Jan. 15, 1924. 1,480,811

B. A. BARON ET AL.

NUT LOCK WRENCH

Filed Sept. 22, 1922

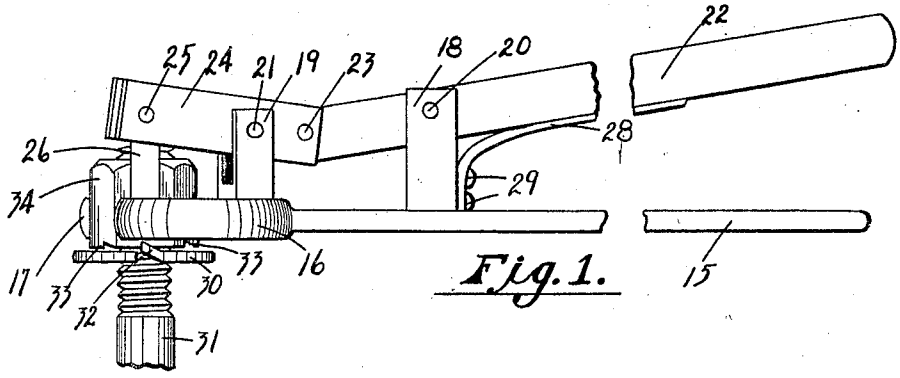


Fig. 1.

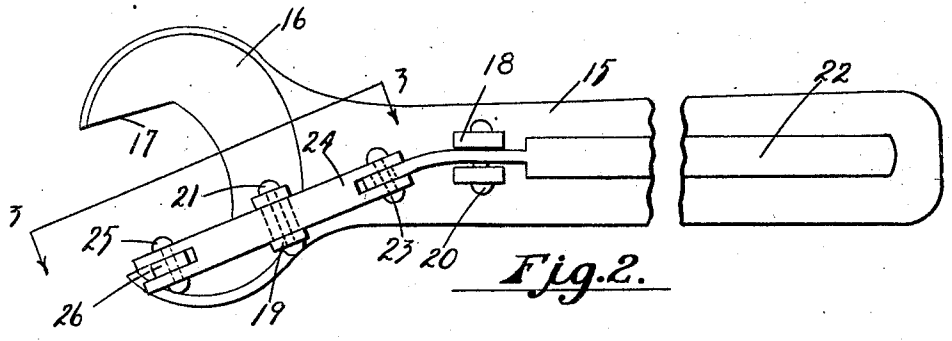


Fig. 2.

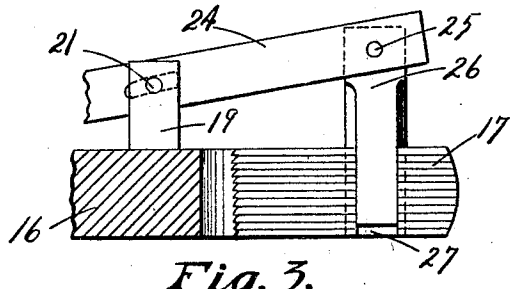


Fig. 3.

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UNITED STATES PATENT OFFICE.

BARNEY A. BARON AND EDWARD M. POFCHER, OF LOS ANGELES, CALIFORNIA.

NUT-LOCK WRENCH.

Application filed September 22, 1922. Serial No. 589,835.

To all whom it may concern:

Be it known that we, BARNEY A. BARON and EDWARD M. POFCHER, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Nut-Lock Wrenches, of which the following is a specification.

Our invention relates to nut lock wrenches, and a purpose of our invention is the provision of a wrench of this character which is particularly adapted for use in conjunction with nut locks of the character embodied in our copending application Serial No. , filed , to effect the unlocking of the nut to permit removal of the nut and bolt.

Although we have herein shown and described only one form of nut lock wrench embodying our invention, and will point out the novel features thereof in claims, it is to be understood that various changes and modifications may be made without departing from the spirit of the invention and the spirit and scope of the appended claims.

In the accompanying drawings,

Figure 1 is a view showing in side elevation one form of nut lock embodying our invention in applied position with respect to a nut lock;

Figure 2 is a top plan view of the nut lock wrench shown in Figure 1;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Referring specifically to the drawings, in which similar reference characters refer to similar parts, our invention, in its present embodiment, comprises a wrench portion including a shank 15 provided at one end with a head 16 recessed to form a pair of spaced jaws 17. Formed integral with or suitably secured to the shank 15 and the head 16 are standards 18 and 19, respectively, which are bifurcated at their outer or free ends and provided with pivot pins 20 and 21, respectively.

An operating lever 22 is extended between the bifurcated portions of the standard 18 and engaged by the pivot pin 20 to provide a fulcrum for the lever. The lever is pivotally connected at its forward end as indicated at 23 to a link 24, the latter being extended between the bifurcated portion of the standard 19 and engaged by the pin 21 for pivotally supporting the link. The forward end of the link is also bifurcated and extended through this bifurcated portion is a pivot pin 25 to which is attached a releasing finger 26. As clearly shown in Figure 3, the releasing finger is of dovetailed form in cross section and is adapted to work within a correspondingly shaped groove 27 formed in one of the jaws 17.

