

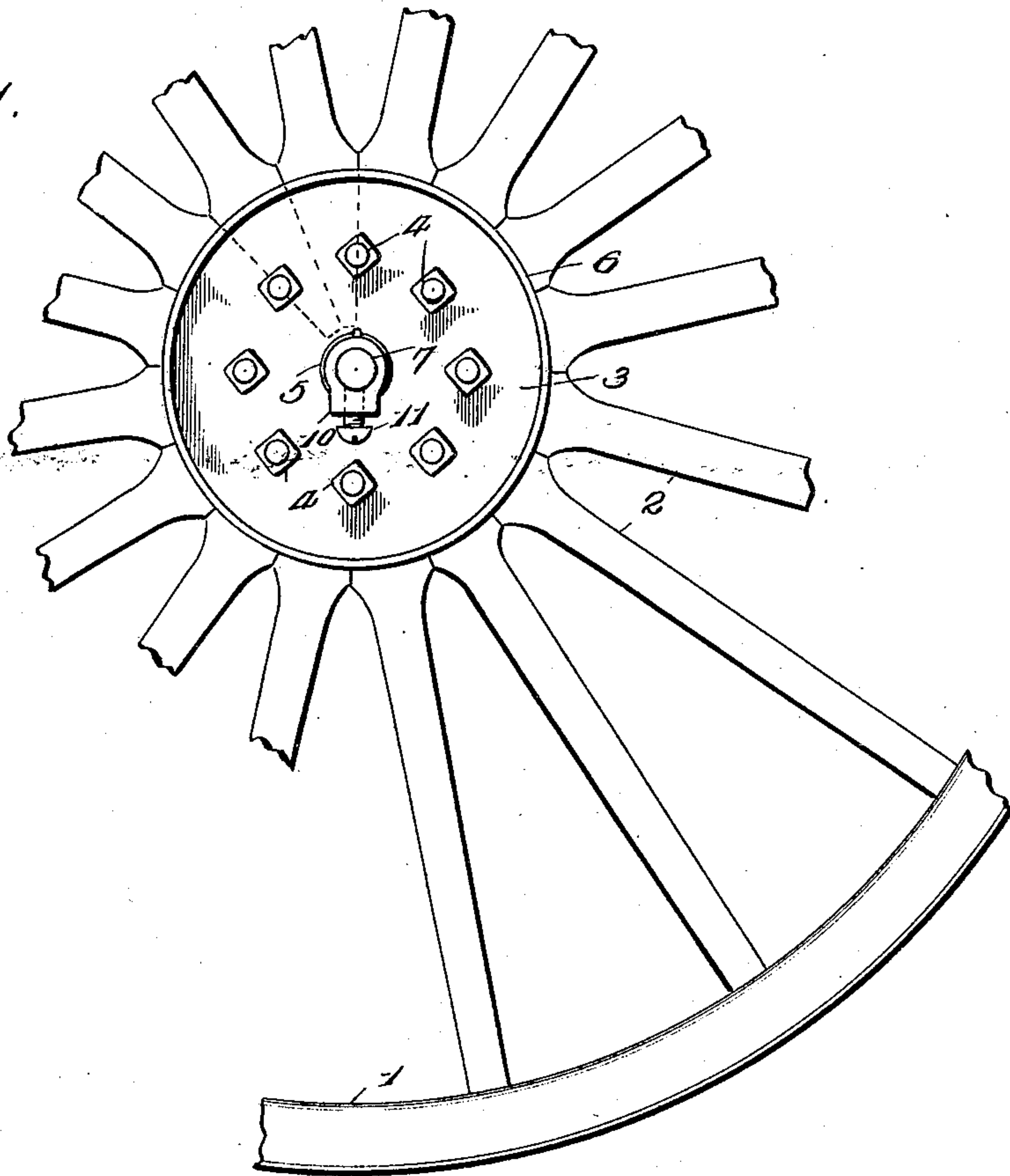
No. 888,023.

PATENTED MAY 19, 1908.

