

C. JOHNSON.
DEMOUNTABLE RIM FOR AUTOMOBILES.
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965,715

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Fig. 1.

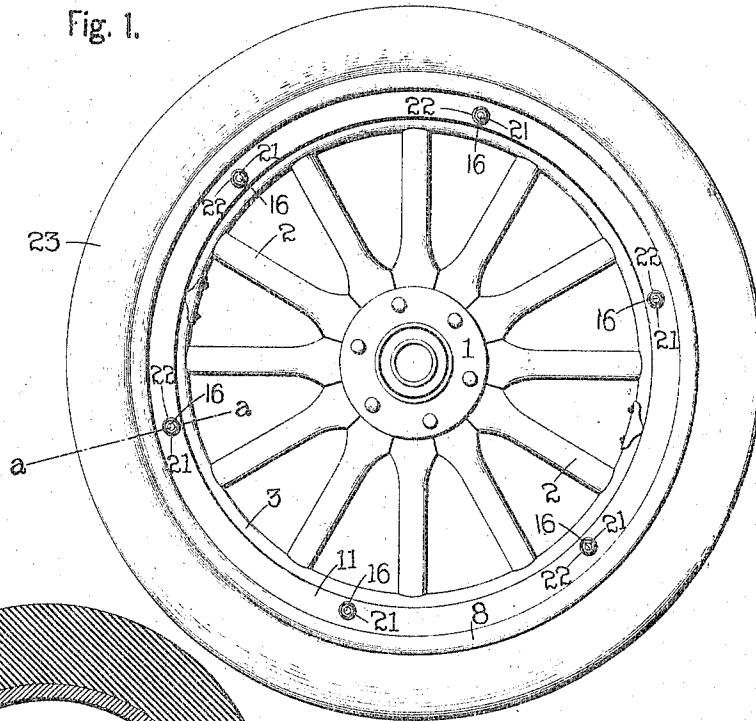


Fig. 2.

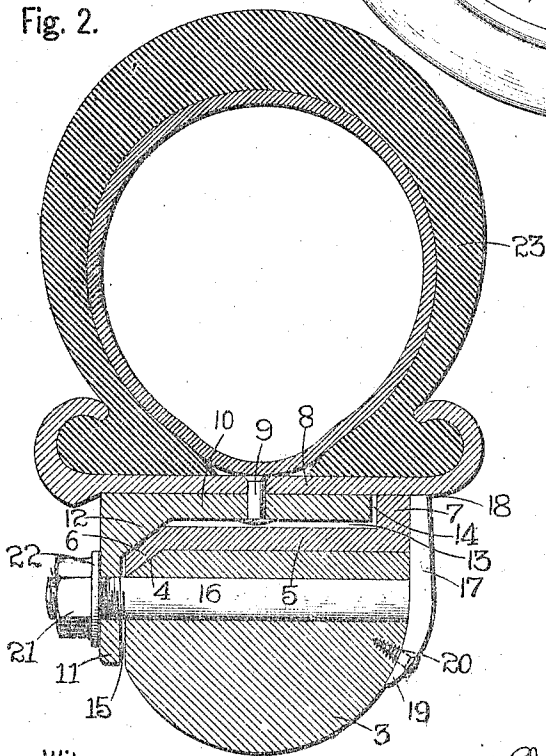
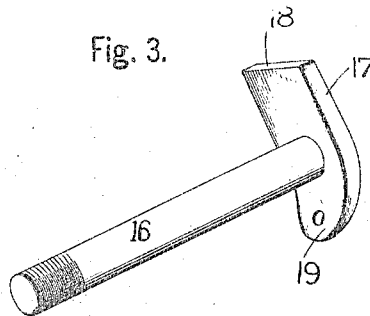


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DEMOUNTABLE RIM FOR AUTOMOBILES.

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To all whom it may concern:

Be it known that I, CHARLES JOHNSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a certain new and useful Improvement in Demountable Rims for Automobiles, of which the following is a specification.

This invention relates to improvements in demountable rims for automobiles or the like, and the principal objects of the invention are to make provision for quick and easy removal and replacement of the rim, to secure the rim strongly and rigidly to the wheel felly, and to center and true the rim with respect to the felly.

The invention also relates to certain details of construction which will be hereinafter described, reference being had to the accompanying drawings, in which,—

Figure 1 is a side elevation of a wheel equipped with the improved demountable rim. Fig. 2 is a transverse section through the felly and rim on line *a a*, Fig. 1. Fig. 3 is a detached perspective view of one of the fastening bolts.

In referring to the drawings in detail like numerals designate like parts.

