

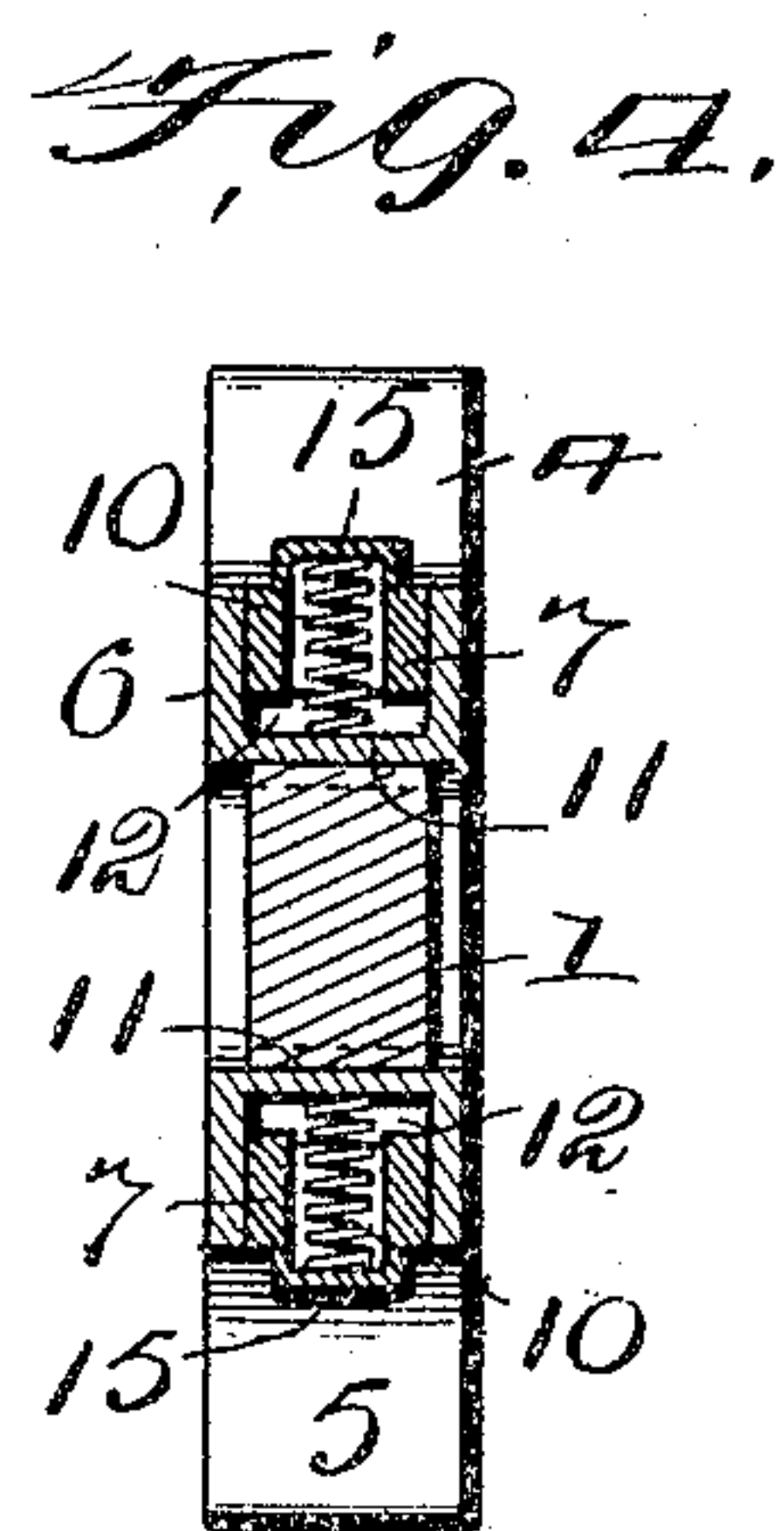
