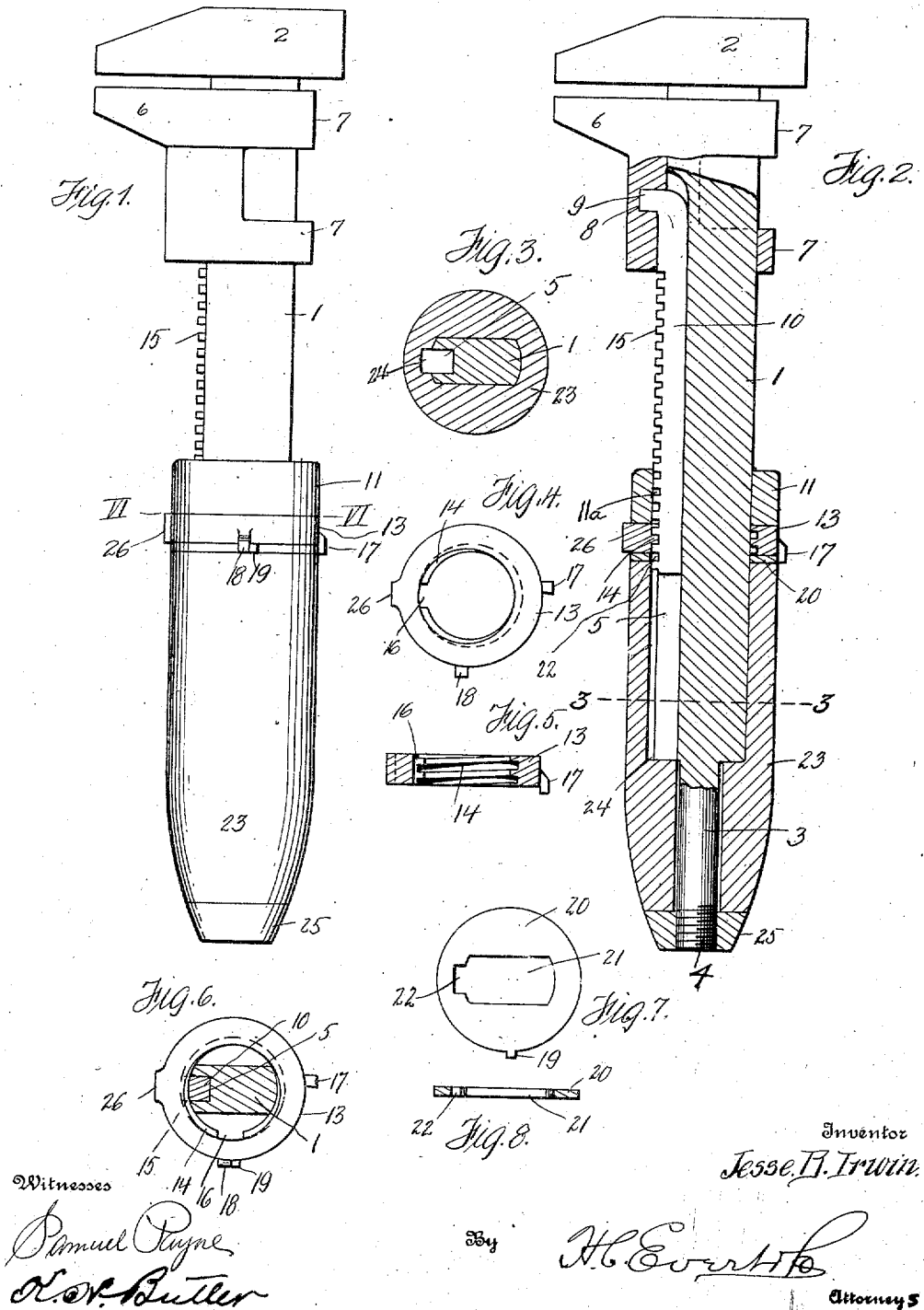


J. B. IRWIN.
WRENCH.
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UNITED STATES PATENT OFFICE.

JESSE B. IRWIN, OF WASHINGTON, PENNSYLVANIA.

WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JESSE B. IRWIN, a citizen of the United States of America, residing at Washington, in the county of Washington 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, and the invention has for its object to provide a simple and inexpensive wrench that can be easily and quickly adjusted.

My invention aims to provide a wrench with positive and reliable means for quickly adjusting the movable jaw thereof, and after placing the jaw in engagement with a nut or similar object to minutely adjust the same to obtain a positive grip upon an object and prevent the wrench from slipping.

