June 20, 1939. F. J. RASCHKA 2,163,469

WHEEL SUPPORT

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Fig. 1.

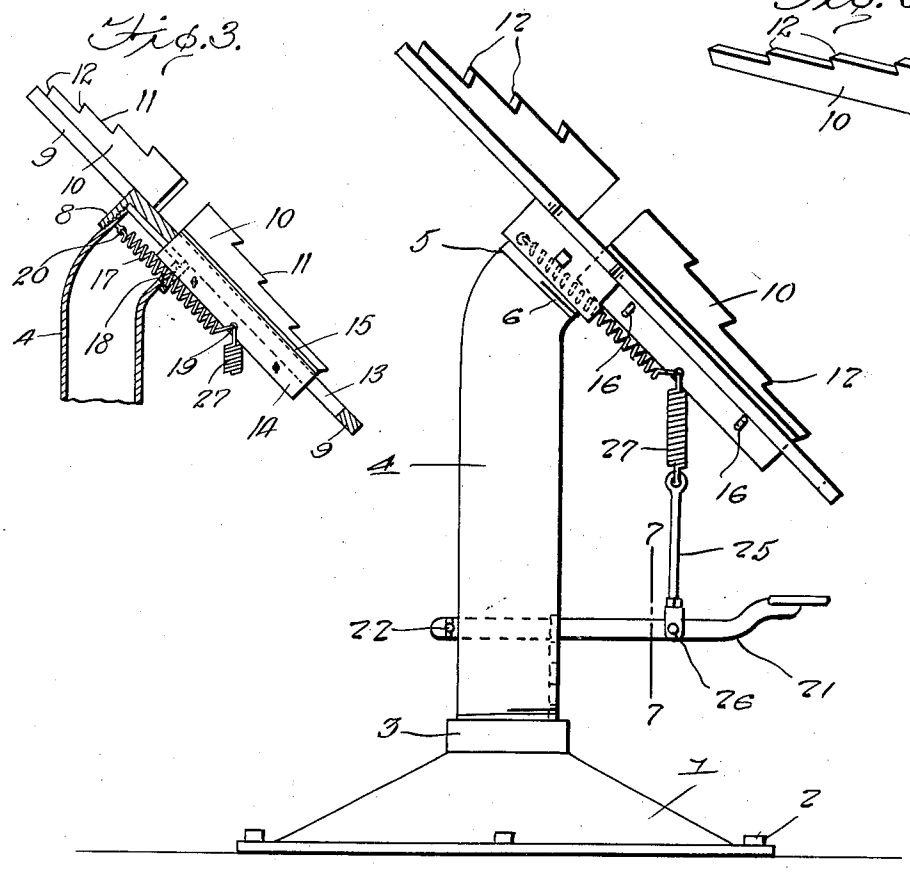


Fig. 3.

Fig. 6.

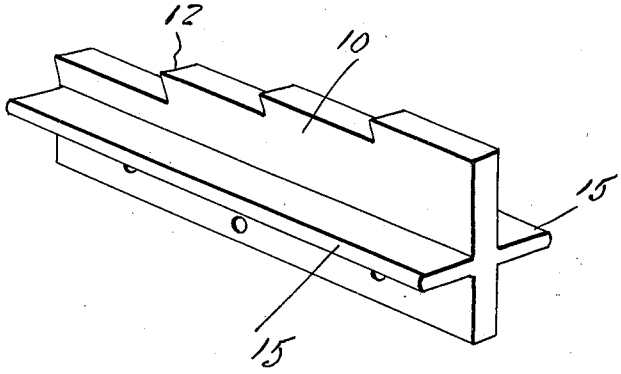


Fig. 5.

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Fig. 2.

