T. J. CALHOON.

WRENCH.

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1,154,612. Patented Sept. 28, 1915.

Fig. 1.

Fig. 2.

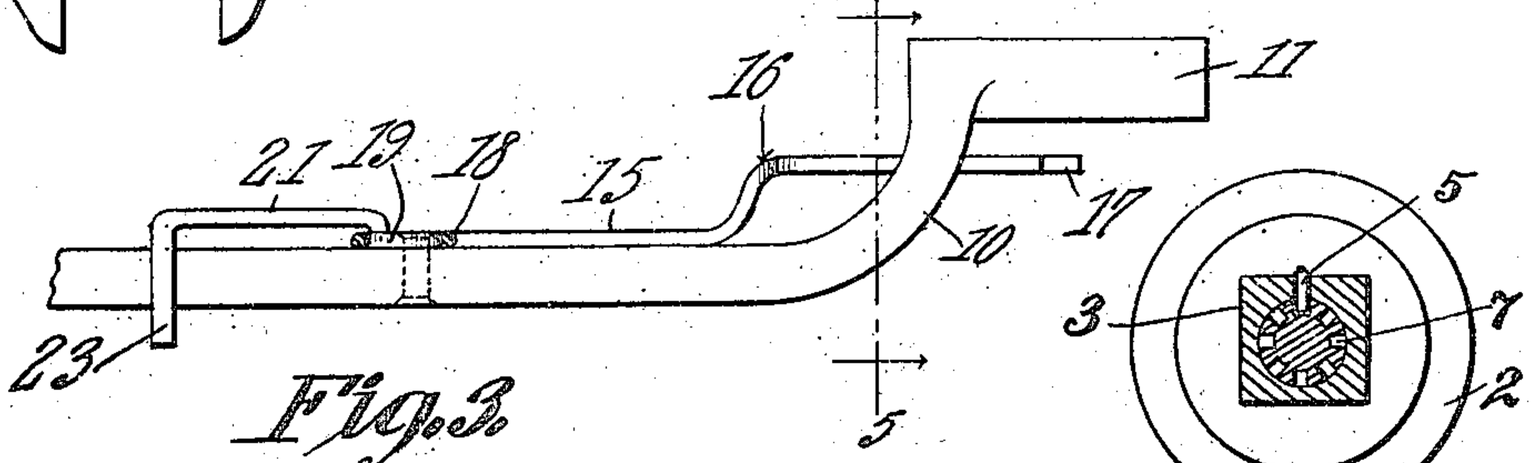


Fig. 3.

Fig. 6.

Fig. 4.

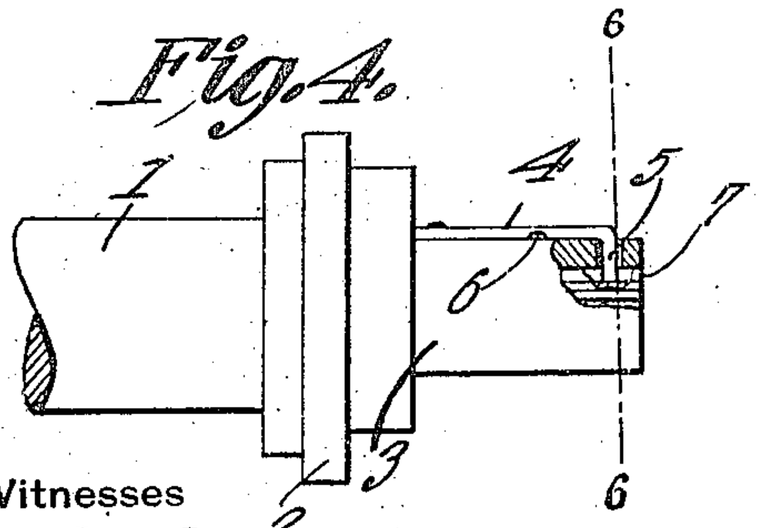
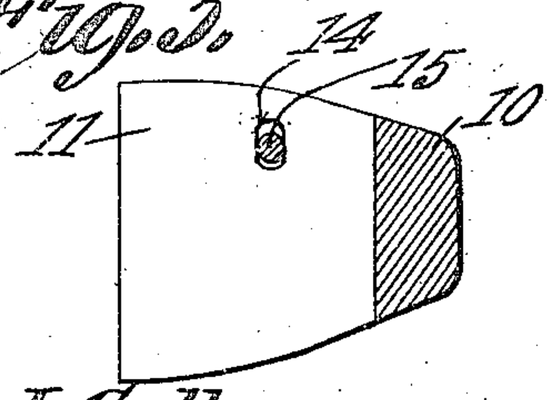


Fig. 5.



Witnesses

J. T. Chambers

R. M. Clark

T. J. Calhoon, Inventor

by Cachow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

TILMON J. CALHOON, OF MONROE, LOUISIANA.

WRENCH.

1,154,612. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed February 26, 1915. Serial No. 10,804.

To all whom it may concern:

Be it known that I, TILMON J. CALHOON, a citizen of the United States, residing at Monroe, in the parish of Ouachita and State of Louisiana, have invented a new and useful Wrench, of which the following is a specification.

The device forming the subject matter of this application is a wrench adapted to be employed in the manipulation of a nut having a lock of specific form, as hereinafter described.

In the wrench forming the subject matter of this application, a releasing member is provided whereby a locking latch upon the nut is moved into an inoperative position.

One object of the present invention is to provide a releasing member of novel form and to provide novel means for controlling and actuating the releasing member.

