

W. F. BAILEY.

WRENCH.

APPLICATION FILED JULY 8, 1909.

975,671.

Patented Nov. 15, 1910.

Fig. 1.

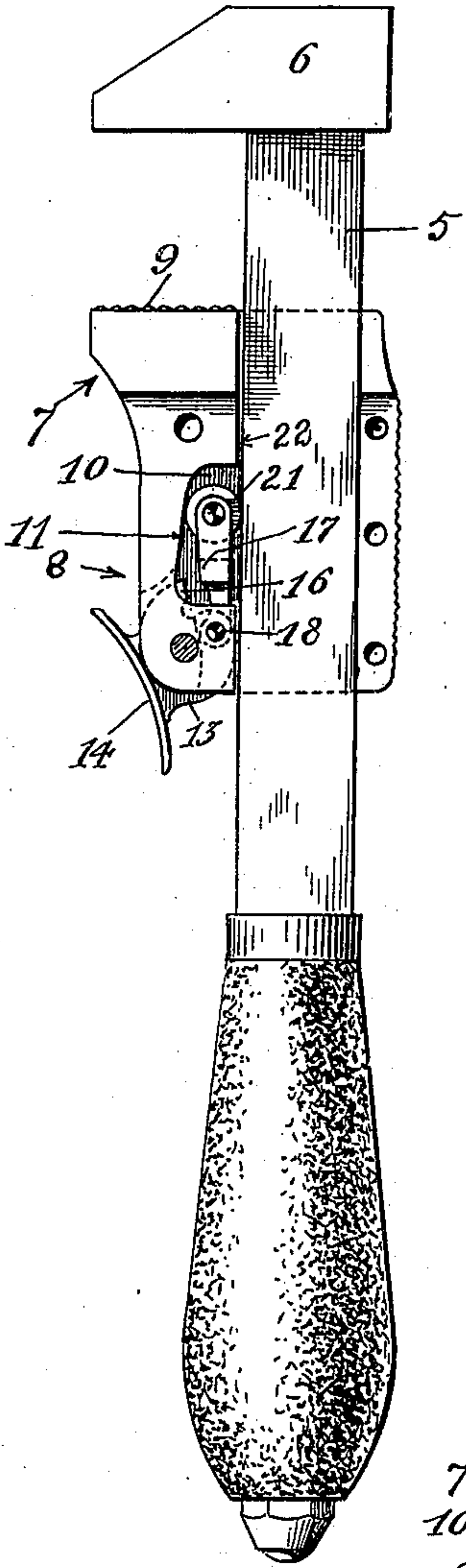


Fig. 3.

