

(No Model.)

J. E. REESE.  
WRENCH.

No. 551,232.

Patented Dec. 10, 1895.

Fig. 1.

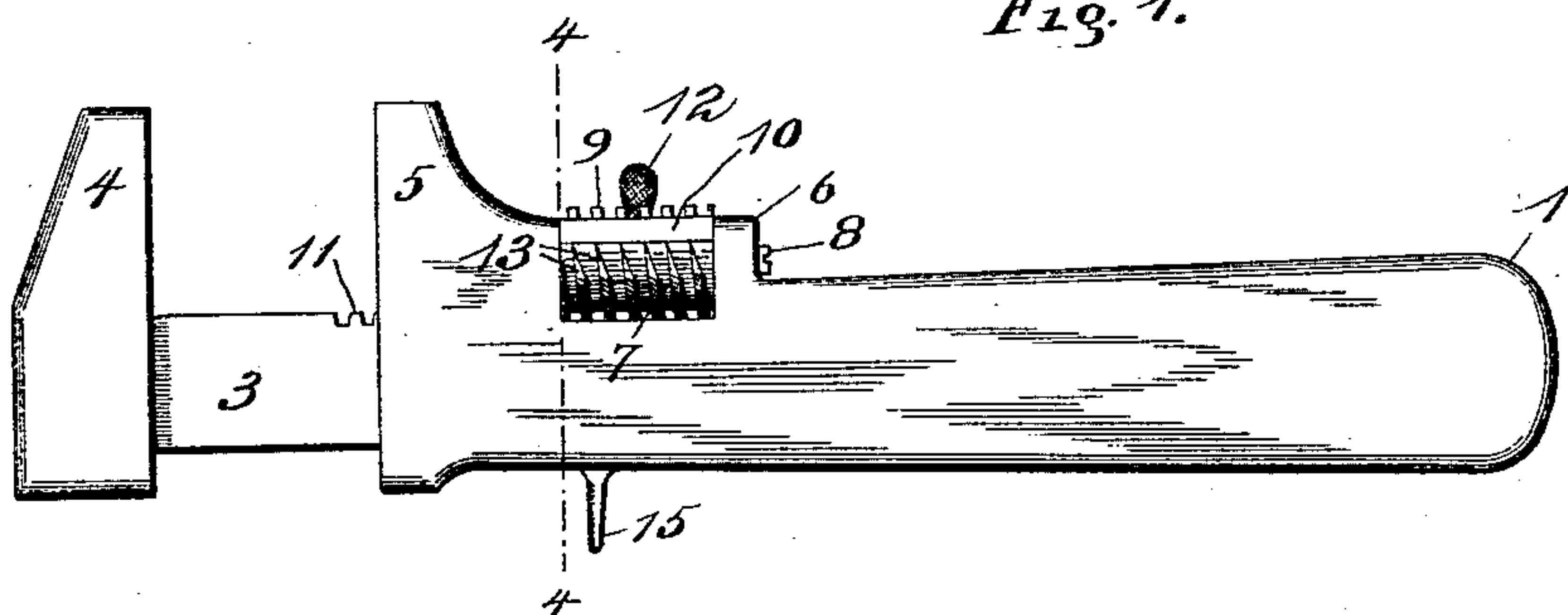


Fig. 2.

