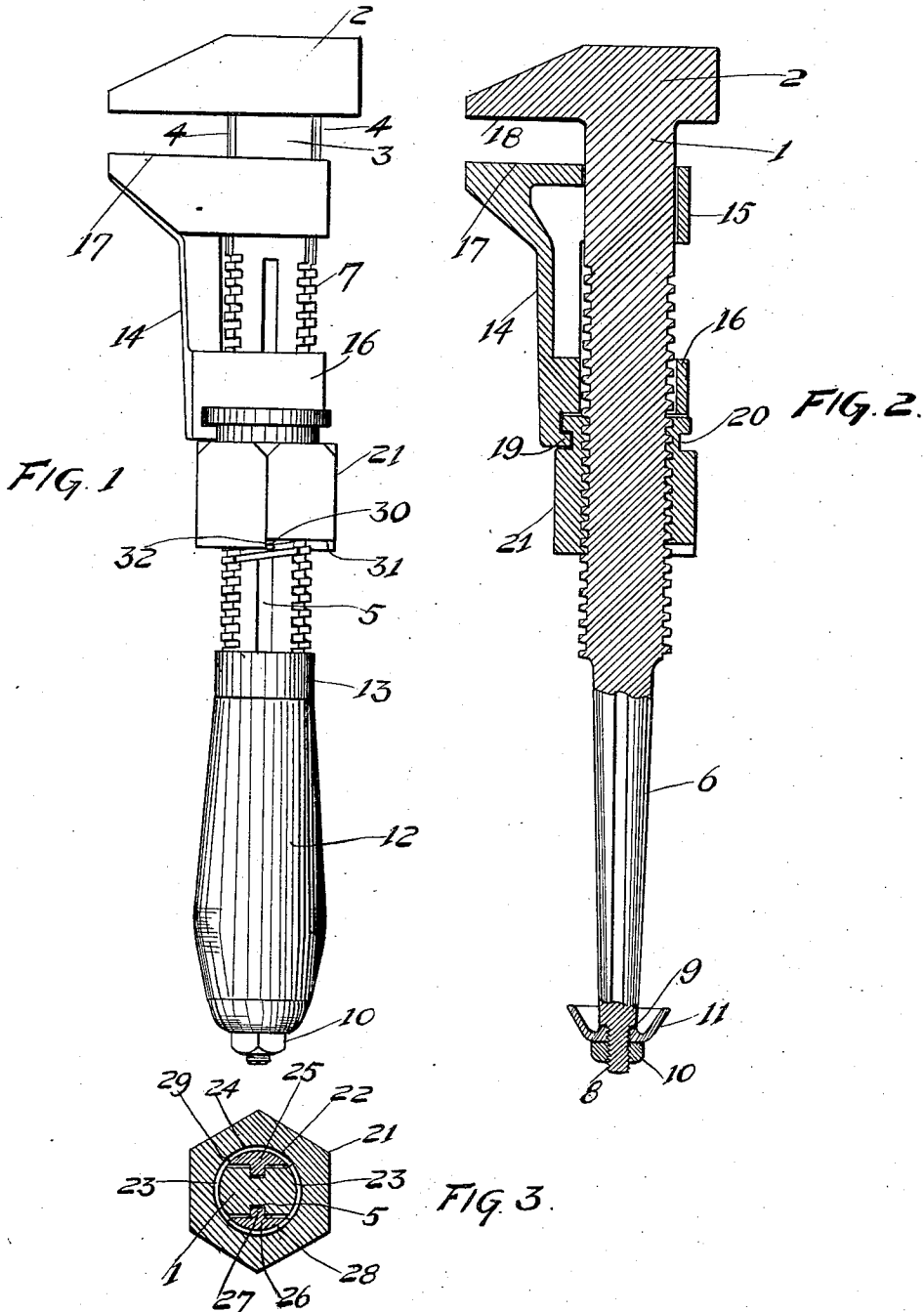


A. L. TRIMBATH.
WRENCH.
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1,016,049.

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WITNESSES:
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UNITED STATES PATENT OFFICE.

ABRAHAM LINCOLN TRIMBATH, OF BELLAIRE, OHIO.

WRENCH.

1,016,049.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ABRAHAM LINCOLN TRIMBATH, a citizen of the United States of America, residing at Bellaire, in the county of Belmont and State of Ohio, 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 more particularly to that type having a slidable jaw, a threaded handle bar or shank and a rotatable half-thread locking nut.

The primary object of my invention is to provide a wrench of the above type that can be easily and quickly adjusted and safely used.

Another object of the invention is to provide a wrench of the above type wherein novel means is employed for limiting the rotative movement of the locking nut, to determine when the nut is in a locked or an unlocked position.

A further object of the invention is to provide a wrench of the above type that is simple in construction, durable and highly efficient for the purposes for which it is intended.

