

No. 647,978.

Patented Apr. 24, 1900.

D. L. MABRY.  
VEHICLE WHEEL.

(Application filed Jan. 20, 1900.)

(No Model.)

Fig. 1.

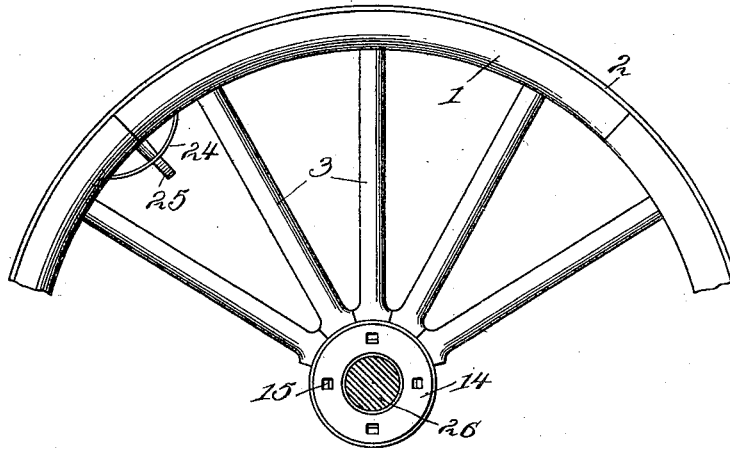


Fig. 2.

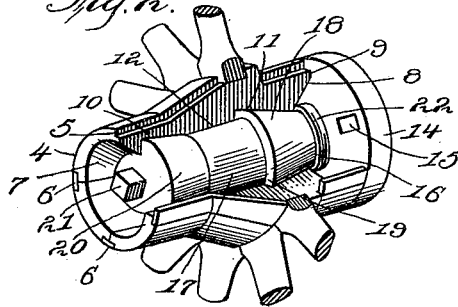


Fig. 3.

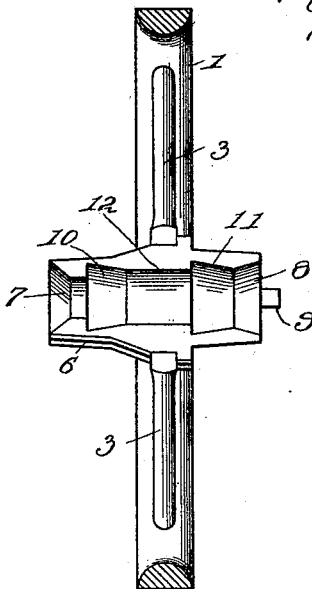


Fig. 4.

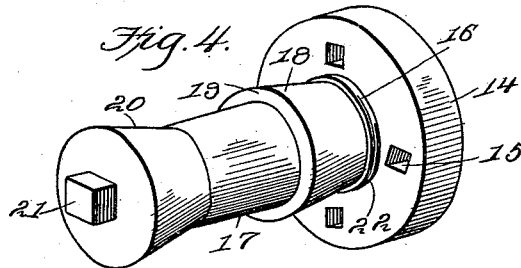
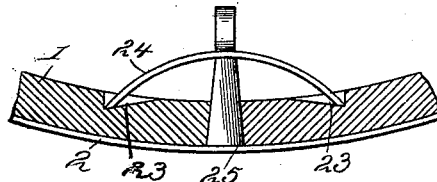


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

DAVIS L. MABRY, OF BLOSSOM, TEXAS.

## VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 647,978, dated April 24, 1900.

Application filed January 20, 1900. Serial No. 2,231. (No model.)

*To all whom it may concern:*

Be it known that I, DAVIS L. MABRY, a citizen of the United States, residing at Blossom, in the county of Lamar, in the State of Texas, have invented a new and useful Vehicle-Wheel, of which the following is a specification.

My invention relates to vehicle-wheels; and it consists of an automatically expanding and contracting wheel; and the object of my invention is to produce a wheel that is always at the proper tension in wet or dry weather; and with this and minor objects my invention consists of the parts and combination of parts, as will be more fully hereinafter set out.

In the drawings, Figure 1 is a rear elevation of a wheel embodying my invention, parts being broken away. Fig. 2 is a perspective view of the hub, parts being removed. Fig. 3 is a vertical central section of my improved wheel. Fig. 4 is a perspective view of the spindle detached. Fig. 5 is a detail view.

