No. 650,077. Patented May 22, 1900.

W. T. HATTEN.

PIPE WRENCH.

(Application filed Feb. 5, 1900.)

(No Model.)

Fig. 1.

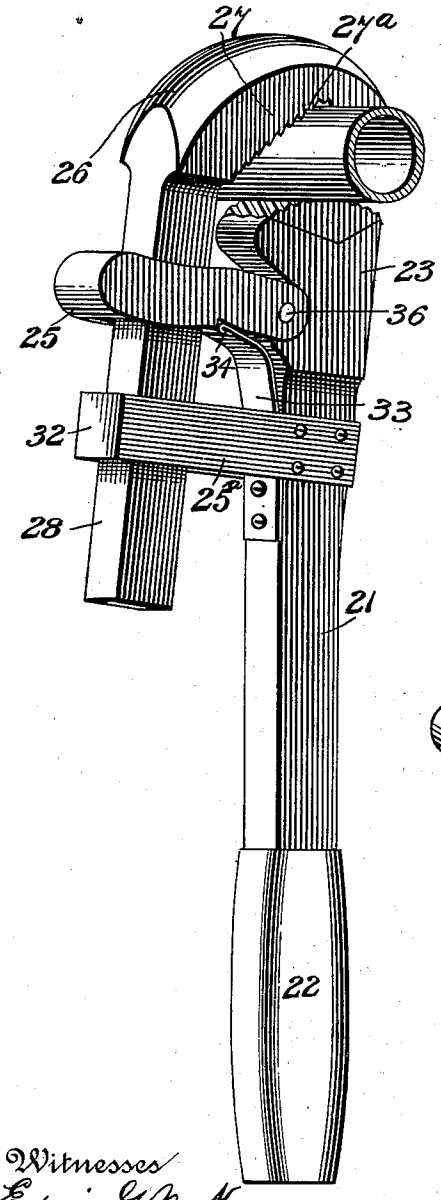


Fig. 2.

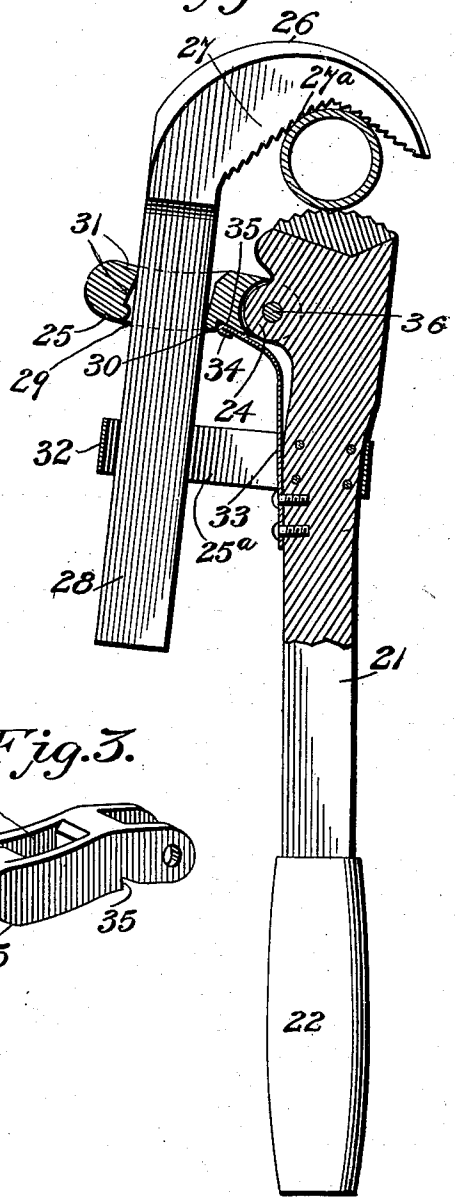


Fig. 3.

Witnesses
Edwin G. McKee.
R. M. Smith.

William T. Hatten Inventor

By E. G. Siggers Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM THOMAS HATTEN, OF CANYON CITY, OREGON.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 650,077, dated May 22, 1900.

Application filed February 5, 1900. Serial No. 4,005. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS HATTEN, a citizen of the United States, residing at Canyon City, in the county of Grant and State of Oregon, have invented a new and useful Pipe-Wrench, of which the following is a specification.

This invention relates to pipe-wrenches, and has for one object to simplify and improve the construction of wrenches of the character specified, the wrench being capable of quick adjustment and when adjusted to the size of the pipe to be operated upon is entirely automatic in action, releasing its grip upon the pipe in the backward movement of the handle of the wrench and obtaining a new firm grip upon the pipe preparatory to the next operative stroke of the handle. The wrench is also adapted for use upon pipes of widely-different sizes, so that one wrench will answer the purpose of several wrenches of the ordinary construction.

