

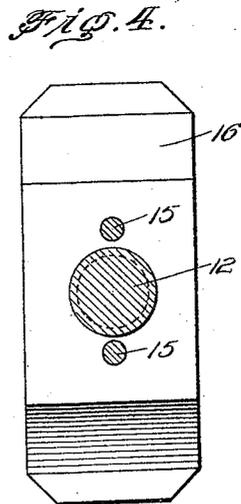
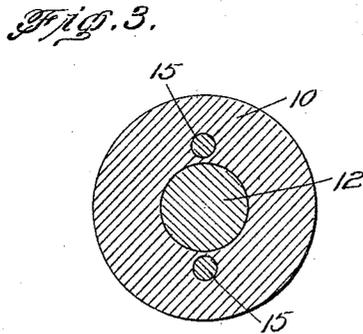
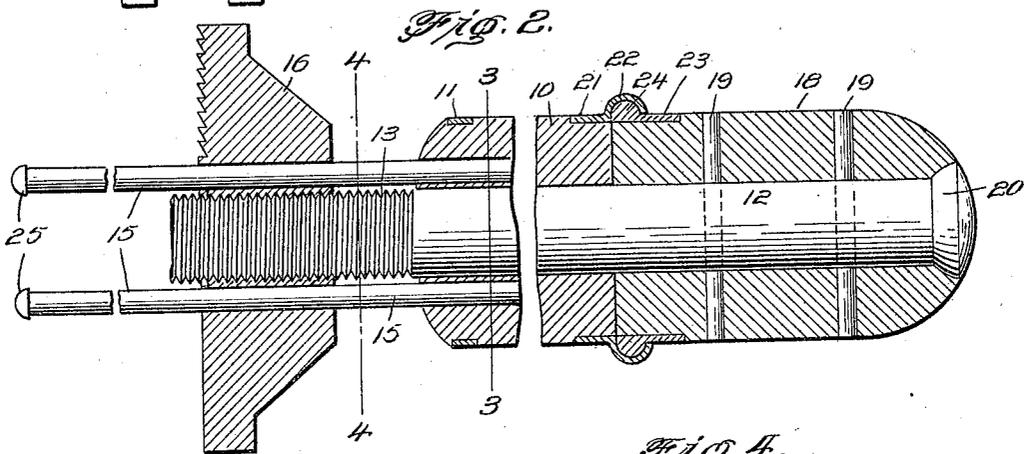
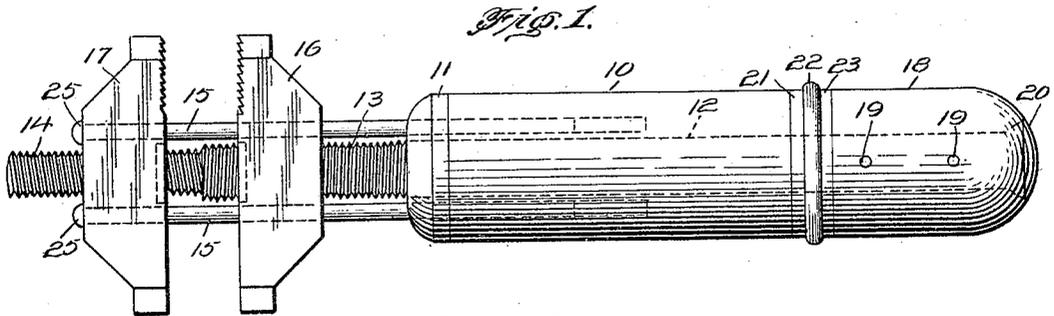
C. F. BALLARD.

WRENCH.

APPLICATION FILED AUG. 20, 1921.

1,405,255.

Patented Jan. 31, 1922.



C. F. Ballard.

INVENTOR.

BY  
*Geot. Kimmel.*

ATTORNEY.

# UNITED STATES PATENT OFFICE.

CHARLES F. BALLARD, OF HAMLET, NORTH CAROLINA.

## WRENCH.

1,405,255.

