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WRENCH SUPPORT

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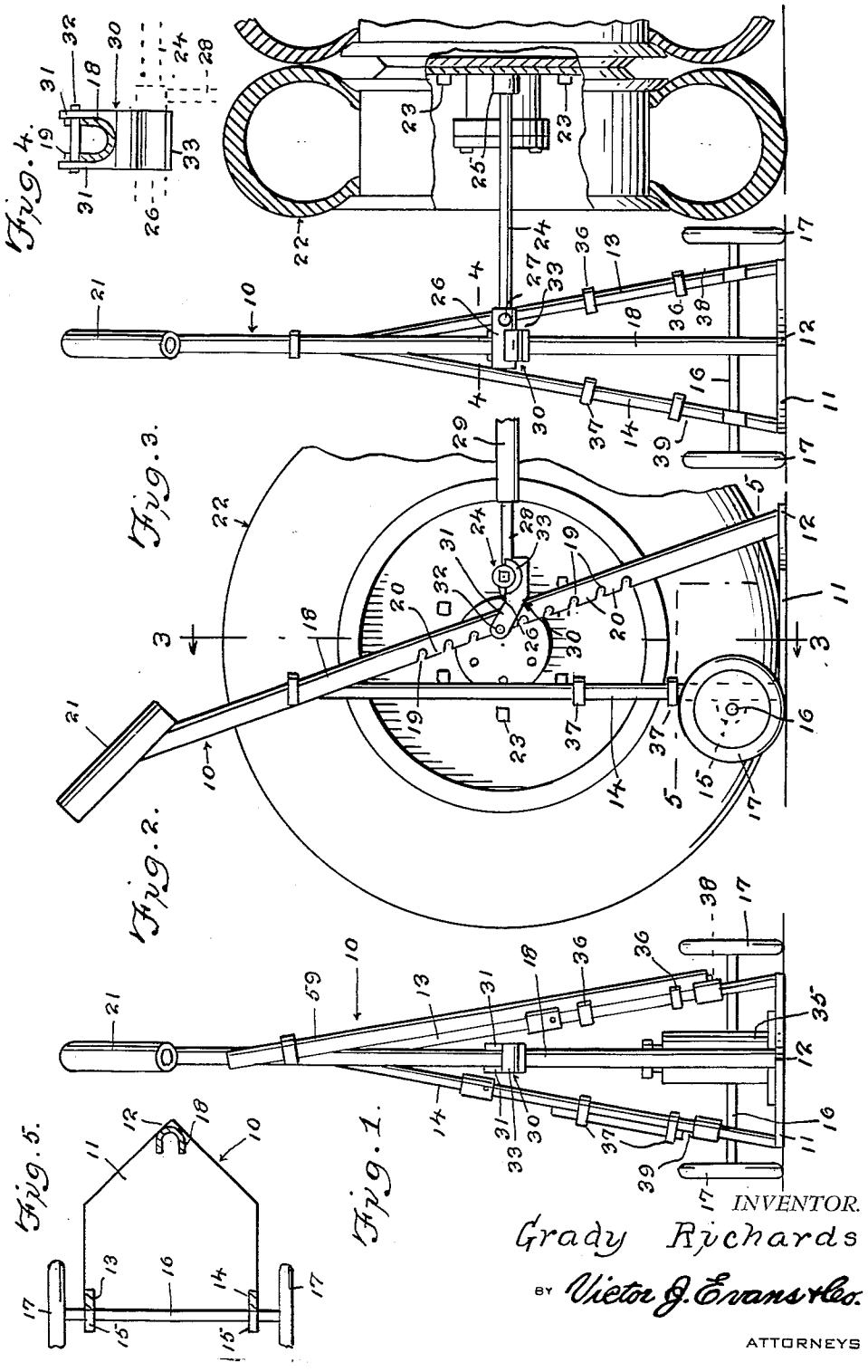


Fig. 4.

Fig. 3.

Fig. 2.

Fig. 1.

Fig. 5.

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WRENCH SUPPORT

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2 Claims. (Cl. 81—53)

This invention relates to a tool support, and more particularly to a device for supporting lug wrenches, as when said lug wrenches are being used in the changing of vehicle wheels.

The object of the invention is to provide a support member which will support the outer end of a lug wrench, as for example when truck wheels are being changed or removed.

Another object of the invention is to provide a wrench support which includes a member that can be adjusted so that any one of the differently positioned lugs can be readily removed or tightened, whereby the lug wrench will be provided with a fulcrum so that the wrench will not slip off of the lug as for example when the lug is being removed or replaced.

