

(No Model.)

R. C. ELLRICH.  
WRENCH.

No. 553,059.

Patented Jan. 14, 1896.

Fig. 1.

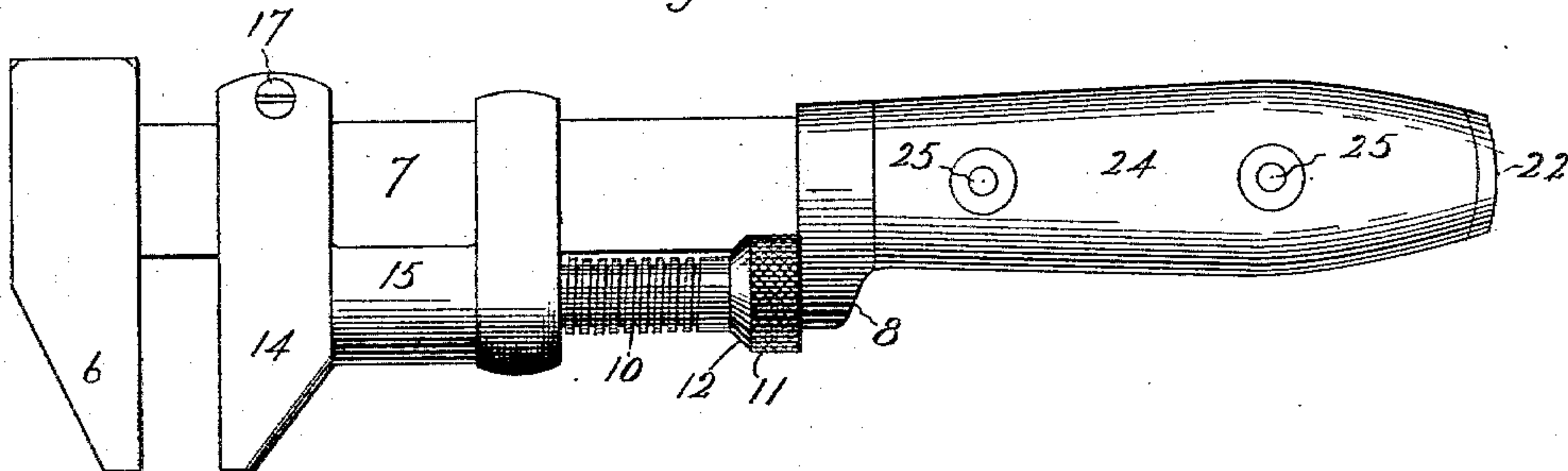


Fig. 2.

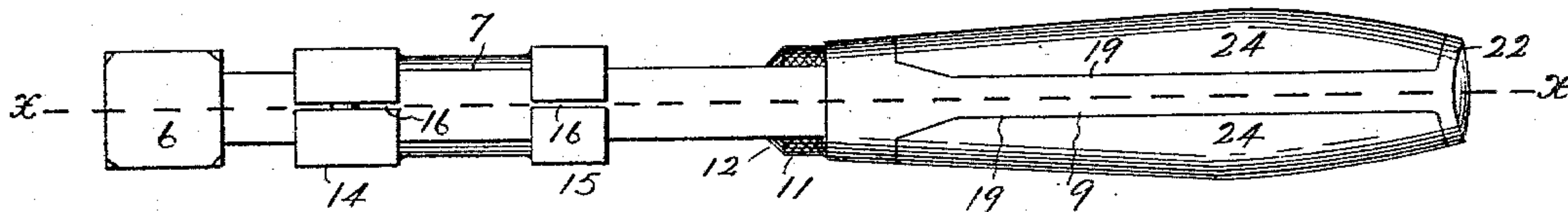


Fig. 3.

