(No Model.)

L. L. LATTER.

PIPE WRENCH.

No. 542,416. Patented July 9, 1895.

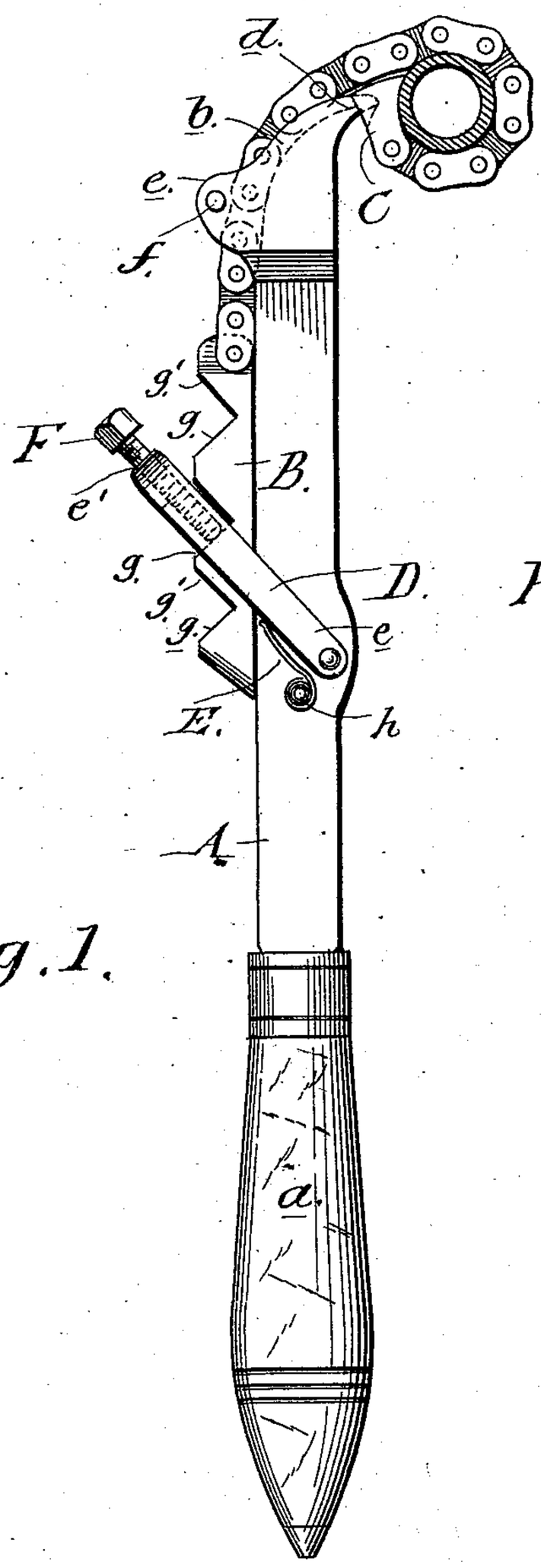


Fig. 1.

