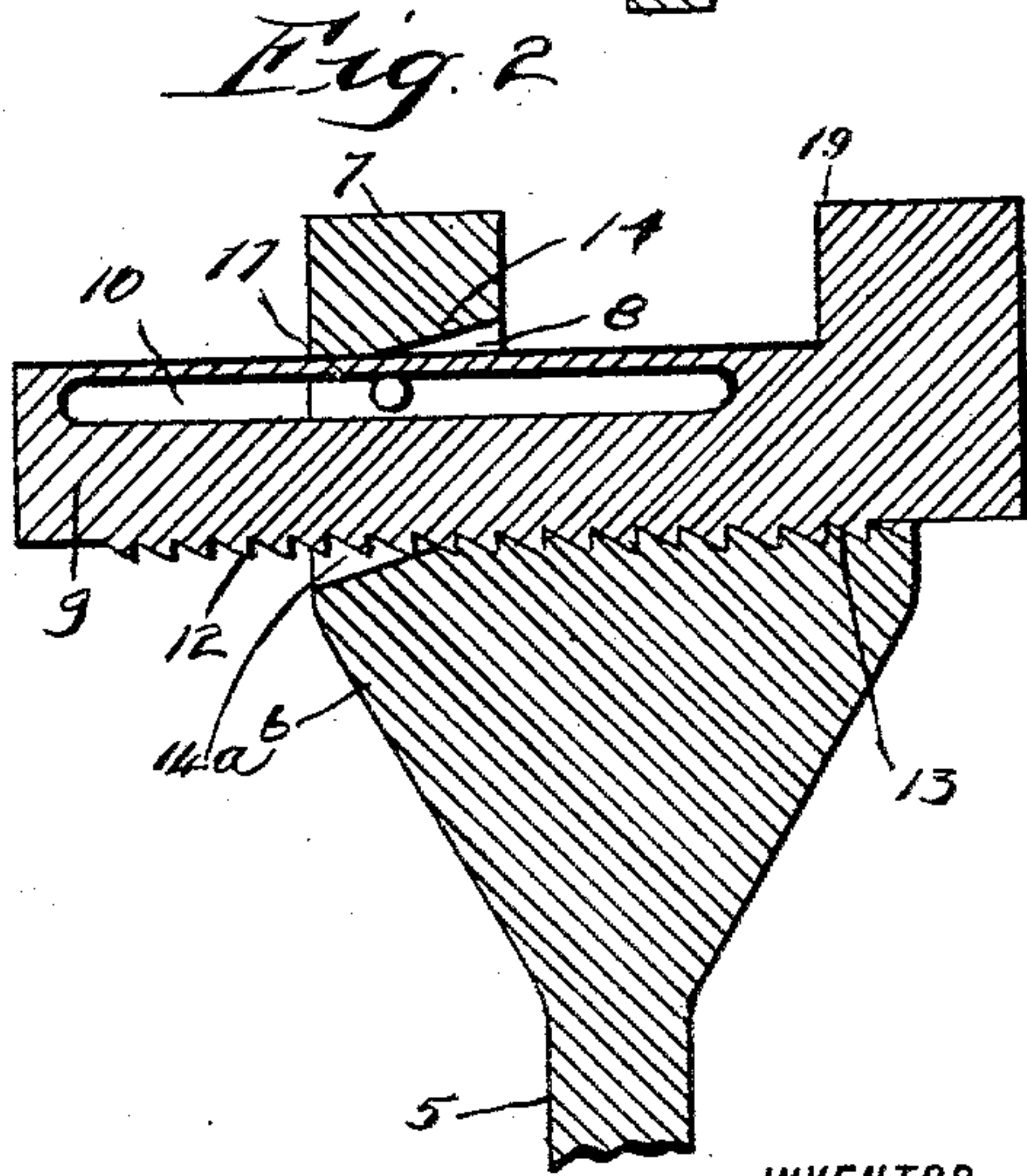
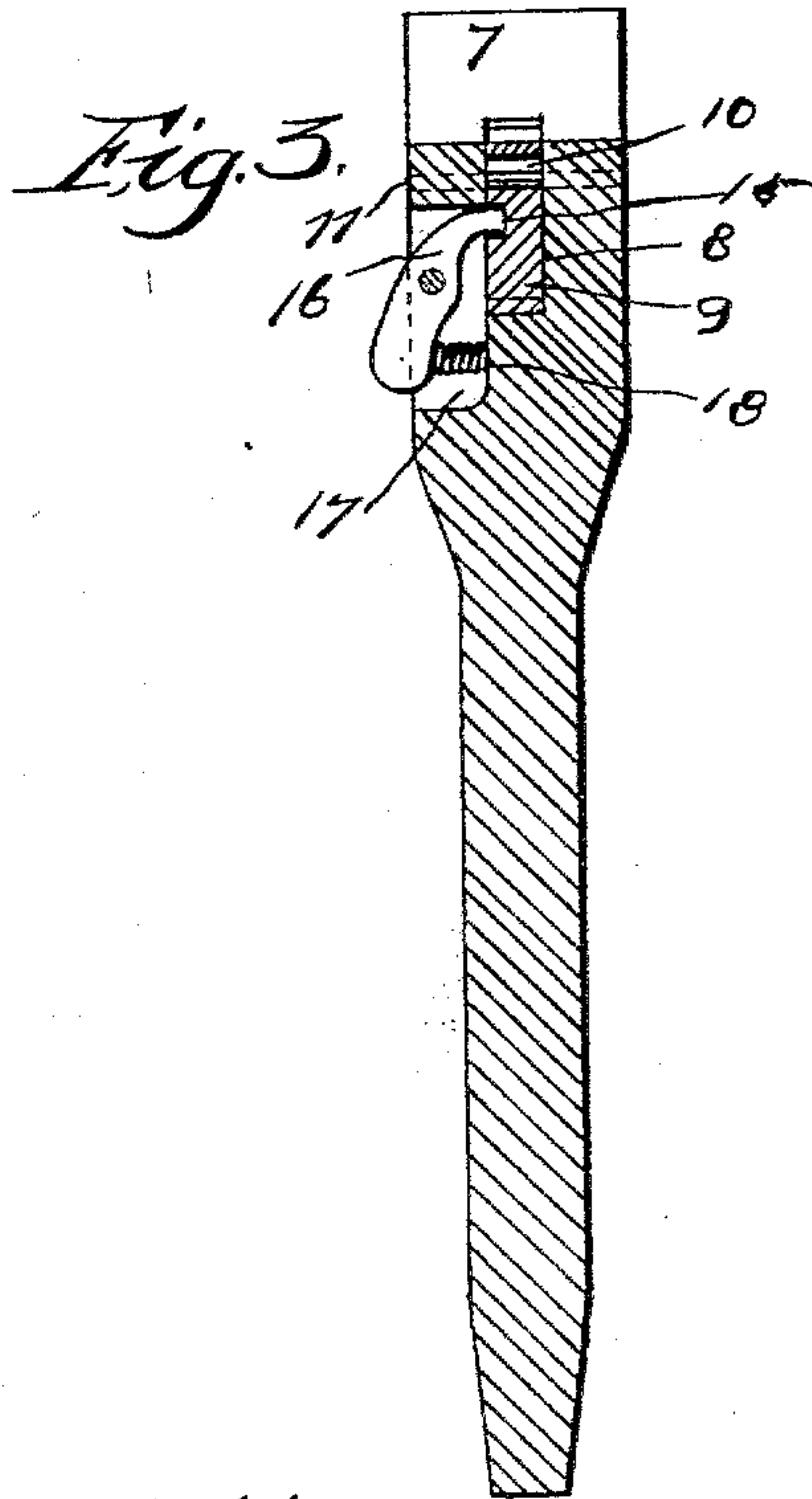