I attain the above objects by a mechanical construction to be hereinafter specifically described and then claimed and reference will now be had to the drawing, wherein:—

Figure 1 is a side elevation of the wrench in accordance with the invention, Fig. 2 is a vertical sectional view of the same, with the handle thereof removed, and Fig. 3 is a horizontal sectional view showing the locking nut in locked position.

A wrench in accordance with this invention comprises a handle bar or shank 1 having the upper end thereof provided with an integral or fixed jaw 2. The shank 1 has oppositely disposed flat faces 3 and oppositely disposed rounded faces 4. The faces 3 are provided with longitudinal grooves 5 extending from a point in proximity to the jaw 2 to the lower end of the tapered handle-piece 6 of the shank 1, the grooves 5 extending along the handle-piece 6 to facilitate the milling of the shank 1 when forming the upper ends of the grooves 5. The faces 4 are provided with teeth 7, the teeth extending from the upper ends of the grooves 5 to the upper end of the tapering handle-piece 6. The lower end of the handle-piece 6 is reduced to provide a

threaded stem 8 and an annular shoulder 9. Mounted upon the stem 8 and retained thereon by a nut 10 is a cap 11 adapted to hold a handle 12 upon the handle-piece 6, said handle having the upper end thereof provided with a ferrule 13.

Prior to mounting the handle 12 upon the handle-piece 6, a gripping jaw 14 is slidably mounted upon the shank, said jaw having straps 15 and 16 embracing the shank 1. The gripping jaw 14 has a gripping surface 17 adapted to cooperate with a gripping surface 18 at the fixed jaw 2 in gripping the faces of a nut. The lower forward edge of the jaw 14 is provided with a depending L-shaped lug 19 adapted to engage in an annular groove 20 provided therefor in the upper reduced cylindrical end of a hexagon-shaped rotatable locking nut 21. This nut is also placed upon the shank 1 and in engagement with the jaw 14, prior to placing the jaw 14 upon the shank and the handle 12 upon the handle-piece 6. The rotatable locking nut 21 has a vertical bore 22 providing clearance for the shank 1 and diametrically opposed walls of this bore are provided with threads 23 adapted to engage the teeth 7 of the shank 1 and hold the locking nut from sliding upon said shank.

Arranged between the faces 24 of the nut 21 and the flat faces 3 of the shank 1 are segment-shaped members 25 and 26, said members having the inner faces thereof provided with tongues 27 extending into the grooves 5. The outer faces of the members are provided with threads 28 adapted to register with the threads or teeth 7, the ends of said threads extending between the ends of the threads 23 of the locking nut 21, as at 29 whereby when said nut is held by the threads of the shank 1, the members will be retained by the nut. The member 26 is provided with an outwardly extending pin 30 and this pin is engaged by stop shoulders 31 and 32 at the lower end of the nut 21, said nut being cut away to provide clearance for the pin and to form the shoulders 31 and 32.

With the shoulder 31 in engagement with the pin 30, the locking nut 21 can be shifted longitudinally of the shank 1, to place the gripping jaw 14 in engagement with the faces of a nut or other object. By rotating the locking nut 21 until the shoulder 32 engages the pin 30, the teeth 23 of the nut are shifted into engagement with the teeth or

threads 7 of the shank and said nut will be locked against longitudinal movement. When the shoulder 31 is in engagement with the pin 30 the teeth 23 of the nut are in engagement with the teeth or threads 28 of the members 25 and 26, consequently the teeth or threads 7 are unsupported and the smooth walls of the bore of the nut allow said nut to slide upon the shank.

I reserve the right to construct the gripping surfaces 17 and 18 of the jaws 14 and 2 respectively whereby the wrench can be used as a pipe wrench. I also reserve the right to make the wrench of various sizes and use strong and durable metal for its construction.

What I claim is:—

A wrench comprising a shank having flat faces with longitudinal grooves and oppositely disposed faces provided with teeth, a fixed jaw carried by the upper end of said shank; a handle detachably mounted upon the lower end of said shank, a gripping jaw slidably mounted upon said shank and formed with straps embracing said shank, a depending L-shaped lug carried by the forward

edge of said jaw, a rotatable locking nut having an upper reduced cylindrical end provided with a groove adapted to receive the lug of said jaw, said nut having a vertical bore formed therein with diametrically opposed walls provided with teeth adapted to engage the teeth of said shank and smooth walls adapted to confront the flat faces of said shank, members arranged in said nut between the flat faces of said shank and the smooth walls of the bore of said nut, tongues carried by the inner faces of said members and engaging in the grooves of said shank, teeth carried by the outer sides of said members and having the ends thereof engaging in the teeth of said nut, and a pin carried by one of said members and adapted to engage shoulders provided therefor in the lower end of said nut to limit the rotative movement of said nut.

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

ABRAHAM LINCOLN TRIMBATH.

Witnesses:

A. J. NORTON,
FRED SPRIGGS.

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