In combination, in a vise having holding-jaws, a pipe-holding socket formed on one side of the main jaw, the said socket being formed in the substance of the vise-body and

opening on one side, the opening being less in width than the diameter of the pipe-socket, 25 whereby overhanging jaws are formed, all substantially as described.

2. In combination with a vise having holding-jaws and a pipe-holding socket formed in the main body of the vise, a sectional bush- 30 ing having an opening therethrough and adapted to fit the pipe-holding socket, all substantially as described.

3. In combination with a vise having the holding-jaws and an open pipe-holding socket 35 formed in the main body of the vise and with overhanging lips, a removable sectional bushing adapted to fit the pipe-holding socket and having a rounded opening through the bushing with curved edges, all substan- 40 tially as described.

WILLIAM VANDERMAN.

Witnesses:

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A. B. JENKINS.