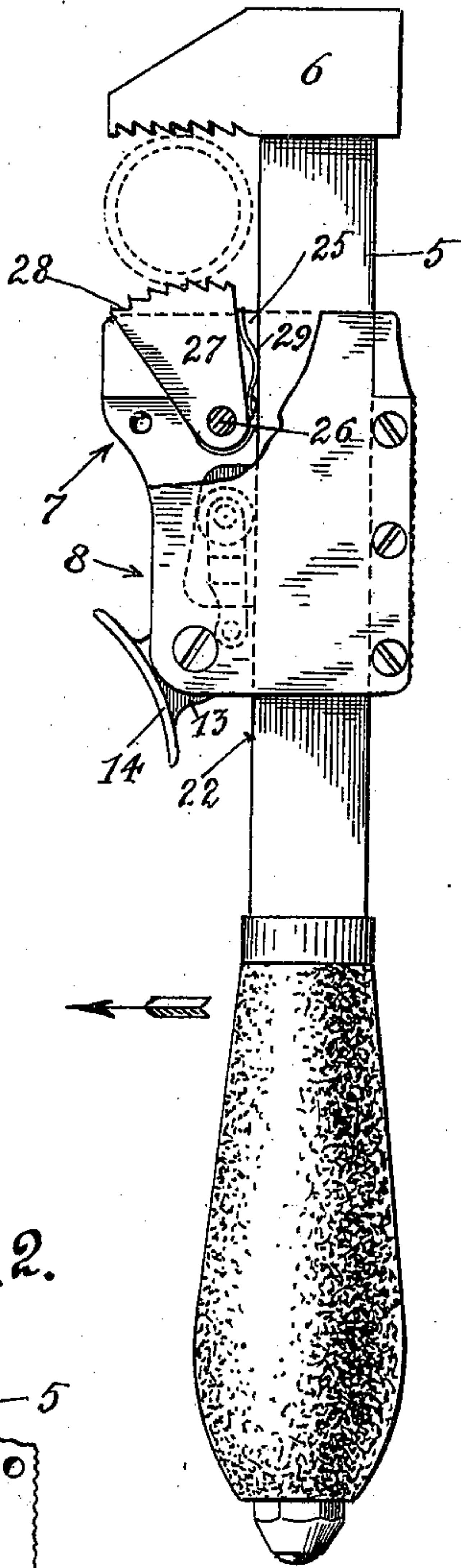
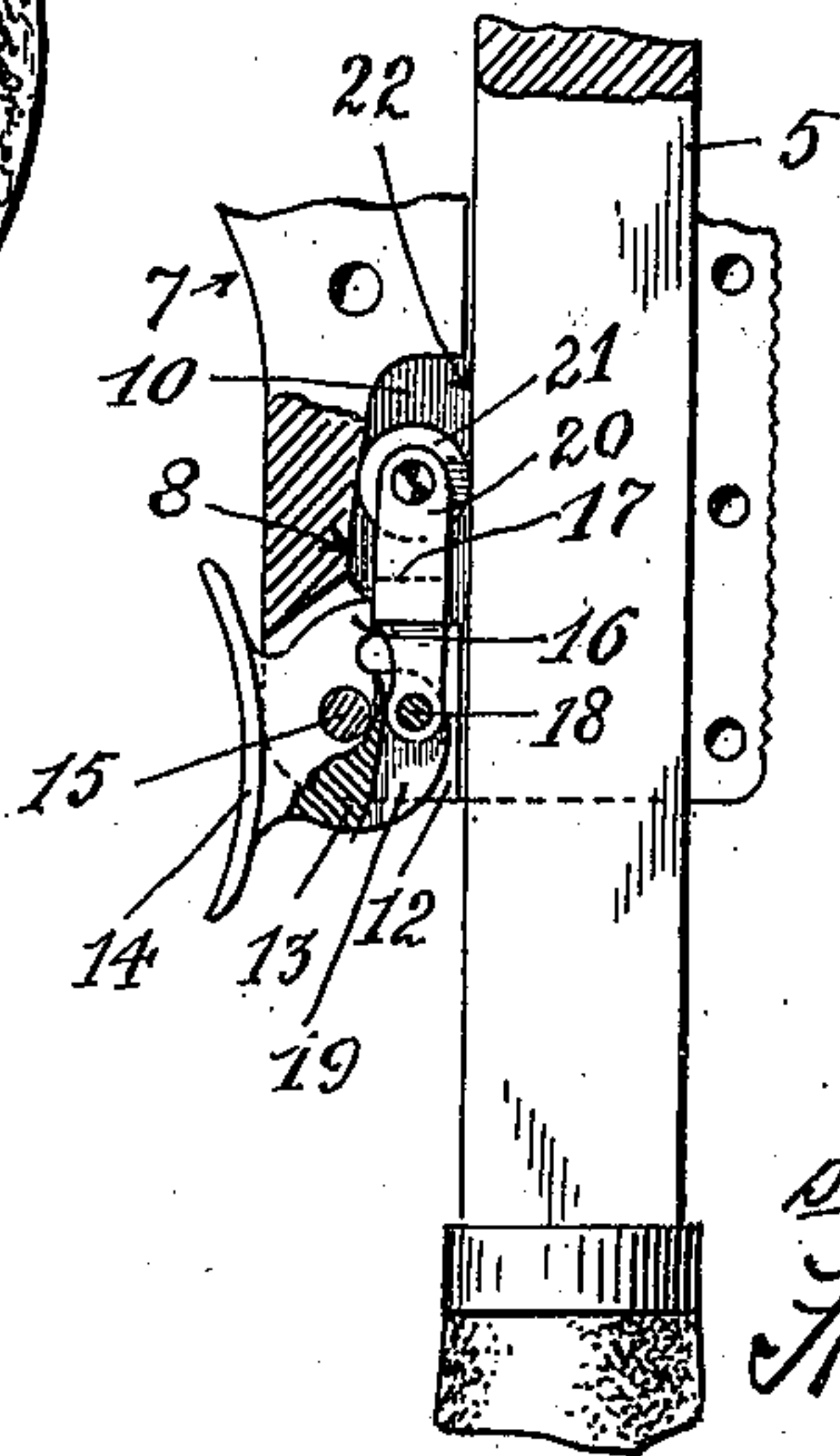


Fig. 2.



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UNITED STATES PATENT OFFICE.

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WRENCH.

975,671.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed July 8, 1909. Serial No. 506,482.

To all whom it may concern:

Be it known that I, WALTER F. BAILEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention has relation more particularly to that class of wrenches in which there is a fixed and a movable jaw, and it has especial reference to the variety of wrenches in which the movable jaw has a free sliding movement toward and from the fixed jaw, whereby it is capable of being easily and quickly adjusted to nuts of various sizes, and when so adjusted may be easily locked in position.

