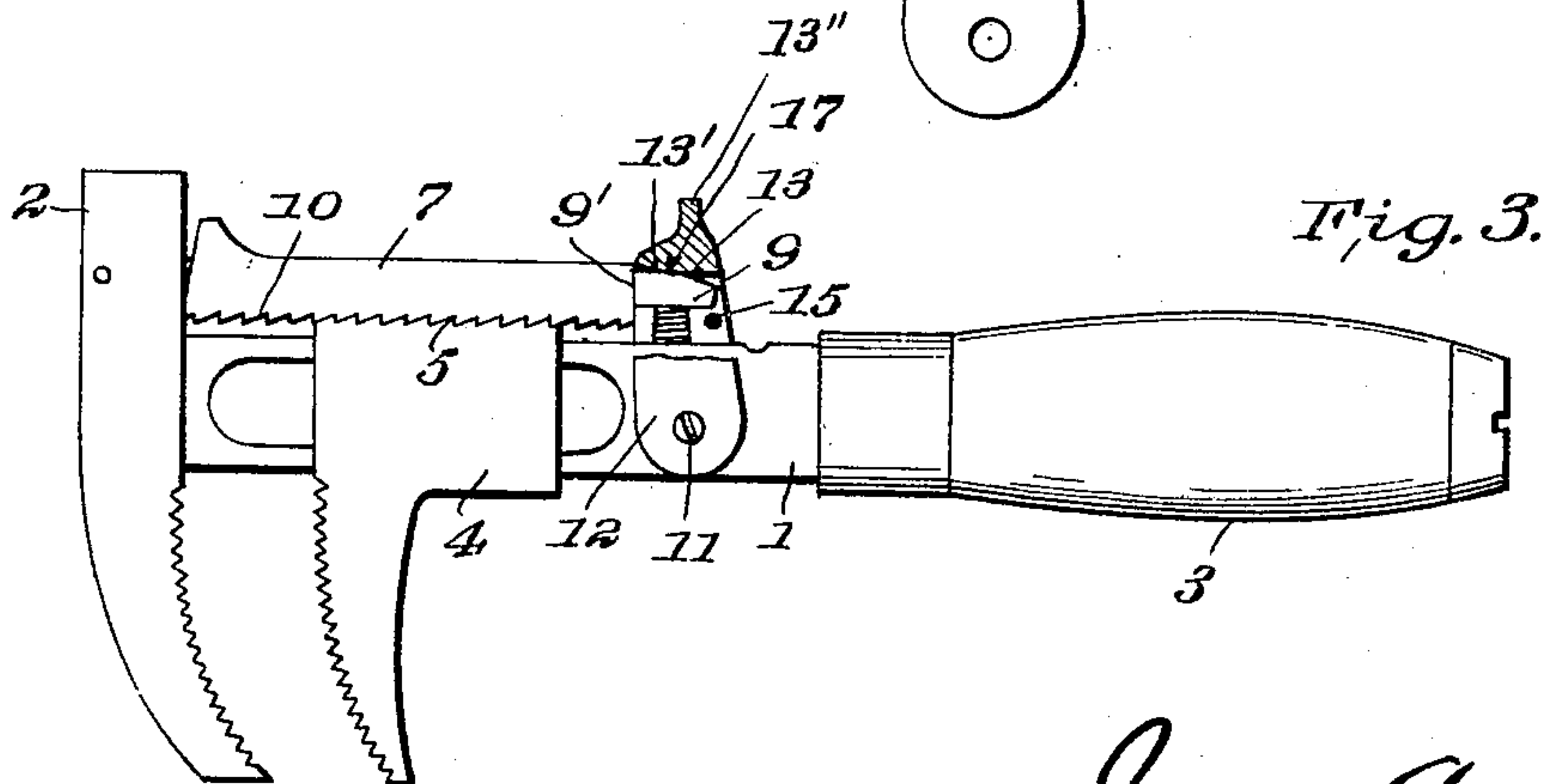