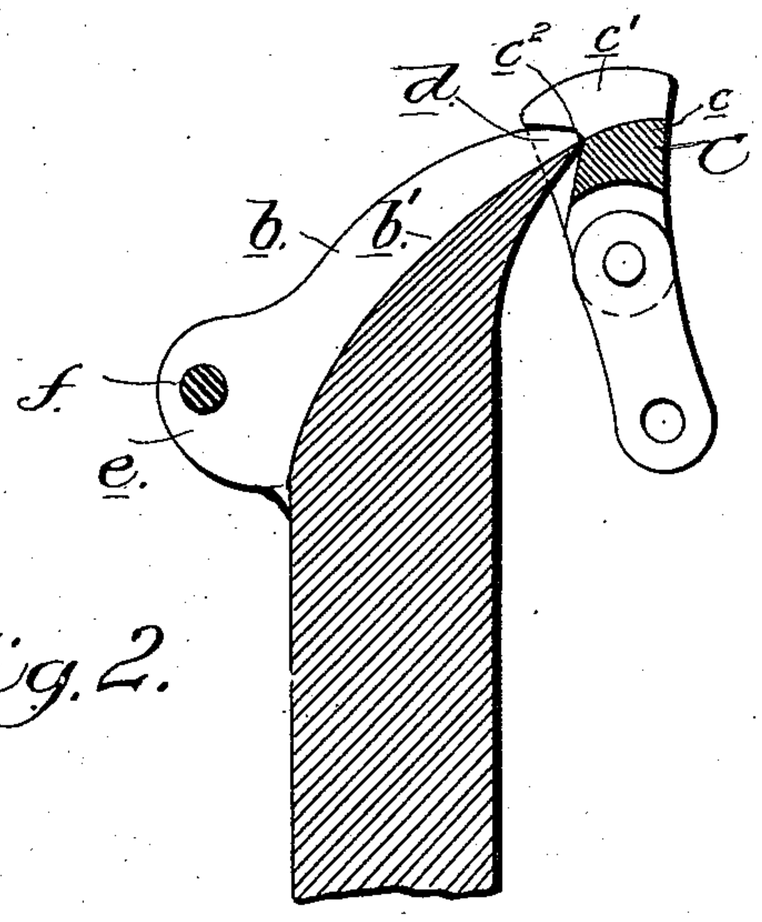
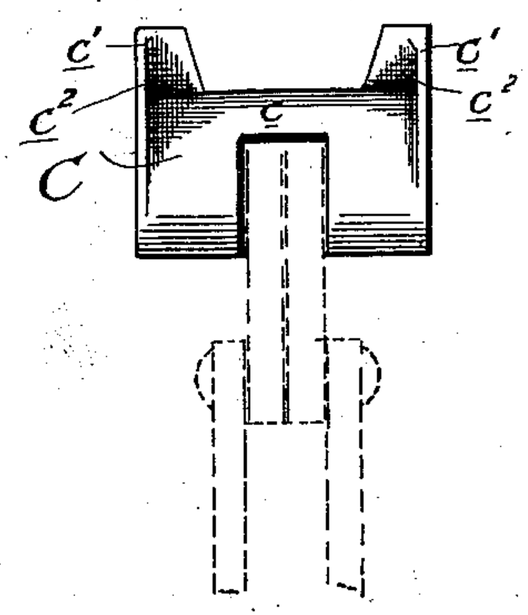


Fig. 2.

Fig. 3.



WITNESSES

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PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 542,416, dated July 9, 1895.

Application filed April 27, 1895. Serial No. 547,314. (No model.)

To all whom it may concern:

Be it known that I, LAWRENCE L. LATTER, a citizen of the United States, residing at Falmouth, in the county of Barnstable and State of Massachusetts, have invented certain new and useful Improvements in Pipe-Wrenches; and I do hereby 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.

My invention relates to that class of implements known as "pipe-wrenches," and particularly to what are termed "chain" wrenches, in which a chain serves to surround and grip the pipe without slipping when the wrench is operated to turn the pipe; and my invention consists of the parts and the construction and combination of parts forming the improved wrench, as I shall hereinafter fully describe and claim.

The objects of my invention are to improve the present forms of chain wrenches and provide a cheap, simple, durable, and efficient wrench, and to so construct such a wrench that the danger of slipping upon the pipe while the wrench is being operated is reduced to a minimum. Another object is to construct the parts so that different chains may be detachably connected and used with a single stock or handle, thereby enabling one wrench to take the place of two or more of different sizes. These objects are attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a chain wrench embodying my invention. Fig. 2 is an enlarged sectional detail, to be referred to. Fig. 3 is a detail of the terminal link C.

In the said drawings, A represents the stock of the wrench, which is provided with a wooden or other handle *a*, as shown.

The head end of the stock is enlarged and provided with parallel side flanges *b* and an intermediate curved portion *b'*, these portions being extended beyond the plane of the stock proper, and the points *d* of the side pieces being designed to detachably engage the terminal link of the chain in the manner and for the purpose I will presently disclose. The side flanges *b* are also extended on the side opposite to the points *d* to form ears or lugs *e*, in which is seated and secured a removable bolt or pin *f*.

The chain is of the usual link form and may be constructed in any well-known manner. It lies under the bolt or pin *f* and upon the curved portion *b'* of the head, and it is confined in place in the channel formed by the side flanges *b*. At one end it is pivotally connected with a block B, having a plain smooth rear face, whereby it is adapted to lie closely against the contiguous face of the stock and have a sliding movement thereon, said block having its opposite face formed with V-shaped grooves or recesses, so as to provide a series of upper and lower inclined planes *g g'* for a purpose to be hereinafter stated.

The other end of the chain is hinged or pivotally connected with a terminal link C (shown clearly in Fig. 2) and consisting of a body portion *c* and side flanges *c'*, the said body being recessed just inside of the flanges *c'*, as shown at c^2, to receive the projecting points *d* on the head of the stock. That portion of the body of the link C beyond the recesses c^2 is curved to correspond with and form a continuation of the curved intermediate portion *b'* of the head of the stock and is reduced to an edge to form a gripping-jaw, the side flanges *c'* being materially thickened at this point to form the upper walls of the recesses, while the space between the thickened side flanges corresponds in width with the channel formed between the side flanges *b* on the head of the stock and is of approximately the width of the chain.