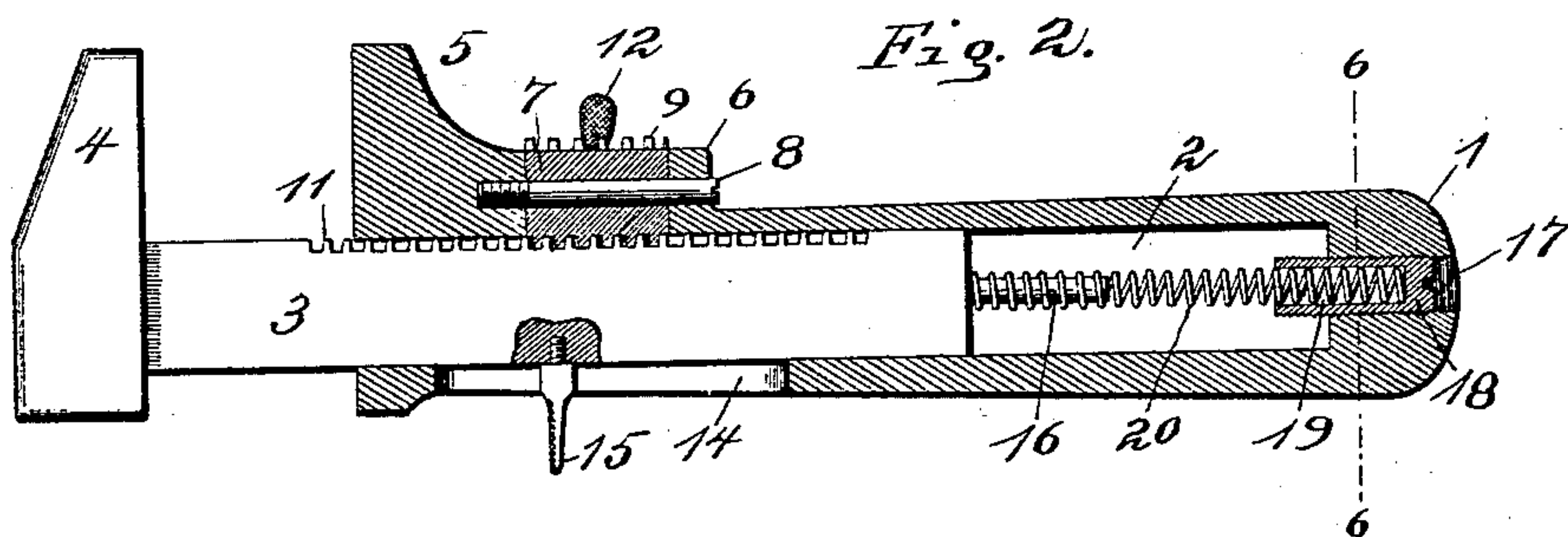


Fig. 3.

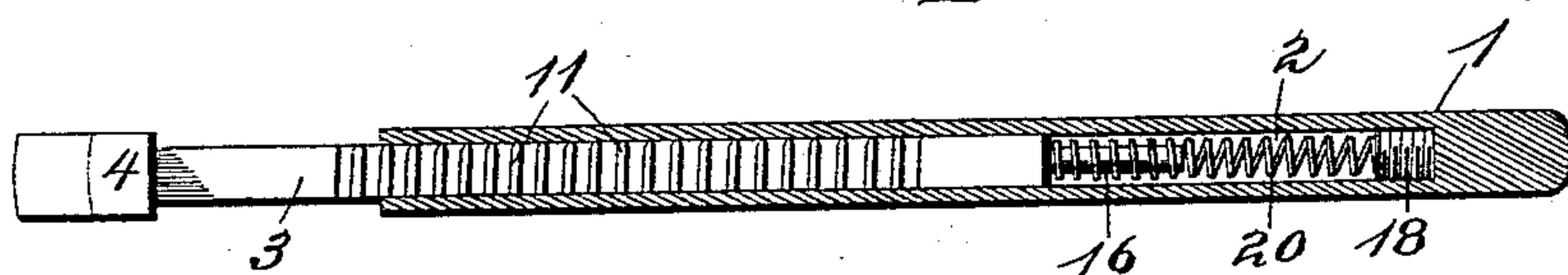


Fig. 4.

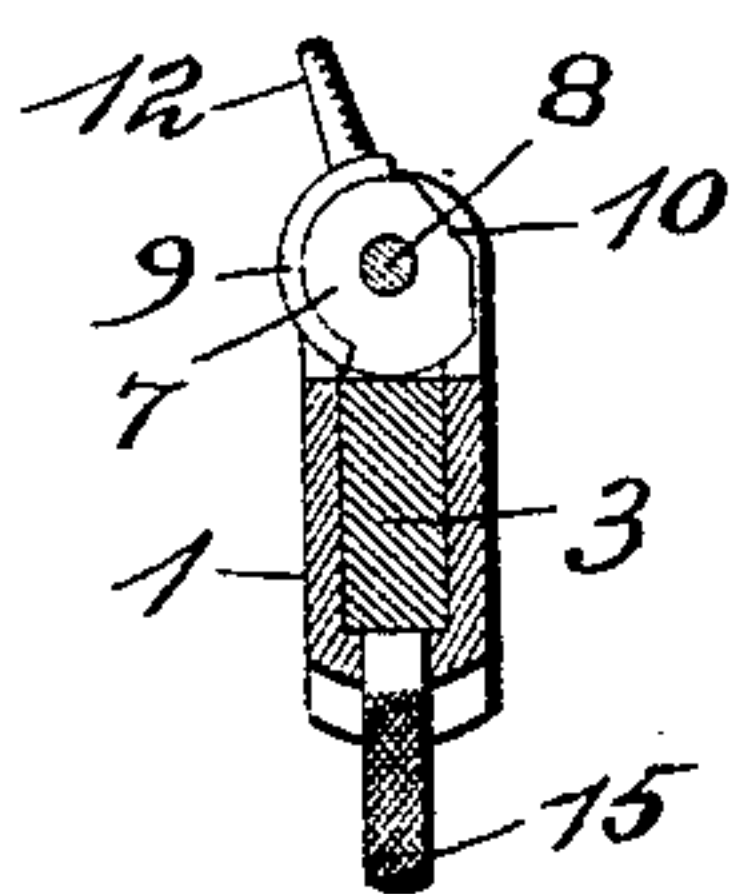


Fig. 5.