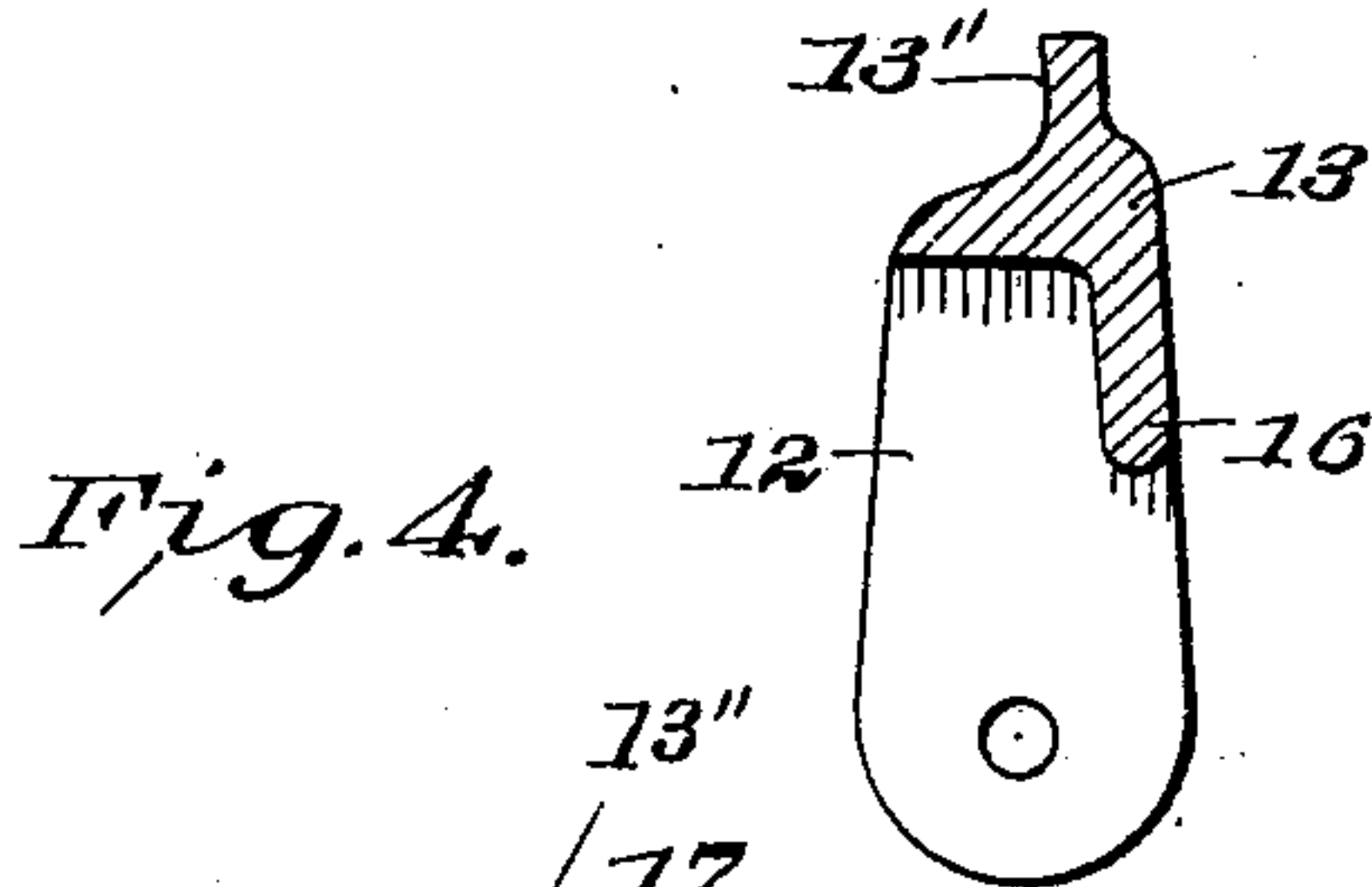
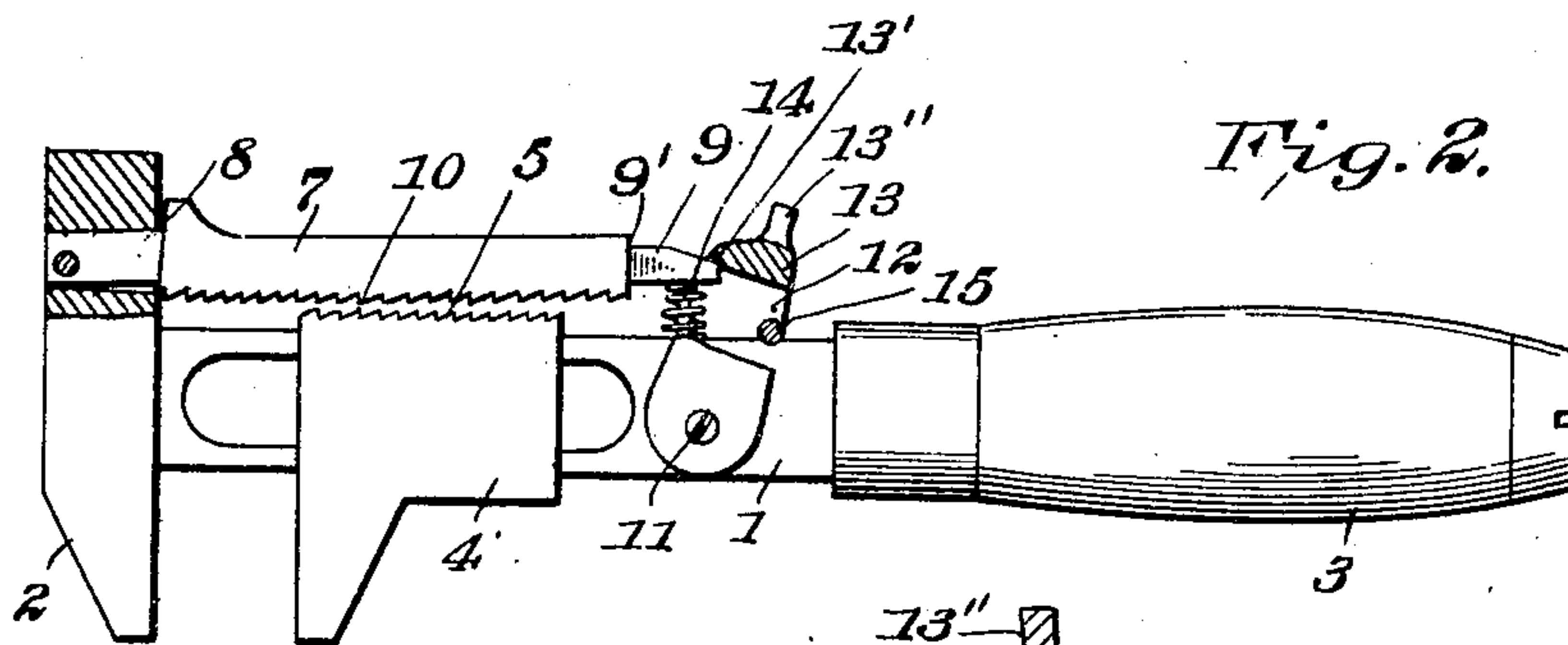