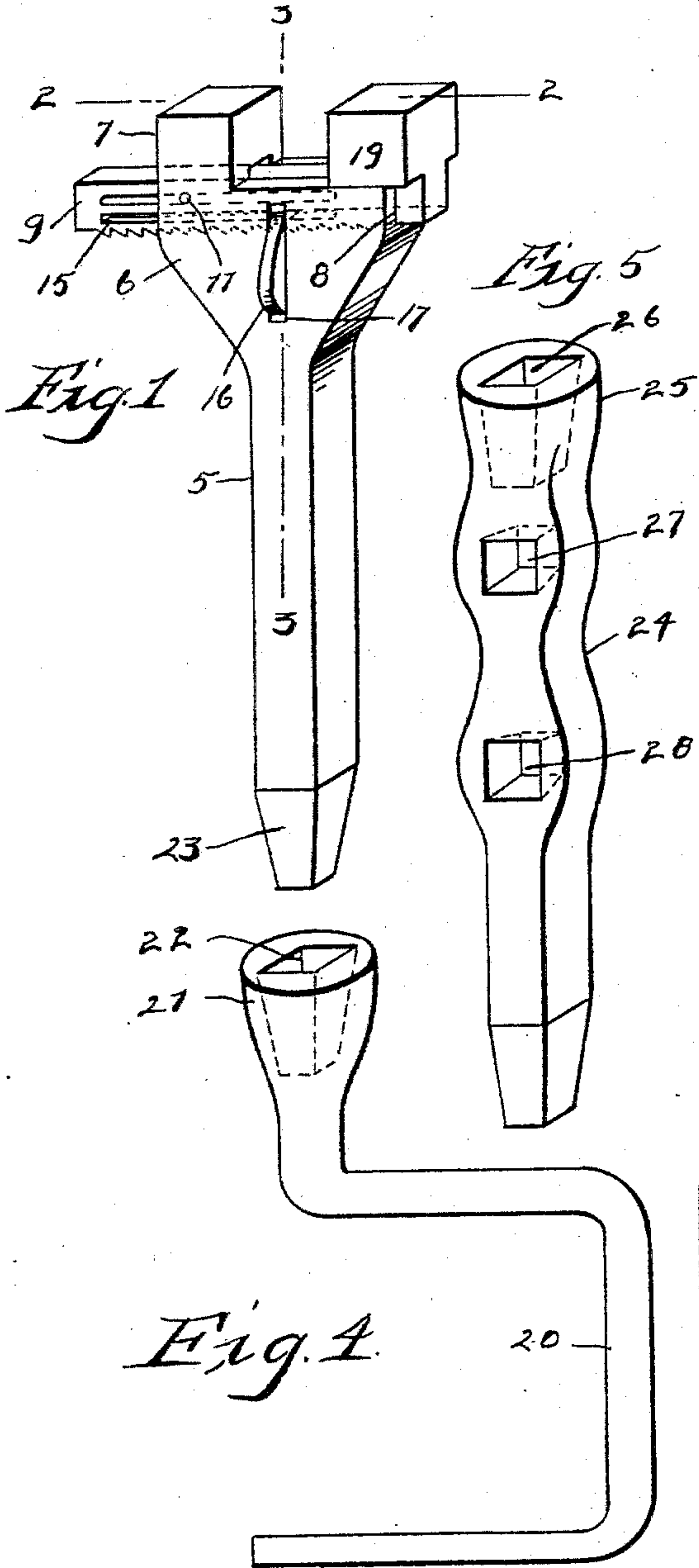