It is within the scope of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—Figure 1 is a front elevation of a wrench embodying the present invention, the wrench being applied to a nut, and the releasing member being in retracted position; Fig. 2 is a front elevation, the releasing member being in advanced position; Fig. 3 is a fragmental top plan parts being in section; Fig. 4 is a fragmental side elevation showing a nut of the sort upon which the wrench forming the subject matter of this application is adapted to operate, portions of the nut being broken away; Fig. 5 is a cross section taken approximately on the line 5—5 of Fig. 3. Fig. 6 is a cross section on the line 6—6 of Fig. 4.

In order that the function and utility of the wrench hereinafter described may be understood clearly a description of the wrench is preceded by a description of the lock nut upon which the wrench is adapted to operate.

As shown in Fig. 4, the numeral 1 indicates, for instance, the axle of a vehicle onto which is threaded a nut 2, the latter embodying a projecting, polygonal wrench receiving shank 3. The nut 2—3 is held against rotation on the axle 1 by means of a resilient locking arm 4, the inner end of which is secured to the shank 3 of the nut, the outer end of which is provided with a rectangular finger 5, passed slidably through the wall of the shank 3 and adapted to coöperate with teeth or longitudinal grooves 7 formed on the outer end of the spindle 1. If desired, the locking arm 4 may be provided intermediate its ends and upon its lower edge with a seat 6.

It is obvious that when the finger 5 is engaged with the teeth 7 of the axle 1, the nut 2—3 will be prevented from rotating. If, however, the resilient arm 4 is elevated so that the finger 5 no longer is engaged with the teeth 7, then the nut 2—3 may be threaded off the spindle 1. A raising of the arm 4 may be brought about by thrusting a releasing member beneath the arm 4, the releasing member ordinarily being received in the seat 6.

The nut lock above described cannot be covered in the same application with a wrench, and should the nut lock be found to contain patentable features, such features may be embodied in a separate application.

Passing to a description of the wrench which alone can be claimed in this application, the same is shown as comprising a handle 8 which if desired, may be provided at its free end with the usual appurtenances 9 for handling nuts of different sizes, the elements 9 last above mentioned forming no patentable combination with the structure to be described hereinafter.

Obviously, if desired, the parts indicated at 9 may be dispensed with.

The handle 8 is offset to form a laterally projecting arm 10 terminating in a nut receiving head 11 having a polygonal opening 12. One wall of the head 11 is provided with a notch 24, the function of which is to receive the arm 4 when the head 11 is slipped onto the wrench shank 3 of the nut.

In the arm 10 there is formed a guide preferably in the form of a hole 14 and in the hole 14 is mounted for reciprocating movement, a releasing member 15 preferably in the form of a rod, the releasing member being offset as shown at 16 into approximate parallelism with the arm 10. The forward

end of the releasing member 15 is beveled as shown at 17, so that the forward end of the releasing member may pass readily beneath the resilient arm 4 to effect a raising thereof, the forward end of the releasing member ordinarily being received in the seat 6.

A means is provided for advancing and retracting the releasing member 15, and with this end in view, the releasing member is provided adjacent its rear end with an eccentric strap 18 surrounding an eccentric 19. Attached to the eccentric 19 is an actuating element 21 preferably in the form of a lever or handle, adapted to move above the handle portion 8 of the wrench. A pivot element 22 passes through the eccentric 19 and is carried by the handle 8.

At its free end, the handle portion 21 of the eccentric is provided with a lateral projection 23 adapted to engage the upper edge of the handle 8 under circumstances which will be pointed out hereinafter.

When the releasing member 15 is in the retracted position shown in Fig. 1, the handle portion 21 of the eccentric 19 is rearwardly extended and the projection 23 engages the handle 8. Thus, the retracting movement of the releasing member 15 is limited. With the parts thus positioned, the head 11 of the wrench is slipped over the shank 3 of the nut 2. Then, the handle 21 of the eccentric is swung over in the direction of the arrow A in Fig. 1 until the projection 23 engages the upper edge of the handle 8 as is shown in Fig. 2. By this operation, through the instrumentality of the eccentric 19 and the strap 18, the releasing member 15 is advanced until its beveled end 17 passes underneath the arm 4 and elevates the same, so that the finger 5 no longer is engaged with the axle 1. Thereupon, the nut 2 may be rotated, in the usual manner, to tighten or to loosen the same. When the handle 21 of the eccentric 19 is restored to the position shown in Fig. 1, the forward end of the releasing member 15 is in retracted position with respect to the arm 4, the arm 4 resumes the position shown in Fig. 4, and the head 11 of the wrench may be slipped readily off of the shank portion 3 of the nut.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a wrench comprising a handle, a laterally offset arm projecting from the handle, and a head on the arm, the head being provided with an opening, and being disposed approximately parallel to the arm; a longitudinally movable releasing member one end of which moves close to one edge of the opening and approximately parallel thereto, the releasing member being offset intermediate its ends to coact with the handle; and handle carried means whereon the rear end of the releasing member is movably supported.

2. In a device of the class described, a wrench comprising a handle and a nut receiving head; a releasing member movable longitudinally of the handle and adapted to coact with the head, the releasing member including an eccentric strap; and an eccentric pivoted to the handle and coacting with the strap.

3. In a device of the class described, a wrench comprising a handle and a nut receiving head; a releasing member movable longitudinally of the handle and comprising an eccentric strap; an eccentric pivoted on the handle and coacting with the strap, the eccentric comprising a lateral projection coacting at different times with spaced parts of the wrench to define the advanced and retracted positions of the releasing member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

TILMON J. CALHOON.

Witnesses:

C. S. DUNN,

R. A. YOUNG, Jr.