

A. V. TRUST.

WRENCH.

No. 191,493.

Patented May 29, 1877.

Fig. 1.

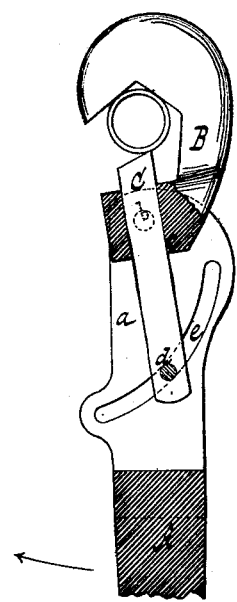
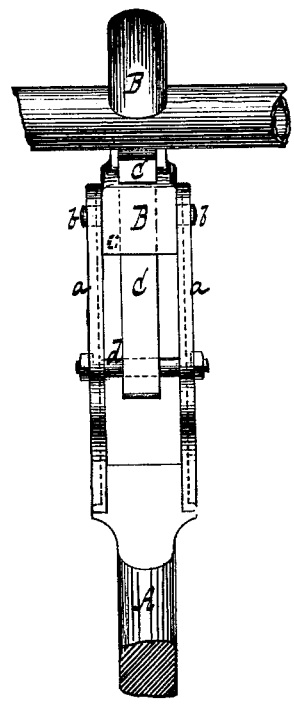


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER V. TRUST, OF NEW YORK, N. Y.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **191,493**, dated May 29, 1877; application filed May 10, 1877.

To all whom it may concern :

Be it known that I, ALEXANDER V. TRUST, of the city, county, and State of New York, have invented a new and useful Improvement in Wrenches, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a sectional side elevation. Fig. 2 is a front view.

Similar letters indicate corresponding parts. This invention consists in the combination, in a wrench, of a main jaw, a handle, and a secondary jaw, the main jaw being pivoted to the handle and provided with a mortise, in which the secondary jaw slides, while the secondary jaw engages with a cam-slot in the handle, so that by swinging the handle in one direction the secondary jaw is caused to close up against the article to which the wrench is applied, and to grasp the same harder and harder the greater the power which is brought to bear on the handle, and at the same time the connection between the two jaws is such that their proper relation to each other is preserved, and thereby a wrench is obtained which adjusts itself to articles of various sizes or diameters, and which is strong, durable, and not liable to get out of order.

In the drawing, the letter A designates the handle of my wrench, to the outer end of which are firmly secured two cheek-pieces, *a a*. Between these cheek-pieces is placed the main jaw B, which swings on pivots *b*, that have their bearings in the cheek-pieces *a*. Said main jaw is provided with a mortise, *c*, through which extends the secondary jaw C, and through the inner end of this secondary jaw extends a pin, *d*, which engages with cam-slots *e*, formed in the cheek-pieces *a*.

When the handle is swung back in the direction opposite the arrow marked near it in Fig. 1, the secondary jaw is drawn back and the wrench is opened, so that it can readily be applied to the article on which the

same is to operate. After the wrench has been thus applied, the handle is swung forward in the direction of the arrow above mentioned, and thereby the secondary jaw is forced outward, causing the wrench to accommodate itself automatically to the article between its jaws, and to grasp the same firmer and firmer the greater the pressure which acts on the handle. By swinging the handle in the opposite direction, the article situated between the two jaws is released, and the wrench can be moved back ready for a fresh hold.

In the drawing I have represented a pipe-wrench; but, by changing the form of the jaws, my wrench can be readily adapted for nuts or other articles. My wrench can also be used with advantage as a pipe-cutter by applying to the secondary jaw a suitable cutting-tool. Such arrangement, however, requires some further experiments, and I reserve the same for a separate application for a patent.

By guiding the secondary jaw in a mortise formed in the shank of the main jaw, and by the action of the cam-slot, the proper relation between the working faces of the two jaws is always preserved, and a wrench is obtained which can be used with advantage for articles of different sizes or diameters.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, in a wrench, of a main jaw, a handle, and a secondary jaw, the main jaw being pivoted to the handle and provided with a mortise, in which the secondary jaw slides, while the secondary jaw engages with a cam-slot in the handle, all constructed and operating substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 7th day of May, 1877.

ALEX. V. TRUST. [L. s.]

Witnesses :

W. HAUFF,
E. F. KASTENHUBER.