

1,052,669.

2 SHEETS—SHEET 1.

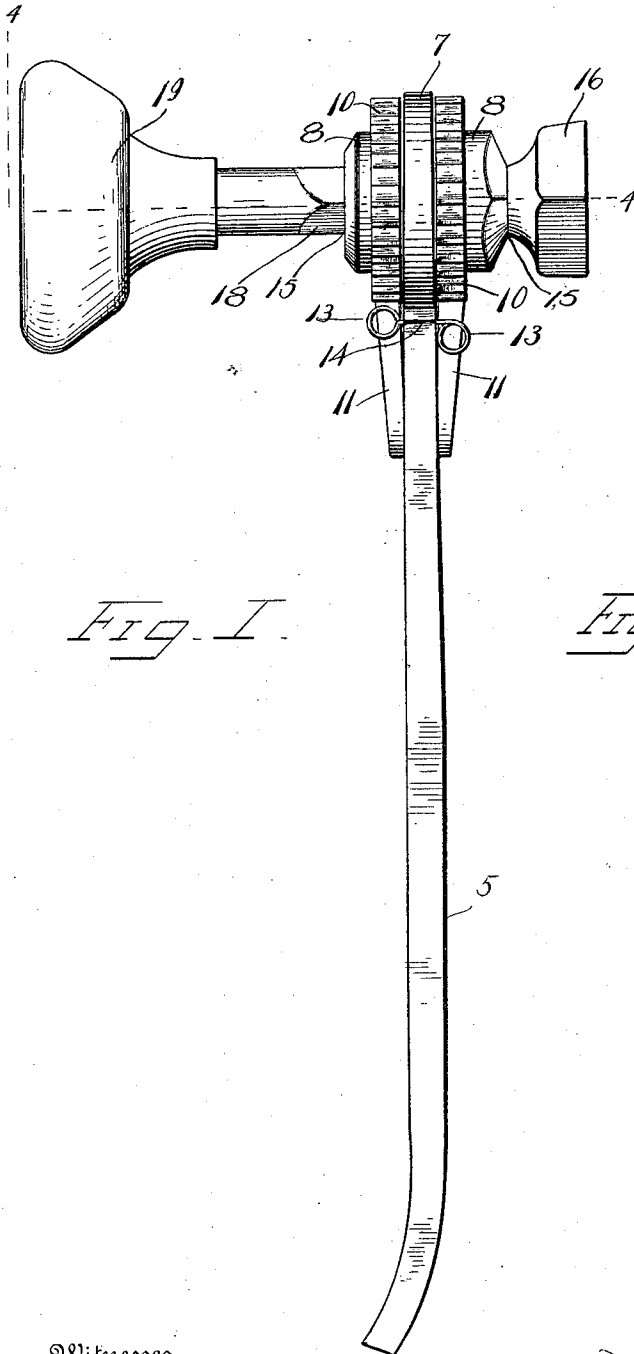


Fig. I.

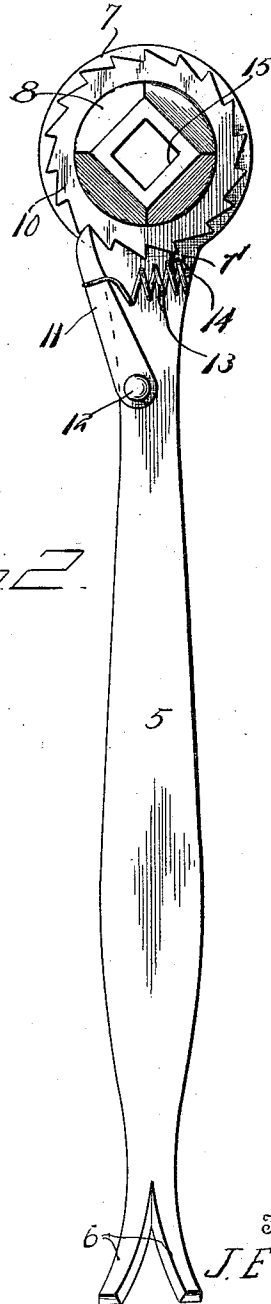


Fig 2

Witnesses

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2 SHEETS-SHEET 2.

1,052,669.



Fig. 3.

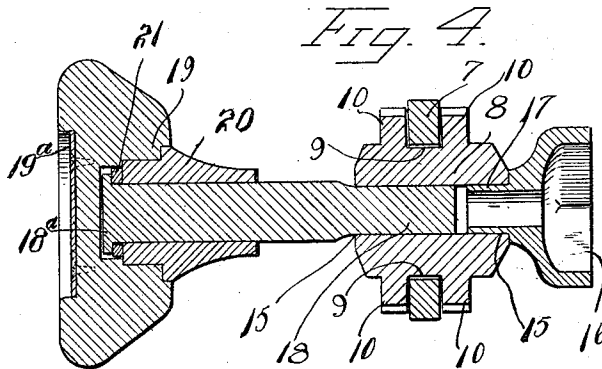


Fig. 4.

