

No. 702,079.

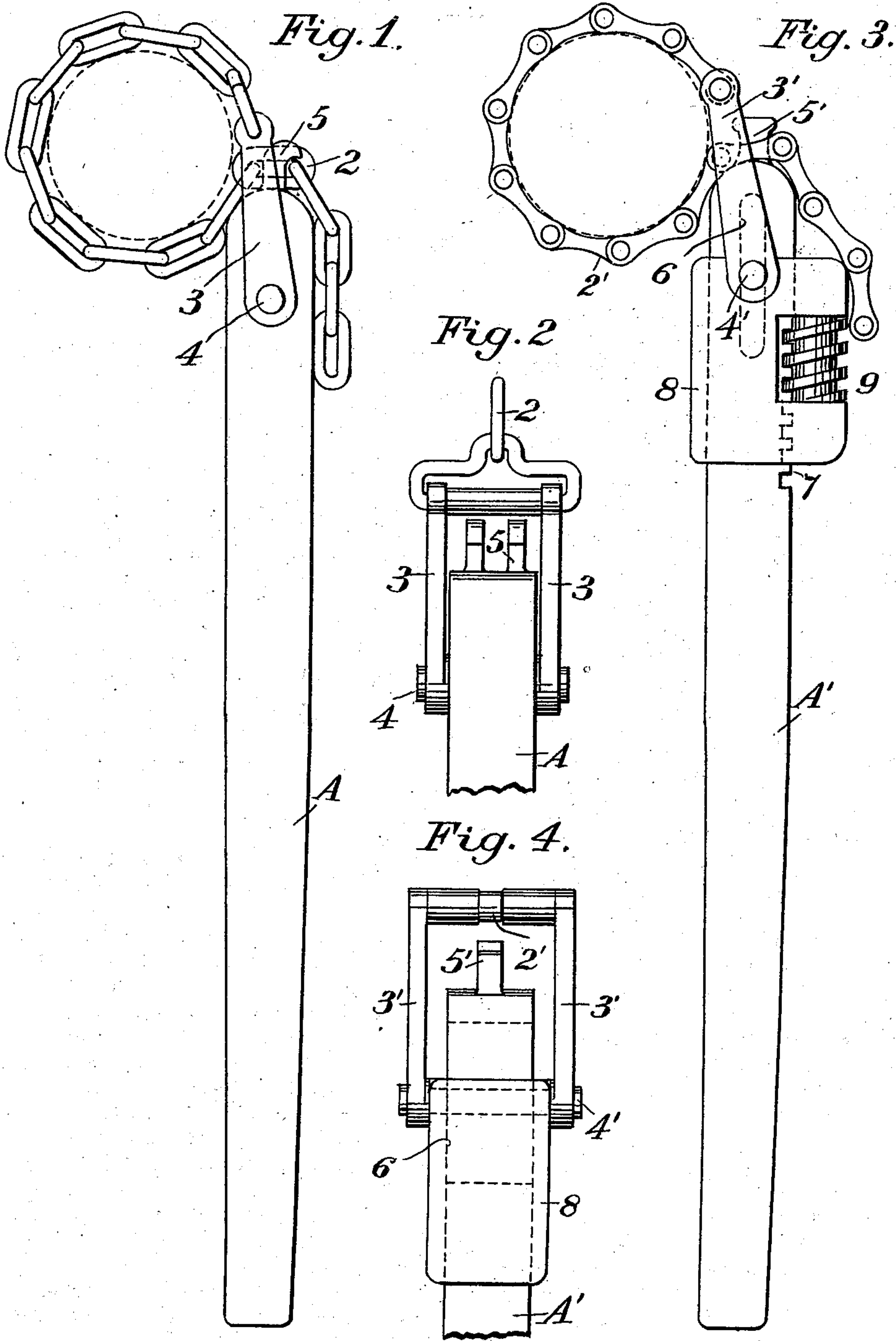
Patented June 10, 1902.

G. H. SWARTHOUT.

PIPE WRENCH.

(Application filed Nov. 13, 1901.)

(No Model.)



Witnesses,
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UNITED STATES PATENT OFFICE.

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PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 702,079, dated June 10, 1902.

Application filed November 13, 1901. Serial No. 82,132. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. SWARTHOUT, a citizen of the United States, residing at Placerville, county of Eldorado, State of California, have invented an Improvement in Pipe-Wrenches; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in pipe-wrenches of the type using a flexible gripping member. Its object is to provide a device that is simple in construction, quickly adjustable to various sizes of pipe, and which will not crush the pipe.