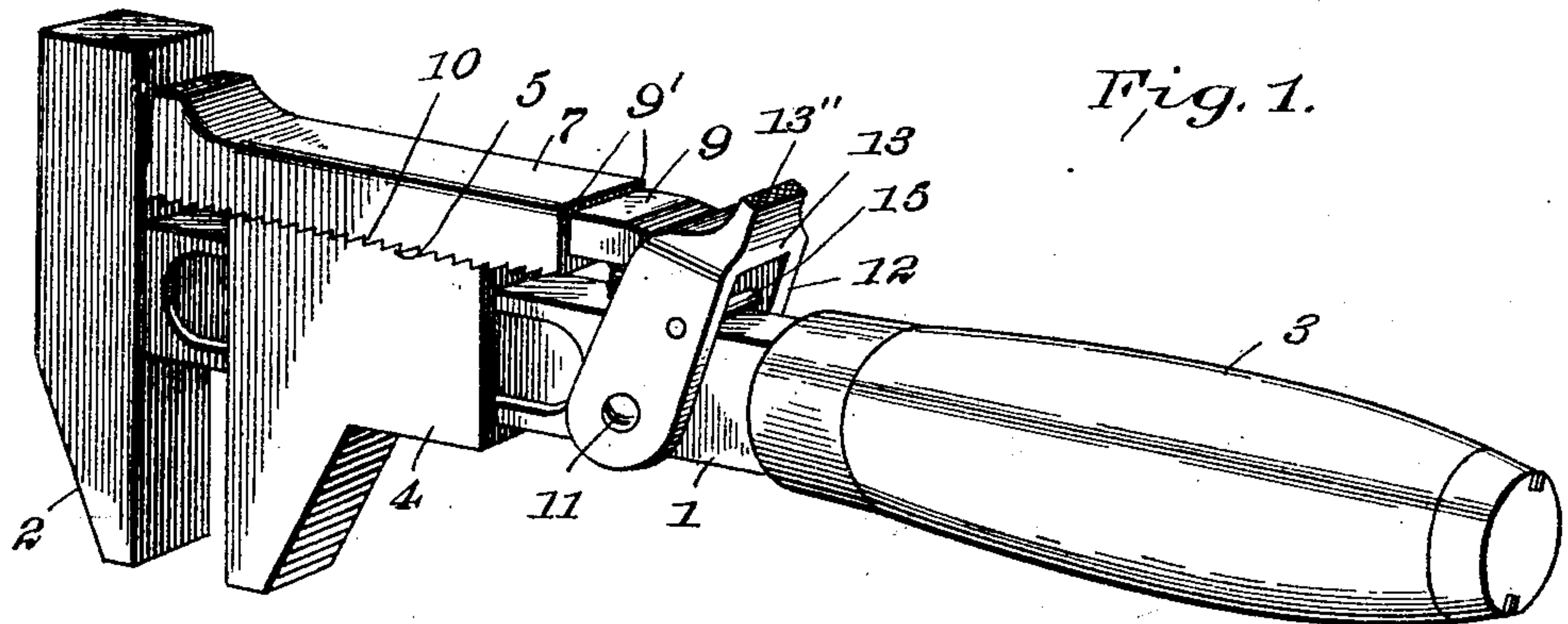