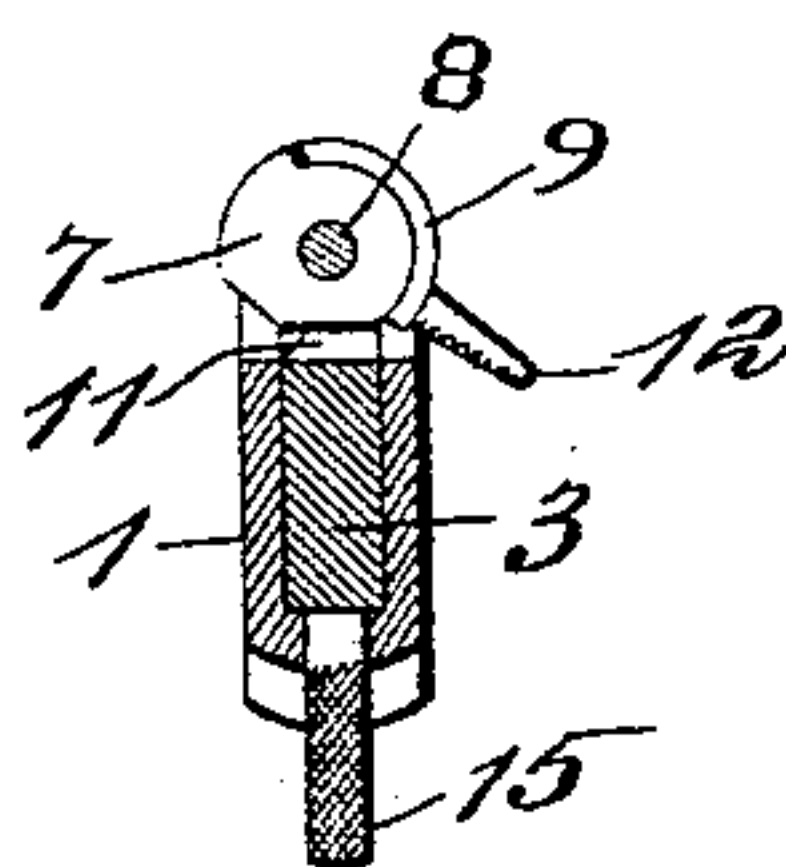
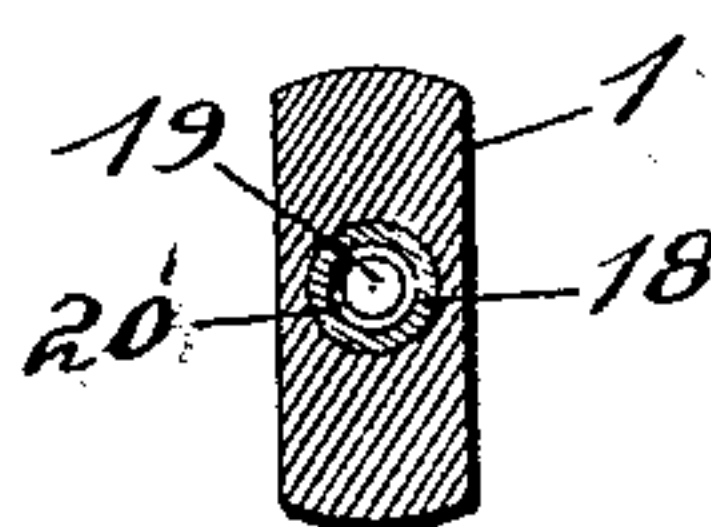


Fig. 6.



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES EDWARD REESE, OF ST. LOUIS, MISSOURI.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 551,232, dated December 10, 1895.

Application filed September 26, 1893. Renewed September 9, 1895. Serial No. 562,013. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES EDWARD REESE, of St. Louis, State of Missouri, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved wrench; and it consists in the novel arrangement, combination, and construction of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a side elevation of my improved wrench, showing the jaws open ready to engage a nut. Fig. 2 is a vertical longitudinal section of Fig. 1, more clearly showing the parts inclosed in the handle of the wrench. Fig. 3 is a vertical longitudinal cross-section more clearly showing my improved wrench. Fig. 4 is a detail cross-section taken on the line 4 4 of Fig. 1, showing the position of the cam in engagement with the movable shank which I use in carrying out my invention. Fig. 5 is a like section showing the cam out of engagement with the shank. Fig. 6 is a detail cross-section more clearly showing the screw which I use in carrying out my invention, said section being taken on the line 6 6 in Fig. 2.