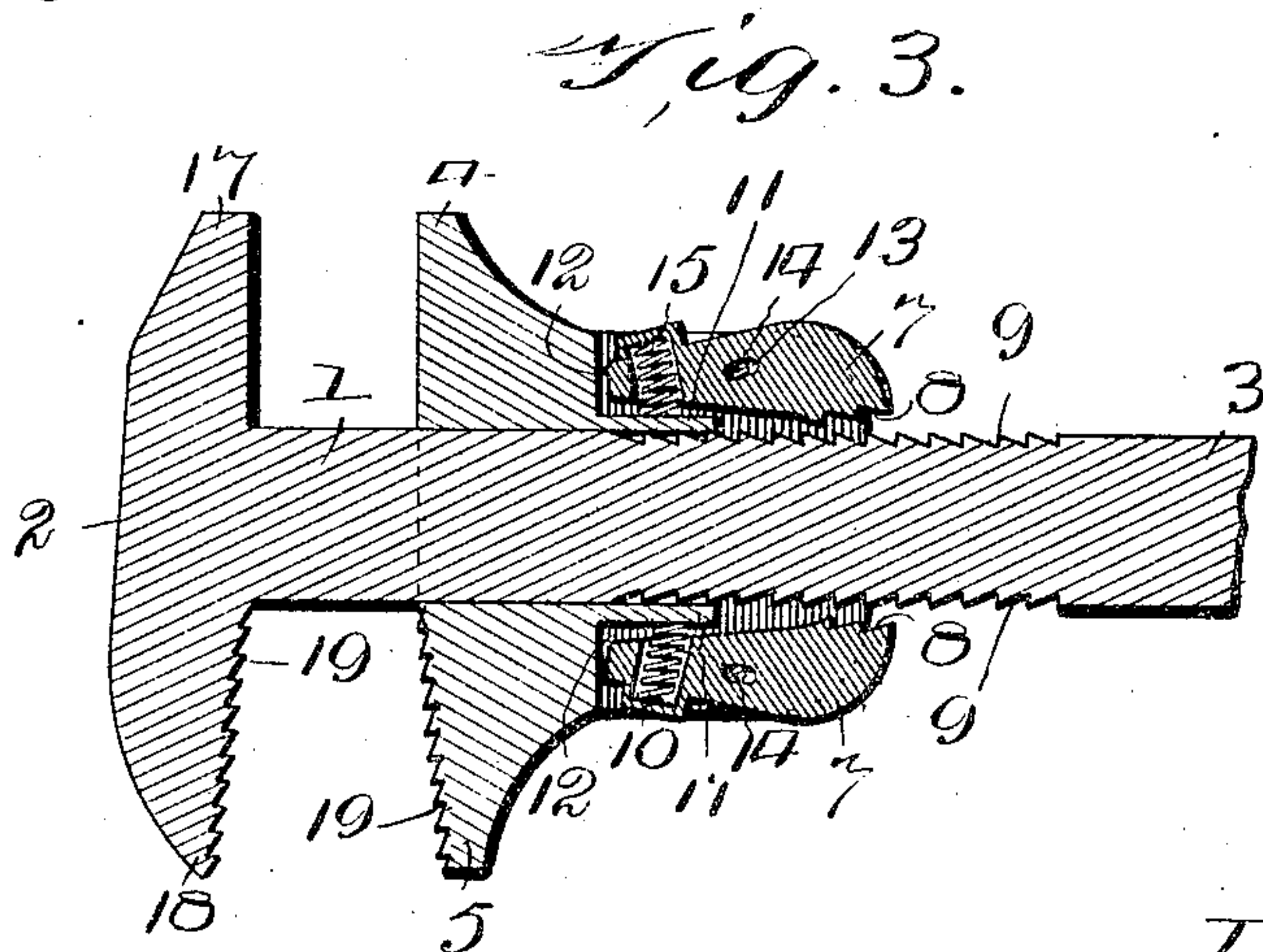
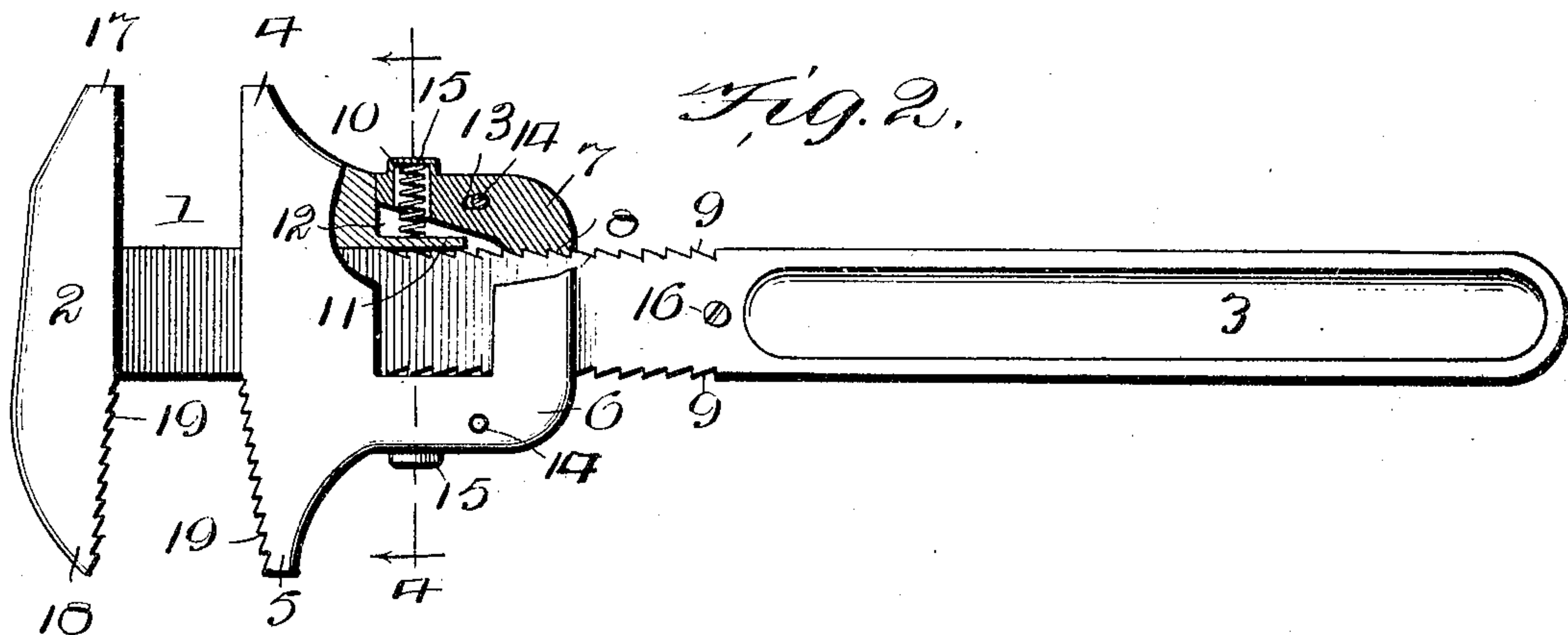
