

J. N. SHAW.

WRENCH.

APPLICATION FILED AUG. 21, 1909.

975,375.

Patented Nov. 8, 1910.

Fig. 1

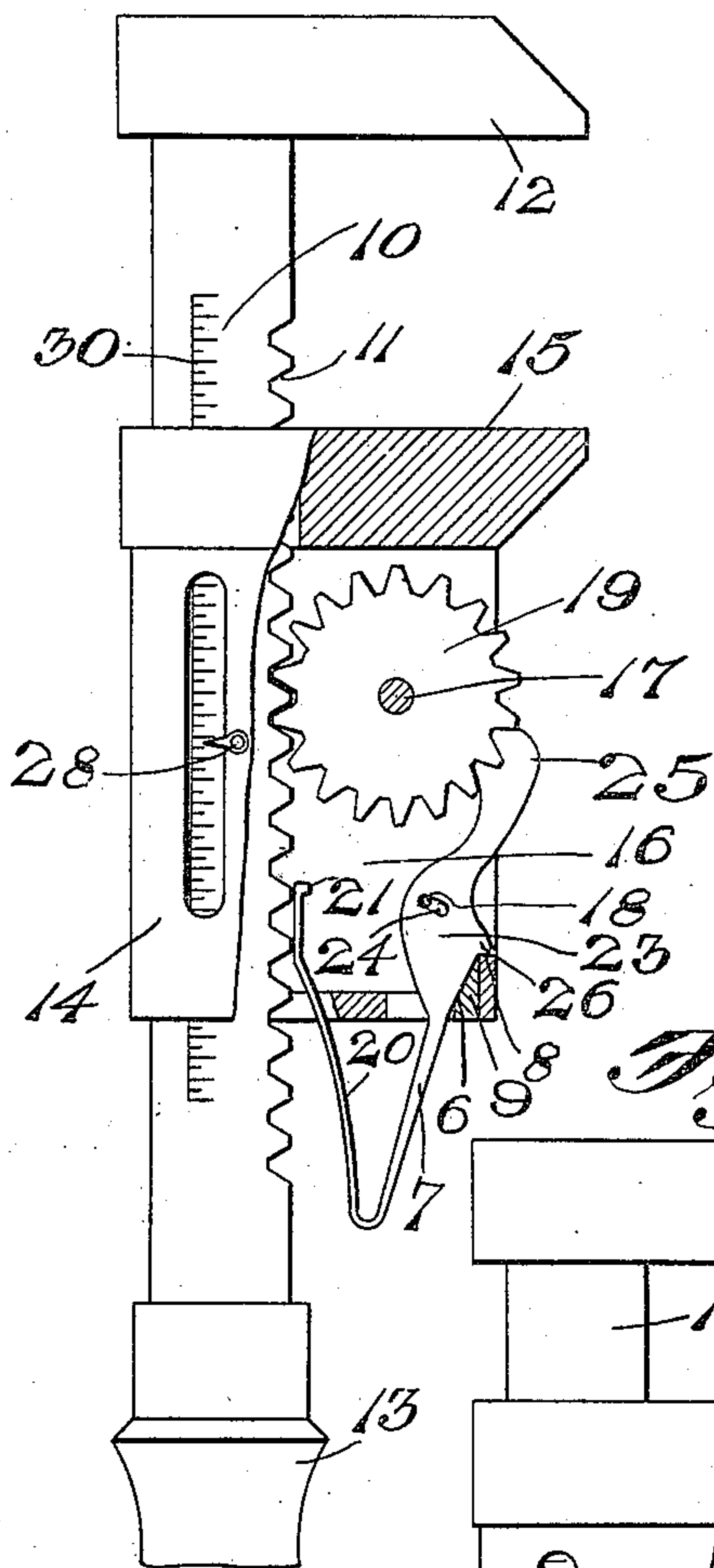


Fig. 2

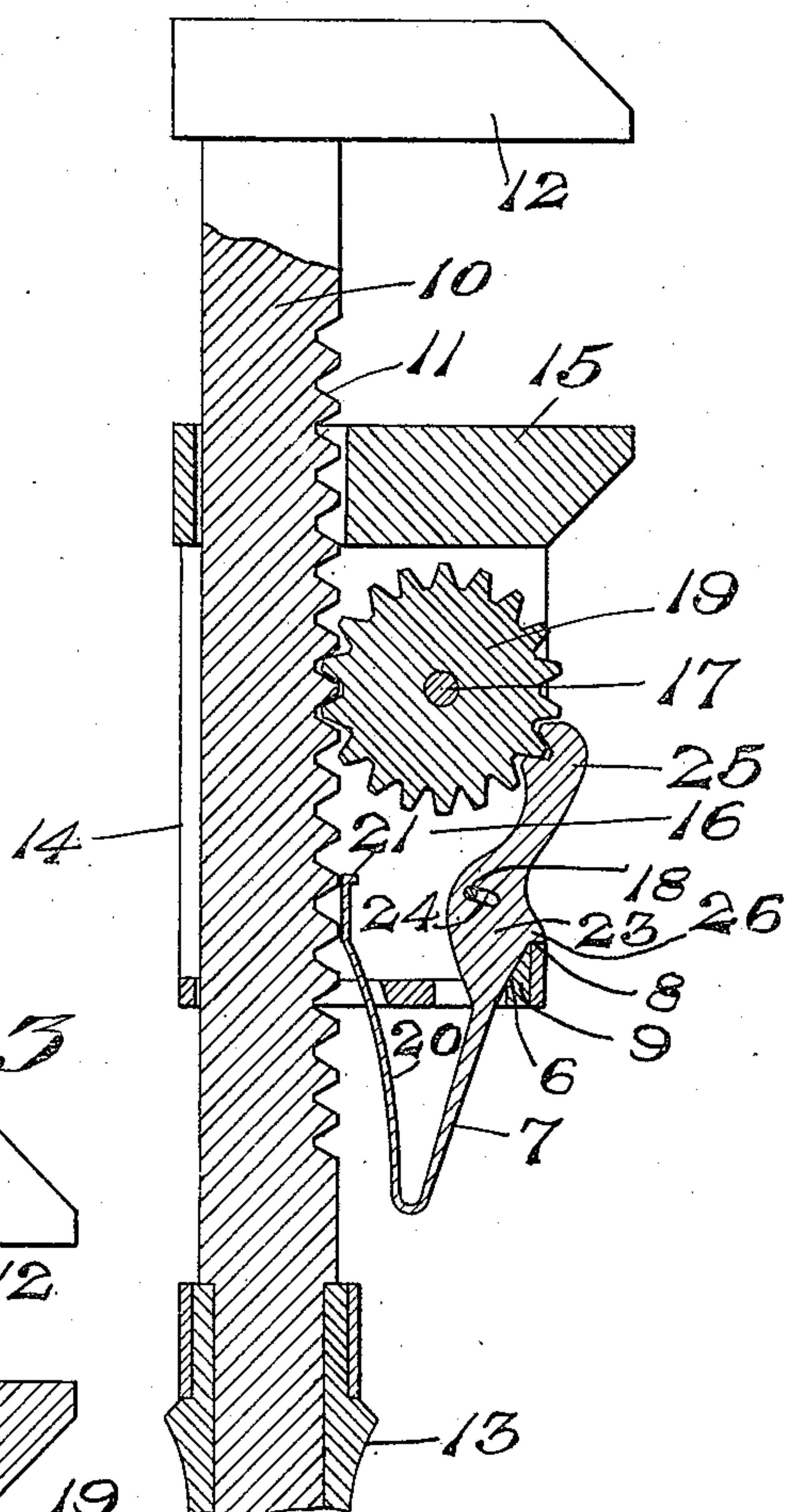
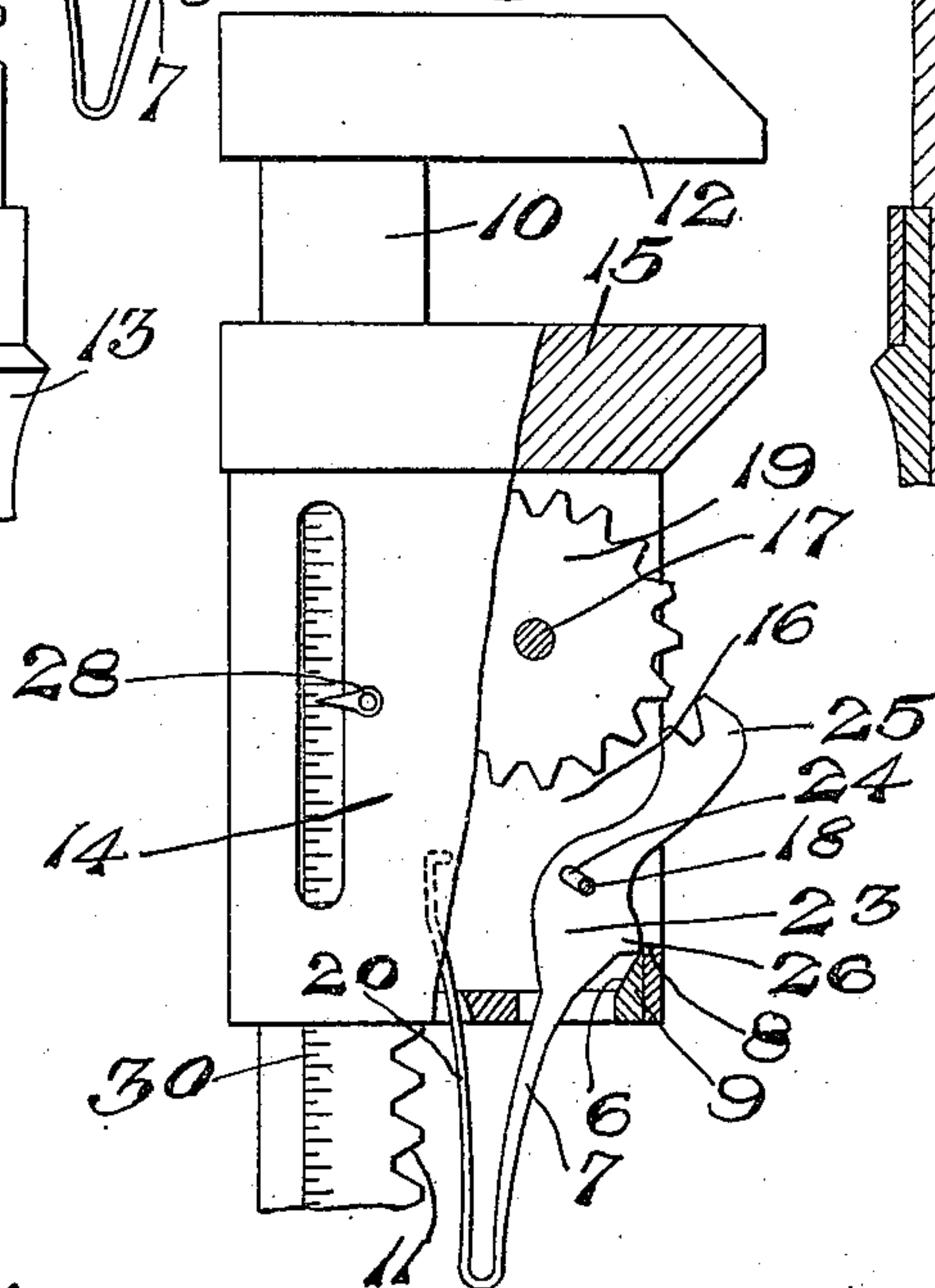