Referring to the drawings, 1 indicates a handle which is constructed with an opening 2 therein, which is rectangular in cross-section and terminates adjacent the free end of said handle. Located in the opening 2 and constructed to reciprocate therein is a shank 3, which is also rectangular in cross-section to conform with the opening in the handle. The outer end of said shank is provided with a jaw 4, which is integral therewith.

5 indicates a fixed jaw which is formed integral with the handle 1 and projects upward a suitable distance therefrom and conforms in size with the jaw 4. An enlarged portion 6 is formed on the upper side of the handle and terminates in the jaw 5, this enlarged portion projecting back from said jaw a suitable distance to allow a cam 7 to be located in the cut-out portion of said enlarged portion. The cut-out portion opens into the opening 2 in the handle. The cam 7 is rev-  
olubly mounted in bearings formed by the

enlarged portion 6 and is longitudinal with the shank 3 and the handle 1, it being held in position by a screw or pin 8 passing through the enlarged portion 6 and the cam 7.

The outer periphery of the cam 7 is constructed with screw-threads 9, which do not extend clear around said cam, but terminate adjacent the flat portion 10 formed on the outer periphery of said cam. These screw-threads project into the opening 2 and engage teeth 11 formed on the adjacent jaw of the shank 3.

Connected to the outer periphery of the cam 7 adjacent the flat portion thereof is a projection 12 to be engaged by the thumb of the operator to partially rotate said cam.

The terminating ends 13 of the threads 9 are sharpened so they will readily engage and not come in contact with the teeth 11 formed on the shank, and the ends engaged first of the teeth 11 are also chamfered or sharpened, so that the sharpened portion of the threads 9 will readily engage the teeth 11.

Formed in the lower edge of the handle beneath the cam 7 and opening into the opening 2 is a longitudinal slot 14, which allows a trigger 15 carried by the shank 3 to horizontally move in said slot.

Formed on the inward-projecting end of the shank 3 is a projection 16, which is in alignment with the sides of said shank.

Formed in the closed end of the handle 1 is a screw-threaded bore 17 to allow a screw such as 18 to be adjustably located therein. This screw 18 is in alignment with the projection 16, and said screw is provided with a longitudinal bore 19 terminating in the outward end of said screw.

20 indicates an expansion coil-spring one end of which is located in the bore 19 of the screw 18, and the opposite end is located on the projection 16 carried by the shank. The purpose of this spring is to push the shank outward when the threads on the cam 7 are disengaged from the teeth 11 on the shank 3. This operation can be readily understood by inspecting Fig. 2.

When it is desired to adjust the jaw for different-sized nuts, the operator turns the cam 7 around in the position shown in Fig. 5, which will disengage the threads carried by said cam from the teeth 11 on the shank



3. When they are so disengaged, the spring 20 will automatically push the shank and the clamping-jaw 4 outward, and if it is desired to adjust it for a small nut the operator 5 draws on the trigger 15 until the jaw 4 is in the required position, when he turns the cam 7 with his thumb by means of the projection 12 into the position shown in Figs. 1, 2, and 4. When the cam is in this position, the jaws 4 10 and 5 are rigid relative to each other.

By adjusting the screw 18 the spring 20 may be made to exert a variable pressure upon the movable shank.

What I claim is—

15 1. The improved wrench, constructed with a handle and a fixed jaw, a spring-pressed shank carrying a movable jaw and arranged to automatically move away from said fixed jaw, and a cam for locking said shank in po- 20 sition, substantially as herein specified.

2. The improved wrench, constructed with a handle and a fixed jaw, said handle having a longitudinal opening therein and a slot 14 communicating with said opening, a shank 3 25 sliding in said opening, a trigger 15 having

its inner end secured to said shank, and its body projecting outward through said slot, a jaw 4 fixed upon said shank, a spring 20 mounted in said handle to engage said shank and automatically move it outward, means 30 for adjusting the pressure of said spring, and a cam for locking said shank in position, substantially as herein specified.

3. In a wrench, a handle constructed with an opening therein, one end of said handle 35 being open and the opposite end closed, a shank carrying a jaw constructed to be mounted in said opening, a screw threaded through the closed end of the handle, a pro- 40 jection formed on the inner end of the shank, a coil spring mounted on said projection, and in the bore formed in said screw, all arranged and combined to operate in the manner set forth.

In testimony whereof I affix my signature 45 in presence of two witnesses.

JAMES EDWARD REESE.

Witnesses:

W. J. SANKEY,

JNO. C. HIGDON.