It consists, essentially, of a shank or handle, a clevis or elongated link pivoted near one end of said handle, a chain or flexible band connected to and adapted to be passed through said clevis, and a projection on the lever with which the end of the chain or band may be engaged.

It also comprises a supplementary tightening or adjusting device upon the handle and includes details which will be more fully set forth hereinafter, having reference to the accompanying drawings, in which—

Figure 1 is a side view of my invention. Fig. 2 is a front view. Fig. 3 is a modification of Fig. 1. Fig. 4 is a front view.

A represents a shank or handle, near one end of which is attached a chain 2 by means of a clevis 3. In the present case this chain is shown as of the ordinary form, whose links stand alternately at right angles to one another. The clevis is pivoted at 4, so as to be turnable over the end of the handle, and is of sufficient size as to allow the chain to be passed freely through it, as in Figs. 1 and 3. The clevis end of the handle is provided with a forked projection 5, which is adapted to receive certain of the links of the chain 2 between its members. The projection 5 may take the form of a hook, if desired, and be adapted to receive a link of the chain. This is my wrench in its simplest form.

The operation is as follows: The chain is passed around the pipe and thence through the clevis. The grip on the pipe is made as tight as possible, and then a link is engaged by the projection 5. The handle is then actuated, which causes the chain to grip the

pipe tightly, for the greater the tension the firmer the grasp of the wrench.

The great advantage of this wrench over all "chain" wrenches of which I have any knowledge is that it completely encircles the pipe and applies precisely the same pressure on every point on the circumference of the pipe. Most chain wrenches employ a fixed bit or jaw which coöperates with the chain, but which chain usually does not completely encircle the pipe. The result is that the greatest pressure is exerted at the point or points of contact of the jaw, and the pipe is crushed or dented at those places.

If a finer adjustment of the chain on the pipe is desired than can be obtained by the device above referred to and shown in Fig. 1, I may make a wrench after the design seen in Fig. 3. In this case the handle A' is slotted near one end, as at 6. One edge of the bar is ratcheted or toothed, as 7, and a sleeve 8, movable by means of a worm 9, engaging the rack 7, is carried on the handle. The clevis 3' is pivoted to the sleeve, and the pin 4' operates in the slot 6. The chain 2' is secured, as before, to the clevis, and its operation is precisely as in the first instance. In Fig. 3, however, I have shown a chain consisting of alternate solid and hollow links. The projection 5' instead of being forked is in the form of a hook which is adapted to receive one of the hollow links after the chain has been passed through the clevis. By operating the worm to move the sleeve, and consequently the pivot end of the clevis nearer or farther from the end of the handle, the grip of the chain on the pipe may be adjusted to take up any slack remaining after the chain has been engaged by the hook.

Of course it is understood that either form of chain and corresponding hook member may be used in either style of wrench, or I may substitute other adjusting means for the worm and rack-bar.

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

1. A pipe-wrench consisting of a handle, a chain pivoted near one end of said handle, a member longitudinally movable upon the handle and to which the chain is pivoted, said

chain having a link or member adjacent to the pivot-point of sufficient width to admit the passage of the chain therethrough, whereby the chain may be able to encircle a pipe completely, and a projection upon the handle with which the free end of the chain may be engaged.

2. The combination in a pipe-wrench of a handle, a member slidable longitudinally upon said handle, a chain pivoted to said slidable member, and means upon the end of the handle by which a link of the chain may be engaged.

3. The combination in a pipe-wrench of a handle, a member slidable longitudinally upon said handle, a clevis pivoted to said member and freely turnable across the end of the handle, a chain secured to said clevis and adapted to be passed therethrough to encircle a pipe completely, and a means upon the handle by which a link of said chain may be engaged.

4. The combination in a wrench of a handle, a sleeve movable longitudinally thereon, a flexible gripping member pivoted to said sleeve and movable therewith, and means

upon said handle whereby the free end of the gripping member may be engaged.

5. The combination in a wrench of a handle, a clevis pivoted to said handle and adjustable longitudinally thereon, a flexible gripping member secured to said clevis and adapted to pass through said clevis to encircle a pipe completely, and means upon the handle whereby said grip member so passed through the clevis may be engaged.

6. The combination in a pipe-wrench of a handle, a sleeve movable longitudinally upon said handle, a clevis pivoted to said sleeve, a slot in the handle in which the pivot of said clevis is slidable, a chain secured to and adapted to be passed through said clevis so as to completely encircle a pipe and a projection upon the handle with which a link of the chain may be engaged.

In witness whereof I have hereunto set my hand.

GEORGE H. SWARTHOUT.

Witnesses:

GEO. H. THOMPSON,
E. W. WITMER.