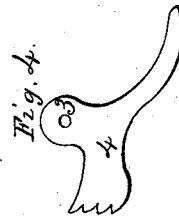
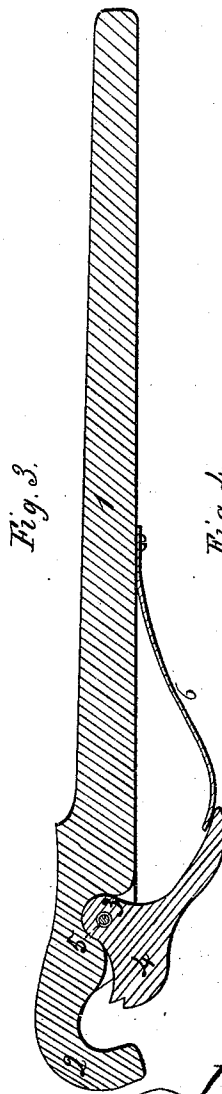
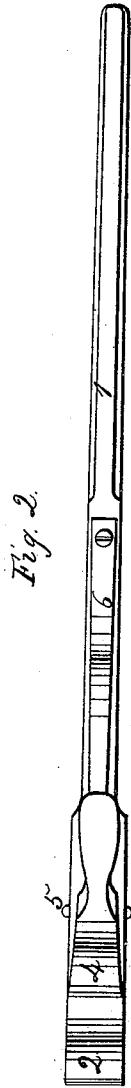
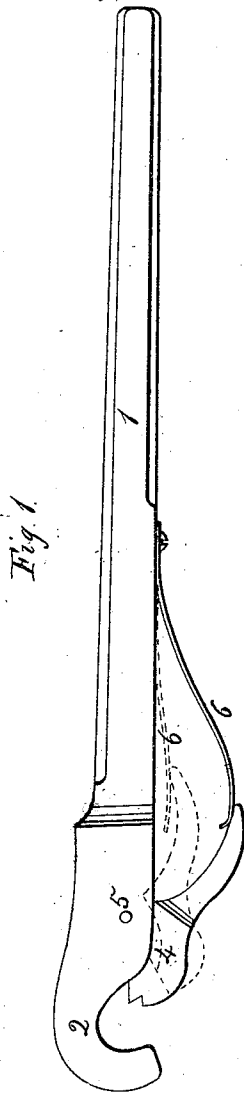


*W. Pearson,  
Pine Wrench.*

*N<sup>o</sup> 43,926.*

*Patented Aug. 23, 1864.*



*Witnesses;  
H. James Weston  
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# UNITED STATES PATENT OFFICE.

WILLIAM PEARSON, OF WINDSOR LOCKS, CONNECTICUT.

## IMPROVED PIPE-WRENCH.

Specification forming part of Letters Patent No. 43,926, dated August 23, 1864.

*To all whom it may concern:*

Be it known that I, WILLIAM PEARSON, of Windsor Locks, in the county of Hartford and State of Connecticut, have invented an Improvement in Pipe-Wrenches, the construction and operation of which I have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skillful workmen in the arts to which it pertains or is most nearly allied to make and use my invention.

My said invention consists in the combination of a lever, forming one jaw of the hinge, with a jaw hinged to it by means of a pin and socket in such a manner that the strain thrown upon the parts in the operation of turning the pipe is thrown upon the socket in the lever, and not upon the pin which forms its apparent axis when not in operation, the said movable jaw being kept up in position by a spring, as hereinafter set forth; also, in combination with the before-mentioned arrangement of the movable jaw, the forming of the said movable jaw with a number of notches or teeth in it, the outline of said notches or teeth being on the arc of a circle which is eccentric to the circle in which the movable jaw moves.

In the accompanying drawings, Figure 1 is a plan of my improved wrench. Fig. 2 is a side elevation of it, showing the movable jaw toward the observer. Fig. 3 is a longitudinal section, the plane of projection being parallel to that of Fig. 1. Fig. 4 is an elevation of the movable eccentric-faced jaw, having four teeth or notches in its face.

1 is the lever, upon which one jaw, 2, of the wrench is formed. This is recessed, so as to give a concave circular bearing, as shown in Fig. 3, for the reception of the knuckle 3 of the movable jaw 4. Both the lever 1 and the jaw 4 are perforated to receive the pin 5, which fits snugly in the lever, but is allowed considerable play in the knuckle 3 for the purpose of relieving the pin 5 from pressure and throwing the strain to support the pressure of the jaw 4 entirely upon the socket in the lever, the periphery of the knuckle bearing against the socket for that purpose. This is done by reaming out the hole in the knuckle, so as to make it considerably larger than the pin. The pin, however, keeps the jaw 4 from getting out of place when relieved from pressure.

This device makes the strength of the

wrench very great, as there are no weak parts exposed to strain, the pin, which forms the obvious axis of the jaw 4, being entirely protected from pressure in the operation of turning a pipe.

In addition to the sizes of pipe on which the eccentricity of the teeth of the movable jaw, Fig. 4, allows us to use the wrench, we can, by simply changing the jaw 4 for a longer or a shorter one, which can be done in a moment, adapt the wrench to still greater differences in the sizes of the pipes to which it may be desirable to apply it; and as these jaws are very small and portable, several sizes may be carried without particular inconvenience. The wrench may also be made double, so that either end may be used, whereby there is a still greater increase in the range of its applicability. The main and practical operating parts upon which the working pressure is thrown are thus reduced to only two in number, the construction above described fully relieving the other parts. The jaw 4 is thrown into operating position by the spring 6, which is attached at one end to the lever 1, bearing at the other against the heel of the jaw 4.

It will also be observed that the jaw 4 is constructed with a shoulder, as shown by dotted lines in Fig. 1, which shoulder bears upon the outer parts of the lever 1, and supports the jaw 4 in such a manner that the joint cannot be cramped so as to break the pin or do other damage. This is more clearly shown in Fig. 1, in which the shoulder is represented in the full lines as resting upon the lever and in the dotted lines as being raised up from it.

The arrangement I have described furnishes a very convenient, simple, and portable pipe-wrench for those engaged in gas-fitting, plumbing, or other kindred employments, and enables the constructor to give the requisite strength without such cumbrous and unwieldly as well as complicated constructions as are generally in common use.

Having thus fully described my said invention, I claim—

The arrangement of the lever 1, jaw 2, knuckle 3, jaw 4, pin 5, and spring 6, in combination with each other, by which arrangement the result set forth is accomplished.

WILLIAM PEARSON.

Witnesses:

CHARLES W. DENSLOW,  
JOHN CHASE, Jr.