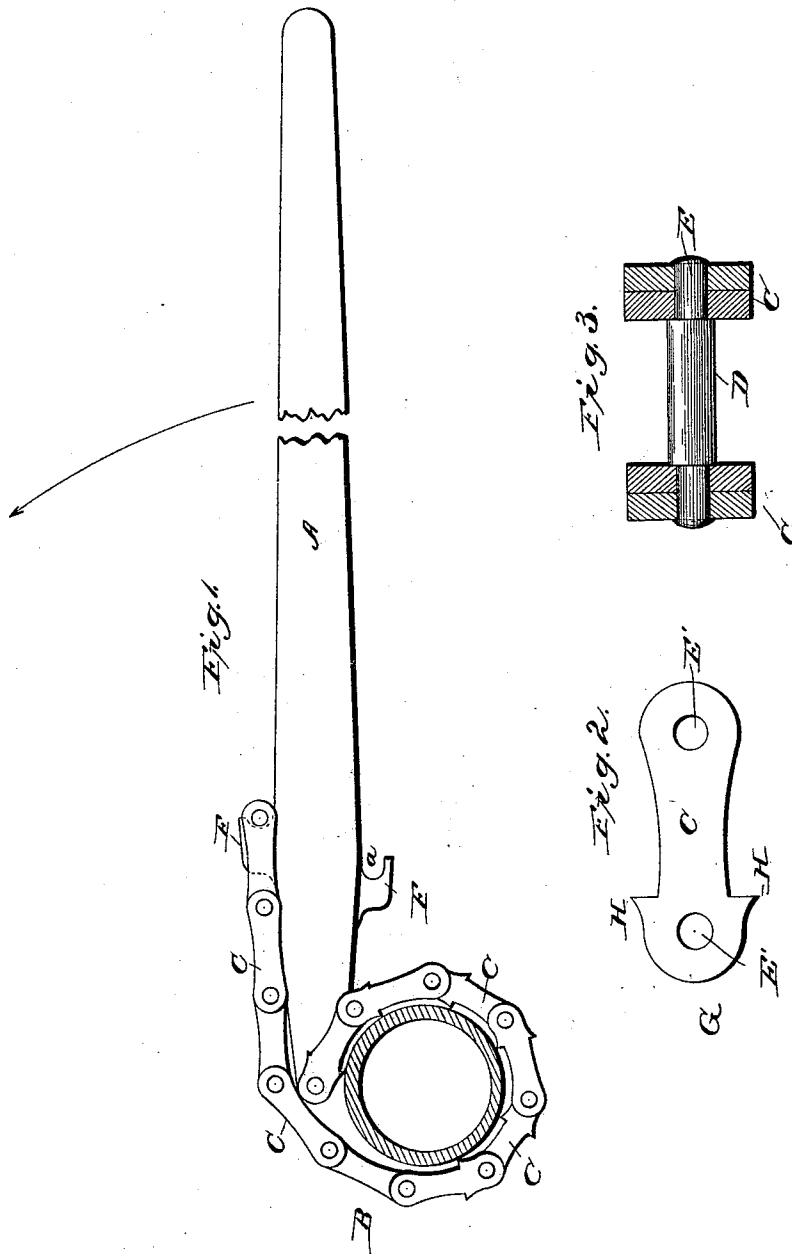


(No Model.)

N. R. STREETER & C. P. MOSHER.
CHAIN PIPE WRENCH.

No. 520,712.

Patented May 29, 1894.



Witnesses

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NELSON R. STREETER AND CHARLES P. MOSHER, OF GROTON, NEW YORK.

CHAIN PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 520,712, dated May 29, 1894.

Application filed February 23, 1893. Serial No. 463,465. (No model.)

To all whom it may concern:

Be it known that we, NELSON R. STREETER and CHARLES P. MOSHER, of Groton, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Chain Pipe - Wrenches; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to improvements in chain pipe wrenches, and it consists in the particular construction of the chain and the handle, whereby it is made reversible all of which will be more fully described hereinafter and particularly referred to in the claims.

The object of our invention is to provide a chain pipe wrench which is so constructed, that the chain is reversible to permit either side thereof being placed around and in contact with the pipe and one end connected to either side of the handle, and when in this position to effect the leverage which does not have any tendency whatever to crush or mash the pipe, but simply draws the chain tight around it, pushing the sharp points or teeth of the chain into the periphery of the pipe so that it will clasp it tightly to be turned when the handle is pushed in the proper direction; and to provide the chain with studded pivots which support the links thereof a suitable distance apart so that the pivots catch over a hook at each side of the handle for holding it in position and also to furnish a wide holding surface or contact upon the said pipe.

In the accompanying drawings:—Figure 1, is a side view of a wrench which embodies our invention being shown applied to a pipe. Fig. 2, is a detached enlarged view of one of the links. Fig. 3, is a detached view of one of the pivotal pins showing the link in section applied to the end thereof.