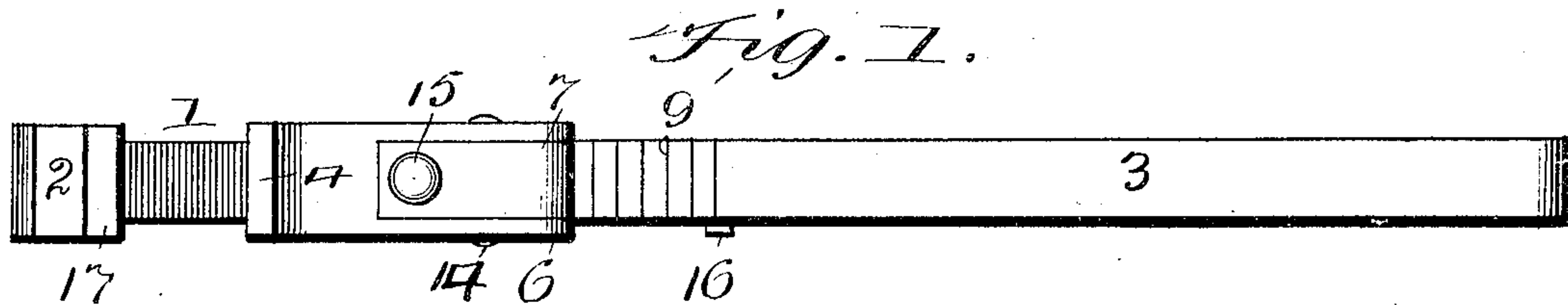
No. 780,772.