(No Model.)

F. O. COLLINGS.
WRENCH.

No. 597,101.

Patented Jan. 11, 1898.



WITNESS
H. S. S. S. S.
C. C. C. C.

INVENTOR
Francis O. Collings.
BY
Edgar Sale Ho
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANCIS OTTO COLLINGS, OF VANCOUVER, WASHINGTON.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 597,101, dated January 11, 1898.

Application filed April 3, 1897. Serial No. 630,566. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS OTTO COLLINGS, a citizen of the United States, residing at Vancouver, in the county of Clarke and State of Washington, have invented certain new and useful Improvements in Wrenches, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to wrenches; and the object thereof is to provide an improved device of this class which is particularly adapted for use in connection with a brace or stock, but which may be provided with an ordinary handle, a further object being to provide an improved wrench which is similar in construction and operation to a monkey-wrench, said wrench being provided with an adjustable jaw and with means for locking the adjustable jaw in any desired position; and with these and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a perspective view of my improved wrench, which is adapted for use in connection with a brace or stock or as an ordinary wrench; Fig. 2, a section on the line 2 2 of Fig. 1; Fig. 3, a section at right angles to the section shown in Fig. 2 on the line 3 3 of Fig. 1; Fig. 4, a side view of the brace or stock which I may employ in connection with my improved wrench, and Fig. 5 a similar view of a supplemental attachment which may be used in connection with the wrench and the brace or stock or which may be used in connection with the wrench alone.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in the practice of my invention, reference being made to Figs. 1, 2, and 3, I provide a wrench which comprises a shaft or shank 5, which is provided with an enlarged oblong head 6, at one side of which is formed a jaw 7, which projects in a direction parallel to the shank or shaft 5, produced and formed in the head