The invention is illustrated in conjunction with a built up wooden wheel of the type known as an artillery wheel and a clencher style of rim but it should be understood that it is equally adaptable to other types of wheels or other styles of rims.

The wheel shown consists of a hub 1, spokes 2, and a wooden felly 3. The felly 3, it will be noted, is chamfered or beveled off along one peripheral side edge to provide a beveled surface 4, which, when the wheel is in operating position on the axle is located on the outer side edge of the felly.

A metal reinforcing band is fitted rigidly around the felly being preferably shrunk thereon, and consists of a circular body 5, a diagonally extending side portion 6 which projects inwardly from the body at approximately the same angle as the beveled edge 4 of the felly, and an outwardly projecting flange 7 which extends from the periphery of the margin of the opposite side of the band, see Fig. 2. This band will hereinafter be designated as the metal felly band.

The diagonally extending portion 6 constitutes a continuous circular flange which fits upon the beveled surface 4 when the

band is in place on the felly, and the outwardly projecting flange 7 extends from the band at approximately a right angle and forms a circular supporting shoulder for a purpose to be hereinafter described.

The demountable rim consists of the rim proper 8, which in the adaptation illustrated is of the clencher type and an inner flanged ring which may be formed separate from the rim 8 and fastened thereto by rivets 9, as shown, or other means of fastening, or may be made integral with the rim 8. This ring will hereinafter be termed the rim ring and consists of a circular body 10, a flange 11, extending inwardly from one side of the body and at a right angle thereto, and a fillet portion 12 at the junction of the flange and body, the surface of which is conical and extends diagonally with respect to the surface of the body 10 and at about the same angle as the outer surface of the side portion 6 of the metal felly band.

The rim ring is of a circular form and the body thereof is sufficiently larger than the metal felly band to provide a narrow clearance space 13 of annular form between the opposed surfaces thereof when the demountable rim is fitted on the wheel.

A slight clearance space 14 is provided between the flange 7 and the inner edge of the rim ring and a clearance space 15 between the flange 11 and the outer side surface of the felly and outer edge of the metal felly band to allow for lateral adjustment of the rim on the wheel.

The rim is fastened in place on the felly and metal felly band by means of a series of transverse bolts 16. These bolts are arranged at intervals around the felly of the wheel and extend through registering openings in the flange 11 and the wooden felly, as shown in Fig. 2.

The head 17 of each bolt is of an enlarged character having an outer or top edge 18 at one end thereof which curves to the curvature of the inner surface of the rim proper 8 against which it firmly fits when the rim and bolt are assembled together with respect to the felly, and a curved portion 19 at the opposite end which fits the radial curve of the felly and is fastened to the felly by a small screw 20 to prevent rotation of the bolt and maintain its head in a radial position.

The opposite or outer end of each bolt is

screw threaded and a nut 21 and washer 22 is fitted thereon.

A tire 23 of any well known form is shown attached to the demountable rim in the drawings.

5 In operation, a tire in an inflated condition is attached to a rim of this improved construction and is carried on any suitable portion of the car. When any of the tires
10 on the wheels of the automobile are punctured or otherwise injured to render them unfit for further service, the axle is jacked up, the nuts 21 and washers 22 are removed from the bolts 16, and the rim together with
15 its ring and the injured tire are pulled laterally off from the felly band. The inflated tire is now placed on the felly band by first inserting its valve stem in the suitable opening in the felly and felly band, then forcing
20 the rim and tire in place on the felly band. The washers 22 and nuts 21 are now replaced and tightened.

25 The advantages of this construction are that the tire and rim automatically center and turn themselves with respect to the wheel, owing to the opposed beveled surfaces and the flange of the rim ring, that the rim ring will never stick on the felly no matter how long it has been in place, and that dirt,
30 dust, water or slush cannot penetrate into the space between the rim ring and the

metal felly band owing to the tight fitting of the parts.

I claim:

In a demountable rim, the combination 35 with a wheel felly having a beveled surface at one side edge, of a reinforcing metal band adapted to fit on the felly having an inwardly extending flanged portion on one side arranged to extend into engagement with 40 the beveled part of the felly and an outwardly extending flanged portion on the opposite side, a tire rim resting on the top of the outwardly extending flanged portion, a rim ring within the tire rim provided with 45 an inwardly extending flange adapted to fit against the side of the felly, and a fillet at the juncture of the rim ring and its flange provided with a beveled surface arranged to fit upon the beveled surface of the inwardly 50 extending flange of the reinforcing band, and bolts for securing the parts together in assembled position; and the heads of said bolts being elongated and having their top edges in contact with the tire rim and their 55 inner surfaces in contact with the outwardly extending flange of the reinforcing band.

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