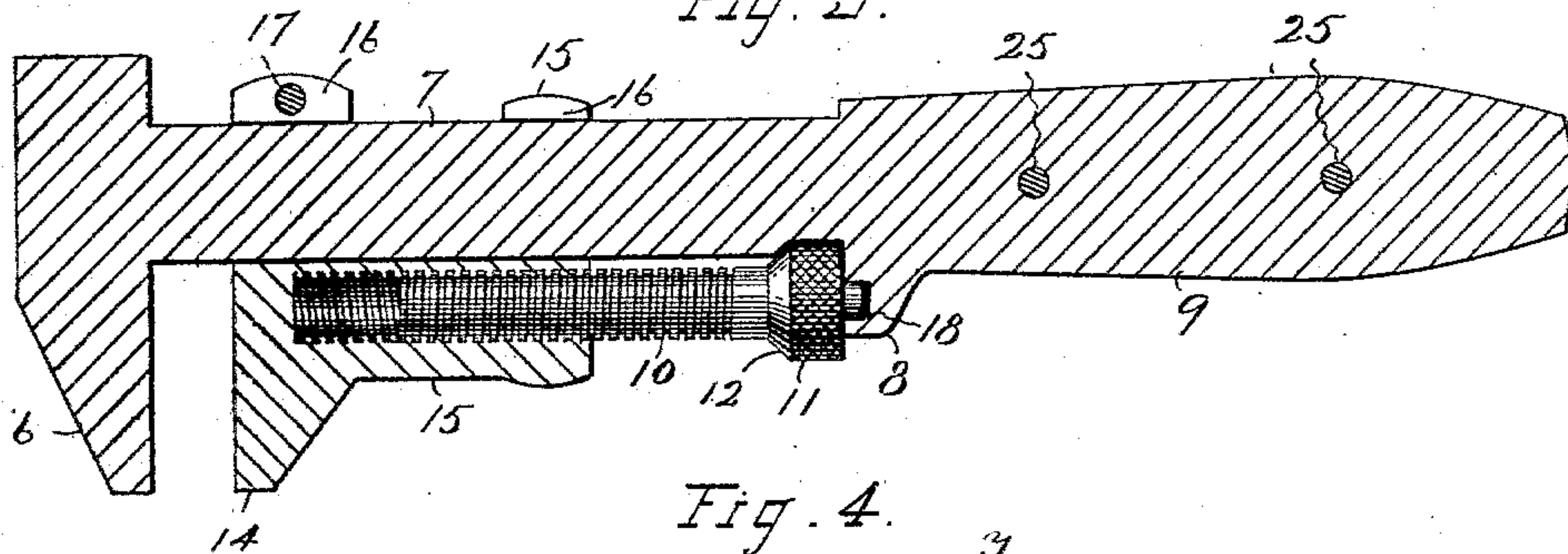


Fig. 4.

