

No. 772,633.

PATENTED OCT. 18, 1904.

G. REEL & H. B. AUDLEY.

WRENCH.

APPLICATION FILED MAY 17, 1904.

NO MODEL.

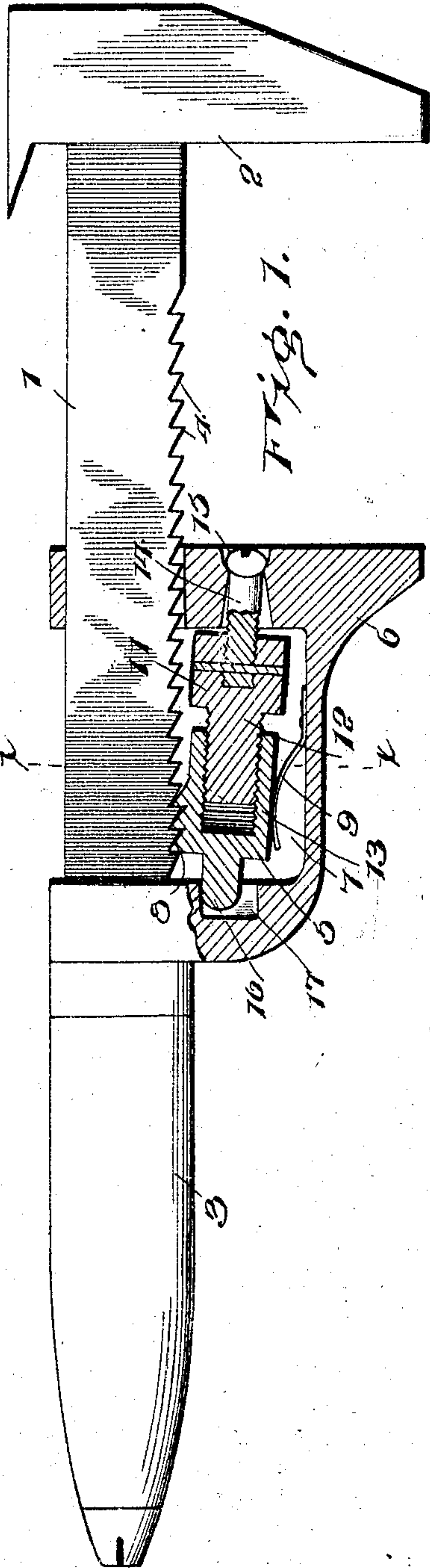


Fig. 1.

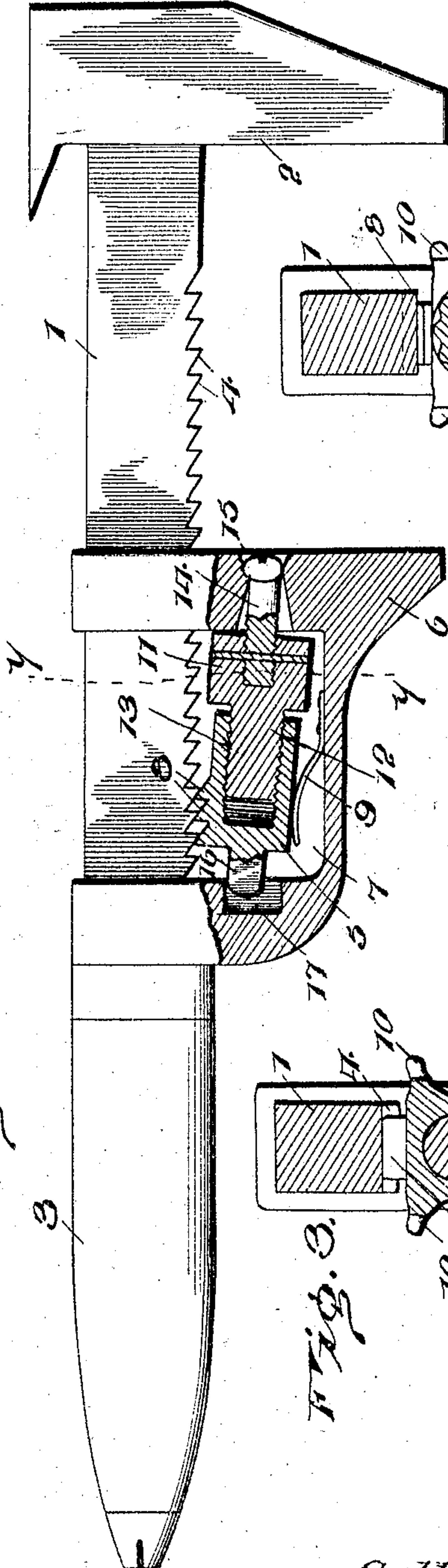


Fig. 2.

