

Nov. 1, 1927.

1,647,122

G. W. BERRY

TIRE RIM TOOL

Filed Dec. 18, 1926

Fig. 1.

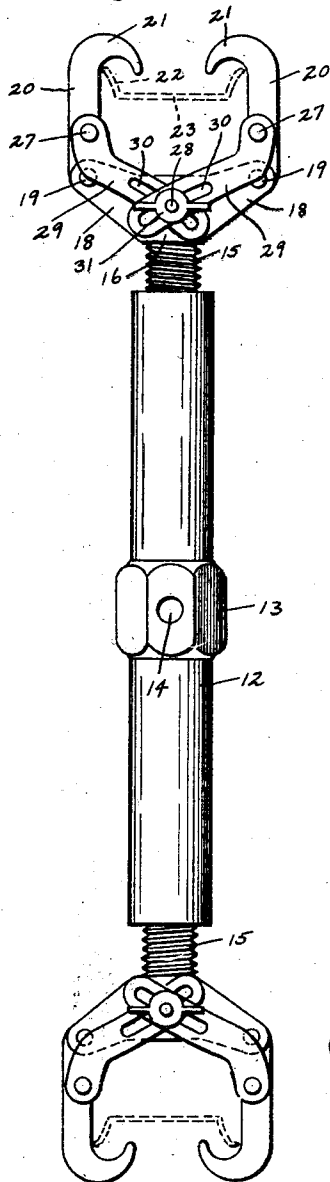


Fig. 3.

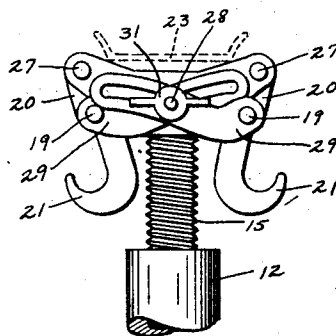


Fig. 2.

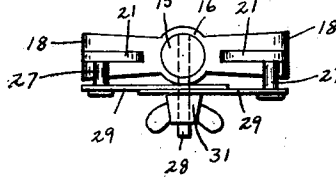


Fig. 5.

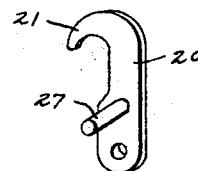


Fig. 4.

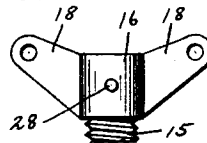
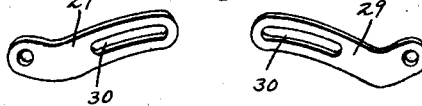


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE W. BERRY, OF WOLFEBORO, NEW HAMPSHIRE.

TIRE-RIM TOOL.

Application filed December 18, 1926. Serial No. 155,631.

This invention relates to certain improvements in the tire-rim tool disclosed by Letters Patent of the United States granted to me July 27, 1926, No. 1,593,894.

5 Said patented tool includes a turn-buckle composed of a rotatable central member, and end members movable oppositely by the rotation of the central member, heads fixed to the end members at opposite ends of the tool, 10 and hooks pivoted in pairs to the heads and adapted to be projected from the heads and engage the flanges of a split rim, to exert contracting pressure thereon, the heads forming seats adapted to exert expanding 15 pressure on the rim. The hooks are shiftable on their pivots, so that they are adapted to be retracted under the heads and expose the seats, and provided with laterally projecting studs with which are engaged 20 contractile springs shiftable with the hooks and adapted to yieldingly draw the hooks inward against the rim flanges when the hooks are projected, and to yieldingly draw the hooks inward under the heads when 25 the hooks are retracted.

I have found that when the projected hooks, confined yieldingly by the springs in position to engage the rim flanges, are applied to a rim associated with a tire, which 30 has been in use so long that it has become "frozen," the tire is liable to crowd the hooks outward from their rim-engaging position.

The present invention has for its chief object to prevent this liability, by confining 35 the hooks positively, instead of yieldingly, in their rim-engaging position. I accomplish this result by the means hereinafter described for rigidly securing the hooks to the heads, not only when the hooks are in 40 their rim-engaging position, but also when they are retracted to expose the seats formed by the heads.