A main object of my invention is to provide an eccentrically operated wedge locking means which is positive in operation, and that does not depend upon a spring means for maintaining the movable jaw in a locked or fixed position relative to the fixed jaw.

A further object is to provide a wrench construction which consists of few parts, that is reliable in operation, not easily broken, and which will fulfil the conditions imposed upon a wrench of such description in a satisfactory and efficient manner.

The invention consists essentially in the construction of the movable jaw, in combination with an eccentrically operated wedging mechanism concealed within said jaw, and acting against an incline formed on the jaw, and against one edge of the wrench shank and having a suitable thumb operating piece operatively connected to the wedge locking mechanism.

In the annexed drawings attached hereto and forming a part of this specification:— Figure 1— is a side elevation of my improved wrench with the locking mechanism exposed, the movable jaw being in the locked position. Fig. 2— is a view similar to Fig. 1, the movable jaw being in an unlocked position. Fig. 3— is a side elevation of a modified form of wrench, the movable jaw adapted for use on pipes.

Referring more particularly to the drawings, 5 designates the wrench shank, 6 the rigid jaw, 7 the movable jaw, and 8 the locking mechanism which holds the movable jaw against backward movement on the shank.

The movable jaw 7 is mounted on the shank 5 to slide back and forth and its gripping surface is provided with serrations 9. In the jaw 7 and adjacent to the shank 5 is a tapered recess 10, one of its walls 11 opposite the shank 5 being inclined with respect to the shank 5. The end of the jaw 7 adjacent the greatest width of the recess 10 is provided with a slot 12 in which is pivotally mounted an eccentric 13, provided with a thumb operating piece 14. This eccentric is mounted upon a pivot 15 and is provided with an operating or releasing shoulder 16 adapted to bear against an arm 17 which is pivoted, as at 18, in a slot 19 formed in an edge of the eccentric 13. The outer end of arm 17 is bifurcated to form a bearing 20, and a wedging roller 21 is journaled therein. The periphery of this roller is adapted to bear against the inclined edge 11 of the recess and against edge 22 of the shank 5 when arm 17 is forced toward jaw 6, thus securely locking the movable jaw 7 against backward movement on the shank.

When the eccentric 13 is being rotated, so as to force arm 17 toward jaw 6 it wedges the roller 21 between the incline 11 and the edge 22 of the shank. When in this condition the greater the backward pressure against jaw 7, the greater will be the wedging or locking action of the roller.

In Fig. 2 the eccentric is shown rotated in the opposite direction to that illustrated in Fig. 1, thereby drawing the roller 21 out of operative relation with the shank and the inclined wall of the recess, the releasing arm or tooth 16 assisting in this action. In this position the jaw 7 can be moved forwardly and rearwardly as desired.

In Fig. 3 I have shown the movable jaw 7 equipped with a similar locking mechanism, but in lieu of the solid gripping jaw, I have shown a form of jaw adapted for use with pipes and similar structures. In this construction the gripping portion of the jaw is provided with a recess 25 communicating with the guide-opening for the shank 5 in the movable jaw and in this recess there is mounted on a pivot 26, a jaw 27 provided with serrations 28. An edge of this jaw adjacent the shank 5 is provided with a flat spring 29 suitably secured thereto, the free end of the spring bearing against the edge of the jaw 27, the bow of the spring thrusting against the forward edge of the shank.

It will be observed from the above description that I have provided a novel form of locking mechanism for the movable jaw of a wrench, whereby I am enabled to instantly adjust the jaws to various sized nuts and pipes in a short length of time. It will also be apparent from the above description that the locking mechanism can be applied with equally satisfactory results to numberless other mechanisms wherein one member is movably and adjustably secured upon another, such for example as lifting jacks, scaffold members and like devices.

Having described my invention what I claim as new and desire to secure by Letters Patent is;—

1. In a wrench in combination, a fixed jaw having a shank, a movable member sliding on said shank and having a tapered recess with an inclined face, an eccentric pivotally mounted on said movable member, a link connected with said eccentric extending into said recess, a roller journaled in the free end of said link and adapted to jam be-

tween said shank and said inclined face, and means for actuating said eccentric.

2. In a wrench, the combination with a shank having a fixed jaw thereon, of a movable member provided with a recess therein mounted upon said shank, said member provided with a jaw at one end thereof and integral with the said member, an eccentric pivotally mounted on said movable member, a link pivoted to said eccentric and having a longitudinal movement in said recess, a roller journaled in the free end of said link, said roller adapted to contact with a wall of the recess and an edge of the shank, and an operating thumb piece secured to said eccentric.

In witness that I claim the foregoing I have hereunto subscribed my name this 2nd day of July, 1909.

WALTER F. BAILEY.

Witnesses:

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