

G. AMBORN.
CHAIN PIPE VISE.
APPLICATION FILED DEC. 27, 1911.

1,054,661.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

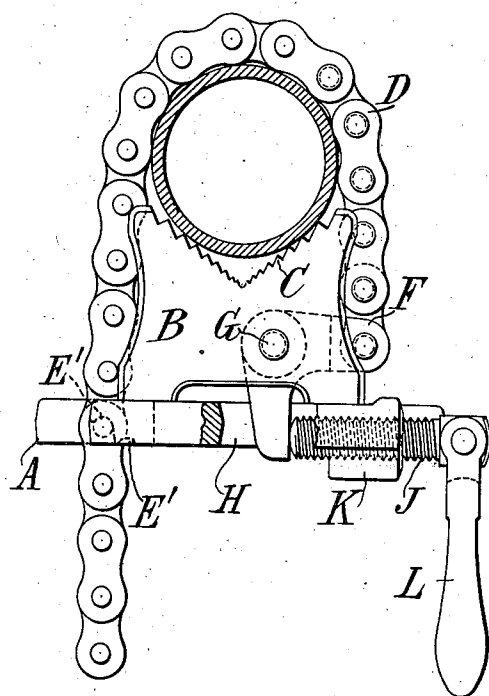
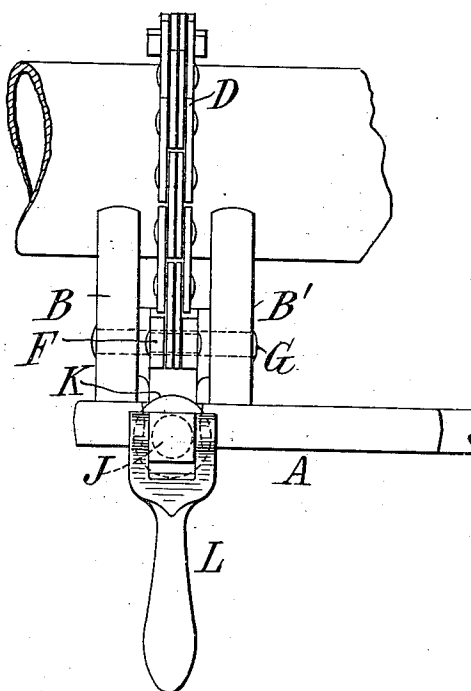


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

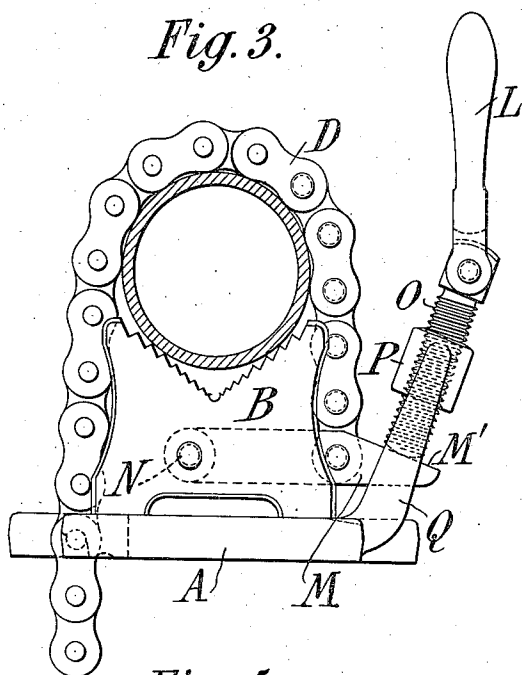


Fig. 4.

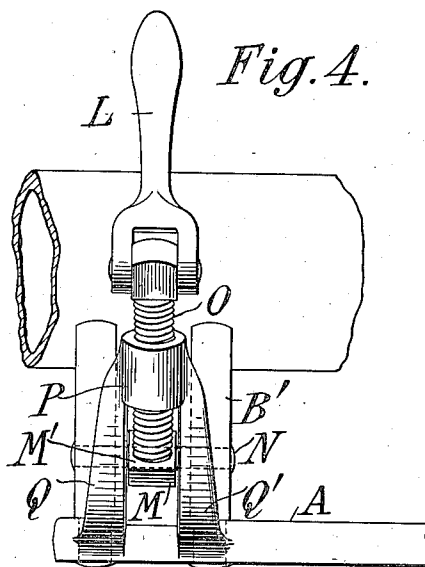


Fig. 5.

