

(No Model.)

T. FORSTNER.  
WRENCH.

No. 601,772.

Patented Apr. 5, 1898.

Fig. 1.

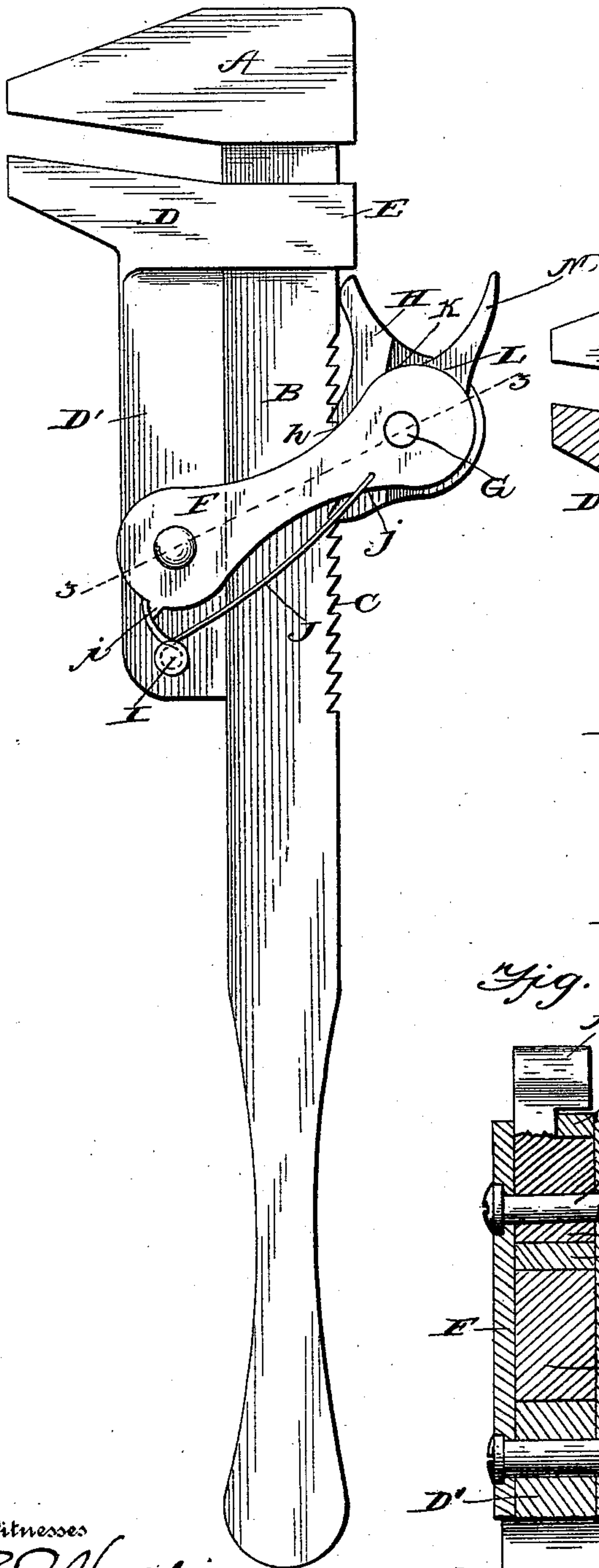


Fig. 2.