A further object of the invention is to provide a wrench support which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a front elevational view illustrating the wrench support of the present invention.

Figure 2 is a side elevational view of the wrench support, showing the device in use.

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

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a sectional view taken on the line 5—5 of Figure 2.

Referring in detail to the drawings, and more particularly to Figures 1–5 of the drawings, the numeral 10 indicates the wrench support of the present invention, and the wrench support 10 includes a base 11 which has a front pointed end 12.

Extending upwardly from the rear portion of the base 11 and secured thereto in any suitable manner, as for example by welding, is a pair of braces 13 and 14, and extending rearwardly from the braces 13 and 14 are bearings 15 which support a horizontally disposed axle 16. A pair of ground engaging wheels 17 are mounted on the axle 16, and the wheels 17 permit the device to be readily moved from place to place as desired.

Extending upwardly from the front end of the base 11 and secured thereto in any suitable manner, as for example by welding, is an inclined bar 18 which has a U-shape in cross section, as for example as shown in Figures 4 and 5. The bar 18 is provided with a plurality of spaced apart slots or cutouts 19 which define fingers 20 therebetween for a purpose to be later described.

Secured to the upper end of the bar 18 in any suitable manner, as for example by welding, is a handle 21, and the handle 21 is adapted to be gripped so that the device can be readily moved or handled as desired. The numeral 22 indicates a wheel assembly which may form

part of a vehicle such as a truck or the like, and the wheel assembly 22 includes the usual lugs 23. The numeral 24 indicates a wrench which has a socket 25 on one end thereof for engagement with the lugs 23, and a socket 26 may be arranged on the other end of the wrench 24, and the socket 26 may be provided with a bore or opening 27 whereby an end 28 of a tool 29 can be arranged in engagement with the bore 27 as when the wrench 24 is being rotated.

Adjustably connected to the bar 18 is a movable bracket 30 which includes a pair of spaced apart arms 31 which have a pin or bolt 32 extending therebetween, Figures 2 and 4. The pin 32 is adapted to engage the slots 19, so that the bracket 30 can be supported in different elevations on the bar 18 whereby different lugs 23 can be readily removed or replaced. Carried by the bracket 30 is a curved cradle 33 which is adapted to support and provide a fulcrum for the outer end of the wrench 24.

The support device of the present invention is adapted to be used for holding or supporting various accessory tools so that such tools will be conveniently at hand when they are needed. For example, as shown in Figure 1, a hydraulic jack 35 may be supported on the base 11, and loops or clips 36 and 37 may be secured to the braces whereby wrenches or the like can be releasably supported therein. Hook members 38 and 39 may also be secured to the braces for use in helping to support various wrenches, pipes, tools or the like.

From the foregoing, it is apparent that there has been provided a tool which is especially suitable for use in supporting the outer end of a wrench such as the wrench 24 when the wrench 24 is being used for removing or tightening lugs such as the lugs 23 on a vehicle wheel 22. In use, the wheels 22 may form part of a vehicle such as a truck or the like, and when the wheels 22 are to be removed, the lugs 23 are adapted to be loosened, and when the wheels are being replaced on the vehicle, the lugs 23 are tightened, and heretofore difficulty has been experienced in providing a fulcrum or support for the outer end of the wrench 24. The lugs 23 are usually put on in such a tight manner that it is difficult to turn such lugs, so that it is usually necessary to arrange an additional bar such as the bar 29 in engagement with the opening 27 in the socket 26 of the wrench 24 whereby additional or sufficient leverage can be provided to permit the lug 23 to be turned. However, difficulty has been experienced since there is no support for the outer end of the wrench 24, but the present invention overcomes this difficulty.

According to the present invention, the support 10 can be moved to the desired location by means of the wheels 17, and then the bracket 30 can be raised or lowered on the bar 18 and when the bracket 30 is at the desired elevation, the pin 32 will engage the slots 19 so that the cradle 33 will be supported at the proper elevation to receive the outer or socket end 26 of the wrench 24. Thus, the cradle 33 provides a rotatable support for the socket portion 26 of the wrench 24 so that when a member such as the member 28 of the bar 29 is engaged in the opening 27, the wrench 24 can be rotated in such a manner that it will remain in a horizontal position whereby the lug 23 can be readily removed or tightened. In view of the fact that there are a plurality of the vertically spaced apart slots 19, it will be seen that the pin 32 can be readily disengaged from any of these slots 19 and arranged in engagement with different of the slots so that the cradle 33 can be supported in any desired position which is necessary to support the wrench 24 for working on any of the different lugs 23.

