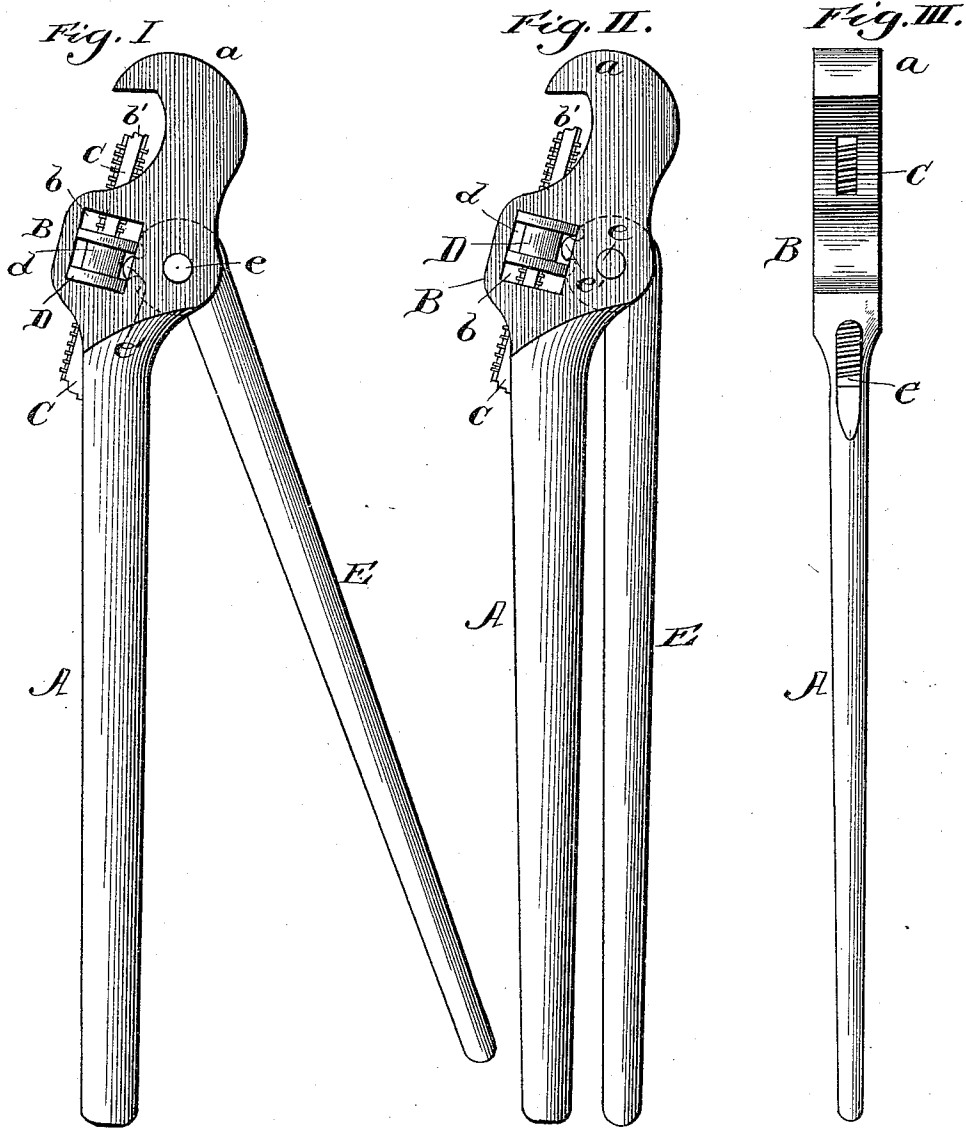


(No Model.)

F. S. PATTON.
PIPE WRENCH.

No. 461,769.

Patented Oct. 20, 1891.



Witnesses:

J. B. McGivver
William O. Belt

Inventor:

Frank S. Patton
By his Attorneys,
Edson Bros.

UNITED STATES PATENT OFFICE.

FRANK S. PATTON, OF KANSAS CITY, MISSOURI.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 461,769, dated October 20, 1891.

Application filed July 10, 1891. Serial No 399,049. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. PATTON, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, 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 improvements in pipe-wrenches; and the object is to provide a simple and cheap device which can be easily and quickly adjusted to pipes of different sizes, and by pressing the handles the movable or adjustable jaw can be clamped tightly on the surface of the pipe or other object.

With these and other ends in view my invention contemplates the use of a stationary handle having a rigid jaw, a lever pivotally secured to said rigid handle, which is provided with a shoulder in front of the pivot, and a threaded rod forming the other jaw of the wrench and arranged to operate through the shoulder. In the center of this shoulder an opening is formed, and an adjusting-nut for operating the threaded rod is located in this opening and is free to move therein with the bar for a limited distance. This nut is provided with an annular recess or groove to receive a lug or projection on the lever, which is designed to move the bar or movable jaw and the adjusting-nut forward or backward.

