

F. D. Hayward,

Nut Wrench.

N^o 21,196.

Patented Aug. 17, 1858.

Fig. 1.

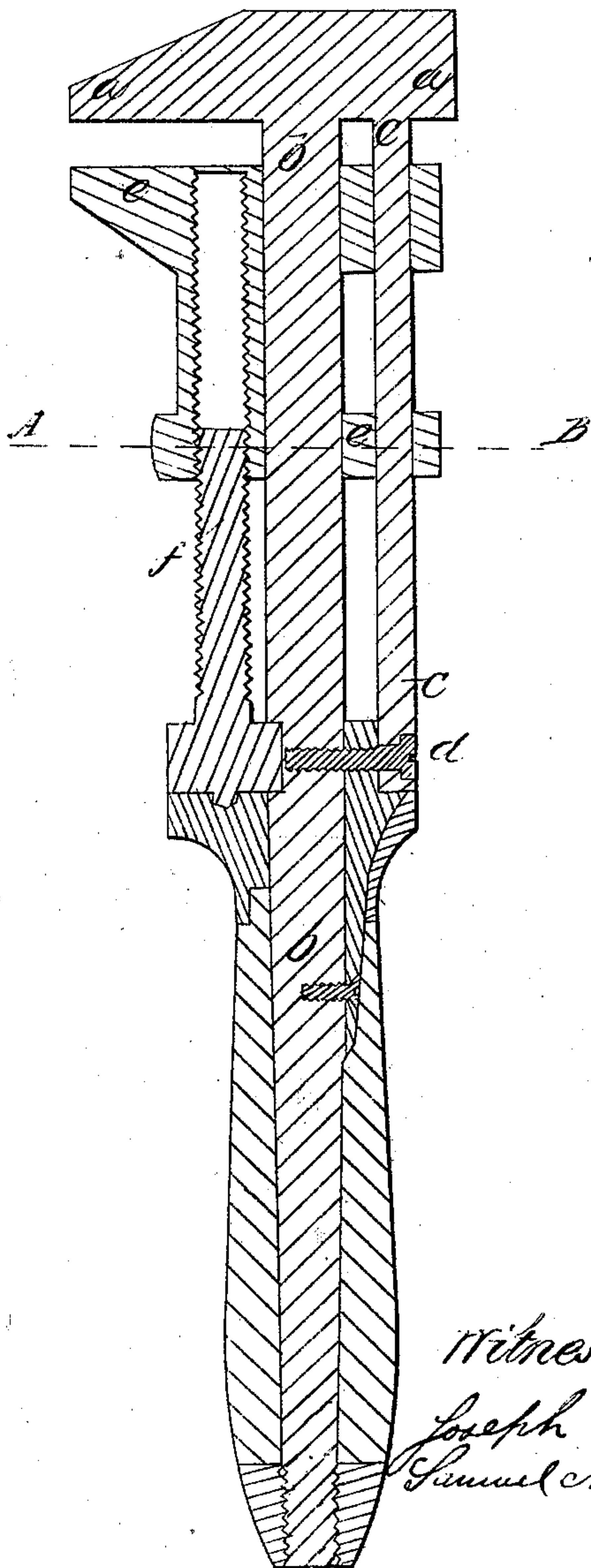
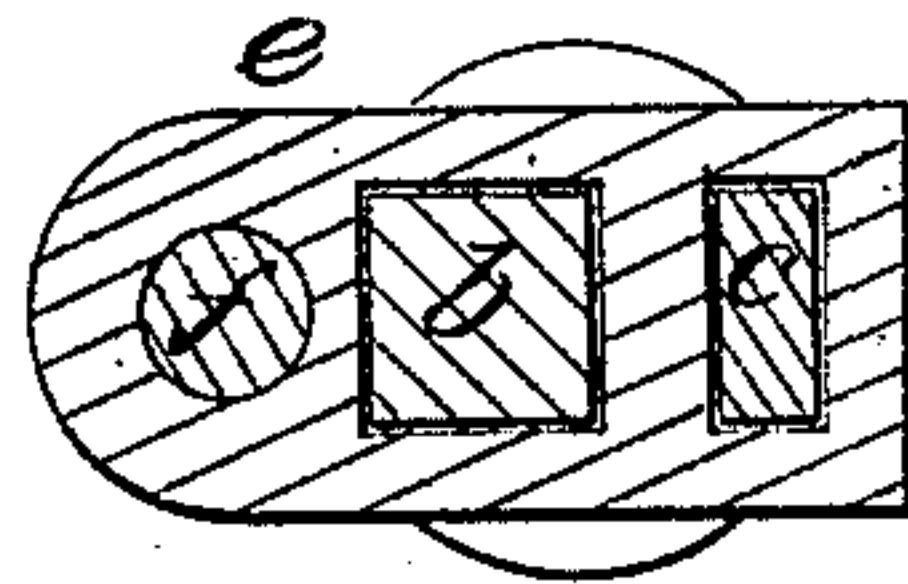


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

F. D. HAYWARD, OF MALDEN, MASSACHUSETTS.

WRENCH.

Specification of Letters Patent No. 21,196, dated August 17, 1858.

To all whom it may concern:

Be it known that I, FRANCIS D. HAYWARD, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Wrenches, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The figures of the accompanying plate of drawings represent my improvements.

Figure 1 is a central vertical section of my improved wrench. Fig. 2 is a horizontal section of the same taken in the plane of the line A B Fig. 1.

Wrenches as usually constructed consist of a single stem or shaft on which the slide or lower half of the jaw moves. The shaft unless made very large and heavy is very liable to become strained and bent, thereby weakening the wrench, preventing the parts from operating smoothly, and the two parts of the jaw from meeting.

My improvements consist in providing an additional stem or brace arranged parallel to the main shaft, the slide having its bearings and moving upon both the main shaft and the additional stem or brace. By this arrangement the main shaft cannot possibly be bent or strained but is kept in its true position, whereby the slide or jaw will al-

ways move freely and truly upon the same and retain its parallel position to the head or upper part of the jaw.

a a in the drawings represent the head or upper part of the jaw of the wrench attached to the main shaft *b b*.

c c is a stem or brace attached to the head *a a* and to the shaft *b b* by a screw *d*, arranged parallel to the shaft.

The slide *e e* plays upon both the shaft *b b* and the stem or brace *c c* being actuated by a screw *f* as will readily be understood by inspection of Fig. 1.

The stem or brace *c c* it will be seen serves to sustain and strengthen the main shaft *b b* and prevent its being bent, thereby insuring the true play of the slide *e e*, or lower half of the jaw, and keeping the slide and head *a a* always parallel.

Having thus described my improvements I shall state my claim as follows:

What I claim as my invention and desire to have secured to me by Letters Patent is—

The wrench constructed substantially as described *i. e.* combining with the head or upper jaw, when rigidly connected with its shank, a brace and screw arranged respectively on opposite sides of, and parallel with the said shank for the purposes of insuring true play of the slide or lower jaw and of keeping the slide and head constantly parallel.

FRANCIS D. HAYWARD.

Witnesses:

JOSEPH GAVETT,
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