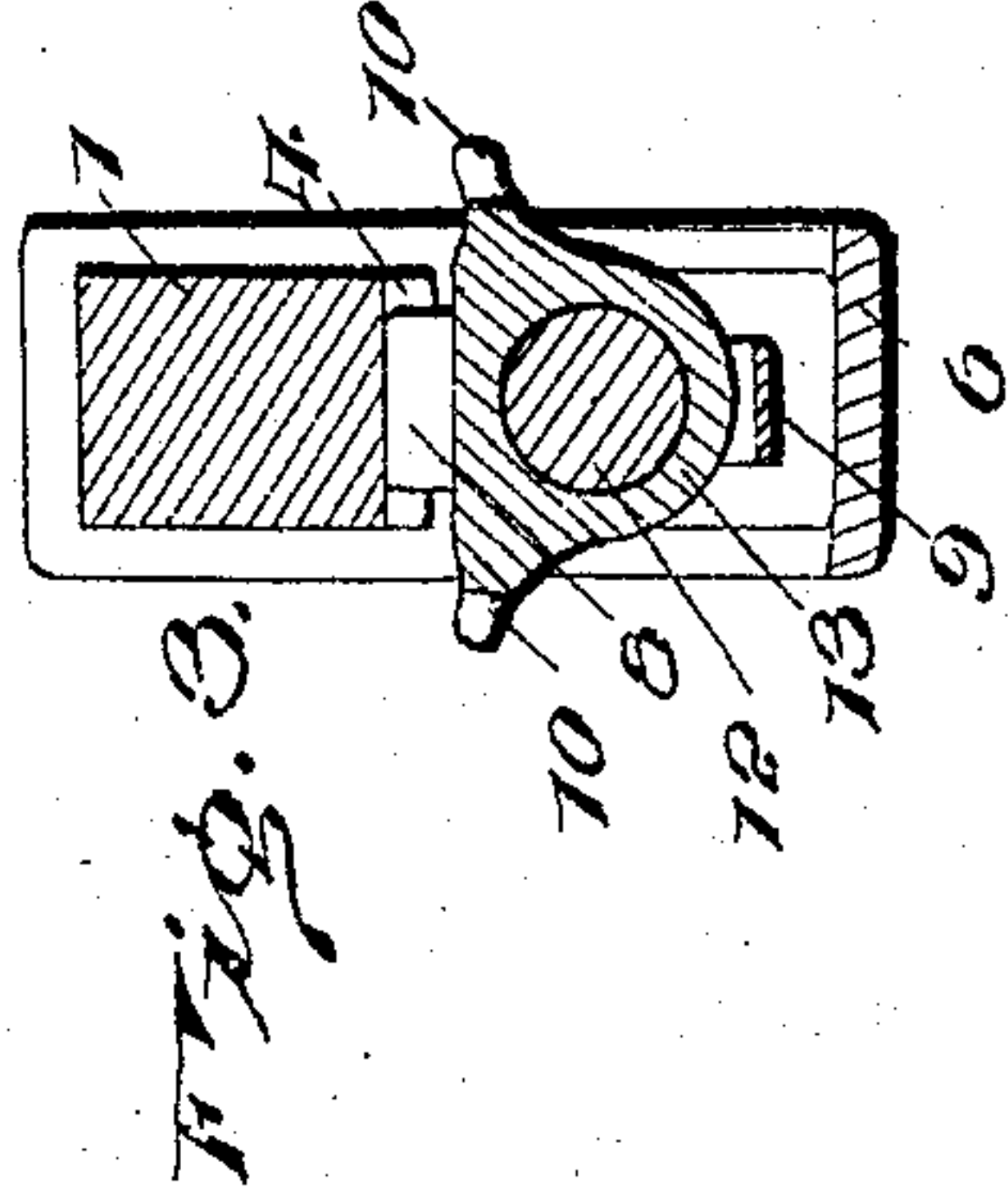


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## WRENCH.

**SPECIFICATION** forming part of Letters Patent No. 772,633, dated October 18, 1904.

Application filed May 17, 1904. Serial No. 208,448. (No model.)

*To all whom it may concern:*

Be it known that we, GILBERT REEL, residing at Tomah, and HERBERT B. AUDLEY, residing at Shennington, in the county of Monroe and State of Wisconsin, citizens of the United States, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches of the type having a shank provided with a rigid jaw and a movable jaw adjustable toward and from the rigid jaw of the shank.

The primary object of the invention is to secure a "quick-adjusting" wrench; and in carrying out the invention the movable jaw is provided with a peculiarly-mounted clutch element which is adapted to engage the toothed shank of the wrench to hold the movable jaw at a fixed adjustment.