My invention further consists of certain details of construction and arrangement of parts, as will more fully appear hereinafter.

In the accompanying drawings, Figure I is a side elevation of my improved wrench, showing the jaws open. Fig. II is a similar view showing the jaws closed, and Fig. III is a plan view.

Referring to the drawings, in which like letters of reference refer to the same parts in all the figures, A designates the stationary handle, which is provided with the usual rigid jaw *a*. An enlarged shoulder B is provided beneath the rigid jaw, and it has an opening *b* extending through said shoulder in the direction of the length of the rigid handle. A threaded bar C is arranged in the longitudinal opening formed in the shoulder of the rigid

jaw to operate freely through said opening toward or from the rigid jaw *a*. An adjusting-nut D, having a milled edge, is fitted to engage the threads on said bar C within the opening *b*, and as the nut is operated the bar is projected or withdrawn, as desired. The bar C is adapted to move freely in the shoulder B, and it is only limited in its movement by the nut D, which is adapted to impinge or bear against the sides of the opening *b*. The lever E is fulcrumed in the shank of the rigid jaw just in rear of the shoulder B on the pivot *e*. This lever is provided with a lug or projection *e'* on its inner edge, which is fitted in an annular groove or recess *d* in the periphery of the nut D, and the lever is designed to move the nut and bolt to engage with the pipe or loosen the grip of the wrench on the pipe, as desired.

In the practical operation of the wrench the nut D is manipulated to adjust the movable bar or jaw in the proper position to engage the pipe, and the nut D then bears against the lower edge of the opening *b*. The lever E is now operated, and the lug *e'*, engaging with the annular groove *d* in the nut D, projects the movable bar and jaw C forward into firm and rigid engagement with the pipe, and for this purpose the end *b'* of said bar which forms the movable jaw is toothed or otherwise roughened to prevent slipping.

The advantages obtained by the double adjustment of the movable jaw by the nut D and the lever E are many and desirable, which will be appreciated by those skilled in the art. By means of the lever E the movable jaw C is thrust forward against the pipe with such force as to entirely obviate slipping of the wrench, thus enabling the user to obtain a hold on the pipe before exerting any force to turn it and preventing any chance of the wrench slipping while in the act of turning the pipe, as is the case with most wrenches of this class, which often slip entirely around the pipe before taking sufficient hold thereof to turn it, and often cutting and damaging the pipe.

This wrench can also be adjusted so that there will be no chance of crushing the pipe by simply turning the nut D and stopping it at a point where it will contact with the front wall

of the opening *b*, when there is sufficient pressure on the pipe to turn it. This is especially useful in taking apart old pipe where the joints are rusted and requiring a hard pull to start them, which with ordinary wrenches often crushes the pipe.

In most pipe-wrenches there is no grip on the pipe of any consequence until the operation of turning the pipe is commenced, and if the pipe is weak or the joint tight the pressure exerted to turn the pipe will often cause the gripping portion of the wrench to continue to tighten on the pipe until it is crushed or otherwise injured. In my wrench this trouble can be entirely overcome by simply adjusting the nut to the proper position, thus making the hold on the pipe entirely independent of the pressure on the handle.

I am aware that changes in the form and proportion of parts and details of construction can be made without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such changes as fall within the scope of my invention.

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

1. In a pipe-wrench, the combination of the handle having the rigid jaw and the enlarged shank formed with an opening extending through the same, a threaded bar operating loosely in the shank and movable longitudinally toward or from the rigid jaw, the nut on said bar within the opening in the shank and capable of a limited movement therein, and

the lever engaging with said nut, substantially as described.

2. In a pipe-wrench, the combination of the rigid handle having the jaw and the enlarged shank provided with an opening, a threaded bar movable longitudinally in the opening, the nut on said threaded bar operating loosely within the opening and having the annular groove, and the lever having a lug or projection adapted to engage said groove of the nut, substantially as described.

3. In a pipe-wrench, a rigid handle having a jaw and an enlarged perforated shank, a threaded bar extending through the opening in the shank, a nut on said bar within the shank and of less length than the length of the opening, and a lever having a projection adapted to engage with the nut to adjust the threaded bar and nut, substantially as described.

4. In a pipe-wrench, the combination of a handle having a rigid jaw, a threaded bar guided on the handle and movable freely therein in the direction of its length, an adjusting-nut fitted to engage the threads of said bar and connected to the handle to have a limited free movement thereon with the bar, and a lever for adjusting the connected bar and nut, substantially as described.

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

FRANK S. PATTON.

Witnesses:

T. J. DELANY,
G. A. KING.