

Sept. 11, 1923.

1,467,740

L. I. THOMPSON

VEHICLE WHEEL

Filed April 22, 1921

2 Sheets-Sheet 1

Fig. 1.

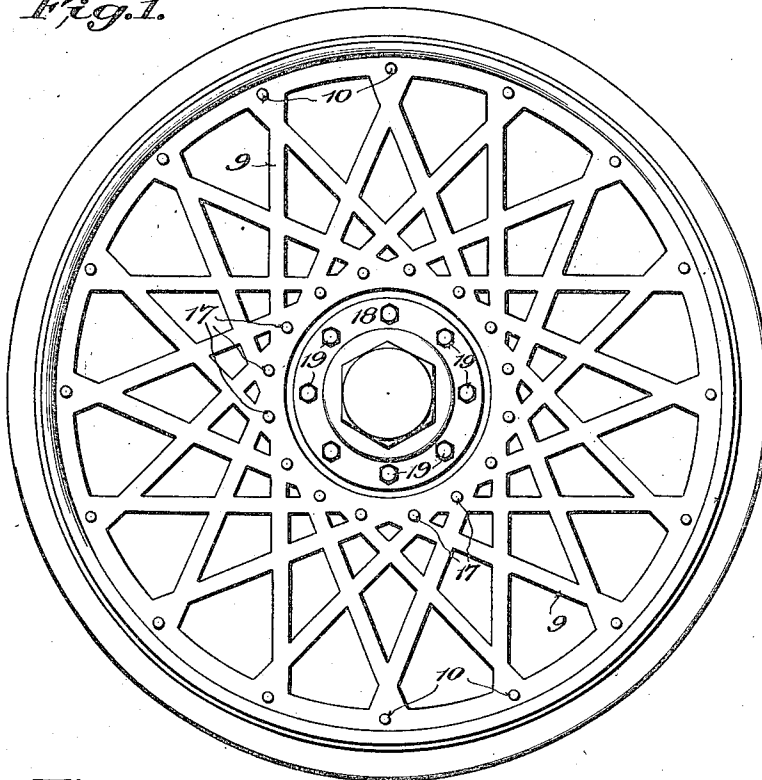


Fig. 2.

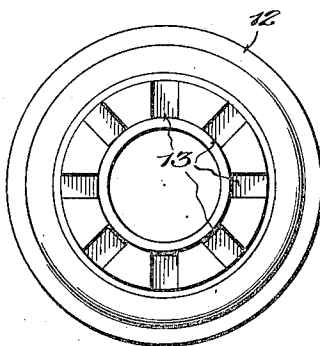
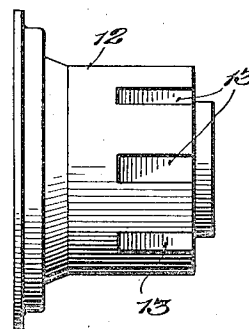


Fig. 3.



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Fig. 4.

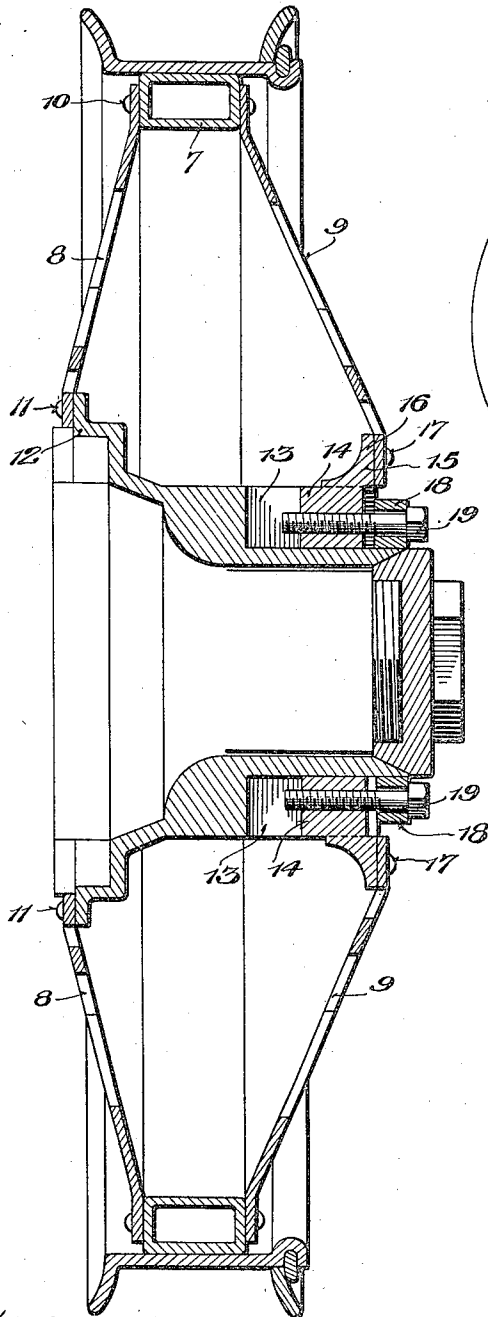


Fig. 5.

