

No. 722,920.

PATENTED MAR. 17, 1903.

E. C. SMITH.
WRENCH.

APPLICATION FILED JUNE 6, 1902.

NO MODEL.

Fig. 1.

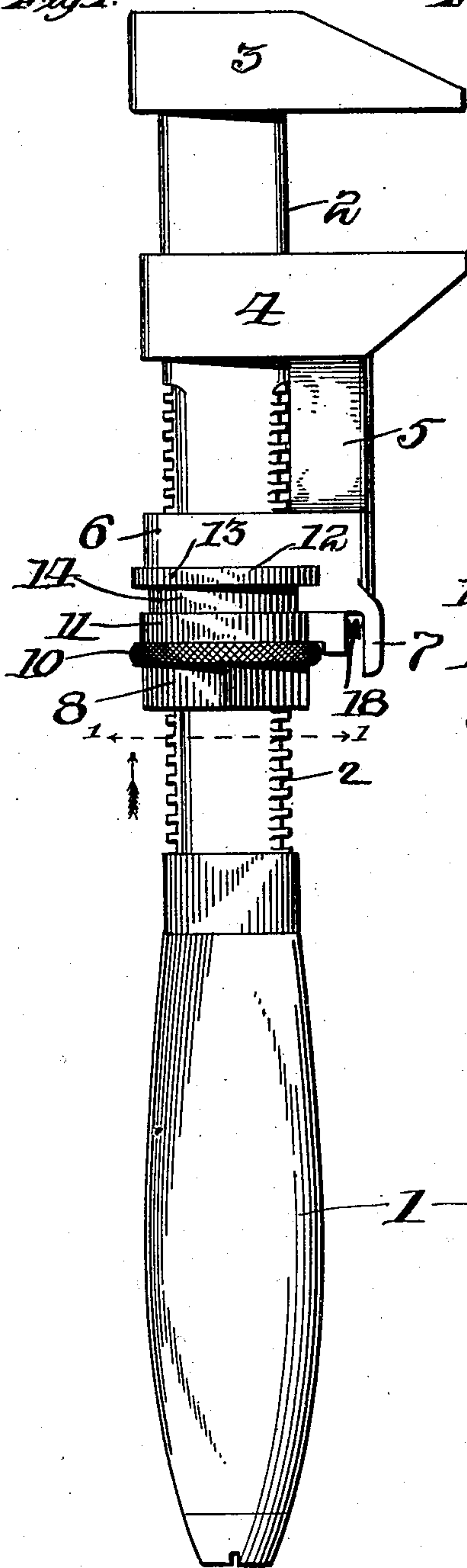


Fig. 2.

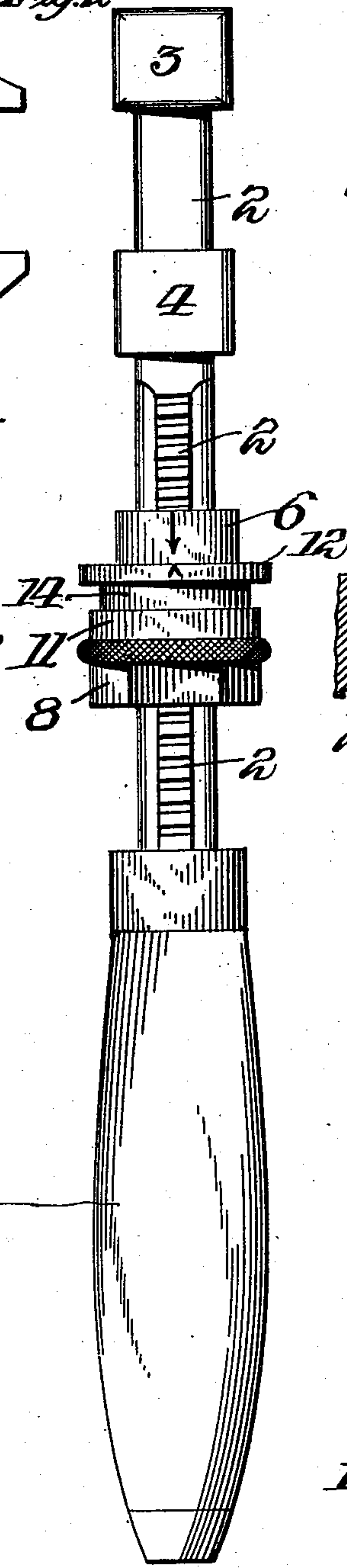


Fig. 3.