The wrench structure is such as to admit of quick movement of the movable jaw toward the rigid jaw, the clutch device, however, preventing rearward movement of the movable jaw toward the handle of the wrench, except by proper manipulation of the said clutch element.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, the movable jaw being shown in broken section to bring out clearly the mounting of the clutch element thereon. Fig. 2 is a view similar to Fig. 1, showing the position of the clutch element under certain conditions of service before longitudinal adjustment thereof. Fig. 3 is a transverse sectional view taken about on the line X X of Fig. 1. Fig. 4 is a transverse sectional view taken about on the line Y Y of Fig. 2.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The wrench comprises, essentially, a shank 1, provided at one end with the rigid jaw 2 and at the opposite end with the handle 3. The shank is provided longitudinally thereof with a plurality of teeth 4, with which the clutch element 5 of the movable jaw 6 coöperates in the practical use of the implement. The movable jaw 6 is of ordinary form in general construction, being cut away, however, between the ends thereof, as shown at 7. In the cut-away portion 7 of the movable jaw 6 is mounted the clutch element 5, and this element is provided with teeth 8, adapted to engage the teeth 4 of the shank. The clutch element 5 has pivotal connection at one end with the jaw 6 and at the other end has a slidable or loose connection, so as to admit of movement thereof toward and from the shank. A spring 9, carried by the movable jaw, bears against the clutch element 5 normally to hold this element in engagement with the shank 1. The clutch element 5 is provided upon its sides with projections 10, which form finger-pieces which may be readily grasped, so as to effect the necessary unclutching of the element 5 from the teeth 4 of the shank 1 in order to move the movable jaw away from the rigid jaw.

The element 5 is of tubular form and is adapted for adjustment longitudinally of the shank 1 in order that any slack or looseness of the jaw 6 may be taken up should the teeth of the element 5 not directly engage the teeth of the shank 1. In other words, should the teeth 8 of the element 5 engage the teeth 4 of the shank 1 at the central portions thereof, as shown in Fig. 2, the movable jaw would not firmly grip the object which is disposed between it and the rigid jaw, and in order to cause the movable jaw to advance, so as to positively engage said element by slightly adjusting the same, the longitudinal movement above set forth is needed. To secure the longitudinal movement of the element 5, an adjusting member in the form of a thumb-nut



11 is provided, and this member 11 has a threaded extension 12 projected therefrom, which is received in the threaded tubular portion 13 of the clutch element 5. The thumb-nut 11 has its peripheral portion corrugated or roughened, so that same may be readily revolved to effect a slight longitudinal adjustment of the clutch element, as above set forth. A pivot or rocker pin 14 is threaded into the thumb-nut 11, and this pin passes through the opening 15 in the movable jaw, which forms a bearing for the pin, as will be readily seen. The connection of the pin 14 with the thumb-nut constitutes the pivotal connection of one end of the clutch element 5 with the movable jaw 6. From the opposite end of the element 5 is extended a projection 16, which is received by an elongated recess 17 in the adjacent end of the movable jaw 6, being movable slidably therein. The projection 16 and its mounting in the recess 17 comprise the loose connection of the clutch element with the movable jaw, which admits of a pivotal movement of this clutch element to throw the same into and out of engagement with the shank 1. The projection 16 is of angular form in cross-section, so as to prevent any turning movement of the clutch element which might throw the teeth 8 thereof out of engagement with the teeth 4 of the shank 1.

In the actual use of the wrench it will be readily seen that the jaw 6 may be forced toward the rigid jaw 2 upon exercise of sufficient pressure and that in this movement the teeth of the clutch element 4 will freely ride over the teeth of the shank 1. Should the jaw 6 not be held directly against the object

which is to be operated upon, owing to the fact that the teeth 8 of the clutch element 5 assume a position similar to that shown in Fig. 2, it is only necessary to revolve the thumb-nut 11, which will cause a longitudinal movement of the clutch element and force the movable jaw hard against the object above mentioned. To move the jaw 6 rearward away from the jaw 2, the finger-pieces 10 are grasped and the clutch element 5 is pulled, so as to engage with the shank.

The wrench is very simply constructed, and the simplicity of its operation is an important feature thereof.

Having thus described the invention, what is claimed as new is—

In a wrench, the combination of a shank provided with teeth, a rigid jaw, a movable jaw, a clutch element mounted in the movable jaw and provided with a tubular portion at one end, a thumb-nut having an extension threaded into the tubular portion of the clutch element, a pivot-pin projected from the thumb-nut and having a pivotal bearing in the movable jaw, an angular projection extended from one end of the clutch element, the movable jaw being provided with a bearing receiving said angular projection, and spring means for normally holding the clutch element in engagement with the teeth of the shank.

In testimony whereof we affix our signatures in presence of two witnesses.

GILBERT REEL. [L. S.]  
HERBERT B. AUDLEY. [L. S.]

Witnesses:

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