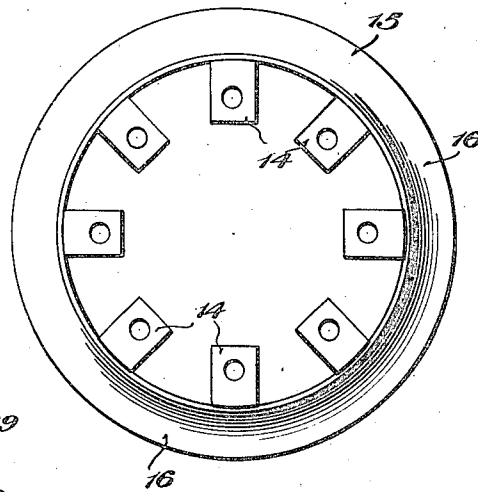
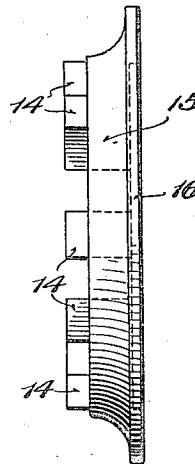


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEWIS IRVINE THOMPSON, OF PORTLAND, OREGON.

VEHICLE WHEEL.

Application filed April 22, 1921. Serial No. 463,502.

To all whom it may concern:

Be it known that I, LEWIS IRVINE THOMPSON, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Vehicle Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to vehicle-wheels of the type in which the spokes or other weight-sustaining members between the hub and felly are arranged in opposite bracing relation on each side and maintained under tension.

It is an object generally to improve that type of wheel, and particularly to provide therein efficient, comparatively simple, and easily-operable means for adjusting simultaneously the tension of the weight-sustaining members at the hub and to realign the parts when they have become displaced in service.

The invention is applicable not only to wheels having spokes, but also to those whose weight-sustaining members are of disk form.

When considered in connection with the description herein, the characteristics of the invention will be apparent from the accompanying drawings, forming part hereof, wherein are disclosed, for purposes of illustration, weight-sustaining elements of lattice form, each of which elements consists of tangentially-disposed spoke members produced integrally from a single piece of sheet metal.

Although the disclosures herein exemplify what now is considered to be a preferable embodiment of the invention, it is to be understood that it is not the intention to be limited necessarily thereto in interpretation of the claims, as modifications and adaptations within the limits of the claims can be made without departing from the nature of the invention.

Like reference-characters refer to corresponding parts in the views of the drawings, of which—

Fig. 1 is an elevation of the wheel;
Fig. 2 is an end view of the hub;
Fig. 3 is a side view of the hub;
Fig. 4 is a diametrical section of the wheel;

Fig. 5 is an end elevation of the tension member; and

Fig. 6 is a side elevation thereof.

The felly 7 of the wheel has weight-sustaining members 8 and 9 connected to each side thereof by bolts, machine-screws, or other suitable fasteners 10.

The inner weight-sustaining member 8, or a set of them when they are spokes or the like, seats against and is held by bolts, machine-screws, or other suitable fasteners 11 on the inner annular end of a hub 12.

The hub is formed in the opposite end portion with radially and longitudinally disposed guideways 13, which are uniformly spaced and of equal size and open to the periphery and outer end of the hub.

Key portions 14 of a tension member 15 fit snugly in and are movable axially in the guideways 13. The tension member thus is splined on the hub, and it is fitted thereon with just sufficient clearance as will permit it to be tilted from its normal plane perpendicular to the axis of the hub. The tension member has an annulus 16, to the outer side of which is connected the outer-weight-sustaining member or members 9 by bolts, machine-screws, or other suitable fasteners 17.

The outer terminal portion of the hub is of smaller size than the adjacent part thereof containing the guideways 13, and on that terminal portion is an annular member 18, which is positioned against the larger end of the hub, that end constituting an abutment for the member 18.