As previously stated, the handle 21 can be used for moving the device from place to place as desired, and

the base **11** can be used as a support for various accessories as for example in Figure 1 a portion of a hydraulic jack **35** is shown being supported on the base **11**.

The parts can be made of any suitable material and in different shapes or sizes.

From the foregoing, it will be seen that there has been provided a device which is adapted to be used for supporting the outer end of truck lug wrenches, as for example while changing wheels on trucks which are equipped with Budd type wheels. The support member **10** can be readily moved from place to place on the wheel **17**.

Wheels made by the Budd Company may vary in the number of lugs from five to ten, depending on the size of the truck and the intended load they are to carry, and they are designed so that the lugs support the entire weight of the vehicle so that it will be seen that the lugs must be kept very tight, or the wheels may be damaged or lost entirely.

The usual lug wrenches which are furnished with most trucks, do not have enough leverage so that a piece of pipe is slipped over the wrench handle for added leverage. This pipe is usually of 1¼" or 1½" diameter and may be three or four feet long and this is to create a semi-fulcrum at the outer end of the lug wrench. When this added force is put on the wrench to either lossen or tighten the lugs, it has a tendency to slip off the lug and fall down. The member of the present invention serves to support the outer end of the wrench at the exact spot of that semi-fulcrum, and due to the adjustable bracket, the outer end of the lug wrench can be supported in a level position with any of the five to ten lugs, around the wheel hub.

The mobile type of support shown in Figures 1–5 is adapted to be used in a service station that does truck tire work and small truck terminals and the like. The loops **36** may be made of thin tubular steel and these can be welded on the brace **13** so that for example a lug wrench handle can be readily slipped down into these loops and supported thereby, when the lug wrench handle is not being used. The loops **37** can be used to support a lug wrench, and suitable stop members may be provided adjacent the bottom of the accessories or tools. The hook **38** can be used to help support the hydraulic jack handle **59**, while another loop can be used to support the top end of the jack handle when these parts are not being used. The hook **39** can be used to support a piece of pipe. Thus, by setting the hydraulic jack **35** inside the frame on the base **11**, and with the other tools arranged as described above, it will be seen that there is provided a mobile tire changing set-up which can be readily wheeled out on the driveway, or vacant lot, wherever a truck may be parked. Then, the user will have all of the necessary tools to change a truck wheel plus the advantage of the support member of the present invention to hold the outer end of the lug wrench. The unit can be left at the truck until the necessary repairs are made, and all the tools can be brought back in on one trip.

The support member will prevent the lug wrench from falling off of the lug, whereby the changing of truck wheels or the like will be greatly facilitated.

While I have shown a preferred form of my invention, I reserve all rights to such modifications as properly fall within the scope of the invention as claimed.

I claim:

1. In a wrench support, a base, a pair of braces extending upwardly from the rear of said base and secured thereto, an inclined bar which is U-shaped in cross section extending upwardly from the front of said base and secured thereto, there being a plurality of spaced apart slots in said bar defining fingers therebetween, a bracket adjustably connected to said bar and including a pair of spaced parallel arms, a pin extending between said pair of arms and mounted for movement into and out of engagement with said fingers, an arcuate cradle secured to said bracket and said cradle adapted to support the outer end of a wrench which has its other end arranged in engagement with a wheel lug, a handle secured at the upper end of said bar, bearings extending rearwardly from said braces, a horizontally disposed axle supported by said bearings, and a pair of ground-engaging wheels connected to said axle.

2. In a wrench support, a base having a front pointed end, a pair of braces extending upwardly from the rear of said base and secured thereto, an inclined bar which is U-shaped in cross section extending upwardly from the front of said base and secured thereto, there being a plurality of spaced apart slots in said bar defining fingers therebetween, a movable bracket adjustably connected to said bar and including a pair of spaced parallel arms, a pin extending between said pair of arms and mounted for movement into and out of engagement with said fingers so that the bracket can be supported in different elevations on the bar, an arcuate cradle secured to said bracket and said cradle adapted to support the outer end of a wrench which has its other end arranged in engagement with a wheel lug, a handle secured at the upper end of said bar, bearings extending rearwardly from said braces, a horizontally disposed axle supported by said bearings, and a pair of ground-engaging wheels connected to said axle, said wheel permitting the wrench support to be readily moved from place to place as desired, means on said support for releasably supporting accessory tools.

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