

J. W. TYRRELL.
WRENCH.
APPLICATION FILED MAY 4, 1912.

1,059,091.

Patented Apr. 15, 1913.

FIG. 1

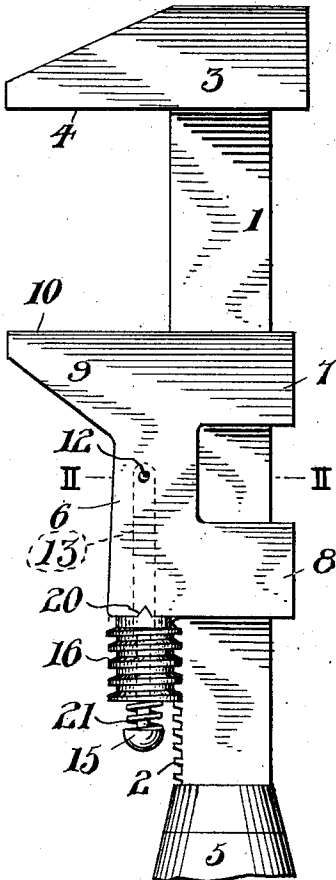


FIG. 2

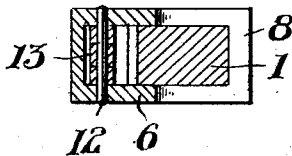


FIG. 3

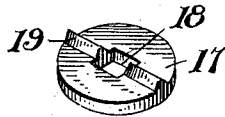


FIG. 4

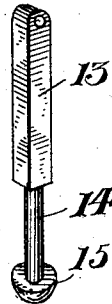


FIG. 6

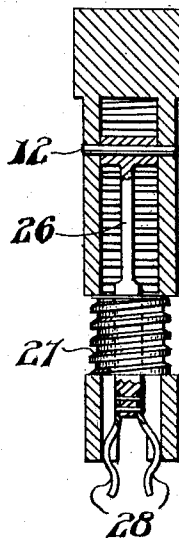
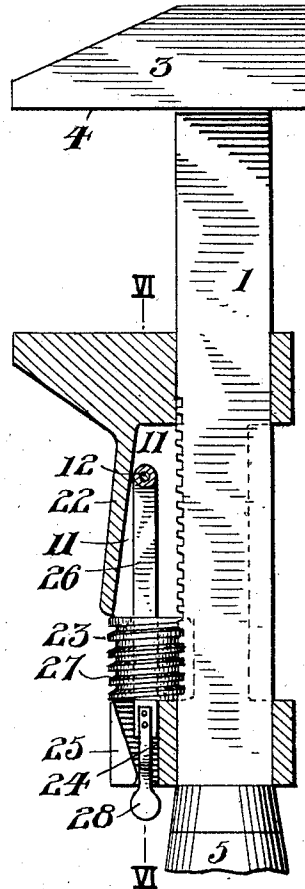


FIG. 5



WITNESSES

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UNITED STATES PATENT OFFICE.

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WRENCH.

1,059,091.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed May 4, 1912. Serial No. 695,130.

To all whom it may concern:

Be it known that I, JESSE W. TYRRELL, a citizen of the United States of America, residing at Mercer, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to wrenches of the form disclosed in my copending application, Serial No. 685,499, filed March 22, 1912, and the primary object of my invention is to provide a nut wrench that can be easily and quickly adjusted to grip an object, as a nut, and then minutely adjusted to remove all possibility of the wrench slipping when leverage is brought to bear upon the same.

Another object of this invention is to provide a wrench of the above type that has a novel adjusting mechanism consisting of comparatively few parts that are simple in construction and easy to manipulate.

A further object of this invention is to provide a wrench of the above type that is inexpensive to manufacture and highly efficient as a gripping device.

I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein there are illustrated the preferred embodiments of my invention, but it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claim.

In the drawing Figure 1 is a side elevation of a portion of a wrench in accordance with this invention. Fig. 2 is a horizontal sectional view taken on the line 11—11 of Fig. 1. Fig. 3 is an enlarged perspective view of a detached locking washer. Fig. 4 is an enlarged perspective view of a detached stem. Fig. 5 is a longitudinal sectional view of a portion of a wrench of a modified form, and Fig. 6 is a vertical cross sectional view taken on the line VI—VI of Fig. 5.

