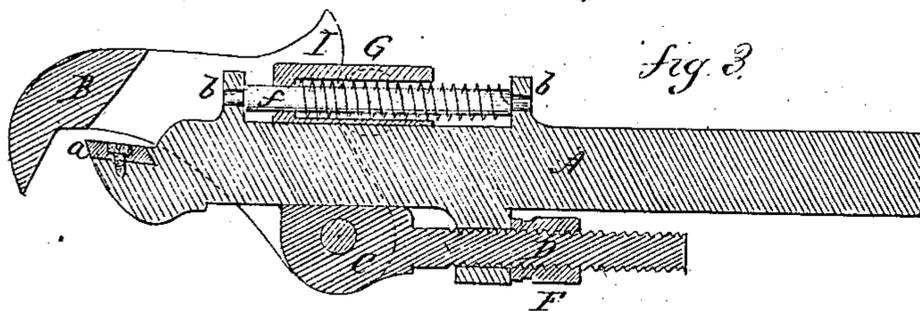
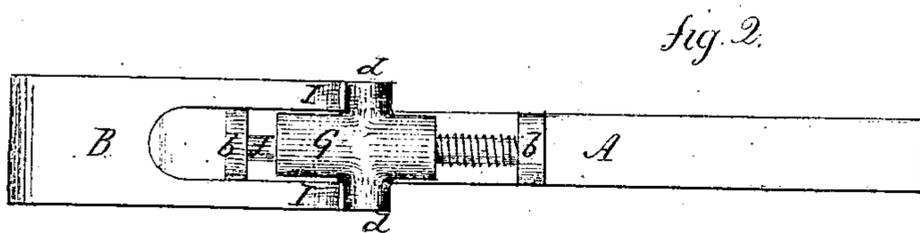
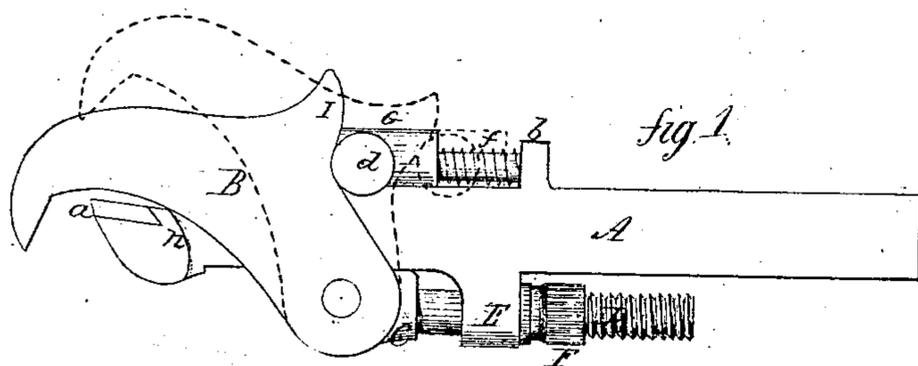


James A. Wilcox  
- Designer to -  
Self & Walter Wilcox  
- Craft in -  
Pipe Wrench

104913

PATENTED JUN 28 1870



Witnesses  
J. H. Shumway  
A. J. Tibbits

James A. Wilcox  
Inventor  
By his Attorney  
J. E. Earle

# United States Patent Office.

JAMES A. WILCOX, OF ROCKY HILL, ASSIGNOR TO HIMSELF AND WALTER S. WILCOX, OF HARTFORD, CONNECTICUT.

Letters Patent No. 104,913, dated June 28, 1870.

## IMPROVEMENT IN PIPE-WRENCH.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES A. WILCOX, of Rocky Hill, in the county of Hartford and State of Connecticut, have invented a new Improvement in Pipe-Wrench; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, a side view;

Figure 2, a top view; and in

Figure 3, a central section.

This invention relates to an improvement in the pipe-wrench, for which a patent was granted to me dated September 3, 1861; that is to say, the construction of a wrench to turn pipes or other cylinders.

In my original patent, the slide or head, which bears against the adjustable jaw, was made a part of the spindle or rod, upon which the spring was arranged to force the slide against the adjustable jaw. In such construction the spindle was liable to be bent, so as to prevent the working of the slide, and, further, to retain the slide in position, a long bearing was necessary for the spindle, which confined me to the employment of a very short spring, and, in the operation of the adjustable jaw, the tendency was to lift upon the slide; difficulties in the operation of my wrench which the present invention is designed to overcome.

The invention consists—

First, in forming an arm or projection upon the adjustable jaw against which the slide bears, and so that, in the movement of the said jaw, the bearing of the said arm is downward upon the slide.

Second, the arrangement of a fixed spindle upon the bar through the slide, so that the slide will work on the said spindle, and so that the said spindle will support the spring which operates the said slide.

A is the bar of the wrench, extending so as to be attached to or form the handle, and provided at its end with a jaw, *a*, as seen in figs. 1 and 3, the said jaw formed of hardened steel, and attached to the bar so as to be removed for repairs or renewal.

B is an adjustable jaw, constructed so as to yoke

over the bar, and pivoted below the bar to a head C, the said head being formed upon a screw, D, which passes through a lug, E, and receives an adjusting-nut, F, by the turning of which nut, the jaw B is thrown from or drawn toward the jaw A, to adapt the wrench to articles of different diameters.

G is a slide, arranged upon the back of the bar A, and constructed with trunnions *d-d*, so as to bear against the jaw B. The said slide is supported on a spindle, *f*, so as to move freely thereon, the said spindle being fixed between two lugs, *b*, on the bar A. The said slide G is bored out a portion of its length of a larger diameter than the spindle, so that a spiral spring around the spindle will extend into the slide and bear against the shoulder formed by the enlarged diameter, thus giving a spring of considerable length for the operation of the slide.

As the trunnions on the slide are located nearly over the pivot of the jaw B, the raising of the jaw, as to the position denoted in broken lines, fig. 1, would tend to raise the slide. To prevent this, I form arms I on the slide, as seen in fig. 1, constructed so as to bear downward upon the trunnions as the lever is raised, and as denoted by the broken lines in fig. 1. This relieves the spindle and slide from the strain which would otherwise be brought thereon by the operation of the jaw B, and the spindle being immovable and supported at its two extremes, is not liable to injury from use, as is the case when the spindle is made a part of the slide and moves through bearings on the bar, as in my original patent.

The jaw end of the bar A is enlarged so as to form a shoulder, *n*, to prevent the jaw B from falling down over the end of the bar.

I claim as my invention—

1. The arms I formed upon the jaw B, so as to operate upon the slide G in the manner described.
2. In combination with the adjustable jaw B, and fixed jaw on the bar A, the slide G arranged upon the fixed spindle *f*, and so as to bear upon the said jaw B, substantially as described.

JAMES A. WILCOX.

Witnesses:

O. B. RICHARDS,  
LEWIS SHELDON.