The lever 22 is normally urged to the position shown in Figure 1 by means of a leaf spring 28 secured to the standard 18 by means of the fastening members 29. In this urged position of the lever 22, it operates the link 24 to cause the releasing finger 26 to occupy a retracted position with respect to the grooved jaw 17. However, when the lever 22 is pressed in the direction of the shank 15 against the tension of the spring 28, the link 24 is actuated to cause the releasing finger 26 to occupy a projected position, or a position in which the free end of the finger extends beyond the outer side of the jaw 17.

The character of nut lock for which the wrench is designed includes a lock washer 30 locked against rotative movement on a bolt shank 31 but capable of movement longitudinally thereof. This lock washer is provided with a pawl 32 which is adapted to engage the teeth 33 of a nut 34 so as to lock the nut against rotation in one direction or in that direction in which removal of the nut can be effected.

In the applied position of the wrench with respect to the nut lock, the wrench portion is arranged so that the jaws 17 engage the nut 34, the faces of the jaws 17 being preferably corrugated as shown in Figure 3 to effect the secure gripping of the nut. With the wrench portion so applied, the releasing finger 26 is disposed opposite to the pawl 32 so that by depressing the lever 22, the releasing finger is moved to projected position to engage the pawl and move the latter free of the corresponding tooth 33. In this position of the releasing finger, it is now possible to rotate the nut 34 a portion of a turn or until the releasing finger disengages the pawl so that the latter engages with the succeeding tooth 33. By reapplying the whench so that the releasing finger is again opposite the pawl 32 the latter can be moved to disengaging position with respect to the corresponding tooth to allow of a further turning of the nut. This operation is repeated until the nut has been sufficiently unscrewed to be

free of the lock washer 30 when the removal of the nut from the bolt can be readily effected.

We claim:

1. A nut lock wrench comprising a handle, and a wrench portion adapted to embrace a nut having teeth adapted to be engaged by the pawl of a lock washer, and means movable when gripping the handle to engage said pawl to move the latter away from the nut so that the nut is free to be turned by manipulation of the wrench.

2. A nut lock wrench comprising a wrench portion including a shank and a head formed with jaws, one of said jaws being provided with a groove, a releasing finger slidable in the groove to occupy projected or retracted position with respect to the corresponding jaw, and lever operated means sustained on the wrench portion for moving the releasing finger to projected or retracted position.

3. A nut lock wrench comprising a wrench portion including a shank and a head formed with jaws, one of said jaws being provided with a groove, a releasing finger slidable in the groove to occupy projected or retracted position with respect to the corresponding jaw, a lever pivotally sustained on the wrench portion, and a fulcrumed link operatively connecting the lever with the releasing finger to cause actuation of the finger upon movement of the lever.

4. A nut lock wrench comprising a wrench portion including a shank and a head formed with jaws, one of said jaws being provided with a groove, a releasing finger slidable in the groove to occupy projected or retracted position with respect to the corresponding jaw, a lever pivotally sustained on the wrench portion, a fulcrumed link operatively connecting the lever with the releasing finger to cause actuation of the finger upon movement of the lever, and means for urging the lever to a position in which the releasing finger normally occupies a retracted position.

5. A nut lock wrench comprising a wrench portion including jaws, one of which is formed with a dovetailed groove, a releasing finger of dovetail form in cross section and slidably mounted in said groove to occupy retracted or projected position with respect to the corresponding jaw, a lever pivotally sustained on the wrench portion and operatively connected to the releasing finger, and means for urging the lever to a position in which the releasing finger normally occupies a retracted position.

6. A nut lock wrench comprising a wrench portion including a shank and a head disposed at an angle with respect to the shank and provided with jaws, one of said jaws being formed with a groove, a releasing finger mounted for sliding movement in said groove to occupy an extended or retracted position, a lever pivotally sustained on the shank portion and having an angularly disposed extremity, a link pivoted on the head portion and connected to the angular extremity and to said releasing finger to permit actuation of the latter upon movement of said lever, and means for urging the lever to a position in which the releasing finger is in retracted position.

7. A nut lock wrench, comprising a head, a pawl releasing finger movable through the head to occupy retracted or projected position, and lever operated means for moving the finger to projected or retracted position.

8. A nut lock wrench, comprising a head, a releasing finger movable through the head to occupy projected or retracted position, lever operated means for moving the finger to projected position, and means for urging said means so that said finger normally occupies a retracted position.

9. A nut lock wrench, comprising a head, a pawl releasing finger movable through the head to occupy retracted or projected position, and manually operated means for moving the finger to projected or retracted position.

In testimony whereof we have signed our names to this specification.

BARNEY A BARON.
EDWARD M. POFCHER.