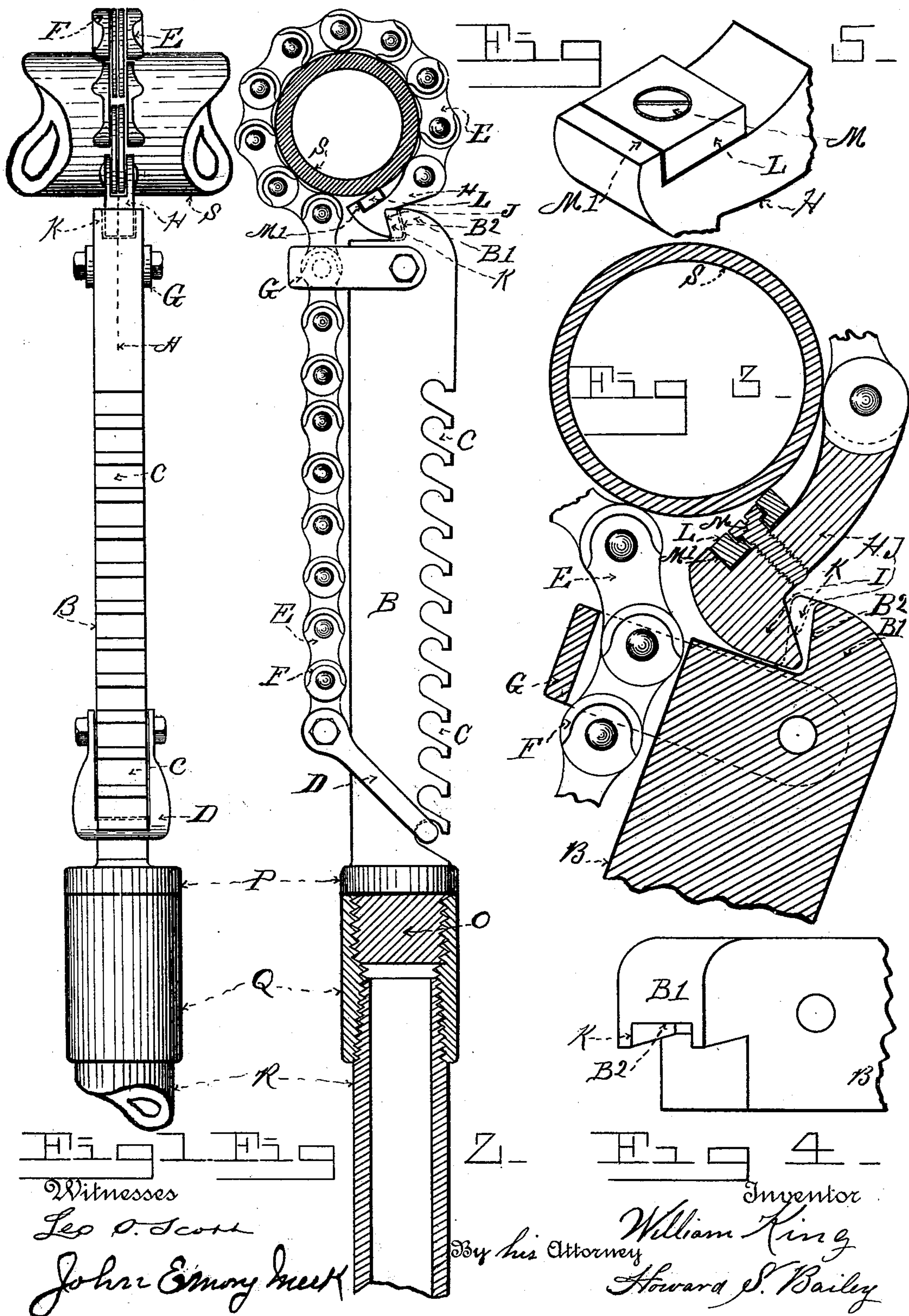


W. KING.
PIPE WRENCH.

Patented June 12, 1894.



UNITED STATES PATENT OFFICE.

WILLIAM KING, OF LONGMONT, COLORADO.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 521,267, dated June 12, 1894.

Application filed February 12, 1894. Serial No. 499,945. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KING, a citizen of the United States of America, residing at Longmont, in the county of Boulder and State of Colorado, have invented certain new and useful Improvements in Pipe-Wrenches; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in chain pipe wrenches, and the objects of my invention are, first, to provide a cheap, durable and efficient chain pipe wrench; second, to provide a wrench that will grip the pipe without slipping when moved to turn it; third, to provide a reversible gripping device. I attain these objects by the mechanism illustrated and described in the accompanying drawings and specification, in which—

Figure 1 represents a front elevation of my improved chain pipe wrench showing a fragment of the handle. Fig. 2 represents a side elevation of the same showing the handle end of the wrench bar, a fragment of the handle and the coupling in section. Fig. 3 represents a fragmentary view of the gripping end of the wrench in section, through the center of the wrench bar on line A. of Fig. 1. Fig. 4 represents a fragmentary perspective view of the end of the wrench bar. Fig. 5 represents a fragmentary perspective view of the gripping device.