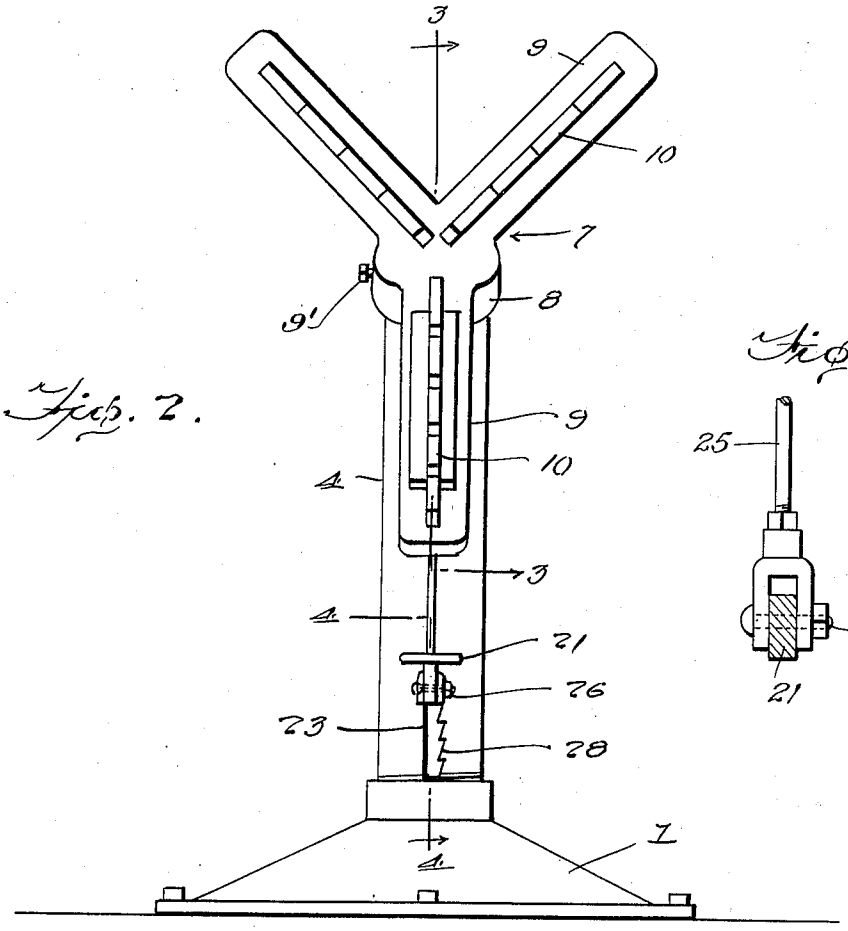
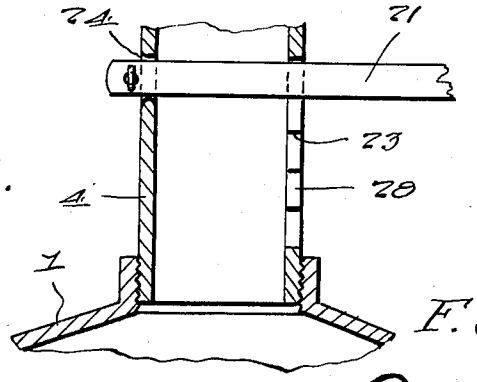


Fig. 7.

Fig. 4.



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UNITED STATES PATENT OFFICE

2,163,469

WHEEL SUPPORT

Frank J. Raschka, Minneapolis, Minn.

Application March 18, 1938, Serial No. 196,770

1 Claim. (Cl. 144—288)

My invention relates to improvements in wheel supports for use in changing automobile tires.

The invention is designed with the particular purpose in view of providing a simply constructed, inexpensive, easily operated device for securely clamping automobile wheels of the drop center type in a fixed elevated position either by way of the hub opening or the felloe and preparatory to changing tires or performing repair operations on the tires or wheels.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawings, set forth in detail in the following description, and defined in the claim appended hereto.

In said drawings:

Figure 1 is a view in side elevation of the preferred embodiment of my invention,

Figure 2 is a view in front elevation,

Figure 3 is a fragmentary view in vertical section taken substantially on the line 3—3 of Figure 2 looking in the direction indicated by the arrows and drawn to an enlarged scale,

Figure 4 is a fragmentary view in vertical section taken substantially on the line 4—4 of Figure 2 looking in the direction indicated by the arrows and also drawn to an enlarged scale,

Figure 5 is a view in perspective of the movable clamping jaw,

Figure 6 is a similar view of one of the fixed clamping jaws, and

Figure 7 is a detailed view in section taken on the line 7—7 of Figure 1 looking in the direction indicated by the arrows.

Referring to the drawings by numerals, the support of my invention comprises a base casting 1, of suitable metal, and dome-like form adapted to be bolted, as at 2, to a suitable support, for instance the floor, and having a circular central socket 3 at the top thereof. Threaded at its lower end into the socket 3 is a tubular column 4 of suitable height having its upper end curved, as at 5, toward what constitutes the front of the device and externally threaded as at 6. The column 4, as will be understood, may be formed of any suitable metal tubing such as cast steel. At the upper end of the column 4 is a spider-like head 7, also of suitable metal, inclined at an angle of approximately 45° from the vertical and comprising a circular hub 8 threaded onto the end 5 of said column and three bar-like arms 9 radiating from said hub, one of said arms being lowermost and located in the vertical plane of the device and the other two arms being uppermost. The arms 9 are of equal length and, as will be apparent, the side of the device at which the lowermost arm 9 is disposed constitutes the front side of the device. A set screw 9' extending through the hub 8 locks the head 7 to the column 4.

