LUG WRENCH SUPPORT

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LUG WRENCH SUPPORT

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2 Claims. (Cl. 81—54)

1. This invention relates in general to lug wrench supports and in particular to a support temporarily mountable on the hub of a vehicle wheel and adapted to receive and steady the lug wrench during its manipulation in the removal or tightening of the wheel bolt nuts.

It is particularly true in heavy vehicles such as trucks and the like that considerable force is necessary to remove the nuts from the bolts holding the wheels in place. In using the wrenches presently available the usual procedure, after applying the socket of the wrench to the nut is to attempt to form a support by holding the wrench with one hand at its pivot point and turning the wrench with the other hand. Quite often the amount of force necessary to loosen the nut is greater than one man can exert and the combined efforts of two men is needed to start the nut.

With certain forms of lug wrenches having sockets at each end, I found it necessary to provide a modified form of support with a removable and interchangeable wrench shank bearing element which would permit insertion of the lug wrench and accommodate wrench shanks of different diameters.

With this in mind, the objects of my invention are, first: to provide a support for a socket wrench which can be temporarily received by the hub of the vehicle wheel, said support rotatably receiving a lug wrench.

Second: to provide a modified form of my invention having a support with radially disposed adjusting screws permitting adaption of the device to hubs of different diameters.

Third: to provide, in a modified form of lug wrench support, removable and interchangeable pivot bearing elements for reception of lug wrenches having a socket at each end and with shanks of different diameters.

Other objects and advantages, as well as the construction and operation of my invention will be apparent by reference to the following description in connection with the accompanying drawings in which:

Fig. 1 is a longitudinal sectional view, with fragmentary portions shown in elevation, of a lug wrench support comprising one form of my invention.

Fig. 2 is a similar view through another form of the invention showing adjustable radially disposed screws for adaption of the support to hubs of different diameters, and

Fig. 3 is a cross sectional view of a modification in which the lug wrench pivot bearing element is removable for reception of double ended socket wrenches or wrenches with shanks of different diameters.

Referring now to the drawing by numerals of reference I designates the hub usually found on motor trucks and heavy vehicles. A plurality of bolts 1 and nuts 2 are disposed about the hub and hold the wheel 3 in place on the vehicle.

My invention comprises essentially a cylindrical sleeve 4 snugly fitting hub 1 and carrying offset sleeve support 5 in alignment with the diametrically spaced bolts 1 and adapted to receive shank 6 of socket wrench 7, the squared end 8 of which may be received in socket 9 having transverse handle 10.

In this form of my invention the support is designed for use on a particular vehicle or vehicles with a specific hub diameter and wheel bolt spacing from the hub center. The tool may be kept with the vehicle for use in emergency wheel changes.

In the modification shown in Fig. 2 the cylindrical sleeve 4 may be provided with a plurality of spaced adjusting screws 11 by means of which the sleeve can be accommodated on hubs of a wide range of diameters.

A number of lug or socket wrenches are made double ended, that is, a socket is provided fixed on each end making it impossible to slip the shank through a sleeve as shown in Fig. 1.

For use with wrenches of this type, Fig. 3 shows a removable sleeve segment 12 having transverse ears 13 received in guides 14. A registering segment 15 projects from the cylindrical sleeve 4 and face 16 abuts face 17 of the sleeve segment 12.

The radius of the inner curved face 18 of the sleeve segment 12 may vary according to the diameter of the shank of the socket wrench to be used. The radius of the curved face 19 of the projecting segment 15 may be large enough to accommodate the diameter of the shank of the largest socket wrench to be used.

The form of my invention shown in Fig. 2 and Fig. 3 is designed primarily for use at service stations, garages, repair shops and the like where trucks and heavy vehicles of different makes and having hubs of different diameters are serviced.

In using my lug wrench support one man can easily manipulate the device as it provides the pivot support formerly provided by a second man and greatly increases the leverage and force transmission between the lug wrench and the wheel bolts.

From the foregoing it will be seen that I have
provided a simple, relatively inexpensive lug wrench support which will expedite the removal and application of wheel nuts on heavy vehicles such as trucks and the like.

Also I have provided a form of lug wrench support which is flexible in nature being adapted for use on hubs of different diameters and with lug wrenches of different sizes.

It is obvious that changes in form, proportion and details of construction may be resorted to without departing from the spirit of my invention and I reserve all rights to such changes as come within the scope of this specification and the claims which follow.

What I claim as new and desire to secure by Letters Patent is:

1. In a lug wrench support for use on the hub of a vehicle to tighten and remove wheel bolt nuts, a sleeve concentrically receivable about the hub, a projecting member on the sleeve, guides adjacent the projection, an interchangeable segment removably carried by the guides, said projecting member and interchangeable segment forming a sleeve for reception of the shank of the lug wrench, the projecting member being formed with a maximum radius for reception of the largest shank of a lug wrench, the interchangeable segment being formed with a radius substantially registering with the radius of the projecting member and coinciding with the shank of the specific lug wrench used with the support.

2. In a lug wrench support for use on the hub of a vehicle to tighten and remove wheel bolt nuts, a hub engaging member, an offset guide means carried by the hub engaging member, an interchangeable segment removably carried by said guide means, said segment and guide forming a support for reception of the lug wrench.

RICHARD H. KASTER.

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