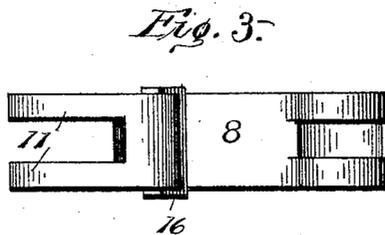
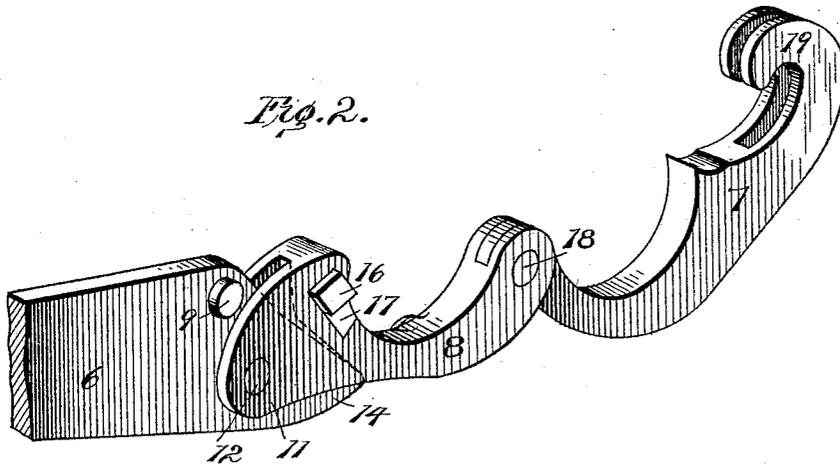
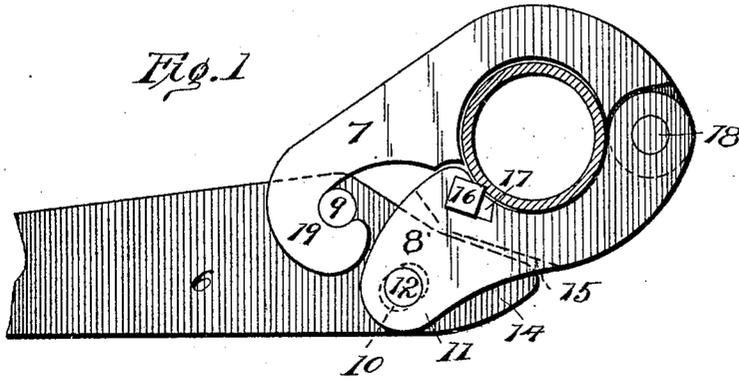


No. 807,258.

PATENTED DEC. 12, 1905.

G. FOGGAN.
PIPE WRENCH.
APPLICATION FILED MAY 4, 1905.



WITNESSES:
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UNITED STATES PATENT OFFICE.

GEORGE FOGGAN, OF PLEASANTVILLE, PENNSYLVANIA.

PIPE-WRENCH.

No. 807,258.

Specification of Letters Patent.

Patented Dec. 12, 1905.

Application filed May 4, 1905. Serial No. 258,748.

To all whom it may concern:

Be it known that I, GEORGE FOGGAN, a citizen of the United States, and a resident of Pleasantville, in the county of Venango and State of Pennsylvania, have made certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention is a pipe-wrench of that class wherein the pipe is encircled and gripped by links pivotally connected together and to a handle, by the swing of which the requisite pressure is applied to grip and turn the pipe.

The wrench is characterized by few and simple parts and quick and powerful action and freedom from some defects incident to known constructions. A defect which some wrenches have is that they tend to flatten or buckle the pipe under severe strain, as in unscrewing old joints. This is usually caused by uneven pressure or contact against only a part of the circumference of the pipe. Also some wrenches have their jaws or biting-teeth integral with the main part or parts. This is objectionable, because when the teeth wear out they cannot be renewed easily. Other wrenches have a small or limited gripping-surface, which gives a poor grip and causes slipping. A further defect in a wrench is a liability to slip entirely off the pipe when let go of temporarily. My invention is designed to remedy these defects and to provide a pipe-wrench which can be conveniently and successfully used under all ordinary conditions.

