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DETACHABLE RING FOR TIRE RIMS

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Inventor

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By

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To all whom it may concern:

Be it known that I, FRANK S. GREENE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Detachable Rings for Tire Rims, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates generally to tire carrying rims for automobiles and more particularly to the detachable side ring or flange used in connection with said rim, and in such a manner as to provide a cheap, simple and efficient means for holding the ends of the detachable ring in locked relation, and also for the quick and easy removal or insertion of the ring as desired. With these objects in view the invention consists in the novel features of construction hereinafter fully described and set forth in the appended claims.

In the drawings forming a part of this specification Fig. 1 is a face view of a portion of a ring constructed in accordance with my invention, the end of said ring being seated in the groove of the rim and locked together; Fig. 2 is a similar view showing the manner of removing one of the ends from the groove; Fig. 3 is a similar view showing the manner of placing the ring in the groove of the rim; Fig. 4 is a view showing a slight modification; and Fig. 5 is a transverse sectional view of the ring with the detachable ring connected thereto.

In carrying out my invention I employ the usual type of rim having a base portion A, the permanent flange B at the inner side, the inwardly grooved portion C at the opposite side adapted to receive the detachable flange or ring D which is shaped to correspond with the flange B and is provided with a foot-piece E which fits into the groove C, and with a shoulder F which rests upon the upper edge of the outer wall of the grooved portion C.

In order to interlock the ends of the ring when the ring is properly placed in the groove and at the same time avoid the necessity of supplemental locking devices, I cut the ends of the ring in a peculiar manner as herein shown, said cut being on a radial line for a definite distance, then obliquely in one direction for a definite distance, and then obliquely in a reverse direction until the cut meets the radial line first referred to. When the cut is made in this manner one end will have the straight portion G and the angularly notched portion H while the opposite end will have the straight portion G' and the angular projecting portion H'. The indented end is also preferably formed with a notch I in the base thereof which will project slightly above the outer wall of the groove when the ring is seated in said groove so that the end of a screw driver or similar tool may be inserted in the notch for the purpose of prying the end out of the groove when it is desired to remove the ring from the groove. This operation is illustrated in Fig. 2 and it will be noted that as the indented end is forced radially outward the inclined portion K rides against the inclined face K', and after the projection H' is cleared the portion K will spring thereover and hold the ends of the ring out of the groove and then said end thus removed can be grasped and the entire ring peeled out of the groove.

In inserting the ring into the groove the indented end is first inserted, as most clearly shown in Fig. 3 and the projecting portion H' will be forced down the radial face G until it snaps into the indented portion H and thereby completes the locking of the ring. It is evident that after the tire has been inflated all danger of the ring becoming dislocated is entirely avoided, as in order to remove the ring it is first necessary to pry out the indented ring as most clearly indicated in Fig. 2.

In Fig. 4 I have shown a slight modification in which the cut is made first upon the radial line L, then circumferentially a definite distance as indicated at M, then radially outwardly as indicated at N, and then obliquely inwardly as indicated at O, and in addition to this the overhanging end is cut away as indicated at P in order to permit the circumferential separation of the ends in sliding the inclined faces O during the opening operation.

The manner of inserting and removing the ring of this construction is exactly the same as that previously described, but by making the cut in the manner set forth the inwardly projecting member Q is formed upon the indented end and the outwardly...
projecting portion R is formed upon the projection carrying end; and these reversely arranged projecting portions serve to hold the ring ends against longitudinal or circumferential separation except along the line O through the medium of a properly applied tool. All danger of the rim ends becoming disconnected during use is, therefore, entirely avoided.

The ring D is so formed as to have an inherent contractile resiliency which causes it to snap into place in the groove. The end provided with the notch I for prying out of the groove tends to lose this contractile resiliency after repeated removals from the groove and with the straight cut heretofore employed may not become properly seated in the groove and offers less resistance against outward tire pressure tending to pry it from the groove. With the ends formed as in the present invention, the projecting portion H' on the opposed end positively engages the inclined face K to force the said end into proper seating position and to hold it in such position. It is not essential that the faces GG' and KK' be in actual contact when in place as shown in Fig. 1. If there is a slight clearance between them, movement tending to dislodge the ring will bring them into contact quickly on movement tending to dislodge the ring. The radial face G permits ends to be easily snapped into place as shown in Fig. 3, either by pushing down on the raised end or by prying up the seated end until the projection H' snaps into place. In the removal of the ring when the end has been pried up as shown in Fig. 2 the lower edge of the ring behind the notch 1 is held above the outer edge of the groove so that the screw driver or other tool can be used to pry the ring out of the groove.

Having thus described my invention, what I claim is:

1. The combination with a rim having a flange at one side and a groove at the opposite side, said groove being imperforate, of a tire engaging ring adapted to fit into said groove, said ring being divided at one point of the abutting ends of said ring interlocking to prevent radial movement at one end with reference to the other, one of said ends, however, being capable of radial movement by external force, to separate said ends.

2. The combination of a rim having a flange at one side and a groove at the opposite side, of a detachable tire retaining ring adapted to fit into said groove, said groove being divided at one point in a radial line from the outer edge a definite distance inwardly then with it slightly inclining in one direction and obliquely inclined in a reverse direction.

In testimony whereof, I hereunto affix my signature.

FRANK S. GREENE.