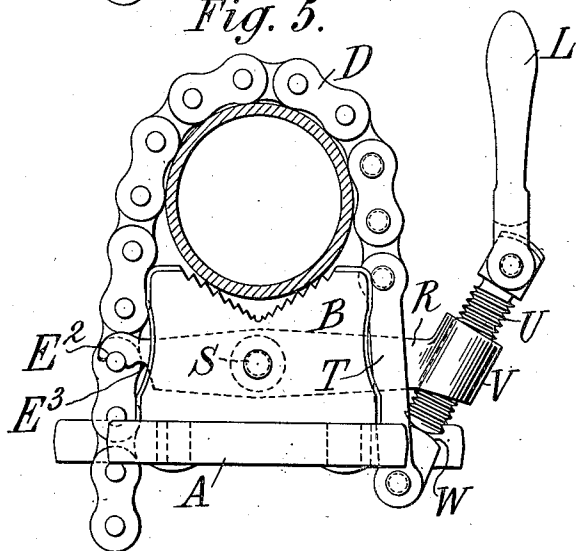
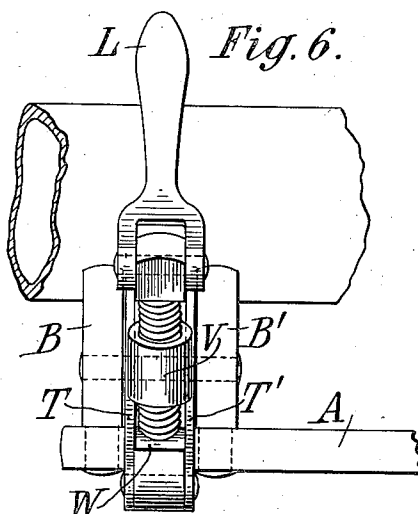


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE AMBORN, OF CHAPINVILLE, CONNECTICUT, ASSIGNOR TO J. H. WILLIAMS & CO., OF BROOKLYN, N. Y., A CORPORATION OF NEW YORK.

CHAIN PIPE-VISE.

1,054,661.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed December 27, 1911. Serial No. 668,058.

To all whom it may concern:

Be it known that I, GEORGE AMBORN, a citizen of the United States, residing in Chapinville, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Chain Pipe-Vises, of which the following is a specification.

This invention relates to chain pipe vises or the like, and aims to provide certain improvements therein.

In the ordinary form of vise two jaws are usually provided on which the pipe is designed to rest, the latter being clamped in position by a chain which passes around the pipe between the jaws. A lock is usually provided for one end of the chain while the other is customarily connected with a bolt extending through the bed of the vise and provided with a nut by which the bolt may be drawn downwardly, thus tightening the chain.

One of the objects of the present invention is to provide a construction in which the nut or equivalent take-up device is displaced from the under side of the bed plate to a point where it is more readily accessible.

To this end I provide a vise in which at least one end of the chain is connected with a lever, preferably pivoted between the jaws, and I provide a take-up mechanism for moving the lever to tighten the chain, which mechanism has its hand-operated part located at what may be termed the front of the vise or that side of the latter which is most accessible in use.

The invention includes also certain other features of construction which will be hereinafter referred to.

Referring to the drawings which show several embodiments of the invention—Figure 1 is a side elevation of one form of vise. Fig. 2 is a front view. Fig. 3 is a side elevation of another form of vise. Fig. 4 is a front view of Fig. 3. Fig. 5 is a side elevation of another form of vise. Fig. 6 is a front view of Fig. 5.

Referring first to Figs. 1 and 2, let A indicate a bed plate of a vise which is adapted to be supported upon a table or the like, and B B' its jaws, which may be fixed to the bed plate in any suitable manner. The jaws B B' may be of any desired construction, but these are provided with a working face C approximately V-shaped in form, and constructed with a series of serrations or

teeth which engage the pipe to be clamped. The latter is held in its position as is customary by a chain D, one end of which is usually normally free but which is adapted to adjustably engage a part of the vise to secure rough adjustments, while the opposite end is connected with a take-up mechanism to provide finer adjustments. In the construction shown in Fig. 1 the free end of the chain D engages one or the other of a pair of locks E E' formed on the bed plate of the vise. These features are not essential to the invention, it being practical to widely vary the construction without departing from the invention. In the construction shown in Figs. 1 and 2 the opposite end of the chain is pivoted to a lever F at the front of the vise, the lever being shown in the form of a bell crank lever pivoted at G between the jaws B B'. The arms of the lever are so arranged that the upper arm extends substantially horizontally while the lower arm extends vertically into a slot H formed in the bed plate A of the vise. Any suitable take-up mechanism may be provided for moving the lever F, and in the construction shown this take-up mechanism comprises a screw J turning in a fixed nut K which is preferably formed integrally with the bed plate A. The inner end of the screw bears against the lower arm of the bell crank lever, and its outer end is provided with a pivoted handle L by which the necessary pressure may be put upon the lever. It will be noted that by this construction the take-up mechanism is located at a point in front of the vise, where it is easily accessible in use, thus making the vise more conveniently operable than the common form of vise wherein the operating handle is located beneath the bed plate and to a certain extent out of sight of the user.