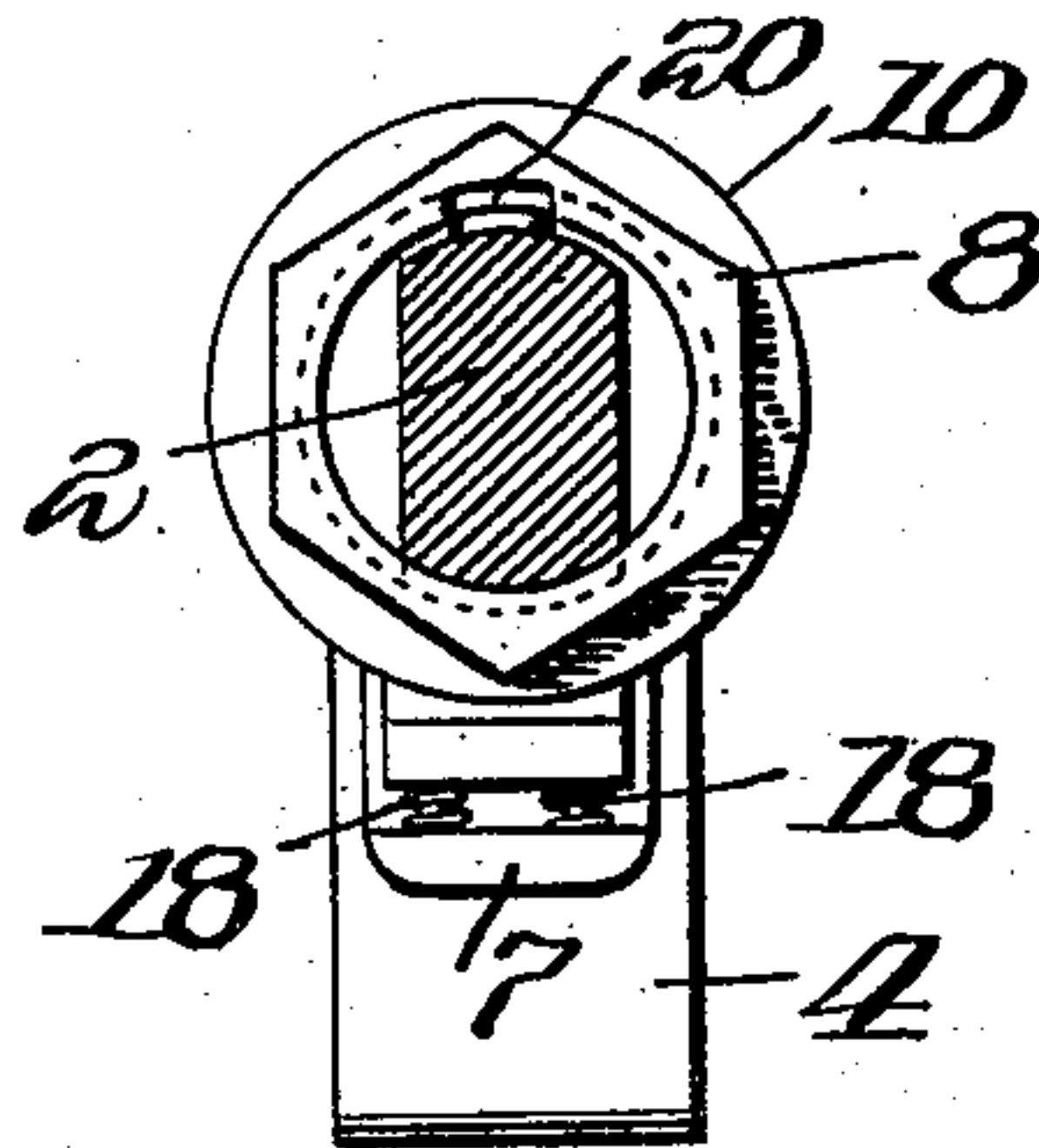


Fig. 4.