In the accompanying drawings, wherein a wrench embodying the invention is illustrated, Figure 1 is a side view thereof closed on a pipe. Fig. 2 is a perspective view open. Fig. 3 is an inner face view of the link carrying the tooth.

Referring specifically to the drawings, 6 indicates the bar-handle of the wrench, and 7 and 8 the links connected thereto, which encircle the pipe. These three pieces are the main parts of the wrench and may be produced at low cost.

The handle 6 has at the front end thereof, near its rear edge, a pin 9, projecting on both sides, and near its front edge a slot 10. The end of the link 8 has on the outer side thereof a pair of ears 11, between which the end of the handle 6 fits, and a pin 12, extending through the ears and the slot, forms a

knuckle-joint between the parts, and the knuckle of the handle is extended, as at 14, to bear against the body of the link at 15 when the wrench is tightened. This takes the strain off the pin 12 when the wrench is in action and lets the handle bear directly against the link behind the tooth 16. This tooth comprises a squared piece of steel set crosswise in an undercut mortise or groove extending across the face of said link and held in place by a wedge-key 17, driven in beside it. One corner of the tooth projects to bite into the pipe and gives a broad gripping edge without cutting deeply into or stripping the pipe, and when one corner is worn the tooth may be turned to present another corner. A substantially similar knuckle-joint is formed between the links 7 and 8 by the pin 18, and the inner faces of the links are semicircular in shape, so that they contact with the pipe around substantially the whole circumference thereof. This avoids flattening or buckling even with thin pipe or under great strain.

At its outer or free end the link 7 is forked to admit the edge of the handle therebetween, and the forks are hooked inwardly, as at 19, to engage the pin 9 on both sides of the handle.

In use the links are passed around the pipe and the outer link hooked to the pin 9. Pull on the handle throws the link 8 in by reason of the shape of the slot 10 and the movement of the pin 12, and continued pressure forces the knuckle 14 against the back of the link and bites the corner of the tooth into the pipe. On back pressure the movement of the pin in the slot withdraws the tooth and loosens the links, and the wrench may be worked back and forth to alternately tighten and loosen the grip and turn the pipe. When thrown back to full extent, the hooks may be disengaged from the pin 9 and the wrench opened off.

It will be evident from the description that when the wrench is in position and pressure is applied to the handle the inner end of the first link will be tilted to force the tooth into contact with the pipe. This movement is permitted by the pin-and-slot connection with the handle. The part of the handle engaged by the second or outer link is held to position, and the extended end of the handle engages the inner or first link, thus forcing

the end provided with the tooth inward with respect to the other end or tilting the link upon its connection with the outer link.

What I claim as new, and desire to secure by Letters Patent, is—

1. A pipe-wrench comprising a handle, a link having a pin-and-slot connection with the handle, a tooth near the attached end of the link and adapted to engage the pipe, a second link pivoted to the free end of the first link, means whereby the free end of the second link may be connected to the handle and means whereby the handle may engage the link beyond its connection therewith to force the tooth into engagement with the pipe.

2. A pipe-wrench comprising a handle provided with a downwardly-beveled portion at its front end, a link connected to the handle and provided with a surface normally in contact with the beveled portion and a recess on its upper edge adjacent its attached end, a tooth in the recess for engaging the pipe, means for retaining the tooth in position, a

second link pivoted to the first link, means whereby the free end of the first link may be connected with the handle and means to permit the beveled portion of the handle to be forced against the outer surface of the link to force the tooth into engagement with the pipe.

3. A pipe-wrench comprising a handle having a slot at its front end and a pin traversing an opening at the rear of the slot, a link having ears to receive the handle and a recess on the upper edge thereof, a pin traversing the ears of the link and the slot in the handle an angular toothed piece extending lengthwise in the recess and projecting at one of its longitudinal corners, a key for retaining the tooth in place, a second link pivoted to the first link, and a hook on the link for engaging the pin on the handle.

GEORGE FOGGAN.

Witnesses:

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