(No Model.)

G. G. SMITH.

PIPE WRENCH.

No. 382,391. Patented May 8, 1888.

Fig. 1.

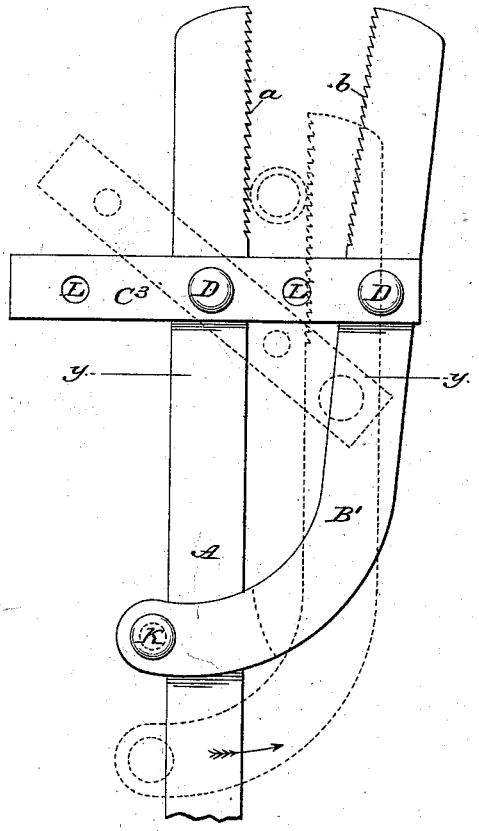
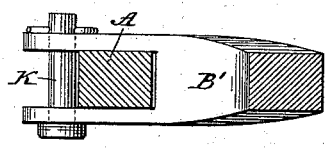


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE G. SMITH, OF ST. ALBANS, VERMONT.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 382,391, dated May 8, 1888.

Application filed August 29, 1887. Serial No. 248,110. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. SMITH, of St. Albans, in the county of Franklin and State of Vermont, have invented a new and useful Improvement in Pipe-Wrenches; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is an elevation of my improved adjustable pipe-wrench, and Fig. 2 a cross section in line *y y* of Fig. 1.

The object of my invention is to provide a pipe-wrench which shall be simpler in construction and more effective in operation than those heretofore in use.

It consists in the combination, with a lever-bar serrated upon its inner face at its outer end, of an opposite serrated grip-bar made straight for the greater part of its length to admit of parallelism with the lever-bar, but curved at its inner end to so intersect and engage the same as to be free to move longitudinally upon it without separating therefrom, the two bars being furthermore coupled by a transverse link or arm pivoted to each about midway the length of the grip-bar, so that the two bars, being left free to move longitudinally in opposite directions, will close upon each other when the grip-bar is carried inwardly along the lever-bar, and will spread apart when it is moved in the opposite direction, the extent of movement being limited by the length of said link or cross-arm.

In the accompanying drawings, A represents the handle bar or lever of my improved pipe-wrench. It consists of a simple straight bar serrated upon its inner side at its outer end, as shown at *a*, to form one of the jaws of the wrench.

B is the grip-bar, made straight at its outer end to admit of parallelism with the handle-lever, but whose inner end is bent, so that when its outer end is parallel with the handle-lever said inner end shall intersect the lever. The inner end of the grip-bar is forked to embrace the lever, and the ends of the fork are connected by a transverse pin or bolt, K, whereby the end of the grip-bar, while left free to move longitudinally upon the handle-lever, is prevented from separating therefrom. The outer end of the bar is serrated on its inner side, as shown at *b*, to form a jaw the counterpart of the jaw *a* of the lever.

A cross arm or link, C, is pivoted both to the handle-lever and to the grip-bar, at a point from their outer ends about midway (more or less) the length of the latter, by means of transverse bolts D D, and preferably in such manner as that when the link C is at a right angle with the handle-lever the grip-bar shall be inclined outwardly from said lever, as illustrated in the drawings, the parallelism of the two (see the dotted lines) being produced by drawing the grip-bar inward along the handle and attained when it is about midway in its lateral movement to and from the lever.

To permit of an adjustment of the wrench so that it may be adapted to various sizes of pipes, the link C is pierced with a series of pivot-holes, L L, to receive the bolt D, by which it is pivoted to the handle-lever.

In the operation of the device, after the jaws *a b* have been made to embrace between them the pipe or rod to be turned, the jaws are closed upon the pipe by sliding the grip-bar inward along the handle-lever, so that it shall swing upon the connecting-link, whereupon, by swinging the handle-lever about the pipe as a center in a direction toward the grip-bar, the friction of the lever and bar upon the opposite sides of the pipe will operate to move them longitudinally in opposite directions, and thereby cause them to close together with a powerful leverage upon the pipe, so as to grip it firmly, the leverage being determined simply by the length of the handle-lever.

I do not claim as new the combination, in a pipe-wrench, of parallel bars or jaws with transverse pivoted connecting-links, as such a construction is known to the art; but my invention is an improvement therein, in that the grip-bar is made to engage directly the handle-lever and is combined with a single coupling-link which is made adjustable in length, as described.

I claim as my invention—

The combination, in a pipe-wrench, of a handle bar or lever, a bent grip-bar coupled there-

to at one end to be free to move longitudinally thereon without separating therefrom, and an adjustable transverse link pivoted to each bar about midway the length of the grip-bar, all substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. G. SMITH.

Witnesses:
A. N. JESBERA,
M. E. FINLEY.