J. A. BLEDSOE.
WRENCH.

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962,738.

Patented June 28, 1910.



Witnesses
M. Gray
A. Quinn

Inventor
James A. Bledsoe
Attorney

UNITED STATES PATENT OFFICE.

JAMES A. BLEDSOE, OF ATLANTA, GEORGIA.

WRENCH.

962,738.

Specification of Letters Patent. Patented June 28, 1910.

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To all whom it may concern:

Be it known that I, JAMES A. BLEDSOE, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches.

The object of the invention is to provide a swinging locking yoke to at all times be in contact with a locking bar, and yet permit of movement of the latter, when said yoke is in one position; the locking bar being normally thrown out of engagement with the teeth of a sliding jaw.

A further object of the invention is to provide means for positively locking the parts together to prevent premature separation of the jaws by pressure on the same, when the wrench is being operated.

The invention also relates to the specific details of construction and arrangement of parts, which will be hereinafter described and particularly pointed out in the claims.

In the drawings:—Figure 1, is a perspective view of my improved wrench. Fig. 2, is a side elevation partly in section, the parts positioned to permit adjustment of the movable jaw. Fig. 3, is a similar view, but showing the parts set in adjusted position; the shape of the operative faces of the jaws being curved. Fig. 4, is a detail sectional view of a modified form of yoke.

1, indicates a main bar provided at one end with a fixed jaw 2, and at its opposite end with a handle 3. Slidably mounted on the main bar 1, is an adjustable or movable jaw 4, provided on its upper surface with a series of ratchet teeth 5.

7, represents a locking bar, which is pivoted in a recess 8, formed in the fixed jaw 2, and extending rearwardly toward the handle 3, the rear upper end being beveled as shown at 9, the beveled end being reduced in width to provide shoulders 9'. On the underside of the locking bar 7, are ratchet teeth 10, of substantially the same shape as the teeth 5, and adapted to engage therewith when the wrench is in operation.

Pivoted to the main bar 1, by a pin 11, is a yoke 12, the upper connecting bar 13, thereof extending over the rear upper end of the locking bar 7. The underside of the connecting bar 13, is beveled as at 13', to allow the beveled end of the locking bar to

have ample space to slide upward when operating the yoke. Extending from the upper end of the yoke 12, is a finger piece 13'', by means of which the yoke may be operated to set or release the locking bar. The yoke is limited in its movement in one direction by a stop or pin 15, contacting with the main bar. In lieu of the pin a rib 16, may be formed with the yoke.

Interposed between the main bar 1, and the rear end of the locking bar 7, is a coil spring 14, which normally tends to elevate the said bar, when the yoke is thrown back.