1 represents the felly of the wheel, 2 the tire, and 3 the spokes thereof, all, except as hereinafter pointed out, being of the usual construction.

The hub is made up of four sections 4, as illustrated in the drawings; but it is of course obvious that it may be made of two or three sections, as found most desirable by the manufacturer. The edges of each section are cut down to form the shoulder 5, so that when they are assembled said shoulders form a groove into which the strip 6 is snugly fitted to prevent sand, dust, &c., from working between the sections and getting on the spindle. The rear and forward ends of the sections are cut away, as at 7 and 8, to slope inward, the rear end being provided with an integral tenon 9, formed in about the center of the section and extending laterally therefrom. The inner faces of these sections are grooved at 10 and 11 in such manner that when all the sections are assembled to form a hub said grooves form dovetail grooves entirely around the bore of the hub, as clearly shown in Fig. 3, leaving the central portion 12 straight between them.

14 is a flat plate or collar of a diameter equal to the rear portion of the hub, provided with openings of the shape and the diameter of the tenons 9, extending from the sections

of the hub, said tenons supporting said collar by their engagement with the openings 15 in said collar. The collar 14 is provided with a central annular screw-threaded opening 16.

The spindle comprises the central bore 26, adapted to receive the spindle of an axle, the central straight portion 17, the annular collar 18, forming a shoulder 19, and a wedge-shaped or dovetail forward end 20, upon the outer face of which I form an integral nut 21. The spindle is provided with a lateral rearwardly-extending screw-threaded portion 22, adapted to enter the central opening 16 in the collar 14, as more clearly shown in Fig. 4.

23 represents grooves cut near the ends of two of the fellies. 24 is a flat spring having a central opening, the ends of said spring being secured in said grooves, thereby bowing said spring and throwing the tension of the same against said fellies. The extreme ends of the abutting fellies are cut away on an angle at 25, so that when brought together there is a wedge-shaped space formed between them into which the wedge-shaped pin is adapted to snugly fit, the pin being held in an upright position by passing its upper end through the central opening in the spring 24, thus not only supporting the pin, but putting it also under the tension of said spring, the object of which will be hereinafter pointed out.

The threads of the collar and spindle of the right-hand wheels will be left-hand threads and the opposite for the left-hand wheels.

The parts being assembled as shown, the operation of my invention is as follows: In dry weather, when the parts of a wheel usually become loose, the center of the spring 24 will rise, thereby pulling up the wedge-shaped pin and forcing the fellies apart. Further, as the box or spindle has a tendency to turn in the opposite direction to that of the wheel, as it turns it screws up into the threaded central opening in the collar 14, thereby drawing the wedge-shaped collars 18 and 20 backward toward the rear of the grooves 10 and 11, thus spreading the sections apart and tightening up the wheel. In case of wet weather, when the parts have a natural tendency to tighten, the nut 21 is turned, thereby turning the box or spindle to draw the wedge-shaped portions 18 and 20 forward in the grooves 10 and 11,

thereby loosening the parts if they have been drawn up tightly during dry weather.

The parts comprising my invention may be made of any suitable material.

5 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

10 1. In a wheel or spindle box comprising two or more sections, dovetailed grooves formed in the same, a straight bearing-surface between said grooves and a tenon extending laterally from each of said sections in combination with a collar having openings for said tenons and a central screw-threaded opening, 15 and a spindle having two wedge-shaped bearing-faces, a straight bearing-surface between the wedge-shaped surfaces and a laterally-extending screw-threaded portion adapted to enter the screw-threaded central opening in said collar, substantially as described. 20

2. In a wheel a spindle-box comprising two or more sections, dovetailed grooves formed in the same, a straight bearing-surface between said grooves, and a tenon extending

laterally from each of said sections, in combination with a collar having openings for said tenons and a central screw-threaded opening; a spindle having two wedge-shaped bearing-faces, a straight bearing-surface between the wedge-shaped faces, a screw-threaded portion extending laterally from the rear of the spindle and adapted to enter the screw-threaded opening in said collar and a nut formed integral with the outer end of said spindle, substantially as described. 25 30 35

3. In a wheel of the character described, the combination with the fellies having beveled ends, and a groove formed in said fellies, of a flat spring having a central opening, the end of the spring working in said groove, and a wedge-shaped pin secured below the beveled edges of the fellies and in the central opening of said spring, substantially as shown and described. 40

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Witnesses:

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