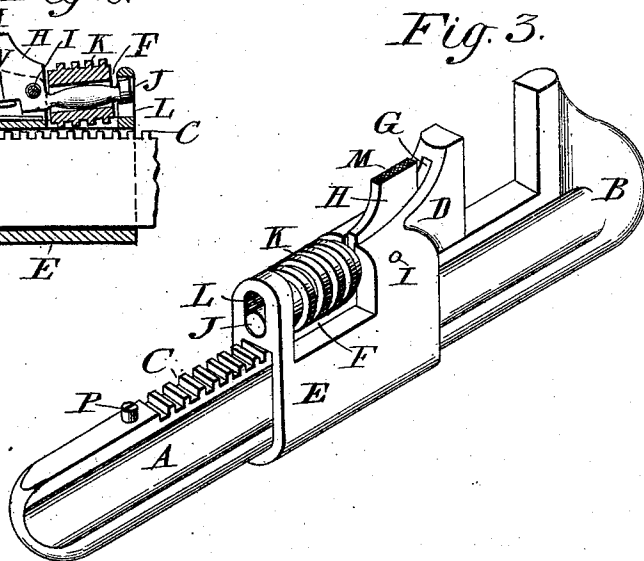
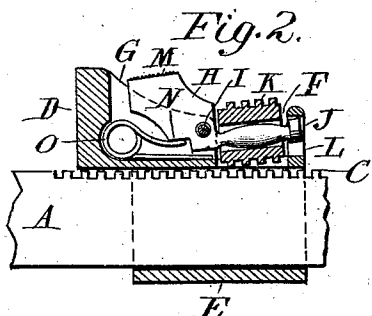
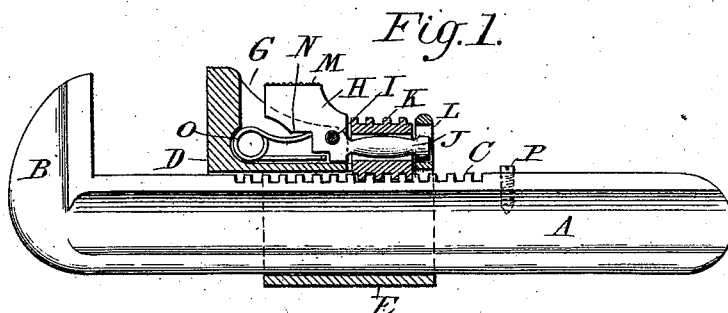


(No Model.)

C. W. CUTTER.  
NUT WRENCH.

No. 576,093.

Patented Feb. 2, 1897.



*Witnesses:*

*Alex. H. Miller.*

*Georg. W. Hoffman*

*Inventor.*

*Charles William Cutter*

*By his Attorney*

*H. S. Bailey*

# UNITED STATES PATENT OFFICE.

CHARLES WILLIAM CUTTER, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO CARL A. FREEMAN, OF SAME PLACE.

## NUT-WRENCH.

SPECIFICATION forming part of Letters Patent No. 576,093, dated February 2, 1897.

Application filed April 4, 1896. Serial No. 586,258. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES WILLIAM CUTTER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Nut-Wrenches; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in nut-wrenches; and the objects of my invention are, first, to provide a wrench having an adjustable jaw movable on the wrench-bar by means of manual rotation of a worm-nut pivoted in said jaw and arranged in mesh with a toothed rack cut in said wrench-bar; second, to provide means for raising the worm-nut out of mesh with the rack, whereby the adjustable jaw may be quickly moved along the wrench-bar to any desired position; third, to provide a movable jaw having a long firm bearing on the wrench-bar. I attain these objects by the mechanism illustrated and described in the following drawings and specification, in which—

Figure 1 represents a side elevation of my improved wrench, showing the adjustable jaw in section and the worm-nut in normal working engagement with the rack in the wrench-bar. Fig. 2 represents a fragment of the wrench, showing the worm raised out of mesh with the rack, in which position the adjustable jaw is free and can be moved quickly along the wrench-bar. Fig. 3 represents a perspective view of the wrench.

Similar letters of reference refer to similar parts throughout the several views.

Referring to Fig. 1, A represents the wrench-bar. B is a fixed jaw formed integral with it at one end. I cut a rack C in the top edge of the bar intermediate of its fixed jaw and its end. I form a jaw D similar to the fixed jaw and provide it with a sleeve portion E, which is adapted to slidably fit the wrench-bar. The jaw D extends back integral with the sleeve portion and above the wrench-bar. A recess

F is milled transversely in the rear end of the jaw, and a longitudinal recess or slot G is milled centrally through the top edge of the jaw through to the opening in the sleeve. In the longitudinal recess I pivot a finger push-lever H with a pin I, which is secured through the jaw. This push-lever is provided with a finger-press knurled surface M, which extends above the body of the jaw. It is also provided with a round projecting pin J, which passes across the transverse recess F and supports rotatively a worm-nut K, which fits in the recess F and meshes into the rack. The pin J extends beyond the worm into an elongated hole L, made in the end of the solid part of the sleeve portion of the jaw to receive it. That portion of the longitudinal slot G which registers with the transverse recess F is cut out wide and deep enough to allow the worm to mesh freely with the rack. The under side of the finger push-lever is provided with a step N, which receives one end of an expansive coiled spring O of one or two coils. The opposite end of said spring extends along the bottom of the recess and under the lower edge of the push-lever. This spring operates to hold the worm-nut constantly in mesh with the rack. It also acts by its expansive force to continually tilt the lever upon its pin and thus to throw the farthest end of the worm from the spring into the bottom of the teeth of the rack and thus prevent its riding out when the jaw is under strain when engaged in turning a nut.

In Fig. 2, I illustrate a fragment of the wrench, showing the worm-nut raised out of the rack, which is accomplished by pressing down the push-lever with the thumb or a finger on the knurled surface while the wrench is held in the palm of the hand by the remaining fingers. The jaw can be slipped along the bar to any desired position toward or from the fixed jaw and the nut then released. A further rotative turn of the worm will seat it again in the rack, when it can be quickly set against a nut. This arrangement saves considerable time when tightening several nuts of different diameters, and owing to its compact and flattened form the wrench is especially adapted to the use of bicycle riders and repairers.

P designates a stop screw or pin to prevent the displacement of the adjustable jaw from the wrench-bar when sliding back and forth.

The elements which act to release the worm  
5 from the rack are completely confined within the jaw itself in a manner to obviate displacement, disarrangement, or breakage from violent impingement against objects as it is moved about, while it can be easily manipulated with one hand, and the arrangement  
10 makes a very strong, compact, and durable wrench.

Having described my invention, what I claim as new, and desire to secure by Letters  
15 Patent, is—

The combination in a wrench of a wrench-bar having a fixed jaw, a thread-rack cut in one edge of said wrench-bar, a second jaw having a sleeve portion adapted to slidably  
20 fit said wrench-bar, an extension of the jaw

above the said sleeve portion and said thread-rack, a transverse recess in said jaw, a longitudinal recess bisecting said transverse recess, a worm-nut seated in said transverse recess, a push-lever pivoted in said longitudinal recess and arranged to pivotally support said worm-nut, an elongated hole supporting the end of the worm-supporting end of said push-lever, and an expansive spring seated in said longitudinal slot and arranged  
25 to resiliently hold said worm-nut in detachable and normal engagement with said thread-rack, as herein set forth and described.

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

CHARLES WILLIAM CUTTER.

Witnesses:

NED R. CRAINE,  
JOEL W. GEORGE.