Similar letters of reference refer to similar parts throughout the several views.

Referring to Fig. 1, B. represents the wrench bar. It is provided with several slots C. which are cut into the front edge and are adapted to receive the clevis D. which fits freely over the bar B. Pivottally connected with the clevis is a chain E, preferably a flat chain. The chain illustrated is well adapted for the purpose, as the outside links are provided with a flange F. which partially surrounds the rivet heads and protects them. The chain passes through a clip G. which is secured to the end of the wrench bar. Upon the other end of the

chain I pivot a gripping link H., on the end of which I form a toe I., or upwardly projecting end J., which I bevel on the face downward and backward in such a manner as to prevent the face B² of the wrench bar head from slipping off of it by sliding back when under pressure. The wrench bar is provided with a head B' projecting forward from the body of the bar, which is beveled upward and backward to match the bevel of the face of the toe, as shown in Fig. 4. I also form lips K. on either side of the projecting head B' of the wrench bar, which pass down on each side of the toe I. and prevent its slipping from under the bar sidewise, consequently it cannot slip away in either direction, as it is held one way by the lips and the other by the upward and backward bevel of the head.

On the under side of the gripping link H., I secure a hardened steel grip block L. with a screw M. which passes freely through it into the link. I make the hole in said block large enough and long enough to allow the block to butt against the shoulder M', which is formed on the link to receive it. I make this grip block square so that every edge may be used until too dull to grip the pipe, which may be done by withdrawing the screw and turning it around or over. As there are eight edges the block will last a long time, and it can be reground and used over again several times.

On the handle of the wrench bar I form a threaded plug O., and a collar P., which are adapted to receive a coupling Q., into which I screw for a handle a piece of pipe R. As the handles are detachable, various lengths of pipe can be used when working on different sizes of pipe to secure proper leverage.

Figs. 1 and 2 represent one half full size views of a wrench capable of fitting from two to eight inch pipe. To grip a pipe S the chain is thrown under and around it, and the wrench bar handle is moved back or down until the toe will pass by the projecting head B'. Then the handle is moved forward or upward and the head impinged against the toe, as shown in Fig. 2, thereby locking the two together. The corner of the block will grip the pipe, instantly causing the chain to tighten and the pipe to turn if the upward movement is continued. On the back or return stroke of the

handle, the chain and gripping link will slip easily around the pipe without being unhooked.

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

1. The combination in a chain pipe wrench of a wrench bar provided with a suitable handle; having several slots in its edge adapted to receive a movable clevis pivoted to a band chain; and a projecting head, provided with an upwardly and backwardly inclined face with downwardly extending lips on each side, with a terminal link of said chain, having a downwardly and backwardly inclined face adapted to impinge against the inclined face of said head between said lips, as herein specified.

2. The combination in a chain wrench; of a handle and a coupling threaded to the end of said handle, of a wrench bar having a collar and a threaded hub at one end detachably connected to said coupling; of a projecting head provided with lips on the opposite end of said bar adapted to impinge against and partially inclose a projecting end on a chain band link and the lips of said projecting head to pass over and down on each side of it, and a series of slots in said bar adapted to receive a clevis pivoted to a chain; of a clip secured near the end of said bar freely surrounding said chain, as herein specified.

3. The combination in a chain wrench; a wrench bar having a collar and threaded hub, a coupling fitting said hub and a pipe handle

fitting said coupling, a series of slots in said bar, a projecting head provided with a backward and upward bevel on its under side and having the sides of said head projecting below the central portion, thereby forming lips, a clevis pivoted to a chain and fitting said slots, a link secured to the end of the chain with an upward projecting end or toe, and having a downward and backward bevel arranged to contact with said projecting head, of said wrench bar, of a hardened square reversible gripping block secured to the said gripping link, and arranged to impinge with its reversible edges against the pipe, as herein specified.

4. In a chain wrench; a chain or gripping band E. having a gripping link H. with an upwardly projecting end I. beveled to contact with the connecting end of a wrench bar or wrench handle and having a square hardened steel block L., detachably and reversibly secured to its under side and arranged to impinge with its edges against said pipe, and having a recess in said link for the reception of said block, adapted to receive the body of the block to prevent its gripping edge extending too far above the binding surface of the chain, as herein specified.

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

WILLIAM KING.

Witnesses:

LEO O. SCOTT,
JOHN EMORY MEEK.