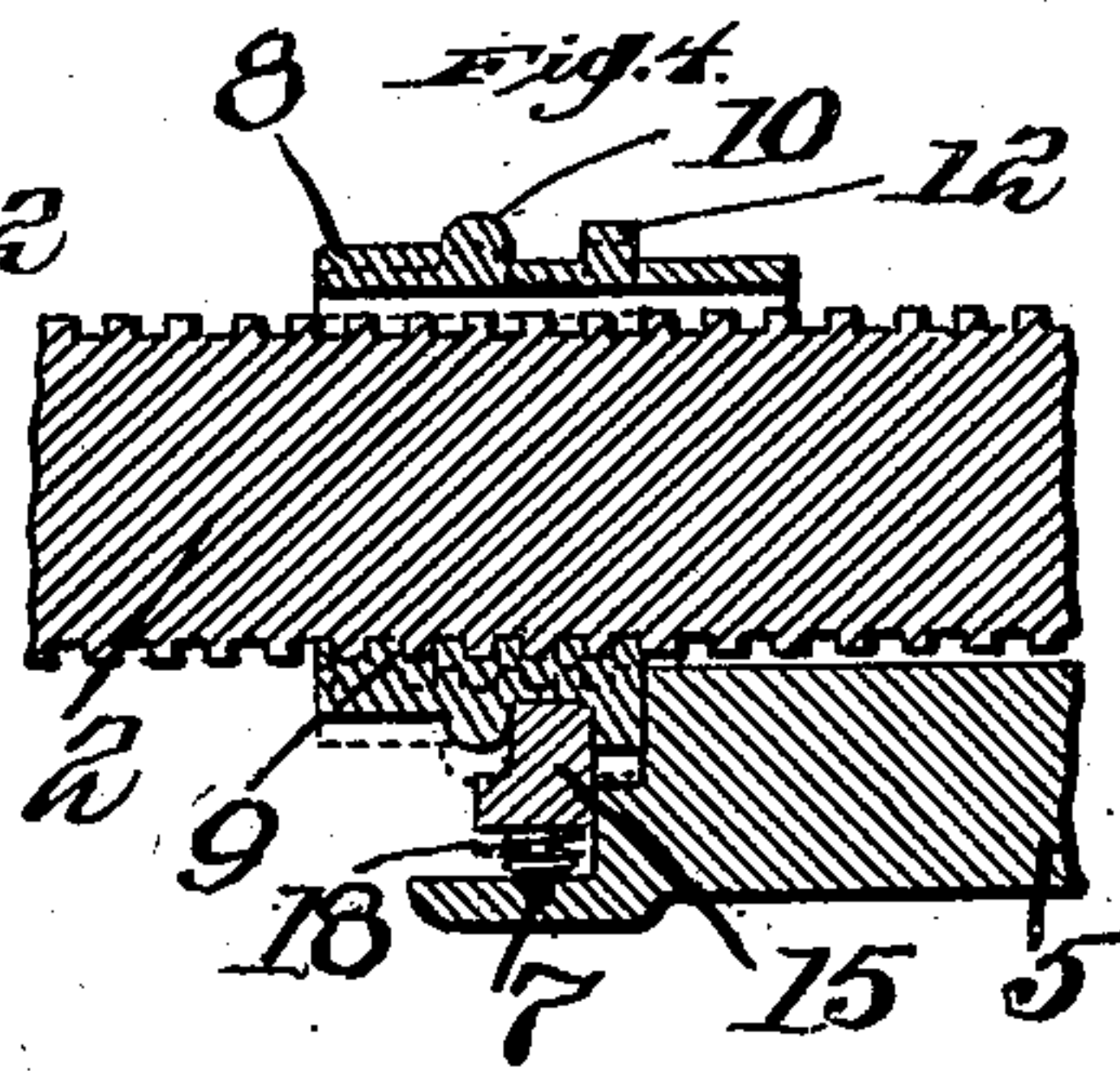


Fig. 5.