A wrench in accordance with this invention comprises a shank 1 rectangular in cross section and having the front side thereof provided with transverse teeth 2. The outer end of the shank 1 has a fixed jaw

3 presenting a flat gripping surface 4 at the front end of the shank, and the inner end of the shank has a detachable handle 5.

Slidably mounted upon the shank 1 is an adjustable jaw body 6 having straps 7 and 8 bracing the shank 1 and retaining the jaw body in engagement therewith. The outer end of the jaw body has a jaw 9 presenting a flat gripping surface 10 that coöperates with the surface 4 in gripping the facets of a nut. The adjustable jaw body 6 has a longitudinal tapering recess 11 that confronts the shank 1. Pivotally mounted in the inner end of the recess 11 or a transverse pin 12 is the inner end of a stem 13 that is rectangular in cross section. The inner end of the stem 13 is reduced to provide a cylindrical portion 14 that has a head or button 15. The head or button 15 is detachably connected to the stem 13 whereby an exteriorly threaded nut 16 can be placed upon the cylindrical portion 14 of the stem. The nut 16 is located at the inner end of the adjustable jaw body 6 and out of the recess 11. Interposed between the end of the nut and the end of the adjustable jaw body 6 is a locking washer 17 that has a rectangular opening 18 to receive the end of the stem 13. The washer 17 has alining transverse rib 19 adapted to engage in grooves or notches 20 provided therefor in the inner end of the adjustable jaw body 6.

Interposed between the inner end of the nut 16 and the head or button 15 is a coiled compression spring 21 that encircles the cylindrical portion 14 of the stem 13. The tension of the spring 21 is sufficient to retain the washer 17 in engagement with the inner end of the adjustable jaw body 6, and with the ribs 19 engaging in the grooves 20 of the adjustable jaw body 6, the threads of the nut 16 are retained in engagement with the teeth 2 of the shank 1. By rotating the nut 16 the adjustable jaw body 6 can be minutely adjusted. When it is desired to rapidly adjust the jaw body, the nut 16 is pressed outwardly and downwardly whereby the ribs 19 will be moved out of the groove 20. With the nut 16 out of engagement with the shank 1, the adjustable jaw body 6 can be rapidly adjusted. In order to accomplish this rapid adjustment, it is necessary that the ribs 19 be beveled in order that they can easily ride out of engagement

with the adjustable jaw body 6, therefore said ribs are made inverted V shape in cross section.

In Figs. 5 and 6 of the drawing, there is 5 illustrated a modification of the invention wherein an adjustable jaw body 22 of greater length than the jaw body 6 is resorted to, said adjustable jaw body having the tapering recess 11 in communication 10 with the shank 1. The adjustable jaw body 22 is provided with a transverse slot 23 and the inner end of the adjustable jaw body is slotted as at 24 and the walls of said slot provided with shoulder members 25. A 15 stem 26 is pivotally mounted in the recess 11 and said stem extends through the slot 23 into the slot 24 at the inner end of the adjustable jaw body. The stem 26 has a cylindrical portion or a threaded nut 27 similar 20 to the nut 16. The end of the stem 26 within the slot 24 is provided with two resilient clamping members 28 and these members extend out of the slot 24 whereby they can be easily gripped. The members 28 are 25 adapted to engage behind the shoulder 25 and lock the stem 26 in parallelism with the shank 1, whereby the nut 27 will engage the teeth of the shank 1. The nut 27 can be

minutely adjusted similar to the nut 16, or 30 by removing the members 28 out of engagement with the shoulders 25, the nut 27 can be swung out of engagement with the shank and the adjustable jaw body 22 rapidly adjusted.

What I claim is:— 35

A wrench comprising a toothed shank, an adjustable jaw body slidably mounted thereon, a longitudinally extending stem having one end pivotally mounted in said jaw body, an interiorly threaded nut mounted upon the 40 stem capable of engaging the teeth of the shank for maintaining the jaw from longitudinal movement, means carried by the stem and mounted upon the nut and capable of engaging in the jaw to maintain the nut 45 in engagement with the threads of the shank, and means mounted upon the stem and engaging the nut for retaining the means which engages in the jaw body in an engagement with the jaw body. 50

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

JESSE W. TYRRELL.

Witnesses:

H. J. COULTER,
J. J. ALEXANDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."