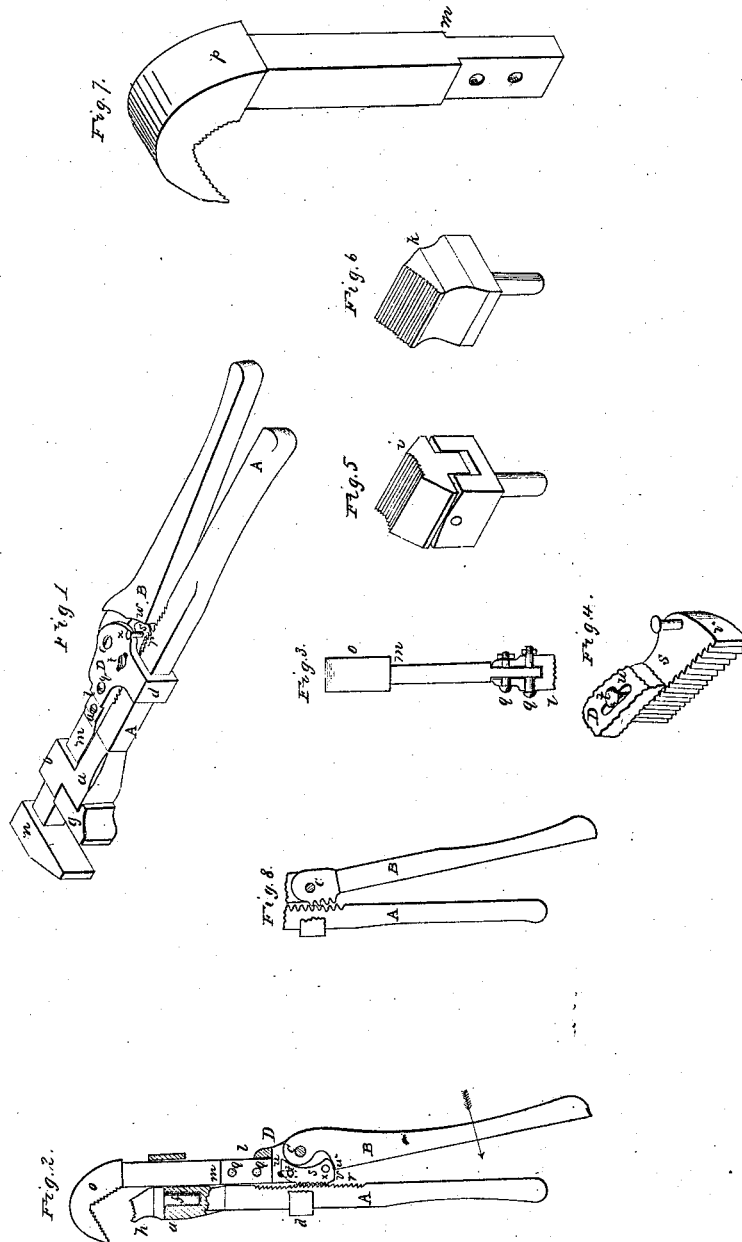


W. H. Landbeck,

Pipe Wrench.

Patented Apr. 24, 1866.

N^o 54,178.



Witnesses.

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W. H. LANDBECK, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 54,178, dated April 24, 1866.

To all whom it may concern:

Be it known that I, WM. HENRY LANDBECK, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a perspective view of my improved wrench; Fig. 2, an elevation of the same, with portions in section, for the purpose of showing the method of connecting the removable jaws and the ratchet-block; Fig. 3, a view showing the method of connecting the upper jaw; Fig. 4, a view showing the construction of the ratchet arrangement; Figs. 5, 6, and 7, views of the different changeable jaws adapted to use in the same wrench; Fig. 8, a modification of the ratchet arrangement.

Like letters of reference indicate corresponding parts in all the figures.

The object of my improvement is to so construct and arrange the body of the wrench that it is adapted to receive jaws of different kinds, which are changeable at pleasure, thus adapting the same wrench to many different purposes and avoiding the necessity of a duplication; and also in the employment of a ratchet-block of considerable length, engaging with the main ratchet-bar, by which means much greater strength is attained.

The body of the wrench is composed of a stationary lever or handle, A, provided with a head, *a*, and socket *b*, and a movable lever, B, pivoted at *c* to a block, D, having a socket, *d*, sliding up and down over the upper portion of lever A.

In the head *a* of the handle is made a longitudinal socket, in which fits loosely the stem *f* of any one of the lower jaws, *g h i k*, as clearly shown in Fig. 2. These jaws are applied or removed by simply inserting or removing the stem *f*, no fastening being employed.

The top of the block D is provided with a suitable bearing, *l*, Fig. 3, in which fits loosely the lower end of the shank *m* of any one of the upper jaws, *n o p*. These jaws are also applied or removed at pleasure, being held firm by two screws or pins, *q q*, which keep

them stiff. At the top the shank *m* passes through the socket *b* of the stationary handle, which keeps it steadily in place.

By this arrangement it will be perceived that I adapt the same wrench to many different purposes, thus avoiding the necessity of a duplication. Thus in Fig. 1 the ordinary jaws for turning a square body are shown as applied. In Figs. 2, 5, 6, and 7 different forms are shown, and for different purposes, some being for turning pipes, others for cones, &c.

I am not aware that a wrench has before been known in which the jaws are changeable and in which different jaws for different uses can be applied at pleasure. The user is thus enabled to employ the same wrench for a variety of purposes, where ordinarily as many different instruments are now required.

The stationary handle A is provided on its inner face with a ratchet-bar, *r*, as clearly shown in Fig. 2.

In order to retain a strong hold with the jaws in heavy work I employ a ratchet-block, *s*, within the block D, engaging with *r* and having a bearing, *t*, on each side, that passes out through slots *u u* in the block D, by which means it is retained in place, and said block is enabled to be drawn down to close the jaws on the article to be turned. The lower end of the ratchet-block is formed into a cam-projection, *v*, against which strikes the corresponding surface *w* of the lever B when it closes. When these surfaces strike the eccentricity has the effect to draw down the block D, and consequently close the jaws together. The slots *u u* allow the block D to be drawn down to the proper degree. The advantage of this arrangement is that while I get the necessary play of the jaws to close upon the article to be turned, I at the same time secure an extended hold upon the ratchet-bar, for the engaging-surface of the block *s* may be made of any desirable length. Where a single point or tooth is made to engage with the ratchet-bar it will invariably strip the teeth or slide over in very heavy work. I obviate all difficulty of the kind, for there is no possibility of either stripping the teeth or slipping. The ratchet-block is disengaged by means of a thumb-projection, *x*.

Where the work is very light the ratchet-

block might be in the form indicated in Fig. 4, in which it constitutes the end of the lever B, and is made concentric to fit the cog-bar.

It will be seen that I make the lever B to slide up and down, instead of A, by which means the same length of handle is preserved under all circumstances.

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

The special construction and arrangement of the wrench—viz., with the head *a* of the

handle A, and the bearing *l* of the block D, so formed as to receive removable jaws adapted to different purposes, and with the ratchet-block *s*, employed, in connection with the lever B, in such a manner as to insure a strong hold upon the ratchet-bar and draw the jaws toward each other, as set forth.

W. H. LANDBECK.

Witnesses:

R. F. OSGOOD,

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