

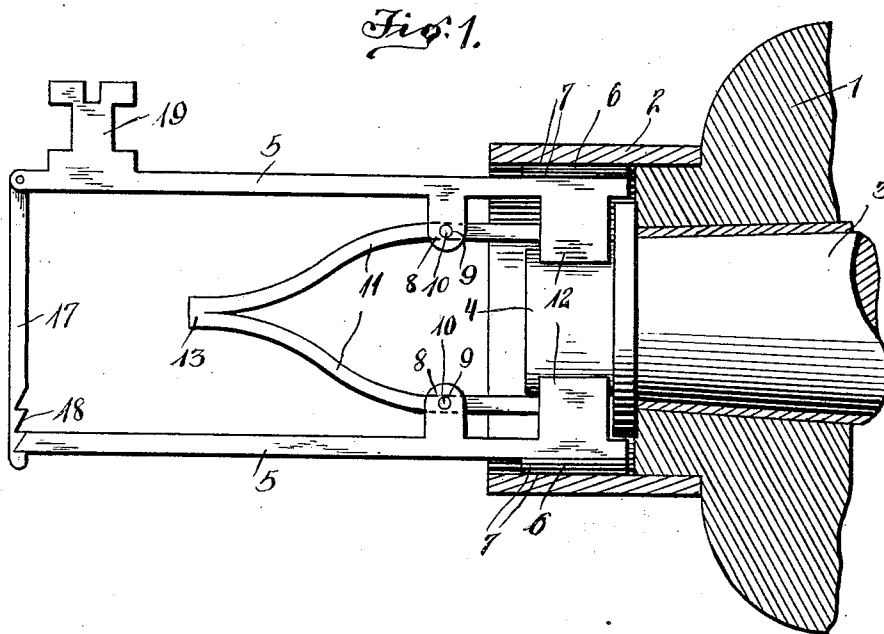
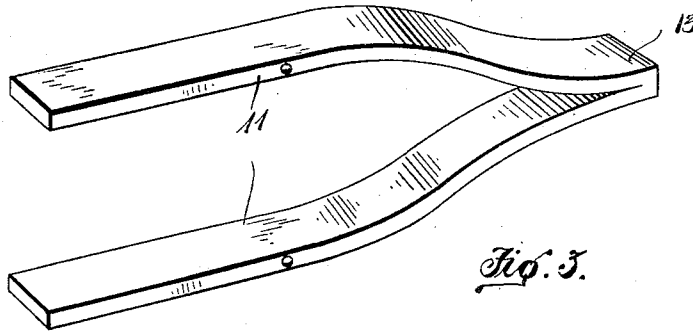
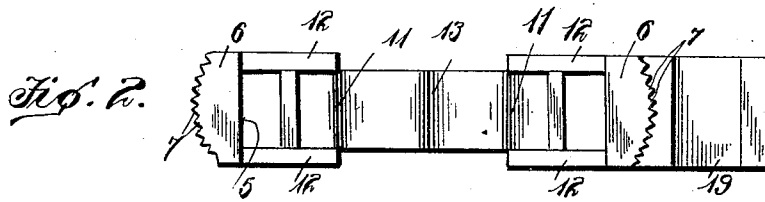
M. E. BIGELOW.

WRENCH.

APPLICATION FILED JULY 17, 1911.

1,041,956.

Patented Oct. 22, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

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WRENCH.

1,041,956.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MERLE E. BIGELOW, a citizen of the United States, residing at Milford Center, in the county of Union, State of Ohio, have invented certain new and useful Improvements in Wrenches; and I do hereby 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.

This invention relates to wrenches particularly adapted for removing the nuts from vehicle axles, and has for its object to provide a device of this character, which is simple in construction, durable, and efficient in its operation.

A further object of the invention is to so construct a device of this character that when applied to the nut of an axle the construction permits of the removal of a nut upon the rotation of the wheel and hub.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claim, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a sectional view through a vehicle hub showing the manner in which the wrench is applied. Fig. 2 is an end view. Fig. 3 is a detailed perspective view of the nut engaging jaws.

Referring to the drawings, the numeral 1 designates the hub of a vehicle and 2 the band thereof. Passing through the hub is an axle 3 having its outer end threaded for the reception of a nut 4 in the usual manner.

The wrench comprises a pair of spaced levers 5, each of which having formed at their outer ends heads 6, said heads being substantially semi-circular in cross section, and have their outer surfaces provided with serrations 7 for engagement with the interior of the band 2. Each of the levers are further provided with a pair of oppositely disposed ears 8, said ears being provided

with registered openings 9, and through which pivot pins 10 are passed and secured in any suitable manner.

Pivotally connected to the pins 10 and between the ears 8 are arms 11, each of said arms being located at their outer ends between inwardly directed flanges 12 formed upon the ends of the levers 5. The inner ends of the arms 11 are formed integral as at 13 and constructed to exert a constant pressure upon the inner ends of said arms whereby the outer ends of the arms are forced toward each other when in operation. Pivotally connected to the extreme inner ends of one of the levers 5 is a link 17, said link being provided with notches 18, and in which the extreme outer end of the other lever is adapted to engage any one of said notches to hold the head 6 in yielding contact with the band 2. Formed integral with one of the levers 5 is a head 19, said head being provided with a number of different size nut sockets 20 for use upon nuts upon different parts of the vehicle.

The device is applied as follows:—The headed ends of the levers 5 are pressed inwardly against the tension of the spring arms 11. The flanges 12 are then pressed on either side of the nut 4 which is preferably square in shape and the arms 5 released. The spring arms 11 force the serrated portions 7 of the heads 6 into engagement with the interior of the dust band 2 which limits the outward movement of the flange to such an extent that the nut 4 will not become disengaged therefrom. This construction obviously when the wrench is applied, secures the nut 4 to the hub through the medium of the band 2.

It will be noted that upon rotation of the wheel in one direction, and when the wrench is in its proper position the nut may be removed, and upon rotation in the opposite direction the nut may be securely mounted upon the axle.

What is claimed, is:—

A wrench comprising a pair of levers, ribs formed upon the outer ends of said levers and having their faces serrated for engagement with the interior of the band of a hub, inwardly directed spaced flanges formed integral upon the ends of the levers, spring arms pivotally connected to the

levers, said arms having their outer ends located between the inwardly directed flanges for engagement with a nut, an integral connection between the arms, a link pivotally
8 connected to one of the levers and provided with notches for receiving the inner edge of the other lever whereby the heads will be held in yielding contact with the band for
the purpose of removing or replacing an axle nut upon the rotation of the hub. 10
In testimony whereof, I affix my signature, in presence of two witnesses.
MERLE E. BIGELOW.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
