E. J. Worcester,

Wrench.

No. 108,747. Patented Oct. 25. 1870.

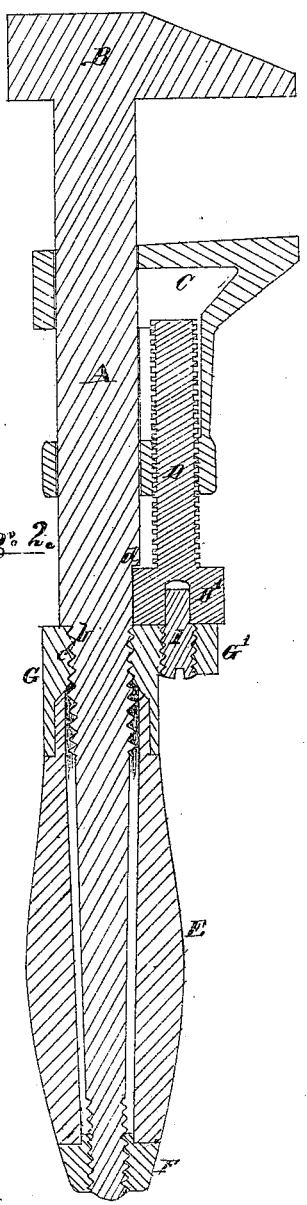

Fig. 2.

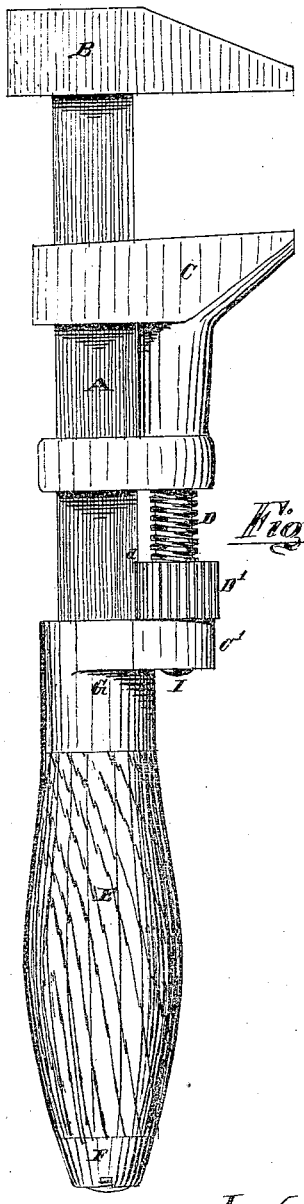

Fig. 1.

Witnesses:

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EDWARD J. WORCESTER, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 108,747, dated October 25, 1870.

IMPROVEMENT IN WRENCHES.

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, EDWARD J. WORCESTER, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, in which—

Figure 1 represents a side view of my improved wrench, and

Figure 2 represents a central longitudinal section of the same.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists—

First, in the combination, with the wrench-bar, of a screw-ferrule and step, provided with a removable pintle or bearing for supporting and holding in place the lower end of the rosette-screw, as hereinafter set forth.

Second, in the combination, with the rosette and ferrule of a pintle-screw, as hereinafter described.

In the drawing, the part marked A is the wrench-bar, upon the end of which is formed the outer jaw or head B in the usual manner.

C is the movable jaw, which is operated by the rosette-screw D.

E indicates the wood handle;

F, the tip-nut; and

G, the ferrule.

The bar A is provided with a screw-thread, *b*, at its junction with the handle and the ferrule G, which is also furnished with a screw-thread, *c*, and is screwed thereon in the manner indicated in the drawing.

The sides of the ferrule are somewhat flattened, so that it can be securely held in a vise or wrench during the operation of screwing the parts together.

The lower part of the ferrule G is hollowed out to receive the end of the wood handle E, which is made of the usual form and secured by the ordinary tip-nut F, screwed onto the lower end of the bar A.

The projecting portion or step G′, of the ferrule, is drilled through, and tapped to receive a screw, I, which forms the pintle of the rosette D′, the point of said screw being turned down to form a smooth bearing, as indicated.

The rosette-screw D is arranged in the movable jaw C in the ordinary manner.

By making the parts as herein illustrated, a very strong connection is formed between the bar A and ferrule G, so that the latter cannot be crowded out of place by the pressure of the rosette-screw D when the wrench is in use.

By constructing the wrench as described, I am enabled to make the screw-ferrule and the step in one piece. This would not be possible, were not the pintle or bearing for the rosette-screw made adjustable or removable, for in such case it would be impossible to screw up the ferrule so as to cause the pintle to enter and engage with the socket in the lower end of the rosette-screw. But by making the bearing movable this difficulty is avoided, for the ferrule can first be screwed up to the proper point on the wrench-bar, and then the pintle, which until then has not projected above the face of the step or projection G′, can be turned so as to enter the socket in the rosette-screw, and thus support and form the bearing for the latter. And so far as this portion of my invention is concerned, it is manifest that the socket may be formed in the removable part I, and the pin on the end of the rosette-screw; or, the rosette-screw bearing I may be otherwise constructed in any suitable manner, provided it is removable from or adjustable in the step G′ of the ferrule, for the purposes stated.

Another advantage is, that the jaw C can be firmly locked in any position by simply turning in the screw I, which operation presses the side of the rosette against the shoulder *d*, on the bar A, and thereby prevents it from turning.

This latter feature is a great convenience when using a large number of bolts with the same-sized heads and nuts.

Having described my improved wrench,

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

1. The screw-ferrule and step G G′, provided with a removable or adjustable pintle or bearing for the lower end of the rosette-screw, in combination with the wrench-bar A, substantially as and for the purposes shown and described.

2. The combination, with the shoulder *d* on the wrench-bar, the rosette D′, and the projection G′ on the ferrule G, of the pintle-screw I, substantially as and for the purpose herein set forth.

EDWARD J. WORCESTER.

Witnesses:

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