The head 7 supports three elongated blade-like and similar jaws 10 upstanding therefrom and extending from adjacent the center of the hub 8 along said arms 9 in the longitudinal center of the arms to within a short distance of the outer ends of the latter. The upper edges of the jaws 10 are stepped in like manner downwardly toward their outer ends and the steps are undercut whereby said jaws present circularly arranged series of teeth 11 decreasing in height toward the outer ends of the jaws 10 and having inwardly beveled outer ends 12. The jaws 10 on the uppermost, or rear, arms 9 are fixed to said arms, as for instance by making the same integral therewith. The jaw 10 on the lower arm 9 is mounted thereon for longitudinal sliding movement by means of a central longitudinal slot 13 in said arm through which a depending rib 14 on said jaw extends, and a pair of lateral flanges 15 extending from opposite sides of said jaw, respectively, and sliding on said arm. Cotter pins 16 extending through the rib 14 and adapted to engage the related arm 9 prevent said sliding jaw 10 from moving outwardly of the slot 13. A tension spring 17 extending through an aperture 18 in the front of the column 4 and having its opposite ends suitably connected to the rib 14 and to said column 4, as at 19 and 20, tensions the sliding jaw 10 against movement from a normal position established by engagement of the rear end of the rib 14 with the inner end of the slot 13.

In the use of the invention, a wheel is placed upon the jaws 10 to be clamped in stationary position thereby under movement of the sliding jaw 10 outwardly of its arm 9 either by engagement of the teeth 11 with the aperture in the hub or by engagement with appropriate teeth 11 with the felloe of the wheel. In this connection, the innermost or highest series of teeth 11, in the normal position of the slidable jaw 10 are so proportioned and arranged that their ends 12 will fit into the aperture of the hub of the usual sizes of automobile wheels and the next series of teeth 11 are arranged so as to fit in the apertures of larger sizes of hubs and so on, or, on the other hand said series of teeth 11 may be arranged so that successive series thereof will fit into the

felloes of different sizes of wheels to clamp the same in a manner which will now be clear.

The sliding jaw 10 is slid forward against the tension of the spring 17 by means of a foot pedal 21 pivoted at its rear end, as indicated at 22, to the rear side of the column 4 and extending through front and rear slots 23 and 24 in said column beneath the lower arm 9 and in the plane of said sliding jaw 10. The pedal 21 is operatively connected to the sliding jaw 10 by means of a pull rod 25 pivoted to said pedal, as at 26, and a tension spring 27 having its opposite ends secured to said rod 25 and to the rib 14 in any suitable manner. The pivotal mounting 22 of the pedal 21, and the slots 23 and 24 are arranged so that said pedal has sufficient side play to engage the pedal with notches 28 provided along one edge of the front slot 23 and whereby said pedal may be releasably locked in different depressed positions to lock the slidable jaw 10 in different clamping positions for a purpose which will be understood. By manipulating the pedal 21 laterally from engagement with any one of the notches 28, said pedal, together with the sliding jaw 10 may be unlocked, and the wheel released, whereupon said pedal and sliding jaw will be returned to normal position by the action of the spring 17.

My invention will, it is believed, be readily understood from the foregoing without further explanation since the use and operation have been set forth in connection with the foregoing description of parts.

Manifestly the invention, as disclosed, is susceptible of modification without departing from the inventive concept and right is herein reserved to such modifications as fall within the scope of the subjoined claim.

What I claim is:

A support for clampingly engaging the interior of the hub of an automobile wheel comprising a base, a column arising from said base, a head fixed on the upper end of said column in oblique position and including a hub part, and a series of bar-like arms radiating from the hub part in a common oblique plane, one of the arms being lowermost, blade-like jaws extending along said arms, respectively, and supported thereby in upstanding position and having upper edges stepped downwardly toward the outer ends of the jaws providing circularly arranged series of teeth of different heights in each series, the jaw on the lowermost arm being slidable thereon longitudinally and outwardly thereof and the remaining jaws being fixed to their supporting arms, manipulative means for sliding said slidable jaw, comprising a foot pedal pivoted to and extending from said column and operatively connected to said slidable jaw, and spring means for tensioning said slidable jaw against movement outwardly.

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