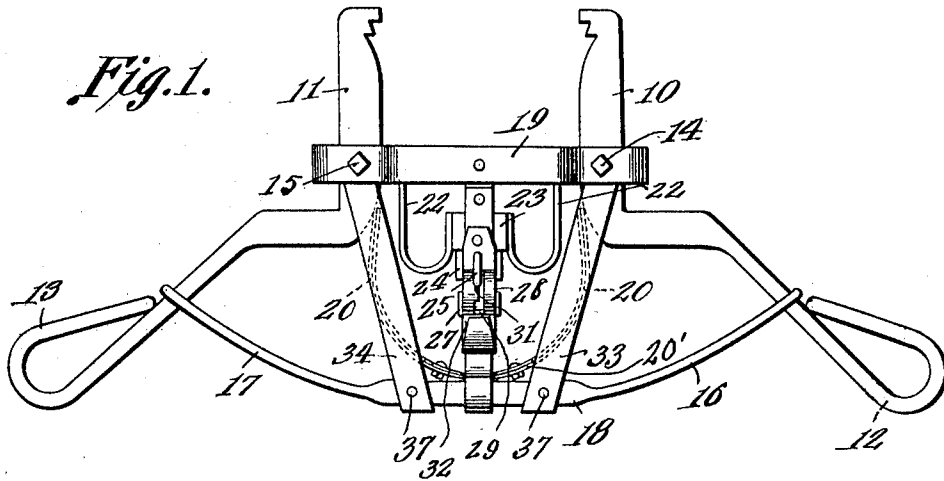
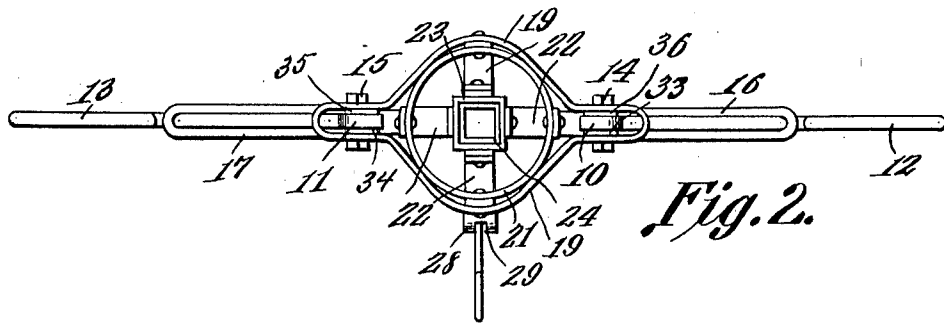
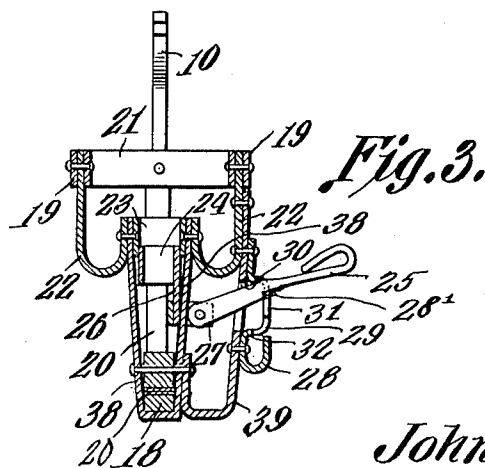


J. P. OWENS.
BUGGY WRENCH.
APPLICATION FILED DEC. 9, 1912.

1,066,522.

Patented July 8, 1913.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN P. OWENS, OF LAWLER, IOWA.

BUGGY-WRENCH.

1,066,522.

Specification of Letters Patent.

Patented July 8, 1913.

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To all whom it may concern:

Be it known that I, JOHN P. OWENS, a citizen of the United States, residing at Lawler, in the county of Chickasaw and State of Iowa, have invented a new and useful Buggy-Wrench, of which the following is a specification.

My invention relates to wrenches and more particularly to an axle nut wrench which will remove and replace a carriage axle nut simultaneously with the wheel.

An object is to provide an axle wrench of light and durable construction, adapted to remove axle nuts of various sizes, and adapted to engage the wheel spokes so that the latter may serve as a lever in removing and replacing the nuts.

With the foregoing 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 drawings accompanying this specification and forming a part thereof, Figure 1 is a plan view of my improved form of wrench. Fig. 2 is a top plan view thereof, and Fig. 3 is a vertical cross sectional view taken transversely of Fig. 2 and slightly to one side of the lever 25.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 10 and 11 are clamping arms pivotally supported to the frame 19 by means of the bolts or pins, 14, 15. The upper ends of the clamping arms are formed with the serrated edges adapted to engage the spokes of a wheel, and the lower portions are bent upon themselves to form the handles 12 and 13. These clamping arms move within the guides 16 and 17 which guides merge into one solid portion 18, upon which portion 18 is secured or mounted the U-shaped spring 20 which is a compression spring and is adapted to hold the handles 12 and 13 spread apart or the portions 10 and 11 into engagement with the spokes of the wheel.