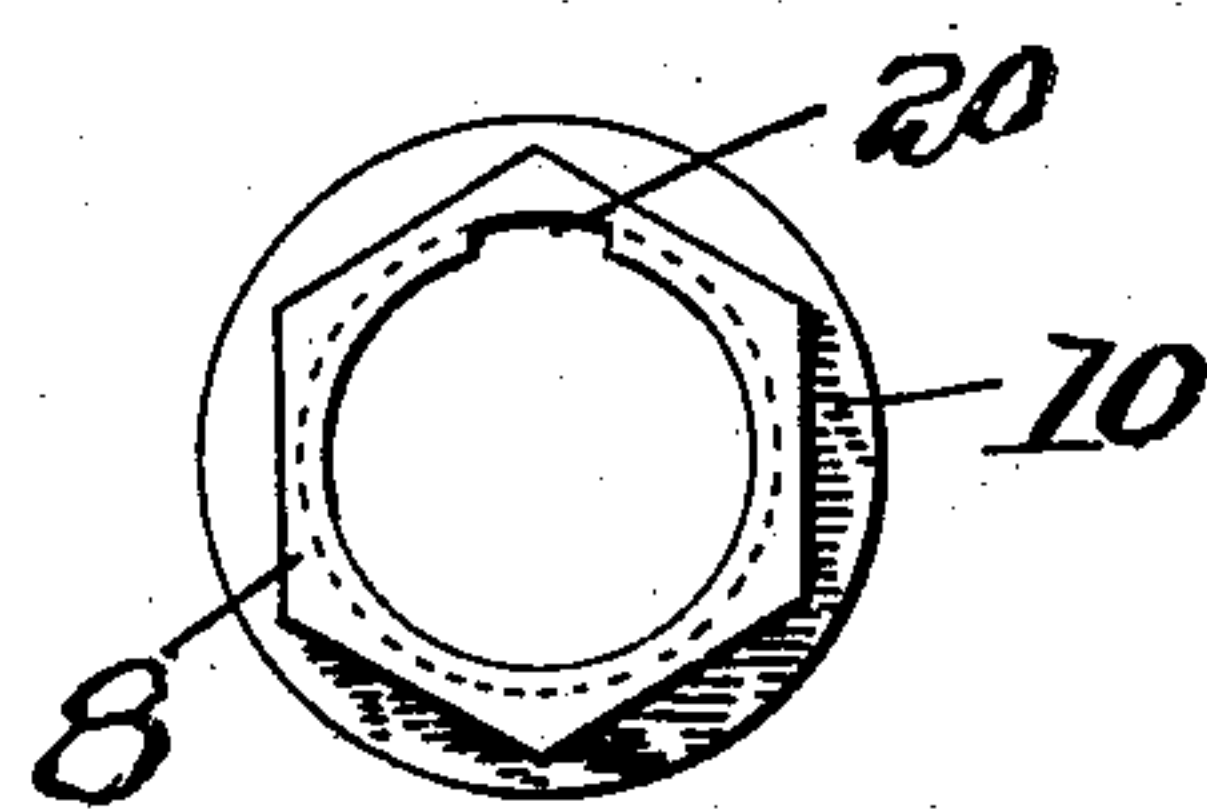
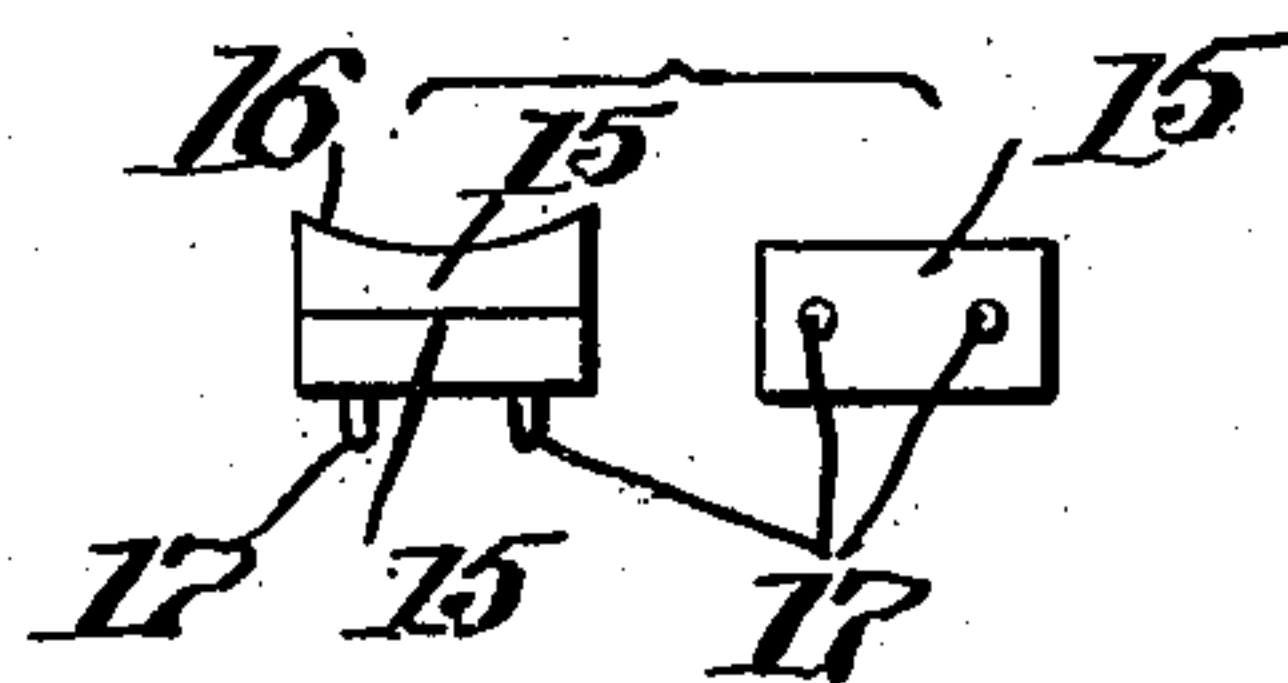