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

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WRENCH.

975,375.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed August 21, 1909. Serial No. 513,960.

To all whom it may concern:

Be it known that I, JAMES N. SHAW, a citizen of the United States, residing at Volant, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to certain new and useful improvements in quick adjusting wrenches.

The object of this invention is to provide a wrench of the type known as monkey wrenches, with an adjustably held sliding jaw arranged so that the same may be quickly and accurately adjusted to the work piece.

A further object is to provide a wrench having a sliding jaw with a yieldingly held spring locking dog, arranged in its working position to contact with a thrust block to provide an exceedingly strong and firm structure.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described, and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 shows a side elevational view of a wrench embodying my invention with a portion broken away. Fig. 2 is a longitudinal sectional view thereof, Fig. 3 is a fragmentary portion of a wrench disclosing the dog in its released position.

In the accompanying drawings, the numeral 10 designates a wrench bar having the rack 11 along one edge, and the rigid outstanding head 12 at one end, and the operating handle 13 at the other. Slidably held upon this wrench bar is the sleeve 14 having the outstanding sliding jaw 15, this sleeve being provided with a middle lengthwise positioned slot 16, which at one end is traversed by the thrust block 9, this thrust block having the forward upwardly positioned stop shoulder 8, and the cam inner face 6 as clearly disclosed.