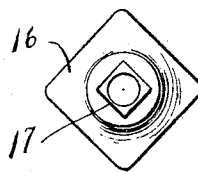


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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WRENCH.

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Specification of Letters Patent.

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Application filed January 10, 1910. Serial No. 537,242.

To all whom it may concern:

Be it known that I, JACOB E. LACKEY, a citizen of the United States, residing at Fort Lawn, in the county of Chester and State of South Carolina, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to a wrench and more particularly to the class of ratchet nut wrenches.

The primary object of the invention is the provision of a wrench in which nut sockets of different sizes may be employed so that nuts of varying sizes may be adjusted in a ready and quick manner.

Another object of the invention is the provision of a wrench in which a ratchet is supported by a handle which latter carries spring controlled locking dogs so that the ratchet may be locked to the handle when being swung in one direction and which ratchet contains sockets in which are engaged nut sockets of different sizes and a handle, which latter will maintain the nut sockets in engagement with the nut when the same is being adjusted.

A further object of the invention is the provision of a wrench of the ratchet type which is simple in construction, thoroughly reliable and efficient in operation, and inexpensive in the manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, illustrated in the accompanying drawings, and as pointed out in the claim hereunto appended.

In the drawings:—Figure 1 is an edge elevation of a ratchet wrench constructed in accordance with the invention. Fig. 2 is one face thereof. Fig. 3 is an opposite face view. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Fig. 5 is an end elevation of the removable nut socket.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals, 5 designates the handle of a wrench constructed in accordance with the invention, the handle being bifurcated at one end to form forked claws 6, for pulling tacks, nails, or

the like, while at the opposite end of this handle is formed a ring or annulus 7, receiving a rotatable hub 8, the latter being provided with an annular recess 9, receiving the ring 7 which is formed by bending a reduced end of the handle around the hub and seating the extremity thereof in a recess 7' in the handle as shown in Fig. 3 of the drawings, so that the said hub 8, is rotatably held by this ring 7, and which hub is formed with ratchet wheels 10, disposed on opposite sides of the ring 7, which ratchet wheels 10, are engaged by locking pawls or dogs 11, connected by a common pivot 12, which latter is also mounted in the handle 5, to pivotally connect the pawls to the same at opposite sides thereof.

Suitably secured on the body of the pawls 11, are the ends of coiled retractile springs 13, which are disposed on opposite sides of the handle 5, and are united by a cross connecting piece 14, which latter straddles one edge of the handle 5, and this cross connecting piece 14, is secured to the handle by being wedged in a suitable recess in the body of the handle so as to prevent displacement of the springs 13, the latter being adapted to maintain the pawls 11, in locking engagement with the ratchet wheels 10, on the hub, so that upon movement of the handle in one direction, the said hub 8, will be locked thereto to move in the same direction with the handle.

Formed centrally in the hub 8, in a squared transverse opening 15, one end of which is adapted to receive a nut receiving socket member 16, the same being formed with a squared stem 17, correspondingly shaped to the spaced opening 15, so that it may be removably fitted therein, thus enabling different sizes of nut receiving socket members to be employed for mounting in the hub when the occasion requires. The hub 8 also receives a square stem 18 which has a smooth outer end terminating in a rivet head 18^a. A sleeve 20 is loosely mounted on the stem 18 and is formed with a circumscribing shoulder while a washer 21 is disposed between the rivet head 18^a of the stem 18 and the sleeve 20 whereby the stem 18 will have free movement in said sleeve. The sleeve 20 is tightly secured to a handle or knob 19 which engages the circumscribing shoulder and the head 18^a thus engages the end wall of a circular recess formed in the handle and said wall is reinforced by a metallic plate

19^a disposed in the countersunk outer face of said knob or handle and secured as shown in Fig. 4 of the drawings. By this arrangement pressure may be applied on the hub 8 and the wheel rotated by the handle 5 without rotating the handle or knob 19 which is thus swiveled or rotatably secured to the stem.

It is apparent that the wrench is adapted to either remove a nut from a bolt or work it home upon the latter on reversing the said wrench.

What is claimed is:—

A wrench comprising a handle having one end reduced in size and bent to form a ring with its free extremity engaged in a recess in the handle, a hub having a surrounding central channel around which said ring is bent, said hub comprising a one-piece member provided with ratchet flanges upon opposite sides of the channel with their teeth extending in a common direction and also

provided with a transverse rectangular opening through its center, a pair of rigid pawls pivoted to the handle beyond the ratchet flanges and upon opposite sides of the handle by a common fastening means and adapted to engage the ratchet teeth at their free ends and means for holding said pawls simultaneously in contact with the teeth, said means comprising a single strand of resilient wire having its ends bent to form coiled springs, the extremities of which are secured in kerfs formed in the outer faces of the pawls and the portion of the wire intermediate of the springs being secured in a kerf formed in an edge portion of the handle opposite to the pawls.

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

JACOB E. LACKEY.

Witnesses:

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D. H. JORDAN.

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