Fig. 6.



Witnesses:

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 722,920, dated March 17, 1903.

Application filed June 6, 1902. Serial No. 110,500. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. SMITH, a citizen of the United States, residing at Meadville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to certain new and useful improvements in wrenches, and has for its object a wrench which shall embrace novel means whereby the sliding or movable jaw may be readily and quickly adjusted to accommodate any article which may require an approximately large span of the wrench-jaws.

Further, I propose to equip the wrench with a novel means whereby after the movable jaw has been moved to engage the article to be operated upon the jaw may be moved to firmly engage the article, which is accomplished in a finer manner than is possible by merely sliding the jaw.

My invention has for its further object a device of this character which shall be extremely simple and of economical construction, efficient in its use, and cheap to manufacture.

With the above and other objects in view the invention has for its object and resides in the novel details of construction and combination of parts to be fully described in the following specification and then pointed out in the claims.

Referring to the accompanying drawings, forming a part of this application, and wherein like characters of reference indicate similar parts throughout the several views, Figure 1 is a side elevation of the wrench, showing the various parts assembled for operation. Fig. 2 is a rear elevation. Fig. 3 is a cross-sectional view looking in the direction of the arrow, taken on the line 1 1, Fig. 1. Fig. 4 is a longitudinal sectional view partly broken away and showing the improved mechanism for accomplishing the various objects of the invention. Fig. 5 is an end elevation of the adjusting-nut. Fig. 6 is a side and an end elevation of the spring-pressed member, to be referred to later.