45 Of the accompanying drawings forming a part of this specification,—

Figure 1 is a side view of a rim tool embodying the invention, looking toward one side of the tool, and showing it adapted to contract a rim.

50 Figure 2 is an end view of the same.

Figure 3 is a view similar to a portion of Figure 1, showing the tool adapted to expand the rim.

55 Figures 4 and 5 are views, showing respectively, one of the heads and one of the hooks shown by the preceding figures.

Figure 6 shows in perspective, the slotted plates constituting elements of the means hereinafter described, for positively securing the hooks to the heads.

60 The same reference characters indicate the same parts in all of the figures.

I will first describe the general construction shown by my former patent.

The turn-buckle includes an internally 65 threaded rotatable central member 12, provided with an externally hexagonal enlargement 13, adapted to be engaged by a wrench. This portion of the member may be provided with radial holes 14, in which a screw- 70 driver may be inserted, to rotate the member.

The externally threaded end members 15 of the turnbuckle are provided at their outer ends with heads which include hubs 16, fixed to the members 15, and ears 18, projecting 75 in opposite directions from the hubs, the ears being slotted, and overhanging the members 15. Connected by pivots 19 with the ears 18, are hooks including elongated shank portions 20, and hooked outer end 80 portions 21, projecting inward from the shank portions, said hooks being adapted to be projected outward lengthwise of the tool, and formed to engage the flanges 22 of a split rim 23, and exert contracting pressure 85 thereon, when the turn-buckle is being contracted.

The outer faces of the heads form outwardly facing seats, adapted to bear, as shown by Figure 3, on the inner surface of 90 the rim 23, and exert expanding pressure thereon. The seats are dished or recessed, so that the heads are free from liability to slip crosswise of the rim.

In the patented tool the shank portions 95 20 of each pair of hooks are connected by contractile springs engaged with the studs 27, fixed to and projecting laterally from the hooks, and adapted to cause the hooked portions 21 to spring into engagement with the rim flanges, the springs being shiftable with the hooks, so that they are adapted to yield- 100 ingly confine the hooks retracted.

The improved tool in which the present invention is embodied is not provided with the 105 above-mentioned springs, and is characterized by the means next described for positively holding the hooks in their rim-engaging positions, and in their retracted positions.

110 The heads are provided with laterally projecting screw-threaded studs 28, which, as

shown by dotted lines in Figure 2, may be utilized to secure the hub portions 16 of the heads to the turn-buckle members 15. Pivoted on the hook studs 27 are two overlapping plates 29, shown separately by Figure 6. Said plates are provided with longitudinal slots 30, which cross each other and loosely receive the threaded studs 28. Engaged with the threaded studs are clamping wing nuts 31, adapted to clamp the plates 29 against the head hubs 16, and thereby positively confine the plates and the hooks in any positions to which they may be adjusted, so that when the hooks are adjusted, as shown by Figure 1, they cannot be crowded outward by a "frozen" tire on a rim 23, and when they are adjusted as shown by Figure 3, they are securely confined in their retracted positions.

I claim:

A tire-rim tool which includes a turn-buckle composed of a rotatable central member and end members movable oppositely by the rotation of the central member, heads

fixed to the end members at opposite ends of the tool, and hooks pivoted in pairs to the heads and adapted to be projected from the heads and engage the flanges of a split rim, to exert contracting pressure thereon, the heads forming seats adapted to exert expanding pressure on the rim, the hooks being shiftable on their pivots, so that they are adapted to be retracted under the heads, to expose said seats, and provided with laterally projecting studs, the tool being characterized by means for positively securing the hooks in their projected and retracted positions, and embodied in screw-threaded studs fixed to and projecting laterally from the heads, overlapping plates pivoted on the hook studs, and provided with slots which cross each other and loosely receive the said threaded studs, and clamping nuts engaged with said threaded studs and adapted to clamp the plates against the heads.

In testimony whereof I have affixed my signature.

GEO. W. BERRY.