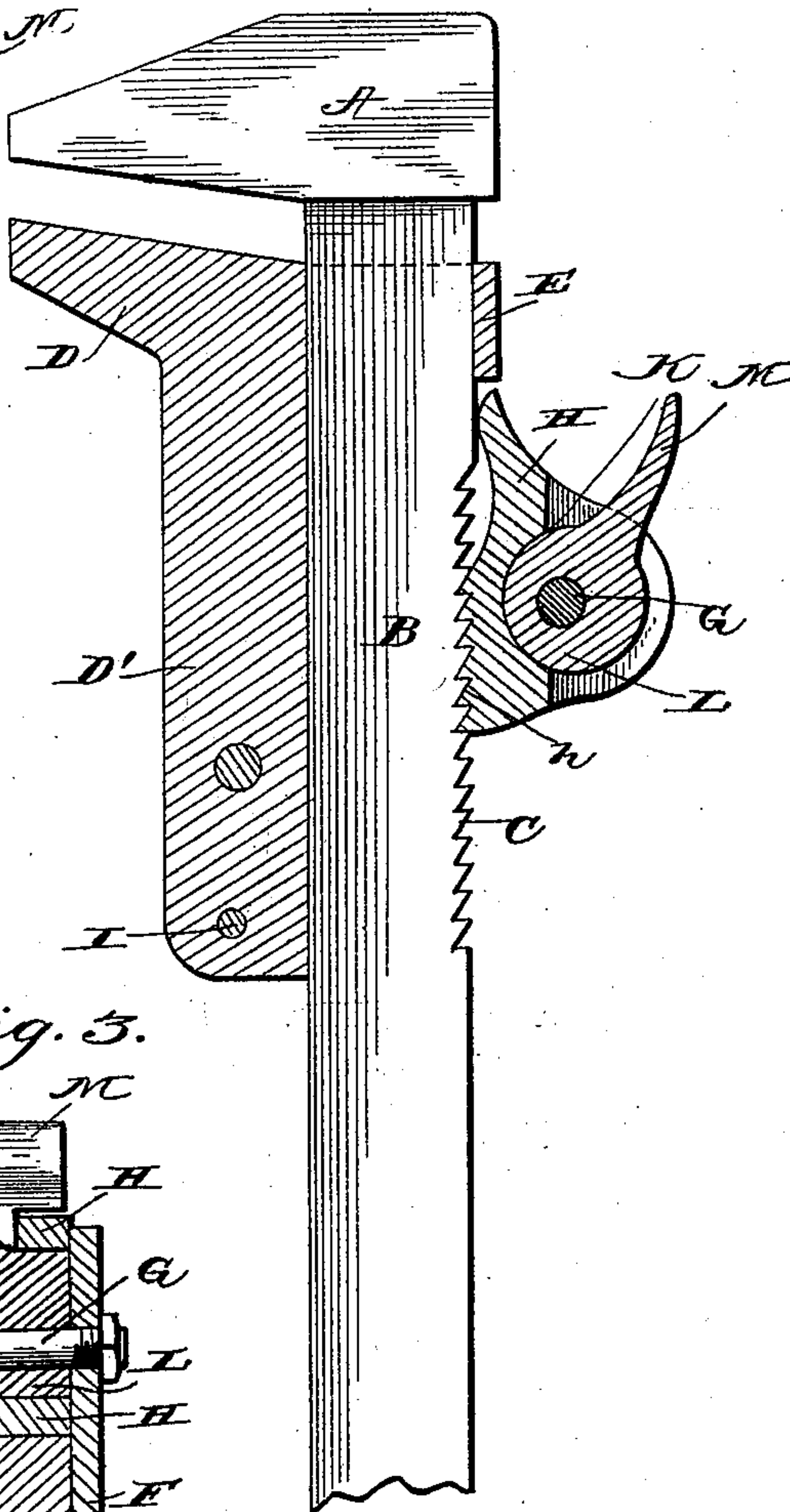
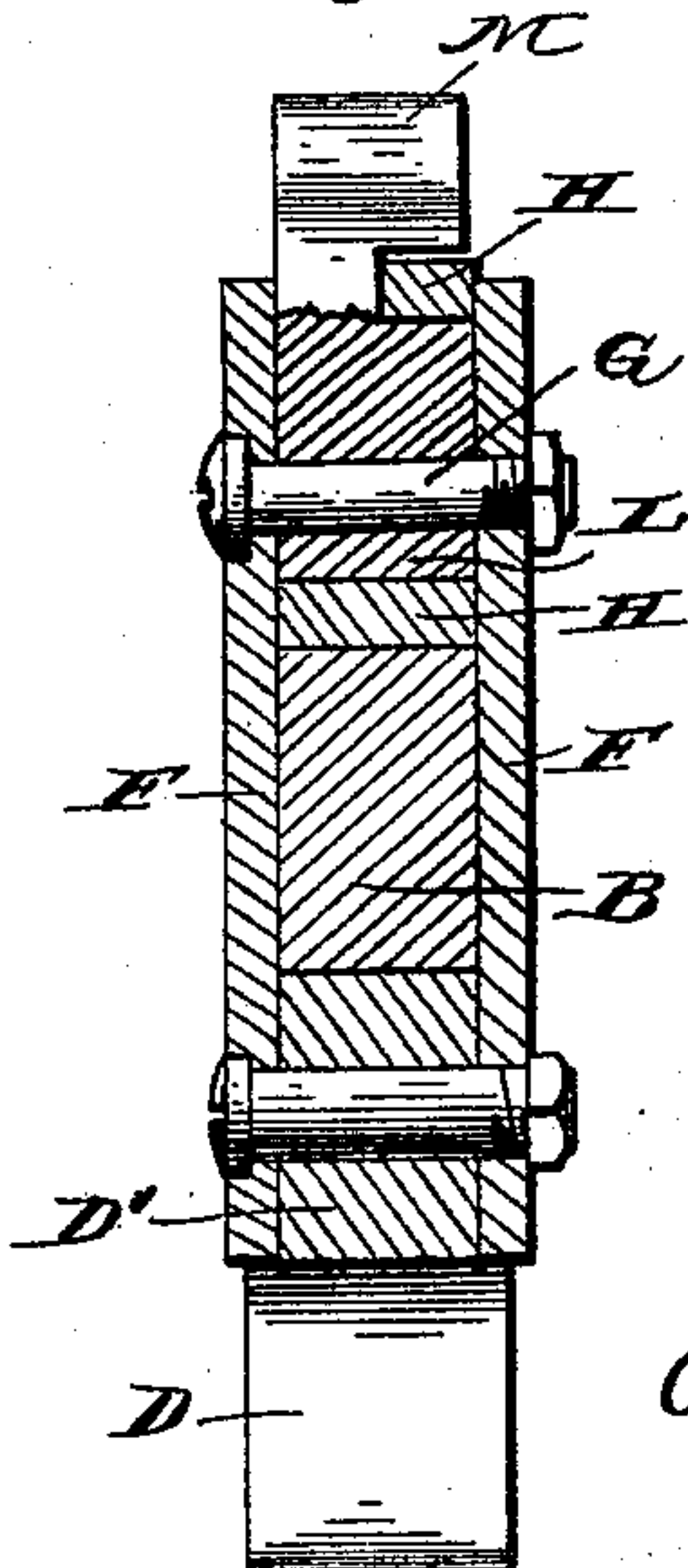


Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS FORSTNER, OF NEW ULM, MINNESOTA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 601,772, dated April 5, 1898.

Application filed March 23, 1896. Renewed January 29, 1898. Serial No. 668,496. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS FORSTNER, a citizen of the United States, residing at New Ulm, in the county of Brown and State of Minnesota, 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 invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in wrenches; and it has for its objects, among others, to provide a simple and cheap construction of wrench adjustable to accommodate it to different sizes of nuts or other articles to be held therein and yet in which the movable jaw will be firmly held against any possibility of loosening.

The device is composed of few parts and those readily assembled and the movable jaw and its accessories removed when desired for inspection or repairs or other purposes.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an elevation of my improved wrench. Fig. 2 is a longitudinal section through the same. Fig. 3 is a section on the line 3 3 of Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the stationary jaw, and B its shank. The jaw extends at an angle other than a right angle from the shank, as shown, and may or may not be serrated upon its acting face. The outer or upper face of the shank is toothed, as seen at C.

D is the movable jaw, whose bearing-face extends from its shank D' at the same angle as the bearing-face of the jaw of the fixed shank does from its shank, so as to be parallel therewith, and its acting face may or may not be serrated.

The shank of the movable jaw has the clamp or sleeve portion E thereon, which embraces the shank of the fixed jaw, as shown,

and guides the jaw in its movements and keeps it parallel with the shank of the stationary jaw.

Pivotally mounted on the lower end of the shank of the movable jaw are the arms F, the other ends of which extend beyond the shank of the fixed jaw and have mounted therein the rod or bolt or pin G, on which is supported the dog H, the acting face of which is toothed, as shown at h, to engage the teeth on the shank of the fixed jaw.

I is a pin passed through the shank of the movable jaw beneath the pivot of the arms thereon, and around this pin is a spring J, one around each end of the pin and held thereon by the heads of the pins, one end of each spring bearing against a notch or shoulder i of the arms in proximity to their pivots and the other ends seated in grooves or notches j in the under sides of the said arms, as shown.

The body portion of the dog is formed with a recess K, in which is arranged the eccentric lever or cam L, mounted on the pin or bolt G and extended to form a handle or thumb-piece M.

The operation is apparent and will be readily understood from the foregoing description when taken in connection with the annexed drawings.

The movable jaw is moved backward to admit the nut or other article between the jaws, and then it is pressed forward until it engages the nut or other article, and then the cam or eccentric lever is turned backward, which forces the movable jaw tightly against the nut or other object and also holds the dog in engagement with the toothed portion of the shank of the fixed jaw, and the article will be securely held between the jaws of the wrench. It will be observed that the movement of the thumb-piece accomplishes two things—it moves the movable jaw toward the fixed jaw by reason of the pivoted arms and it forces the dog into its engagement with the toothed portion of the shank of the fixed jaw by reason of the cam acting against the dog.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is—

1. The combination with the fixed jaw and its shank, of the movable jaw, the arms pivoted on its shank, the dog carried by the said arms, and the eccentric lever mounted on the  
5 dog, as set forth.

2. The combination with the fixed jaw and its shank, of the movable jaw, the arms pivoted on the shank of the movable jaw, the dog carried by the arms, the eccentric lever  
10 mounted on the dog, and the springs on the shank of the movable jaw acting on the said arms, as set forth.

3. The wrench described consisting of the fixed jaw, its toothed shank, the movable jaw,

its shank, the guide thereon, the arms piv- 15  
oted on the shank of the movable jaw, the springs on the shank of the movable jaw and acting on said arms, the toothed dog pivotally mounted on the arms, and the eccentric lever pivoted on the pivot of the dog, all sub- 20  
stantially as and for the purpose specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS FORSTNER.

Witnesses:

WM. PFAENDER, Jr.,

THEODOR MOHR.