Independently-rotatable draw members 19, preferably in the form of bolts, extend through the member or ring 18 with their heads against the outer side thereof and with their threaded shanks extending into threaded seats in the key portions of the tension member.

The arrangement of the parts is such that, when the draw members 19 are rotated, the tension member 15 is moved axially of the hub and the tension of the weight-sustaining members increased or decreased, dependent upon the direction of rotation of the draw members.

Ordinarily, when adjustment or variance of tension is to be effected in a wheel that is alined or true, the tension member during axial movement is maintained in its

normal plane substantially perpendicular to the axis of the hub. If, however, it is necessary to realign the wheel after parts have become displaced from normal, or if for any other reason it is desired to throw the weight-sustaining members into uneven tension, the draw members may be given more rotation at one place than at another, so that the tension member is tilted from normal position to an extent sufficient to accomplish the purpose desired.

As the heads of the draw members are accessible at an end of the hub, adjustment or variance of tension or alignment may be effected easily without removal of the wheel from the axle or removal of parts of the wheel.

The invention is exemplified herein in association with load-sustaining members of lattice form produced by stamping out of sheet-metal stock of suitable thickness and strength and possessing the quality of giving or bending to an extent sufficient to permit adjustments of the character described, whereby tangentially-arranged spokes are afforded. However, the invention is adapted equally to use with other forms of load-sustaining members having the quality that permits adjustment, such as spokes arranged either tangentially or radially or disks.

Moreover, while the wheel shown has a type of rim commonly used with air-inflated tires, it is immaterial what form of rim is employed with this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A wheel comprising a hub, an axially-movable tension member splined thereon, an annular member on the hub, draw members independently rotatable in said annular member arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and with said felly.

2. A wheel comprising a hub having longitudinal guideways therein open to one end, an axially-movable tension member having key portions disposed in said guideways, an annular member at the open ends of said guideways, draw members independently rotatable in said annular member arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and with said felly.

3. A wheel having a hub having an end abutment and longitudinal guideways open at their ends to the outer side of said abutment, an axially-movable tension member

having key-portions disposed in said guideways, an annular member against said abutment, draw members independently rotatable in said annular member arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and with said felly.

4. A wheel comprising a hub, an axially-movable tension member splined thereon having threaded seats, an annular member on the hub, bolts rotatable in said annular member having threaded shanks disposed in said seats arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and to said felly.

5. A wheel comprising a hub having a reduced end portion and longitudinal guideways in the larger portion thereof, an axially-movable tension member having key portions disposed in said guideways and having also threaded seats, an annular member on the reduced end of the hub seated against the wall of the larger portion thereof, bolts rotatable in said annular member having threaded shanks disposed in said seats arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and with said felly.

6. A wheel comprising a hub, an axially-movable tension member splined thereon having an annulus, an annular member on said hub, draw members independently rotatable in said annular member arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and annulus, and another weight-sustaining member connected at another place on said hub and with said felly.

7. A wheel comprising a hub having an end abutment and longitudinal guideways open at their ends to the outer side of said abutment, an axially-movable tension member having key portions disposed in said guideways and threaded seats and an annulus, an annular member against said abutment, bolts rotatable in said annular member having threaded shanks disposed in said seats arranged to adjust said tension member axially, a felly, a weight-sustaining member connected with said felly and annulus, and another weight-sustaining member connected at another place on said hub and with said felly.

8. A wheel comprising a hub, an axially-movable and tiltable tension member splined thereon, an annular member on said hub, draw members independently rotatable in

said annular member arranged to adjust said tension member both axially and tiltably, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and with said felly.

9. In a wheel, a hub having a fixed abutment, an annular tension member axially movable on said hub and having threaded openings, a plurality of headed members rotatably mounted in said abutment and having threaded shanks in engagement with the openings of said tension member whereby to move said latter member axially, a felly, a weight-sustaining member connected with

said felly and tension member, and another weight-sustaining member connected at another place on said hub and to said felly.

10. In a wheel, a hub, an axially-movable tension member thereon having threaded openings, a plurality of headed members rotatably mounted on said hub and having threaded shanks in engagement with the openings in said tension member whereby to move the latter member axially, a felly, a weight-sustaining member connected with said felly and tension member, and another weight-sustaining member connected at another place on said hub and to said felly.

In testimony whereof I affix my signature.

LEWIS IRVINE THOMPSON.