In the construction shown in Figs. 3 and 4 the vise is provided with a straight lever M which is pivoted at N between the jaws B B', and which is connected to the chain D at a point intermediate the ends of the lever. In this construction the take-up mechanism is also in the form of a screw O which works in a nut P preferably formed integrally with the bed plate A. The nut is shown as carried at the outer ends of the two arms Q Q' between which the front end of the lever M extends, the arms being given an angular direction approaching the vertical. The lever M in this

construction is best formed with an inclined face M' to which the screw O is approximately perpendicular.

In the construction shown in Figs. 5 and 6 the lock or locks E² E³ instead of being formed upon the bed plate A are formed upon the rear end of a lever R which is pivoted at S between its ends to the jaws B B'. In this construction the opposite end of the chain instead of being connected with a take-up mechanism is connected with the bed plate by two links T T', the adjustment of the chain in this case being accomplished by the movement of the rear end of the lever R. This movement may be obtained in various ways, but it is accomplished in the construction shown by a screw U arranged at the front of the vise. In this form of the invention the nut V, through which the screw works instead of being connected to or formed integral with the bed plate or jaws, is formed upon the front end of the lever R. The lower end of the screw engages a fixed abutment W which is formed upon or connected with the bed plate, the abutment being preferably rounded as shown to accommodate the different angular positions of the screw as the latter is adjusted. It will be seen that in this construction the screw does not move longitudinally, its rotation alone affecting the position of the lever. In this case also the operating handle is arranged in front of the vise in a position which is easily accessible to the operator.

It will be seen that by my invention I provide a construction of vise which is easily operated and which is strong and simple in construction.

While I have shown in detail several forms of the invention, I do not wish to be limited thereto as various changes may be made therein without departing from the invention.

I do not herein claim specifically the construction shown in Figs. 5 and 6 or broadly the features common to Figs. 3, 4, 5 and 6, as these form the subject matter of an application filed by me of even date herewith.

What I claim is:—

1. In a chain pipe vise or the like, a jaw, a chain, a lever engaging one end of said chain, and means for moving said lever.

2. In a chain pipe vise or the like, a jaw, a chain, a lever engaging one end of said chain, and a take-up mechanism for moving said lever located at the front of the vise.

3. In a chain pipe vise or the like, a jaw, a chain, a lever engaging one end of said chain, a take-up mechanism for moving said lever, said take-up mechanism comprising a screw bearing against said lever, and a handle at the outer end of said screw, said

outer end and handle being located at the front of the vise.

4. In a chain pipe vise or the like, the combination of a jaw, a chain, a lever pivoted at a point beneath the working face of said jaw and having one arm which engages said chain, and a take-up mechanism which engages the other arm of said lever.

5. In a chain pipe vise or the like, the combination of a body comprising a bed plate and jaws, a chain, a lock at one end of said chain located on the body of the vise, a lever engaging the opposite end of said chain, and a take-up mechanism located in front of the vise.

6. In a chain pipe vise or the like, the combination of a body comprising a bed plate and jaws, a chain, a lock at one end of said chain located on the body of the vise, a lever engaging the opposite end of said chain, and a take-up mechanism located in front of the vise, comprising a screw engaging said lever.

7. In a chain pipe vise or the like, the combination of a jaw, a chain, a bell crank lever having a horizontal arm engaging one end of said chain and having a vertical arm, and a horizontal take-up screw engaging the vertical arm of said lever and having a handle at the front of the machine.

8. In a chain pipe vise or the like, a pair of jaws, a chain, a lever engaging one end of said chain, said lever being pivoted between said jaws, and a take-up mechanism engaging said lever to move the same.

9. In a chain pipe vise or the like, a pair of jaws, a chain, a lever engaging one end of said chain, said lever being pivoted between said jaws, and a take-up mechanism engaging said lever to move the same, said take-up mechanism being located at the front of the vise.

10. In a chain pipe vise or the like, a jaw, a chain, a bell crank lever, pivoted beneath the working face of said jaw and having one arm which engages said chain, and a take-up mechanism engaging the other arm of said bell crank lever.

11. In a chain pipe vise or the like, a jaw, a chain, a bell crank lever, pivoted beneath the working face of said jaw and having one arm which engages said chain, and a take-up mechanism engaging the other arm of said bell crank lever, said take-up mechanism being located at the front of the vise.

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

GEORGE AMBORN.

Witnesses:

CHARLES B. HARRIS,
VICTOR F. ROBINS.