J. I. CORDER.

PIPE WRENCH.

APPLICATION FILED MAR. 22, 1915.

1,145,560. Patented July 6, 1915.

Fig. 1.

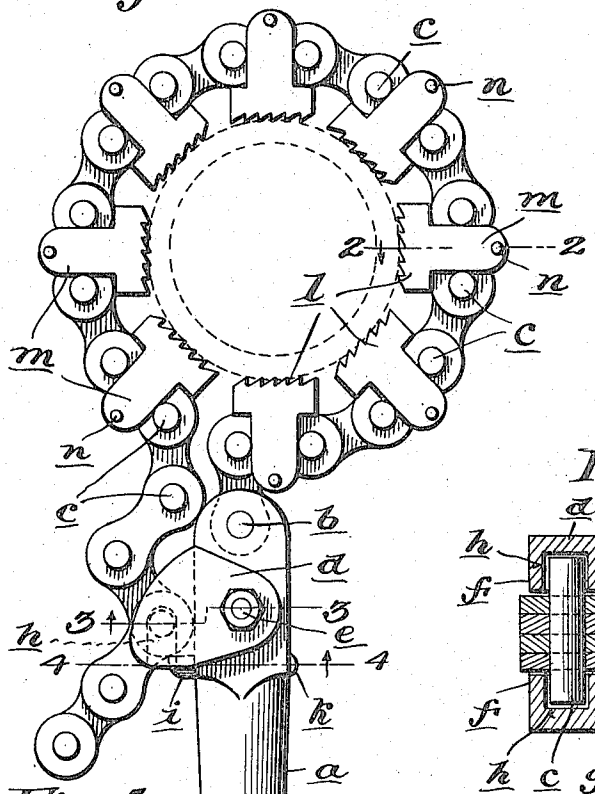


Fig. 2.

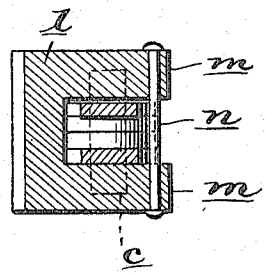


Fig. 3.

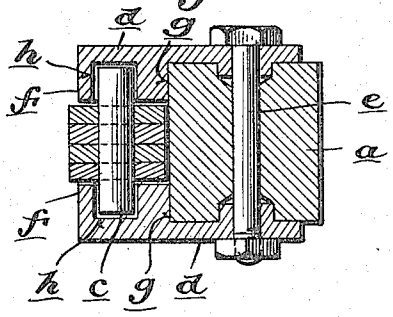


Fig. 5.

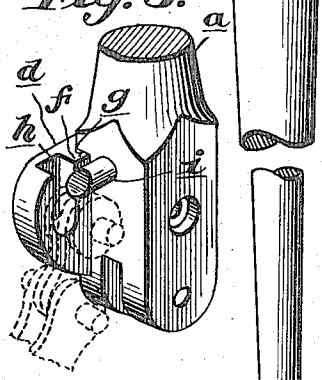
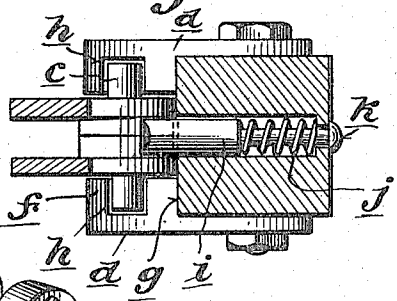


Fig. 4.



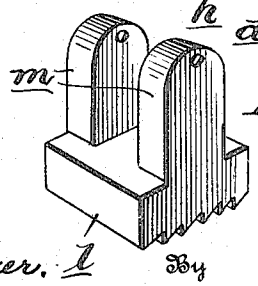


Fig. 6.

Witnesses

Chas. L. Griesbauer.

Inventor

James I. Corder

By Davis & Davis

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES I. CORDER, OF CLARKSVILLE, TENNESSEE.

PIPE-WRENCH.

1,145,560. Specification of Letters Patent. Patented July 6, 1915.

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To all whom it may concern:

Be it known that I, JAMES I. CORDER, a citizen of the United States of America, and a resident of Clarksville, county of Montgomery, State of Tennessee, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my wrench complete; Figs. 2, 3 and 4 are sectional views, respectively, on the lines 2, 3 and 4 of Fig. 1; Fig. 5 is a perspective view of the locking device at the end of the lever, one of the cheek plates being removed and the extremity of the chain being shown in dotted lines; and Fig. 6 is a detail perspective view of one of the jaws.