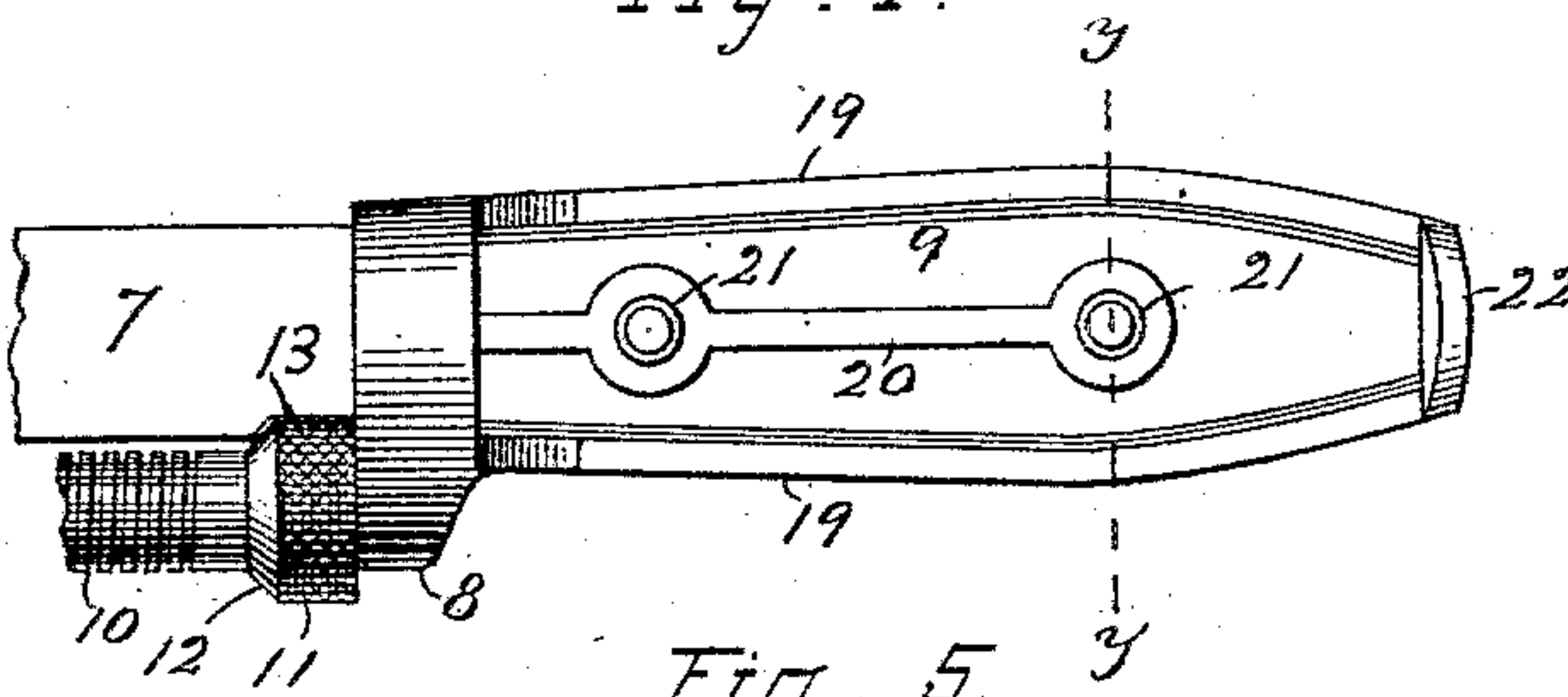
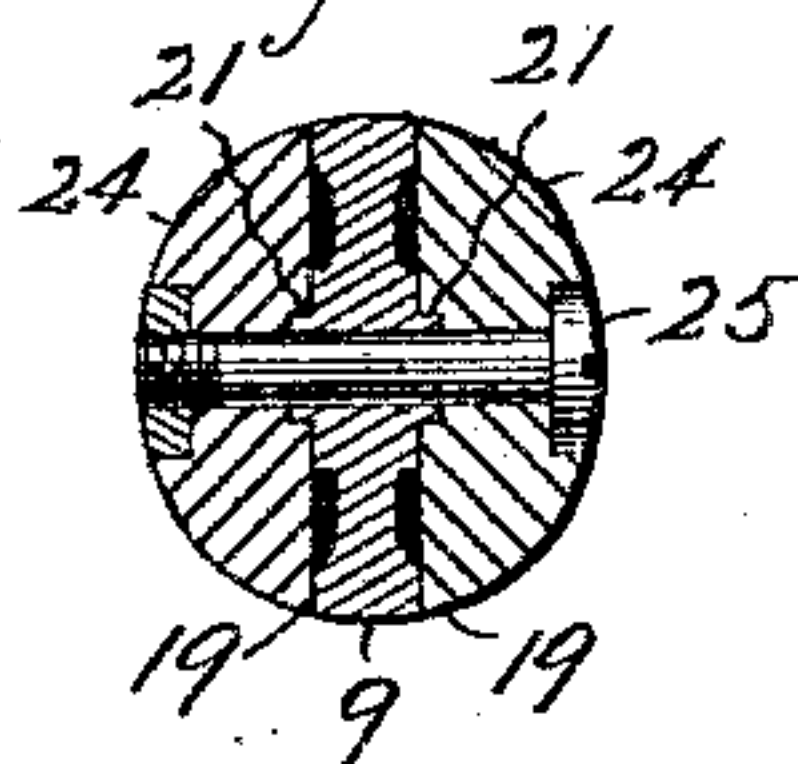


Fig. 5.



WITNESSES

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# UNITED STATES PATENT OFFICE.

ROBERT COSMOS ELLRICH, OF SOUTHTON, CONNECTICUT, ASSIGNOR TO  
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## WRENCH.

SPECIFICATION forming part of Letters Patent No. 553,059, dated January 14, 1896.

Application filed November 2, 1895. Serial No. 567,673. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT COSMOS ELLRICH, a citizen of the United States, residing at Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches, and the main objects of my improvement are to simplify the construction, to improve the efficiency of the wrench and to enable the sliding-jaw to work stiffly or loosely as may be desired.