A indicates the handle which will be of any suitable construction and to the outer end of which preferably at its center is pivotally connected one end of a chain B. This chain consists of links C which are connected by means of the pivotal, studded pins D, the said pivotal pins having studs E which pass through the openings E' made in the opposite

ends of the links, the said links thus abutting against the enlarged portions of the pins and held in a vertical or parallel position against lateral movement, so that the said chain is flexible in one direction while it is substantially rigid against lateral movement, so that it is readily and quickly placed around the pipe. These pivotal pins are of a suitable length so that they will afford a wide bearing surface for the separated links against the periphery of the pipe, as will be readily understood. The pins are made sufficiently long so that they will permit the hooks F, upon opposite edges of the handle being passed between the links and engaging the said pivotal pins, as clearly shown. They are therefore of a length equal to the width or thickness of the handle to permit of this manner of placing and holding the links over the said hooks.

Attention is directed to the particular construction of the links which have the enlarged end G, farthest from the end of the handle to which they are attached and their opposite ends also enlarged and the links reduced between their ends gradually from the end so as to form the teeth or ratchet H at the opposite end thereof as clearly shown in Fig. 2. The ratchet or teeth are preferably near the pivotal point of the ends of the links which are nearest the handle, so that when the wrench is placed in the operative position shown in Fig. 1, a greater leverage is gained from the points or teeth of the links to those upon the other succeeding links than would be the case if the points were placed between their ends, and this also forces the said teeth more firmly against the periphery of the pipe owing to the fact that they are near the pivotal point of the said links.

By reference to Fig. 1, it will be seen that the only portions of the links which engage the pipe to any great degree are the teeth or points just referred to.

Either side of the chain can be wrapped around the pipe as shown in Fig. 1, and one of the pivotal pins passed over one of the hooks of the handle, and by turning the handle in the reverse direction from that shown by arrow in Fig. 1, the chain is tightened around the pipe and has no tendency whatever to crush it, but to clasp it equally at all points as will be clearly understood. It will

be seen that the link attached to the end of the lever forms a fulcrum so that the lever being turned in the direction just referred to draws the opposite end of the chain tightly
5 around the pipe pushing the teeth therein, so that when the handle is depressed the pipe is turned.

The said wrench is readily adapted for pipes of all sizes within the capacity thereof
10 by placing either one of the pins which connect the links over one of the hooks upon the handle or lever, as will be readily understood.

Attention is now directed to the fact that
15 the hooks upon opposite edges of the handle are placed one in advance of the other, and the distance of one in advance of the other is about equal to one half the length of the links, so that the adjustment of the chain is
20 made more perfect, as will be readily understood. That is to say that if the chain cannot be adjusted upon one side to be adapted to a pipe of a certain size by simply turning the chain over and connecting it at the opposite
25 side it will be found that the adjustment can be accomplished on account of one of the hooks being in advance of the other.

From the above description it is seen that we have produced a very simple and cheap
30 wrench consisting of a chain and a handle, so constructed that the lever will draw the chain tightly around the pipe without having any tendency to crush it, and which is so constructed that a very durable and strong
35 chain is produced having a wide bearing or engaging surface which is capable of being used as a ratchet, that is to say the wrench will readily slip around the pipe in one direction while it will tightly grasp it when turned
40 in the other direction.

This wrench is also especially adapted to be used for screwing up pipes down in a trench, the upper end of the wrench or handle extending up through the trench can be
45 moved a slight distance backward or forward and the pipe thus turned; an advantage

gained over the ordinary ratchet owing to the fact that there is no lost motion.

When it is desired to detach a wrench from a pipe it is only necessary to turn the handle
50 in the direction indicated by arrow in Fig. 1 which will loosen the chain, and then by dropping the handle the chain will be automatically detached from the hook by coming in engagement with the pipe.

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

1. A wrench consisting of a handle having a holding stud or hook, a chain consisting of
60 a series of links, having teeth or projections, the said links connected by pivotal pins having reduced ends which pass through perforations in opposite ends of the said links which hold them in a separated parallel po-
65 sition to produce a wide bearing surface upon the pipe, and to form a holding point to be placed over the hook upon the handle, substantially as specified.

2. A chain wrench consisting of a handle
70 having a chain pivoted at one end thereof capable of being reversed, the links of the chain having teeth upon opposite edges thereof, a hook upon each edge of the said handle, one hook being in advance of the other about
75 equal to one half the length of the said links, substantially as described.

3. A chain wrench consisting of a handle having a hook upon one edge thereof, and a chain consisting of links, pivotal pins separating the said links, each of the said links having an enlarged end and reduced portions
80 between their ends, and the enlarged ends provided with teeth or projections near their pivotal points, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

NELSON R. STREETER.
CHARLES P. MOSHER.

Witnesses:

DEXTER H. MARSH,
M. C. MARSH.