In the drawings the reference-numeral 1 indicates the handle of the wrench, carrying the rack 2, formed on opposite sides of the

shank. At its upper end this shank carries the stationary jaw 3, as is well known in the art. The movable jaw 4 at its front portion carries a depending leg 5, which carries an integral member 6, which receives the shank. At the lower end of this leg and depending therefrom in a downward direction is the lug 7, which supports the spring-pressed member. The nut 8 is freely mounted on the shank in a lateral direction and carries rack-teeth 9 on its interior, adapted for engagement with the rack-teeth of the shank of the wrench. This nut is provided with a milled portion 10, readily enabling the turning of the same, and located above this milled portion is an annular collar 11. The member 6 of the sliding jaw is provided with an aperture 12, in which is received the collar 13, connected to the collar 11 by means of the neck 14, of an annular form.

It will be understood, of course, that the collar 13 is freely movable within the aperture 12, so that the former may be revolved at will. The teeth carried by the nut 10, it will be understood, are formed similar to those of the teeth carried by the shank, and the means for securing the former in locking engagement with the latter comprise a spring-pressed member 15, provided with a curved seat 16, engaging the annular collar 11, and which is prevented from downward movement by engagement with the upper side of the milled portion 10. This member carries pins 17, which operate in apertures provided therefor in the inner face of the lug 7, springs 18 being interposed between the inner face of the lug and the outer face of the member. The interior of the nut which carries the rack-teeth has a cut-away portion formed therein, as at 20, in which operate the teeth of the shank 2, it being necessary to move the nut in a lateral direction that the cut-away portion register with the teeth of the shank in order that the teeth on the nut be caused to disengage from those of the shank, so that the movable jaw may be slid along the shank without engaging the teeth of the same.

In operation it will be understood that the cut-away portion of the nut is first brought to register with the teeth on the rear side of the shank, the spring-pressed member at all times causing the teeth on the interior of the

nut to be in locked engagement with the teeth of the shank on the front side thereof. The side of the nut opposite the teeth thereof is now pressed downwardly or laterally, according to the position the wrench occupies, which will cause the nut to assume the position illustrated in dotted lines of Fig. 4 of the drawings, at which time the teeth on the rear side of the shank will enter the aforesaid cut-away portion and the teeth on the nut being out of engagement with the teeth on the front side of the shank will permit the nut carrying the movable jaw to freely slide in the desired direction. It will be noted that the teeth of the nut when normally in engagement with those of the front side of the shank will permit the adjustment of the movable jaw to as fine a degree as may be desired, which is accomplished by means of the nut, which may be freely revolved on the teeth of both sides of the shank.

While in the accompanying drawings I have illustrated the most practical embodiment of my invention, still I wish it to be understood that in practice various changes may be resorted to without departing from the general spirit and scope of the same.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A wrench of the type set forth comprising in combination with a shank having rack-teeth on its opposite sides and carrying a stationary jaw at its upper end, of a movable jaw receiving the shank and carrying a depending leg with an integral member receiving the shank, a lug formed integral with said member depending therefrom, a nut mounted on the shank and having teeth on its in-

terior with a vertical cut-away portion formed on the interior of the nut adapted to receive the teeth on the rear side of the shank, a collar formed integral with said nut, and operating in an aperture provided therefor in said integral member and the leg, and spring-pressed means for securing the teeth on the interior of said nut in engagement with the teeth of the shank, substantially as described.

2. A wrench of the type set forth comprising in combination with a shank having rack-teeth formed on its opposite sides and carrying an integral stationary jaw, of a movable jaw receiving the shank and carrying an integral member with a leg connecting the integral member and the movable jaw, a nut carrying a collar with the collar operating in an aperture provided therefor in said integral member, said nut having teeth formed on its interior with a slot extending through the teeth and adapted to receive the teeth on the rear side of the shank, a lug formed integral with the integral member, spring-pressed means for securing the teeth of the nut in engagement with those of the shank comprising a member having a curved seat engaging the nut, pins formed integral with the member and extending into said lug, and springs surrounding the pins interposed between the member and the lug, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD C. SMITH.

In presence of—
LOUIS MOESER,
M. HUNTER.