6, and through the base of the jaw 7 is a groove 8, in which is mounted a sliding bar 9, which is provided with a longitudinal slot 10, through which is passed a pin 11, which is secured to the head 6, and the under side of the bar 9 is provided with ratchet-teeth 12, which operate in connection with corresponding ratchet-teeth 13, formed in the bottom of the groove 8. The upper wall of the groove 8, where it passes through the jaw 7, is preferably slightly inclined, as shown at 14 in Fig. 2, thereby forming a recess, a vertical section of which is triangular in form and the largest part of said recess being at the inner side of said jaw 7, and the lower wall is similarly inclined, as shown at 14^a, thereby forming a recess, a vertical section of which is triangular in form and the largest part of said recess being at the outer side of the said jaw or of the oblong head 6, and said bar 9 is provided in one side thereof with a longitudinal groove 15, in which operates one arm of a lever 16, which is pivoted in a slot or chamber 17, formed in the side of the head 6, and between which and the inner wall of said slot or chamber is mounted a spiral spring 18, which serves to force the inner end of the lever 16 into the groove 15 in the bar 9. That end of the bar 9 opposite the fixed jaw 7 of the wrench is provided with a supplemental jaw 19, which is similar in form to the jaw 7, and, as will be apparent, the supplemental jaw 19 may be adjusted with reference to the jaw 7 by pressing on the outer end of the lever 16, so as to free said lever from the groove 14 in the bar 9, and said bar may then be moved longitudinally of the head 6, as will be readily understood.

When the bar 9 is in the position shown in Figs. 1 and 2, it cannot be moved longitudinally by reason of the fact that the lever holds said bar in the bottom of the groove 8, and in order to move said bar longitudinally it must be first moved in the direction of the jaw 7, so as to disconnect the teeth 12, formed thereon, from the teeth 13, formed in the bottom of the groove 8; but by manipulating the lever 16 the said bar may be moved longitudinally, as will be readily understood, and in this operation the end of said bar, provided with the supplemental jaw 19, may be moved outwardly or away from the head 6, this op-

eration being accomplished by reason of the form of the groove 8 in the stationary jaw 7, and the slot 10, through which the pin 11 passes, is wider than the diameter of said pin 5 in order to facilitate this operation of the bar 9.

In Fig. 4 I have shown an ordinary brace or stock 20, which is provided with the usual socket-head 21, in which is formed an angular socket 22, which is adapted to receive the angular end 23 of the shaft or shank 5 of the wrench, and by means of this device the wrench may be operated in the manner of an ordinary brace-bit.

I have also shown in Fig. 5 a supplemental attachment consisting of a bar 24, which is provided at one end with a head 25, in which is formed an angular socket 26, similar to the socket 22 in the brace or stock 20, and this device may be connected with the shaft or shank 5 of the wrench and with the brace or stock 20, so as to lengthen said shank or shaft, and said attachment is provided with two transverse angular openings 27 and 28, which are adapted to receive the end 23 of said shank or shaft of the wrench, and when thus used the attachment will constitute an ordinary handle, as will be readily understood.

My improved wrench is simple in construction and operation and is perfectly adapted to accomplish the purpose for which it is intended, and it is apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. A wrench, comprising a shaft or shank adapted to be held by a brace and which is provided with an oblong cross-head, one end of which is provided with a stationary jaw, said cross-head being provided with a longitudinal groove in which is mounted a sliding bar which is provided with a supplemental jaw, said bar being provided with teeth on its lower side which are adapted to engage with corresponding teeth formed in said head, and also with a longitudinal groove, which is adapted to receive one end of a spring-operated lever which is pivotally connected with

said head, and adapted to hold the teeth of said supplemental jaw in contact with the teeth of said slot, substantially as shown and described.

2. A wrench, comprising a shaft or shank which is provided with an oblong cross-head, one end of which is provided with a stationary jaw, said cross-head being provided with a longitudinal groove in which is mounted a sliding bar which is provided with a supplemental jaw, said bar being provided with teeth on its lower side which are adapted to engage with corresponding teeth, formed in said head, and also with a longitudinal groove, which is adapted to receive one end of a spring-operated lever which is pivotally connected with said head, and said bar being also provided with a longitudinal slot through which is passed a pin, substantially as shown and described.

3. The herein-described wrench comprising a shank 5, head 6, jaw 7; said head being provided with a groove 8, pin 11, ratchet-teeth 13, and chamber 17, a sliding bar 9 and supplemental jaw 19, said bar 9 being provided with a slot 10, and ratchet-teeth 12, and groove 15; a lever 16, and spring 18, and means for operating said wrench consisting of a brace-stock, substantially as shown and described.

4. The herein-described wrench comprising a shank 5, head 6, jaw 7; said head being provided with a groove 8, pin 11, ratchet-teeth 13, and chamber 17, a sliding bar 9 and supplemental jaw 19, said bar 9 being provided with a slot 10, and ratchet-teeth 12, and groove 15, a lever 16, and spring 18, and means for operating said wrench consisting of a brace-stock, and means to lengthen the shank of said wrench, and means to convert the same into a crank-lever consisting of a bar 24 having a head 25 provided with a socket 26, said bar being also provided with sockets 27 and 28, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 12th day of March, 1897.

FRANCIS OTTO COLLINGS.

Witnesses:

E. M. GREEN,
W. W. SPARKS.