No. 687,947. Patented Dec. 3, 1901.

T. A. WESTON.

WRENCH.

(Application filed Feb. 19, 1898. Renewed May 6, 1901.)

(No Model.)

FIG. 1

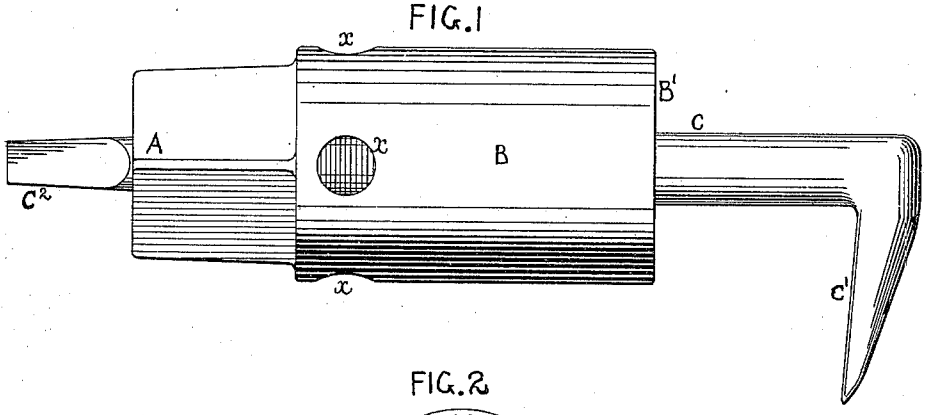


FIG. 2

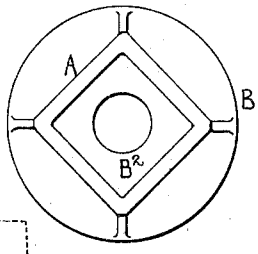
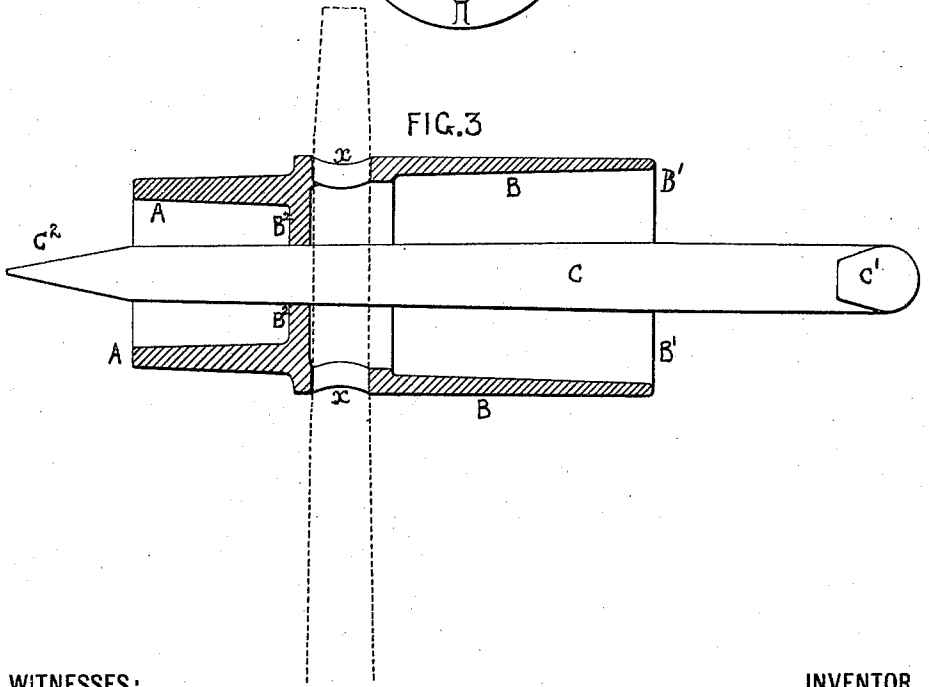


FIG. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 687,947, dated December 3, 1901.

Application filed February 19, 1898. Renewed May 6, 1901. Serial No. 59,020. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. WESTON, a citizen of the United States of America, residing in Arden, county of Buncombe, State of North Carolina, have invented Improvements in Wrenches, of which the following is a specification.

My invention relates more particularly to that class of wrenches which are especially adapted for use upon the axle-nuts of vehicles; but it will be understood that my improvements are applicable to other styles of wrenches.

The main object of my invention is to make an inexpensive wrench which will be of greater convenience in use and more rapid in operation than the wrenches ordinarily provided for like purposes.

In the accompanying drawings, Figure 1 is a side view of my improved wrench. Fig. 2 is an end view with hand-lever removed, and Fig. 3 is a longitudinal section with the hand-lever shown in one position in full lines and in the other position in dotted lines.

I construct my wrench with a hollow cylindrical handle B in one with the nut-gripping end A and provided with a hole or holes x, which I may term "capstan-holes," for the reception of a removable hand-lever C. This handle B and nut-gripping socket A are both set symmetrically around their common axis of rotation and both are preferably tubular; but between the two parts is an internal diaphragm B^2, Fig. 3, having a central orifice for the longitudinal reception and retention of the detachable hand-lever C when the device is not in use. The stem of this lever may be made tapering in order that it may be more conveniently fitted frictionally either into the central orifice in the diaphragm B^2 or in the capstan-holes of the wrench. By inserting the hand-lever C in the capstan-holes it affords all necessary leverage to start the nut free or to set it fast back. At other times it is removed, when the wrench and nut can be rapidly turned by the handle B. When the nut has been entirely unscrewed, it will be a convenience to leave the nut in the wrench, which can then be stood on its end B′ to serve as a safe stand or support to keep the nut free from dust, dirt, or grit, and this without soiling the hands with axle-grease.

The lever C may be provided with a hoof-claw C′ at one end and at the other with a chisel, awl, or other tool-like point C^2, adapted for use in the varied exigencies arising in the employment of vehicles, horses, or harness. In place, however, of my said improved lever my wrench can be operated by any short piece of iron, harrow-tooth, spike, screw-bolt, or stick of hard wood conveniently at hand; but of course such expedients do not afford the conveniences of my improved lever C.

The nut-socket of my improved wrench may be of hexagonal interior or of other cross-section conforming in figure to the periphery of the nuts to be operated thereby. The exterior periphery of the nut-socket A may be shaped to engage with the internal central openings of screw-threaded bushes, flanges, caps, or other pieces requiring such manipulation.

The economy of cost of my invention consists in the facility for casting in the foundry afforded by the simple form of the wrench A B and in the facility with which the lever C can be produced by well-known automatic machinery—such as is employed, for instance, in the production of common spikes.

I claim as my invention—

A wrench having a nut-gripping end and a hollow cylindrical handle symmetrically set about their common axis of rotation and having between the two parts an internal transverse diaphragm provided with an orifice for the reception of an operating-lever, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS A. WESTON.

Witnesses:

HUBERT HOWSON,

F. WARREN WRIGHT.