This invention relates to pipe wrenches of the chain type, and the object of the invention is to simplify and improve the construction of this type of tool, as more fully hereinafter set forth.

In the drawing, *a* designates the handle or lever, to the end of which is pivoted on the pivot *b* one end of a chain of the usual type, namely, a chain composed of flat links pivoted together by pivots *c*. The two ends of each pivot project laterally from the faces of the outside links. Adjustment of the chain is obtained by means of the projecting ends of the pivots and a locking or latching device secured to the lever at a point near the pivot *b* and consisting of a pair of cheek plates *d* bolted to the opposite sides of the lever by a bolt *e* and provided with lateral shoulders *f* which abut against the side edge of the lever at *g* and thus prevent the cheek plates turning on the bolt *e*. The two opposing faces of the shoulders *f* are each provided with a groove *h* approximately parallel with the lever and open at its end farthest from the pivot *b* and closed at its other end. In a recess extending transversely to the lever is mounted latch pin *i* normally projected by means of a coil spring *j*, its outward movement being restricted by a headed pin *k*. This latch pin, as shown in Fig. 4, normally projects outwardly at a point adjacent to the open ends of the slots *h*. To lock or latch the end of the chain or any one of the pivots to the lever, it is simply necessary to thrust the ends of the links carrying the pivot between the cheek plates, which action will force the latch pin back into its recess and permit the projecting ends of the pivot to pass into the grooves *h*. When the ends of the links have passed beyond the latch pin, the latch pin springs outwardly into the path of the ends of the links and latches the pivot in the slots. To disconnect the end of the chain, it is simply necessary to cam the pin *i* back by pulling on the chain and slipping the pivots out of the slots. This means for fastening the free end of the chain to the lever is especially advantageous when the wrench is used by workmen mounted on a ladder, since in that situation the workman generally has but one hand free for manipulating the wrench.

Attached to the chain at intervals along that part of it which under normal use of the chain grips the pipe, I mount a series of jaws consisting each of a block *l* sharply serrated to bite into the pipe and provided with a pair of outwardly extending ears *m* properly spaced to fit against the outer faces of the outer links of the chain. The outer face of the jaw block *l* bears solidly against the inner edges of the links and the width of the ears *m* is such that their side edges fit between and bear against the projecting ends of the pivots *c*. To fasten the jaw to the chain, I employ a transverse pin *n* passed through the ends of the ears *m* at a point beyond the outer edge of the chain links. With this construction, it will be observed that the pipe or rod will be powerfully gripped, since the jaws will extend around the greater part of the circumference of the pipe. The thrust of the jaws will be brought directly against the links, and the outwardly projecting ears *m* fitting between the projecting ends of the pins serve to hold the jaws rigidly against movement on the chain. There is no strain upon the pins *n*, they being employed simply to prevent the jaws dropping off the chain.

It will be observed that with my arrangement of jaws I avoid weakening the chain by slotting or notching or otherwise cutting the chain links, and it will be observed also that worn or broken jaws may be readily replaced by pulling or knocking out the pins *n*. It will be seen also that a feature of importance is that there is no rocking or sliding action upon any part of the jaws when the wrench is in use, since the outwardly projecting ears *n* fit snugly between the pro-

jecting ends of the pivots *c* and said pivots, as is usual in this type of chain, are rigidly affixed to the outer links of the chain.

Having thus described my invention, what I claim is:

1. A pipe wrench of the class set forth consisting of a lever, a chain connected thereto at one end and having projecting pivot pins, means for adjustably connecting the free end of the chain to the lever consisting of a pair of laterally projecting members having slots or grooves adapted to receive the projecting ends of said pivots, and a normally projecting latch pin carried by the lever mounted adjacent to the open ends of the slots or grooves.

2. A pipe wrench consisting of a lever, a flat-link chain pivotally connected at one end to said lever, the pivots connecting the flat-links projecting upon opposite sides of the chain, and a series of removable jaws connected to the chain at intervals and each consisting of a serrated jaw block having its outer side bearing against the inner edges of a pair of links, each of said jaw blocks being provided with a pair of ears embracing the links and fitting between the projecting ends of the pivots thereof, and a removable pin connecting the outer ends of the ears at a point beyond the outer edges of the links.

In testimony whereof I hereunto affix my signature.

JAS. I. CORDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."