When it is desired to set the movable jaw 4, the operator presses rearwardly upon the finger piece 13, and thereby rocks the yoke on its pivot 11, until the stop 15, contacts with the main bar 1. As the yoke is tilted, the bevel end of the locking bar will permit the spring 14, to tilt said bar and thereby disengage its ratchet teeth 10, from the ratchet teeth 5, when the jaw 4, may be slid toward or from the fixed jaw 2. It will be noted however, the parts are so arranged, that when the yoke is tilted to permit adjustment of the movable jaw, the end of the locking bar is confined in the upper end of the yoke, so that no difficulty will be experienced in quickly operating the wrench. After the movable jaw has been adjusted, and it is desired to set it on the bar 1, the operator presses on the finger piece 13, toward the front end of the wrench, which by reason of the two bevel surfaces 13', and 9', will depress the locking bar 7, and compress the spring 14, and thereby bring the ratchet teeth 10, into engagement with the ratchet teeth 5, of the slidable jaw 4. The spring 14, is slightly in advance of the pivotal point 11, of the yoke 12, and the point 17, of greatest frictional contact between the locking bar and the yoke is also in advance of the pivot 11. This feature of the construction is for the purpose of securely binding the parts together, as the upward tendency of the spring is exerted in front of the pivotal point 11. By this specially designed arrangement of parts, any upward pressure exerted on the movable jaw 4, and thence to the locking bar 7, will not tend to disengage the yoke from the end of the locking bar, and permit the movable jaw to be prematurely released. Any such upward pressure will tend to lock the yoke on the locking bar tighter, inasmuch, as before stated, the point of greatest frictional contact, and the spring,

are in advance of the vertical plane through the pivot 11. The shoulders 9'—9', on the locking bar limit the forward movement of the yoke, the proportion and arrangement of parts being such that when the yoke contacts with the shoulders the teeth of the locking bar and those of the adjustable jaw will be in engagement.

A wrench constructed as described will effectually hold the two jaws in fixed adjusted position, and no upward movement of the locking bar will disengage the yoke and allow the jaws to become accidentally separated, which is a constant source of trouble with a large percentage of wrenches of this type now in use.

Obviously the shape of the jaws may be altered, as shown in Fig. 3, to adapt the invention for handling pipe.

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

1. The combination with a main bar, fixed and movable jaws of a wrench, the movable jaw having teeth on its upper surface, of a pivotally mounted locking bar which is beveled on its upper surface at its free end and having teeth adapted to register with the teeth of the movable jaw, a yoke operating over the beveled surface of the locking bar and pivotally mounted on the main bar and provided with a stop to limit its movement away from the locking bar, the locking bar being of sufficient length that when said stop contacts with the main bar the end of the locking bar will be confined within the yoke, a spring interposed between the locking bar and the main bar to normally hold the upper surface of the locking bar against the inner side of the upper part of the yoke, said spring being located slightly in advance of the pivotal point of the yoke to cause the point of greatest frictional contact between the yoke and locking bar to be in advance of the said pivotal point.

2. A wrench comprising a main bar having a fixed jaw, a movable jaw slidably mounted on the main bar and having teeth on its upper surface, a locking bar pivoted to the fixed jaw and extending rearwardly therefrom over the movable jaw and having teeth on its under side to engage the teeth

of the movable jaw, shoulders formed near the free end of the locking bar and the end of the latter beyond the shoulders being beveled on its upper surface, a yoke straddling the main bar and the end of the locking bar, a pin extending through the yoke and the main bar for pivotally mounting said yoke, a stop on the yoke which contacts with the main bar to limit the rearward movement of the yoke, a coil spring interposed between the main bar and the locking bar which normally forces the locking bar upwardly to disengage the teeth when the yoke is thrown back, said spring being positioned in advance of the line of the pivot pin, the edges of the yoke abutting against the shoulders when forced forward over the beveled surface to limit the forward movement of the yoke, the beveled end of the locking bar and the relative position of the spring and the pivot pin causing the point of greatest frictional contact between the locking bar and the yoke at a point in advance of the pivot pin.

3. A wrench comprising a main bar having a fixed jaw, a movable jaw slidably mounted on the main bar, teeth formed on the movable jaw, a locking bar pivoted to the fixed jaw and formed with teeth on its under side to engage with the teeth on the movable jaw, the free end of the locking bar being beveled on its upper surface and having shoulders in advance of the beveled end, a coil spring interposed between the locking bar and the main bar, a yoke having a finger piece and pivoted to the main bar, and having a beveled inner surface to engage with the beveled surface of the locking bar, and a pin extending across the yoke and adapted to engage the main bar to limit the rearward movement of the yoke and prevent it becoming disengaged from the end of the locking bar, the shoulders limiting the forward movement of the said yoke.

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

JAMES A. BLEDSOE.

Witnesses:

JNO. IMIRIE,

J. THOMAS SOTHORON.