(No Model.)

S. J. BENSON.

PIPE WRENCH.

No. 345,567. Patented July 13, 1886.

Fig. 1.

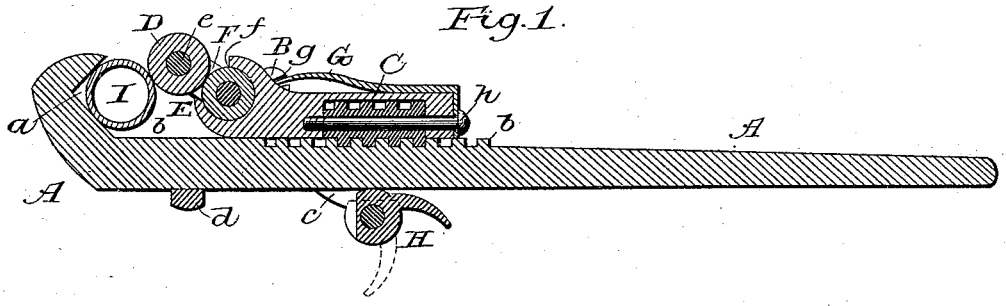
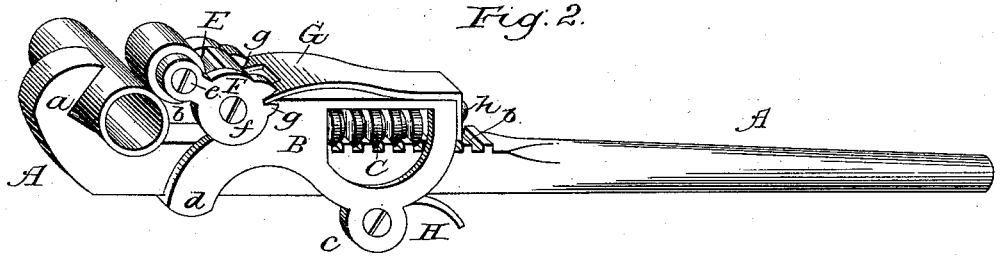


Fig. 2.



Witnesses:

Alonzo D. Hollis

J. W. Cunningham

Inventor:

Samuel J. Benson

UNITED STATES PATENT OFFICE.

SAMUEL J. BENSON, OF BOULDER CREEK, CALIFORNIA.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 345,567, dated July 13, 1886.

Application filed May 6, 1886. Serial No. 201,402. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. BENSON, a citizen of the United States, residing at Boulder Creek, county of Santa Cruz, and State of California, have invented a new and useful Pipe-Wrench, of which the following is a specification.

My invention relates to improvements in pipe-wrenches in which a serrated or grooved roller is attached to and rolls upon a segment of the periphery of a second roller, which is fixed in a movable jaw, which adjusts and secures the position of the rollers upon the shank or handle of the wrench; and, further, in providing the movable jaw with a threaded spool engaging with a corresponding concave segment of a screw or thread cut into the inner edge of the handle or shank, and in providing a cam on the opposite edge of the jaw, whereby the jaw may be quickly set free or locked in the threads of the spool and shank; and the object of my improvement is to provide a convenient and reliable tool for the purpose set forth. I attain this object by means of the mechanism shown in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the wrench as it appears when set on the pipe. Fig. 2 is a perspective view of the wrench in the same position.

Similar letters refer to similar parts in either view.

The general appearance, construction, and action resemble a common monkey-wrench, and, excepting the parts in actual contact with the pipe, may be so made. For general use, where frequent changes occur in sizes of pipe and fittings, I prefer the plan herein shown for quick adjustment. The hooked lever A A forms and embraces at the left end the <-shaped solid jaw *a*, and from *b* to *b* the guide-bar and threaded rack for the movable jaw B, the remainder being the necessary continuation of the lever terminating in a hand-hold. The movable jaw B slides freely upon the shank or guide-bar *b b* when the handle of the cam H is pushed outward, releasing the threaded spool C, the side plates and cross-bar, *c d*, being so fitted and placed as to give the required movement.

D is a movable roller having a serrated, grooved, or otherwise indented face, and rolling upon the fixed roller E, which is provided with a corresponding face, this roller being set in a suitable opening in the end of the jaw B, and remains stationary until it may be necessary to turn it as the projecting edges of the roller wear. These rollers are held in their places by means of the pins *e f*, passing through them and the links F, the large end of the links F forming washers to hold the roller E in place endwise, and also being provided with lips *g g*, into which the ends of the forked spring G are inserted, the opposite and fixed end of which is secured by means of the pin or screw *h*, which also passes through and forms a spindle for the threaded spool C. A pressure of the thumb upon the spring G throws the roller D back out of the way, when necessary. The spring also assures contact of the pipe and roller. The threaded spool C turns freely upon the spindle *h*, and is intended to receive the thrust of the roller D, communicated through the movable jaw B, as also to adjust it, as will be obvious from the drawings. The materials employed in the manufacture are such as are commonly used for such tools.

The operation is as follows: The movable jaw B being placed in position, after sliding it along the guide-bar *b b* and locking it by means of the cam H, the wrench being placed upon the pipe I, and the roller D being thrown out as far as will permit it to take a firm hold on the pipe from the pressure of the spring G and the smallest movement of the handle, the roller D revolves upon the pipe, and upon the fixed roller E at the same time, instantly filling the space and carrying the pipe as the movement continues. A slight backward movement releases the roller, and the spring G holds it in position for the next movement.

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

1. In a pipe-wrench, a gripping-roller, D, attached to the jaw B, and revolving upon a fixed roller, E, or its equivalent.

2. The combination of the fixed jaw and

the solid shank or handle A A with a movable jaw, B, secured to the same by means of a cam, H, and adjustable threaded spool C, the gripping-roller D, and links F, the fixed abutment-roller E, and the spring G, the whole constructed and arranged substantially as and for the purpose specified.

In testimony whereof I affix my signature in the presence of two witnesses.

SAMUEL J. BENSON.

Witnesses:
A. D. HOLLIS,
J. W. CUNNINGHAM.