O. ZARTH.

NIPPLE WRENCH.

APPLICATION FILED AUG. 4, 1916.

1,224,875. Patented May 1, 1917.

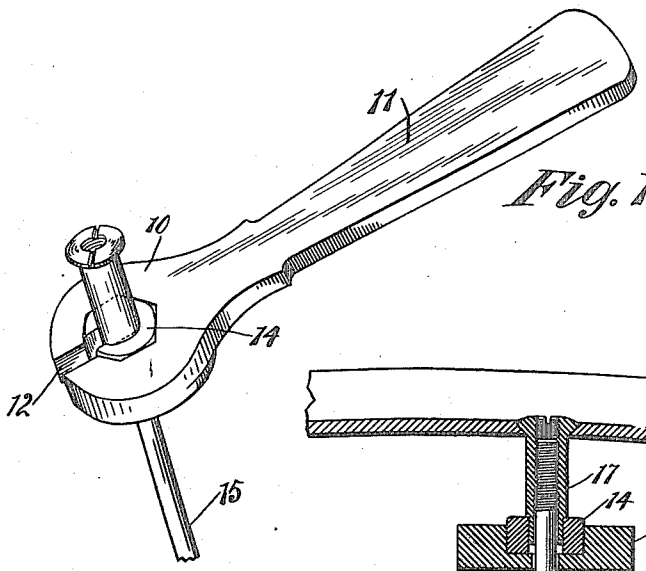


Fig. 1.

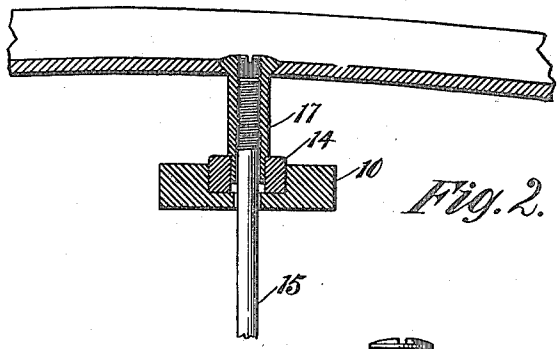


Fig. 2.



Fig. 3.

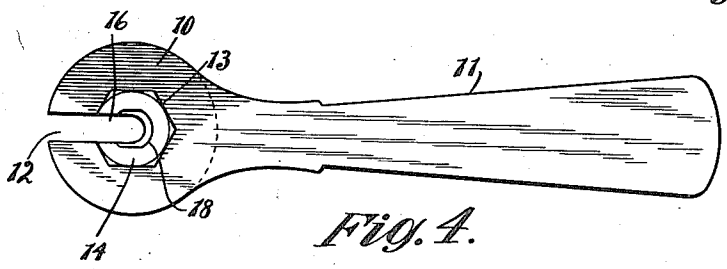


Fig. 4.

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NIPPLE-WRENCH.

1,224,875. Specification of Letters Patent. Patented May 1, 1917.

Application filed August 4, 1916. Serial No. 113,095.

To all whom it may concern:

Be it known that I, OTTO ZARTH, a citizen of the United States, and resident of Aurora, county of Kane, and State of Illinois, have invented certain new and useful Improvements in Nipple-Wrenches, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to wrenches and has for its object to provide an efficient tool for rotating the nipples by which the spokes of a wire wheel are adjustably connected with the rim. The large number of spokes with which wire wheels are usually provided results in the spokes being located too close together to permit of a wrench of a suitable length for turning the nipples being turned through the intervening spaces. It is accordingly important that the wrench should be constructed to permit of its being oscillated without complete disengagement from the nipples. It is also important that a single wrench may be used for turning nipples of different sizes.

In the accompanying drawings,

Figure 1 is a perspective view showing a form of wrench provided by the invention and details of a spoke and nipple to which the wrench is applied,

Fig. 2 is a detail sectional view taken centrally through the spoke nipple and transversely through the part of the wrench engaged with the nipple, the corresponding spoke being shown in elevation,

Fig. 3 is a side view of a spoke nipple, and

Fig. 4 is a plan view of the improved wrench.

In carrying out the invention, a flattened wrench head 10, and handle 11 are preferably formed integral and the head 10 is centrally slotted from its outer end, as at 12. A socket 13 is also formed in the head 11, preferably in one of its faces. The socket 13 is suitably shaped to provide a holding seat for a nut, as 14, in any one of a plurality of different relative angular positions of the nut and head. For this purpose the nut 14 may be of the usual hexagonal shape and the socket 13 is made to conform thereto. The socket 13 connects with the slot 12, and the said slot extends centrally into the socket through a distance equal to somewhat more than half the width of the socket.

The slot 12 is of a suitable width to permit the spoke, as 15 to loosely enter the same, the nut 14 having a slot 16 at one side for the same purpose. The slot, as 16, of the nut further serves for the engagement of the nut with the spoke nipple, as 17. For this purpose the inner end portion, as 18, of the slot 16 is proportioned in width to the flattened portion, as 19, of the spoke nipple and will usually be wider than the outer end portion or throat of the said slot.

In applying the improved wrench to the nipple, as 17, the head 10 and nut 14 are preferably assembled with the slot 16 of the nut registering with the slot 12 of the head. The spoke, as 15, may then be entered in the slot 12, to the inner end of the same, with the nut 14 facing in the direction of that end of the spoke at which the said nipple is located. When the said wrench has been engaged with the nipple, the nipple is rotated by swinging the handle 11 of the wrench. If the proximity of other spokes in the wheel does not permit of the wrench handle 11 being turned continuously in one direction, the wrench head 10 will preferably be disengaged from the nut 14 when the wrench has been turned to its limit of movement in one direction after which the wrench head 10 is reëngaged with the nut 14 in a new position.

The construction permits of a rapid operation of the wrench to turn the nipple, as 17. Furthermore, as the wrench head 10 substantially surrounds the nut 14 whenever pressure is applied to the latter, the nut is amply reinforced against the tendency to open its slot. It will be understood that an assortment of nuts 14 may be provided, any one of which may be seated in the socket 13, while the nuts will be engageable with nipples of different sizes by reason of their having the widened portion 18 of the slot 16 of varying widths.

While a preferred embodiment of the invention is disclosed and described, various changes in detail may be made without departing from the scope thereof, the essential feature of the invention being that the wrench comprises two separable parts, a

block for straddling and engaging the nipple to turn it, and a handle bar slotted to straddle the spoke and rotatably engage the block in different angular positions. In use the device is ordinarily applied to a spoke extending downwardly from the hub in order that the block or nut may retain its position on the nipple when the handle bar is disengaged for the purpose of turning it backward for a new engagement.

I claim as my invention,—

1. In a nipple wrench, in combination, a handle having a flat head with an equilateral angular socket formed in one of the side faces of the head and a slot extending centrally into the socket from one edge of the head, and a slotted equilateral nut removably fitting the socket of the head in any one of a plurality of different angular positions, the slot of the nut extending to the edge of the nut and registering with the slot in the head of the handle in one of the said angular positions of the nut.

2. In a nipple wrench, in combination, a rotatable head having an equilateral angular socket in one side and a slot extending centrally into the socket from one edge of the head, and a slotted equilateral nut removably fitting the socket of the head in any one of a plurality of different angular positions, the slot of the nut extending to the edge of the nut and registering with the slot in the head in one of the said angular positions of the nut.

3. In a spoke nipple wrench, in combination, a slotted block adapted to straddle a spoke and non-rotatably engage a nipple thereon, and a slotted bar adapted to straddle the spoke and interlock with the block in a plurality of angular positions.

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