Transversely passing through the slot 16,

is the stud 17, this stud supporting the pinion 19, this pinion being revolubly held within the slot. This pinion is so arranged that it contacts with the rack 11 as disclosed. Extending parallel to the stud 17, is the supporting pin 18, this pin being positioned between the stud and the thrust block as disclosed. Held to this pin 18, is a locking dog comprising the head 23 having the lip 26 arranged to contact with the stop shoulder 8, while extending from this head 23 is the rack jaw 25, arranged to be held in contact with the pinion 19 as disclosed. The head 23 is provided with the slot 24, the stem 7 being projected from this head 23 and continued in the recurved spring arm 20 terminating in the head 21 held in sliding contact with the rack 11, as shown. As the end 21 of the spring arm 20 rests against the rack 11, the cam surface of the head 23 is normally held against the inner surface of the thrust block 9, and its stop lip 26 against the stop shoulder 8. The portion 7 extends a suitable distance beyond the sleeve 14 and serves as an operating stem whereby the rack head 25 is actuated.

By means of the spring member 20, the rack head 25 is held normally in contact with the pinion 19. Upon its side the wrench shank or bar is provided with the rule scale 30, the sleeve being provided with an aperture through which this rule scale may be seen. At a suitable point the sleeve is provided with the indicator 28 arranged to work in conjunction with this rule scale, so that the operator may readily see to what distance the wrench jaws are set.

The operation of my device is very simple. The jaw 15 can at all times be readily carried forward, as the pinion 19 can be freely rotated in a forward direction by means of its engagement with the rack 11, the rack head 25 being permitted an upward movement because of the slot 24, in which upward movement of the rack head 25 the thrust block 9 acts as a fulcrum for the locking dog. The pinion 19 however, is held against reverse rotation by means of the rack head 25, the lip 26 being stopped by the thrust block. However, when it is desired to release the rack head 25 from the pinion 19, the operator depresses the stem 7 in which operation the lip 26 will first be carried out of engagement with the thrust block, so that this lip will contact with the

inner cam face 6, at which instance, the end of the slot 24 will contact with the pin 18 so that the rack head may be rocked or tilted out of engagement with the pinion 19.

5 In Fig. 3, I have shown the position of the rack head when thrown out of engagement with the pinion 19. The device is light, neat and simple of construction and positive in its operation. The adjustments further, 10 can be made with ease, accuracy and despatch, and while the jaw may at all times be readily carried forward, the sliding jaw is firmly held against rearward movement by means of the dog and pinion, as has been 15 described.

Having thus described my said invention, what I claim as new and desire to secure by United States Letters Patent is:

1. The combination with a rack-edged 20 wrench bar having an outstanding jaw, of a sliding jaw having a slotted sleeve carried upon said bar, a stud carried by said sleeve, a pinion upon said stud, revolubly held within said slot in engagement with said 25 rack, a supporting pin, and a dog carried by said pin having a rack head engaging said pinion, the end of said dog being curved to form a spring arm, the lower end of which is in resilient sliding contact with the rack 30 of said bar.

2. The combination with a rack-edged wrench bar having an outstanding jaw, of a sliding jaw having a slotted sleeve carried upon said bar, a thrust block spanning said

slot, a stud carried by said sleeve, a pinion 35 upon said stud revolubly held within said slot in engagement with said rack, a supporting pin, and a dog carried by said pin having a rack head engaging said pinion, the end of said dog being recurved to form 40 a spring arm, the lower end of which is in resilient sliding contact with the rack of said bar, said dog having a stop shoulder contacting with said thrust block.

3. The combination with a rack-edged 45 wrench bar having an outstanding jaw, of a sliding jaw having a slotted sleeve carried upon said bar, a thrust block spanning said slot provided with a stop shoulder and an inner cam face, a pinion revolubly held 50 within said slot, and engaging said rack, a supporting pin spanning said slot, a dog having a slotted head, said pin extending through the slot of said head, said dog having a rack head in engagement with said 55 pinion, said dog being continued in the form of an operating stem ending in a spring member held in resilient sliding contact with said rack, said head being provided with a lip arranged to contact with said stop 60 shoulder and cam face, as and for the purpose set forth.

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

J. N. SHAW.

Witnesses:

GEORGE L. WHITMAN,
Mrs. GEO. L. WHITMAN.