PATENTED JAN. 24, 1905.

J. F. BALLARD.

WRENCH.

APPLICATION FILED MAY 20, 1904.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN FRANKLIN BALLARD, OF CHRISMAN, ILLINOIS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 780,772, dated January 24, 1905.

Application filed May 20, 1904. Serial No. 208,860.

To all whom it may concern:

Be it known that I, JOHN FRANKLIN BALLARD, a citizen of the United States, residing at Chrisman, in the county of Edgar and State of Illinois, 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.

My invention relates to wrenches; and it consists of certain novel features of construction and combination of parts the preferred form whereof will be hereinafter clearly set forth, and pointed out in the claim hereunto appended.

The main object of my invention is to provide a wrench which will be useful and efficient upon nuts, bolt-heads of all kinds and sizes, as well as serving as a pipe-wrench.

A further object of my invention, among others, is to provide means for quickly adjusting the jaws of the wrench whereby any size nut or pipe will be accommodated.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawings, made a part of this application, and in which—

Figure 1 shows a plan view of my wrench complete ready for use. Fig. 2 shows a side elevation thereof. Fig. 3 is a longitudinal central section, while Fig. 4 shows a transverse section as taken on line 4 4 of Fig. 2.

For convenience of reference to the various details and cooperating accessories of my invention numerals will be employed, the same numeral applying to a similar part throughout the several views.

Referring to the numerals on the drawings, 1 indicates the main or body portion of my wrench, which has upon one end the fixed jaw 2 and upon the other end the finished handle 3 of any preferred style or shape, and upon the body portion or shank 1 I mount the movable jaws 4 and 5, said jaws being integrally formed with each other and are provided with an opening to loosely receive said shank.

Each of the jaws 4 and 5 is provided with an integral outward extension 6, in which is formed a recess to accommodate a locking de-

tent 7, there being one of said detents for each side or extension, the said detents being provided with ratchet-teeth 8, designed to cooperate with the ratchet-teeth 9 formed upon the shank or body portion 1. Each of the detents is provided at its inner end with a barrel or recess designed to receive a compression-spring 10, the inner end of said spring being adapted to bear against the inwardly-extending lip or flange 11 formed as an integral part of the jaws and reaching loosely over the ratchet-teeth 9 upon the shank or body 1, as clearly illustrated in Fig. 3.

The springs 10, it will be observed, are slightly inclined toward the outer end of their respective jaw, the object being to insure that the inner end of the detent will always be held snugly against the shoulder or face 12, thereby enabling the detents to perform their office of sustaining the jaws in their adjusted position, and in order to compensate for the change of position of the detents incident to the adjustment thereof I provide a slotted opening 13 to accommodate the rivet or rod 14, said rod extending from side to side of the extension 6 and is designed to hold the detents in position.

It will be observed that the recess in which the springs 10 are mounted is provided with the extension or thumb-piece 15, whereby a pressure upon said extension will cause the outer ends of the detents to rise out of engagement with the ratchet-teeth 9 upon the shank 1. It is therefore obvious that the operator may, by placing his thumb and finger upon the barrel or recess extension 15, readily release the jaws 4 and 5, whereby they may be bodily moved inward or outward upon the shank, and thereby instantly adjusted to cooperate with any size nut or rod.

If deemed necessary, a suitable stop-pin 16 may be located intermediate the shank 1 and the handle portion 3, so as to limit the outward movement of the jaws, as will be obviously necessary.

It will be understood that the fixed jaw is formed somewhat in the shape of a cross-head, having the two extensions 17 and 18, the latter being designed to cooperate with the extension or movable jaw 5, it being understood

that the opposing faces of the jaws 5 and 18 are provided with suitable ratchet teeth or grooves, as indicated by the numeral 19, whereby they will act upon a pipe, rod, or the like, the result being that said teeth will take into said pipe or rod and insure that it will be turned as desired.

It will of course be understood that any suitable form of spring may be adopted and the various parts of my invention may be modified or changed in construction without departing from the spirit and scope of my invention, and I therefore desire to comprehend in this application all substantial equivalents and substitutes of the construction herein presented.

It will thus be seen that I have provided a reliably efficient form of combined nut and pipe wrench which will be useful for all the purposes for which it is now common to employ two separate and distinct forms of wrenches, as a nut-wrench and a pipe-wrench, and believing that the construction and manner of using my invention have thus been made clearly apparent further description is deemed unnecessary.

What I claim as new, and desire to secure by Letters Patent, is—

The herein-described combined nut and pipe wrench comprising a suitable shank having a handle at one end and a cross-head or fixed

jaw upon the other; a movable member having the extensions or jaws 4 and 5 suitably shaped to cooperate with said cross-head; extensions 6 carried by said jaws; inwardly-extending lips 11 integral with the jaws and bearing loosely on the teeth of the said shank; a pair of detents mounted in suitable recesses formed in said extensions, said detents having spring-receiving barrels or recesses provided with thumb extensions 15 which reach beyond the surface of said extension and serve as handles for the controlling of said detents; pivot-rods 14 to hold said detents in place, springs in said barrels bearing on said lips 11, said detents having slots to accommodate said rivets whereby the inner ends of the detents will always bear directly against the shoulder 12 of the jaws while their outer ends are shaped to cooperate with ratchet-teeth upon the shank and thereby lock the movable jaws in an adjusted position, all combined substantially as specified and for the purpose set forth.

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

JOHN FRANKLIN BALLARD.

Witnesses:

MARION CLARK,
HARRY STORM.