A circular ring 21 is spaced within and rigidly fastened to the frame 19 by rivets or other suitable means, and to this ring is

secured the four sprocket supporting arms 22. These arms are bent upward at their lower extremities and rigidly support the socket or axle-nut cap 23. In order that the wrench may be given a considerable range of application, a second socket 24 is mounted movably within the socket 23 and should the socket 23 be too large to properly engage an axle nut, the movable socket 24 is moved into position to thereby form a bushing for the socket 23. This movable socket 24 is provided with the downwardly extending portion 26 with the lug 27 fastened thereto. To this lug is pivotally connected the actuating lever 25. This actuating lever moves within the member 28 which is provided with slots 29 and 30 and a communicating passage 31 therebetween. By means of the lever 25 working within the slots 29 and 30 the movable socket 24 is held in a lowered position as shown in Fig. 3 when the lever 25 is positioned in the upper slot 30 as shown, and in order to hold the socket in an upward position, the lever 25 is moved within the slot 29 which holds the socket 24 in a raised position by contacting with the downwardly extending portion 32 of the member 28.

The guides 16 and 17 are held in place and supported by the U-shaped members having the upwardly extending arms 33, 34, 35 and 36. These arms are connected at their upper extremities to the frame 19, and are riveted to the portion 18 by means of the rivets 37 at their lower extremities. A U-shaped brace member 38 is rigidly fastened to the socket 23 at its upper portion and riveted to the member 18 at its lower portion. Thus it will be seen that I have provided a structure skeleton in design and at the same time one which embodies rigidity and strength. The hereinbefore described member 28 is secured to and supported by the member 39, which latter member is riveted at its lower portion to the member 18, and to the frame 19 at its upper portion as more clearly shown in the sectional view, Fig. 3. This member 39 has a slot cut therein to allow for the movement of the lever 25.

In the practical operation of my device, the handles 12 and 13 are grasped and drawn together, which action will extend the arms 10 and 11 and allow them to be placed between the spokes of a wheel of a

buggy the axle nut of which is to be removed or replaced. The wrench is then so positioned that the hub of the wheel extends within the circular ring 21, and the axle-nut extends within the socket 23. Should this socket be too large for the proper engagement of the nut, the movable socket 24 is moved into position to act as a bushing for the above mentioned socket. The handles 12 and 13 are then freed and the spring 20 acting thereon will force the upper ends 10 and 11 into engagement with and between the wheel spokes. By now turning the wheel in a backward direction, the wrench will be rotated and the axle nut accordingly removed. The same operation is repeated in order to replace the nut with the exception that in this case the wheel is rotated in a forward direction which will securely screw the nut upon the axle, as will be readily understood by those familiar with carriage constructions.

From the foregoing it will be seen that I have devised a wrench light and strong in construction, and having the desirable feature that it may be applied to axle nuts of various sizes.

Having thus fully disclosed the construction and operation of my improved buggy wrench, what I claim to be new and original with me is:—

1. In an axle nut wrench, a frame, a ring positioned therein and supported thereby, a pair of clamping arms pivotally connected to said frame, and held in a clamping position by means of springs, a nut cap supported by said ring, disposed centrally thereof and positioned therebeneath, a pair of guides supported by said frame and said nut cap, adapted to guide and limit the movement of said clamping arms, and a movable cap located within said nut cap and adapted to act as a bushing for the latter.

2. In an axle nut wrench, the combination of a frame, clamping arms pivotally connected thereto, guides for said clamping arms, a rigidly supported nut cap or socket, a movable cap or socket mounted therein, a lever for actuating said movable cap, and

means for holding said lever in a stationary position.

3. In an axle nut wrench, a frame, spoke engaging arms pivotally connected thereto, gripping handles at the lower ends of said arms, a ring disposed within said frame and supported thereby, arms supported by said ring and supporting a nut engaging cap, a movable cap positioned therein, a lever for actuating said movable cap, a member provided with slots having a limited passage therebetween for holding said lever in a stationary position, and guides for limiting and guiding the movement of said clamping arms.

4. A cap for a buggy wrench, comprising a stationary cap, a bushing therefor and positioned therein, said bushing being provided with an extension, a lug carried by said extension, a lever pivotally connected thereto, and a slotted guide member for said lever, adapted to hold said lever in two stationary positions, said positions of the lever corresponding to a raised and lowered position of said bushing.

5. A wrench for buggy axle nuts, comprising a frame, a pair of clamping arms pivotally connected thereto, said clamping arms being substantially bell crank in shape and having handles at their lower extremities, a ring positioned in said frame and supported thereby, U-shaped members supported by said frame and supporting a guide member for said clamping arms, a U-shaped compression spring supported by said guide member adapted to hold said clamping arms in a clamping position, arms rigidly connected to said ring and connected to a U-shaped member, which member is rigidly connected to and positioned centrally of said guide member, said arms being adapted to support an axle nut cap.

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

JOHN P. OWENS.

Witnesses:

ALVA W. CLOPHAM,
C. E. YOUNG.