Specification of Letters Patent.

Patented Jan. 31, 1922.

Application filed August 20, 1921. Serial No. 493,796.

*To all whom it may concern:*

Be it known that I, CHARLES F. BALLARD, a citizen of the United States, residing at Hamlet, in the county of Richmond and State of North Carolina, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention:—

Figure 1 is a side elevation of the improved wrench.

Figure 2 is an enlarged sectional detail view.

Figure 3 is a cross section on the line 3—3 of Fig. 2.

Figure 4 is a cross section on the line 4—4 of Fig. 2.

The improved wrench comprises a handle member 10 preferably of wood and cylindrical in outline and of a diameter and length to fit the hand of the operator and reinforced at the forward end by a metal band 11.

The handle member is longitudinally bored, and rotative through this bore is a stock member 12 extending beyond both ends of the handle. One of the extended portions of the stock is provided with a right handed thread 13 and left handed thread 14.

Secured in the handle member are guide rods 15 which extend beyond the handle 10 and in parallel relation to each other and spaced from the threaded portions of the stock as shown.

An inner jaw member 16 engages the right hand thread 13 of the stock, while an outer or opposing jaw member 17 engages the left hand thread 14, the jaws having alining apertures to slidably receive the guide rods 15.

Engaging over the unthreaded extended portion of the stock 10 is a turning member, preferably of wood, and represented at 18, which is rigidly connected to the stock by

pins 19 or other suitable fastening devices, so that the turning member and the stock rotate together while the turning member is held from longitudinal displacement on the stock 10 by a binding nut represented at 20.

Encompassing the handle member 10 at the end next to the turning member 12, is a band 21 having an inwardly opening annular channel portion 22. and encompassing the turning member 18 is a similar band 23 having an annular rib 24 engaging in the channel portion 22.

The bands 21 and 23 are embedded respectively in the members 10 and 18 and coact to form an effectual joint between the parts 10 and 18 and permit the part 18 to be freely rotated together with the stock 12 relative to the handle member 10.

By this simple arrangement the jaws 16 and 17 may be moved toward or away from each other by grasping the handle portion with one hand and rotating the members 18 and the stock 12 carried thereby with the other hand, the guide rods 15 preventing the jaws from rotating with the stock.

At their outer ends the rods 15 are "upset" as shown at 25, to prevent the outer jaw 17 from running off from the rods in event of abnormal action of the turning member.

The improved device is simple in construction can be constructed of any suitable material and of any required size.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention what is claimed as new is:—

1. A wrench comprising a handle member longitudinally bored, guide rods secured at one end in said handle member and extending beyond the same, a stock rotatively in the bore and extending beyond the same at each end thereof, one extended portion of said stock being threaded right and left handed, coacting jaw members respectively engaging said right and left handed threads and through which the guide rods slidably extend, and a turning member rigidly attached to the unthreaded portion of the stock and rotative against the handle member.

2. A wrench comprising a handle member longitudinally bored, guide rods carried by said handle member and extending beyond the same, a stock operating through the bore and extending beyond the same at each end thereof, one extended portion of said rod being threaded right and left handed, coacting jaw members respectively engaging said right and left handed threads and through which the guide rods extend, a turning member attached to the unthreaded portion of the stock and bearing against the handle member, an annular inwardly channeled band encircling the handle member, and another annular band encircling the turning member and having a rib rotatively engaging the channel of the first mentioned band.
3. A wrench comprising a handle member longitudinally bored, guide rods carried by said handle member and extending beyond the same, a stock operating through the bore and extending beyond the same at each end thereof, one extended portion of said rod being threaded right and left handed, coacting jaw members respectively engaging said right and left handed threads and through which the guide rods extend, a turning member attached to the unthreaded portion of the stock and bearing against the handle member, an annular inwardly channeled band encircling the handle member, and another annular band encircling the turning member and having a rib rotatively engaging the channel of the first mentioned band.

In testimony whereof, I affix my signature hereto.

CHARLES F. BALLARD.