Other objects and advantages of the invention will appear in the course of the ensuing description.

The invention consists in a pipe-wrench embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claim.

In the accompanying drawings, Figure 1 is a perspective view of a wrench constructed in accordance with this invention. Fig. 2 is a longitudinal section through the same. Fig. 3 is a detail perspective view of the clutch-loop.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

In constructing a pipe-wrench in accordance with the present invention I employ a main shank 21, which is provided at one end with a handle 22 and at the opposite end with a fixed jaw 23, the shank being also provided adjacent to the fixed jaw with a laterally-projecting perforated ear 24, to which is pivotally connected a clutch-loop 25^a. The main shank 21 is also provided with a laterally-projecting guide-loop 25, which extends from the rear side of the shank to receive and guide the shank of the movable jaw.

The movable jaw (indicated at 26) is provided with a V-shaped gripping-surface 27, transversely toothed or serrated, as shown at 27^a, the fixed jaw 23 being similarly toothed or serrated, the teeth of the fixed jaw being preferably disposed diagonally or obliquely. The movable jaw 26 is provided with a shank 28, which is independent of the main shank 21 and which is also of less length. The shank 28 passes through an opening 29 in the clutch-loop, and the inner end of said opening 29 is rounded, as shown at 30, to form a rocker-surface or rounded fulcrum, against which the shank 28 bears. At the outer end of the opening 29 the clutch-loop is reversely beveled, as shown at 31, to provide a tooth which bites against the outer edge of the shank 28, so as to obtain a firm hold thereon and prevent the movable jaw from sliding outward while engaged with the pipe. The shank 28 passes also through the guide-loop 25, and the outward swinging movement of the shank is limited by the outer transverse portion 32 of said loop.

The clutch-loop 25^a is pressed outward by means of a leaf-spring 33, one end of which is secured to the shank 21, while the opposite free end is recurved, as shown at 34, and seated in a transverse groove or notch 35, formed in the inner edge or surface of the clutch-loop. The spring 33 serves to rock the clutch-loop toward the operating-jaws and also serves the additional function of simultaneously rocking outward the inner end of the shank 28 of the movable jaw until said shank comes in contact with the outer end 32 of the guide-loop 25. The fixed jaw 23 lies opposite the V-shaped gripping-surface of the movable jaw, and the outer end of the movable jaw overhangs the fixed jaw, as clearly shown in the drawings.

In operating the wrench the outer end of the clutch-loop is pressed inward or toward the guide-loop 25, which has the effect of releasing the grip of the clutch-loop on the shank of the movable jaw. The movable jaw may now be slid outward, so as to embrace the pipe to be operated upon, after which the clutch-loop 25^a may be released and the movable jaw pushed inward toward the fixed jaw until both jaws are closed upon the pipe and a firm grip obtained thereon which will enable the pipe to be turned by vibrat-

ing the handle of the wrench in the proper direction. When the handle is vibrated in the opposite direction, the movable jaw 26 and the clutch-loop 25^a automatically rock upon the pivot or fulcrum pin 36 as though said parts were in one piece, and in such movement the distance between the fixed and movable jaws is increased sufficiently to release the hold of the jaws on the pipe. As soon as the back stroke of the wrench is completed, however, the spring 33 returns the clutch-loop and movable jaw to their operative position, and the jaws thus obtain a new grip upon the pipe. Thus the wrench is entirely automatic in operation and requires no attention on the part of the operator in order to enable the wrench to alternately grip and release its hold upon the pipe. The wrench is simple and economical in construction, and there are no delicate parts to become broken. The wrench is also adapted for use upon pipes of widely-different sizes, thus enabling one wrench to perform the work which ordinarily requires the use of several wrenches.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

The herein-described pipe-wrench comprising a main shank provided with a fixed jaw, a movable jaw having a relatively-shorter shank arranged at one side of the main shank, a guide-loop on the main shank, embracing the shank of the movable jaw, a clutch-loop pivotally connected to the main shank and having an opening for the reception of the other shank, a rounded fulcrum-surface at the inner end of said opening, a clutch-tooth at the outer end of said opening, and a spring arranged upon the shank and connected at one end to the main shank with its free end bearing against the inner side of the clutch-loop, the said spring acting to rock both the clutch-loop and the shank of the movable jaw, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM THOMAS HATTEN.

Witnesses:

GEO. HAGNY,

Z. J. MARTIN.