Upon the stock A is pivotally secured a yoke D, consisting of a forked or bifurcated piece, whose side arms *e* straddle the block B and the stock, and a connecting-head portion having a threaded opening *e'*. This yoke is inclined upwardly and its upper portion is normally seated against and kept in engagement with one of the under inclined planes *g'* on the block B by means of springs E, preferably one on each side of the stock, said springs each having one end secured to a stud or pin *h* projecting from the stock, and after being coiled around the same its free end is carried upward, so that it bears against the under side of the arms of the yoke, as shown in Fig. 1.

A screw F is mounted in the threaded open-

ing in the head end of the yoke D, and its inner end is designed to bear against the upper inclined planes *g* on the block B, whereby when the screw is turned the block is caused to ride upon the stock and an accurate adjustment of the chain upon the pipe is obtained.

In using the wrench the free end of the chain is passed around the pipe and the projecting points *b* on the head of the stock are fitted into the recessed portions c^2, formed in the terminal link C, as shown in Fig. 1. Then the screw F is turned, when its inner end, by bearing against one of the inclined planes *g* on the sliding block B, will cause said block to move along the stock until the desired adjustment of the chain upon the pipe is secured. When this is once obtained, the wrench is operated in the usual manner to couple or uncouple the pipe-section. If the pipe or rod to be gripped is a small one, the block B is forced along the stock and under the yoke D, the latter yielding to permit this action until the slack is taken up and the screw F is in position to engage the contiguous inclined plane *g* on the block, and when the screw is turned downward the proper adjustment is obtained, as before stated.

In order that the stock may be used with two or more chains I make the bolt or pin *f* removable, so that it may be taken out to effect the ready removal of the chain and the substitution of one of a different size, each chain being designed, preferably, for four sizes of pipes. This enables me to use a single stock with several chains and obviates the necessity of carrying around two or more complete wrenches, as the one stock and its interchangeable chains accomplish the same purpose in the saving of weight, space, and money to the mechanic.

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

1. In a chain wrench, the combination, of a stock having a head portion provided with side flanges and an intermediate curved portion, said head being extended to one side of the stock to form a jaw, and a chain having a terminal link provided with recesses to receive the said jaw whereby the chain is locked to the stock.

2. In a chain wrench, the combination, of a handle or stock having a curved channeled head provided with a jaw which projects to one side of the plane of its rear face, and a chain fitting the channel of the head and provided with a terminal link having recesses adapted to receive the jaw whereby the chain is locked to the handle or stock.

3. In a chain wrench, a stock having separated side flanges and an intermediate curved portion forming a channeled head, said flanges terminating in projecting points, and a chain fitted in the channel formed between said flanges, having a terminal link consisting of a body portion and side flanges said flanges being thickened at their outer ends to form recesses at their bases adapted to receive said points, and said body portion between the thickened flanges forming a continuation of the curved portion of the head when the link is locked to the latter.

4. In a pipe wrench, the combination, of a stock having a curved channeled head terminating in a jaw, and a chain fitted in the channel of the head, having a terminal link with recesses to receive said jaw, said link having the free end forming a continuation of the channeled head of the stock and adapted to grip the pipe.

5. In a pipe wrench, a stock having a head provided with a jaw, a chain adapted to surround the pipe, and to be locked to said head, a block pivotally secured to said chain, and provided with an inclined plane or surface, and means engaging said block to effect an accurate adjustment of the chain upon the pipe.

6. In a pipe wrench, the combination, of a stock or handle and a chain adapted to surround and grip the pipe said chain having a block secured to one end and provided with grooves or notches forming cam surfaces, a pivoted yoke on the stock, inclosing the block, and a screw passing through the yoke and engaging the cam surfaces to accurately adjust the chain.

7. In a pipe wrench, the combination, of a stock or handle having a channeled head provided with lugs or ears, a chain mounted in said head, means for gripping the pipe, means for securing and adjusting the chain, and a removable bolt or pin passing through said lugs or ears whereby the chain may be readily removed and another substituted.

8. In a chain wrench, the combination, with a stock and a chain adapted to operate with the same to grip a pipe, of a bar or piece on said chain adapted to lie against the face of the stock, and provided with inclined or cam surfaces, a bifurcated yoke pivoted to the stock and a screw passing through the head of the same so that its free end may operate upon the cam surfaces of the block, to adjust the block along the stock and adjust the grip of the chain upon the pipe, and springs bearing against the yoke to hold it yieldingly in position.

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

LAWRENCE L. LATTER.

Witnesses:
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