To this end, I provide a wrench with an adjustable rack bar for moving the jaw thereof, and to adjust said rack bar, I utilize a nut, which is mutilated or cut away to provide clearance for the rack bar, whereby said bar can be quickly adjusted, and then the nut moved to minutely adjust said bar.

The construction entering into my invention will be hereinafter described in detail and then specifically pointed out in the appended claim, and reference will now be had to the drawing forming a part of this application wherein there is illustrated the preferred embodiments of my invention, but I would have it understood that the detail construction thereof can be varied or changed without departing from the spirit of the invention.

Referring to the drawing:—Figure 1 is an elevation of a wrench constructed in accordance with my invention, Fig. 2 is a vertical sectional view of the same, Fig. 3 is a horizontal sectional view taken on the line III—III of Fig. 2, Fig. 4 is a plan of a detached nut, Fig. 5 is a cross sectional view of the same, Fig. 6 is a cross sectional view of the wrench taken on the line VI—VI of Fig. 1, Fig. 7 is a plan of a detached washer, and Fig. 8 is a cross sectional view of the same.

In the drawing, 1 designates a shank having the upper end thereof provided with a fixed jaw 2, while the lower end of said shank is contracted, as at 3, and provided with threads 4. The front side of the shank 1 is provided with a longitudinal groove 5,

said groove extending from the contracted portion 3 thereof to within a short distance of the fixed jaw 2 that end of the groove 5 in proximity to the jaw 2 having a curved wall.

6 designates a jaw slidably mounted upon the shank 1, said jaw having straps 7 embracing said shank. The jaw is provided with a recess 8 extending at right angles with respect to said shank and adapted to receive the angular end 9 of a rack bar 10 slidably mounted in the groove 5 of the shank 1.

11 designates a collar mounted upon the shank 1 intermediate the ends thereof, said collar having a vertical groove 11^a adapted to register with the groove 5 of the shank 1 and provide clearance for the rack bar 10.

13 designates a nut revolubly mounted upon the shank 1 beneath the collar 11, said nut having interior threads 14 for engaging the threads 15 of the rack bar 10. The threads 14 are mutilated or cut away, as at 16, to provide clearance for the threads 15 of the rack bar 10, whereby the jaw 6 and the rack bar 10 can be easily and quickly moved relative to the shank 1. The nut 13 is provided with two depending lugs 17 and 18 adapted to abut against the projection 19, carried by a washer 20, located upon the shank 1 beneath the nut 13, said washer having an opening 21 providing clearance for the shank 1 and a vertical groove 22 providing clearance for the rack bar 10.

23 designates a handle mounted upon the lower end of the shank 1 for holding the washer 20 and the nut 13 in position beneath the collar 11, said handle being cut away as at 24 to provide clearance for the lower end of the shank 1 and the rack bar 10. The handle is retained upon the contracted portion 3 of the shank by a nut 25 screwed upon the threads 4. With the lug 18 engaging the projection 19 of the washer 20, the threads 14 of the nut 13 engage the threads 15 of the rack bar 10 and prevent said rack bar from being rapidly shifted in the groove 5 of the shank 1. With the lug 17 in engagement with the projection 19, the groove 16 of the nut registers with the rack bar 10 and provides clearance for the threads thereof, whereby said rack bar and the jaw 6 can be rapidly shifted upon the shank 1. To facilitate the manipulation of the nut 13, said nut is provided with an enlargement 26, which can be used as a thumb piece.

It is thought that the utility and operation of my wrench will be fully understood without further description, and I reserve the right to make the same of strong and durable metal with the handle of wood.

Having now described my invention what I claim as new, is:—

A wrench comprising a shank having a longitudinally-extending groove in one side thereof, a jaw fixed to said shank, a movable jaw upon the shank, a handle connected to the shank and provided with a groove opposing the groove of the shank, a stationary washer mounted directly upon and provided with a groove registering with the groove in the handle, said washer provided with a right-angularly disposed peripheral projection, an adjustable rack bar mounted in the groove of the shank and connected to said movable jaw, a rotatable nut provided with a peripheral thumb piece and mounted di-

rectly upon said washer, said nut having its threads cut-away to provide a passage for the bar when the latter is shifted and further adapted to engage the teeth of the bar for maintaining it in its adjusted position, a stationary washer mounted directly upon the nut and provided with a groove opposing the groove of the shank, and a pair of depending lugs formed integral with the periphery of the nut, disposed at right angles with respect to each other and extending in the path of and adapted to engage said projection whereby the rotative movement of the nut is limited in either direction.

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

JESSE B. IRWIN.

Witnesses:

S. N. BUSBEY,

J. B. IRWIN, Sr.