In the accompanying drawings, Figure 1 is a side elevation of my wrench. Fig. 2 is an edge view looking at the back. Fig. 3 is a longitudinal section on the line *xx* of Fig. 2, the adjusting-screw being shown in elevation. Fig. 4 is a side elevation of the handle end of the wrench with the wood or scales removed, and Fig. 5 is a transverse section of the complete handle on the line *yy* of Fig. 4.

The fixed jaw 6, wrench-bar 7, step 8, and handle shank or web 9 are made in one solid piece of metal, preferably forged in dies under a drop. With the exception of the handle-shank they are of an ordinary form in their general appearance, although the step necessarily differs from the ordinary form by being made integral with the wrench-bar. The adjusting-screw 10 is of any ordinary construction, excepting that the side of the head 11 that faces the body of the screw is beveled off, as at 12, and the notch 13 in the wrench-bar 7 is of a corresponding form. I first forge the movable jaw 14 and slide 15 of the ordinary form, and then slit the back of the movable jaw and slide, as at 16, Figs. 2 and 3. They are then spread apart sufficiently to let the wrench-bar pass edgewise into them, and then the arms or members each side of the slit bent back to place to properly embrace the wrench-bar, as shown. The heel of the fixed jaw is also bored and threaded transversely and a clamping-screw 17 inserted therein. The adjusting-screw is screwed into or partly into the slide before the moving jaw and slide are placed upon the wrench-bar. The beveled side face 12 and correspondingly-shaped notch 13 in the wrench-bar enable the slide to be

thus put in place, the usual trunnion 18 being first inserted in the bearing for it in the step 8.

The general operation is the same as in ordinary wrenches of the class shown, but sometimes the user does not like to have the slide work very freely, and again he wants it to so work. By turning the clamping-screw 17 so as to bind the sides of the moving jaw toward its heel slightly upon the sides of the wrench-bar sufficient friction may be created to make the slide work as stiffly as may be desired. On the other hand, when desired, the screw may be loosened to remove the friction and make the jaw work as loosely and easily as may be desired.

For the purposes of the parts thus far specifically described the handle may be of any desired construction, but I prefer to form the shank or web 9 of a thin flattened form of the full width of the handle and with a raised rim 19 and a raised central rib 20 and rivet-bosses 21 that project slightly above the rib 20 and rim 19, also with the tip 22 of the full size of the tip of the complete handle. I drill the rivet-bosses to receive rivets or screws 25, and mill the exterior of said bosses to a given size. Wooden slabs or scales 24 are provided for each side of the web, the same being bored to correspond with the two holes through the rivet-bosses and counterbored on their inner side to receive the milled portion of said projecting bosses and assist in holding the scales in proper position. The inner sides of the scales are preferably made flush with the rim 19 and rib 20. Rivets or screws 25 are then inserted through both scales and the web to complete the handle, as shown.

I claim as my invention—

1. A wrench having the fixed jaw, the movable jaw, the adjusting screw and the step, the flattened web integral with the step by which said web is connected with the wrench bar, the raised rim 19 by the side edges of said web, the central raised rib 20, rivet bosses 21 projecting from said central rib, the lip 22 at that end of said web which is opposite the step, the handle scales resting on said ribs 19 and 20, provided with rivet holes and counterbored to receive said bosses,



and rivets or screws for securing said scales in place, substantially as described and for the purpose specified.

2. A wrench consisting of the fixed jaw, the wrench bar, the step and the handle piece all formed integral, the movable jaw and slide slit open at their back and bent into place to embrace the wrench bar, and the adjusting screw having on the back of its head a flat face adapted to rest squarely against the face of the step and having on the opposite side of its head the bevel face 12 fitting into a correspondingly-shaped notch in the wrench bar, substantially as described and for the purpose specified.

3. A wrench having a fixed jaw, a wrench bar, a step, and a handle, a movable jaw and slide fitted to the four sides of the wrench bar and slit at their back, an adjusting screw

for operating said slide, and a clamping screw in that portion of the jaw whose shoulders hook over the back edge of said wrench bar, substantially as described and for the purpose specified.

4. A wrench having fixed jaw, movable jaw, adjusting screw and step, the flattened web integral with the step which lies at one end of said web, and having the projecting rivet bosses 21, the handle scales bored to receive the rivets or screws and counterbored to receive said bosses, and rivets or screws to secure said scales in place, substantially as described and for the purpose specified.

ROBERT COSMOS ELLRICH.

Witnesses:

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