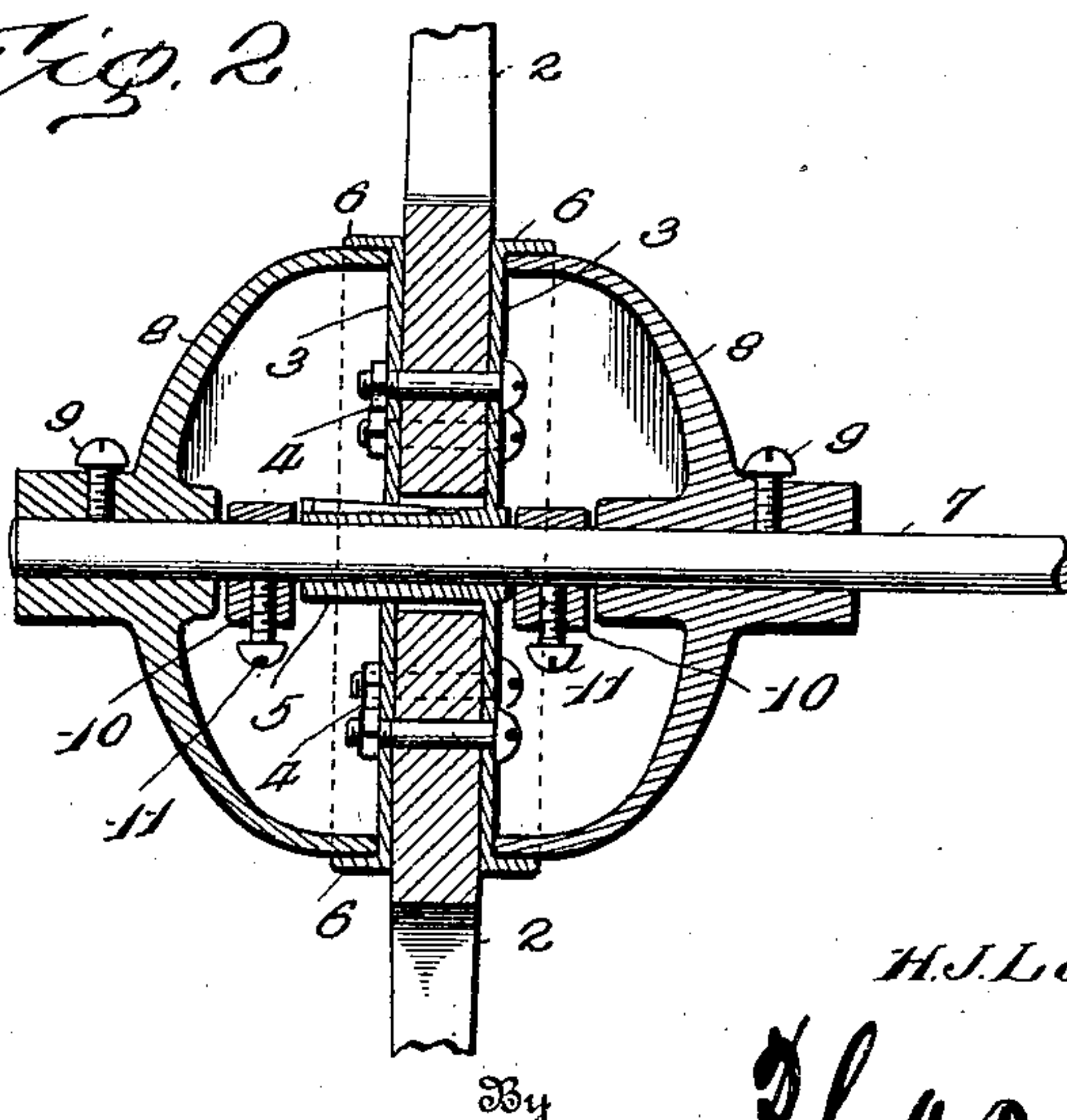
H. J. LAWRENCE.  
WHEEL HUB.

APPLICATION FILED AUG. 24, 1907.

*Fig. 1.*



*Fig. 2.*



Inventor

H. J. Lawrence

Witnesses

*Wm. H. Moore*  
*W. H. Moore*

*W. H. Moore*  
Attorneys



# UNITED STATES PATENT OFFICE.

HENRY J. LAWRENCE, OF LONGBEACH, CALIFORNIA.

## WHEEL-HUB.

No. 888,023.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed August 24, 1907. Serial No. 390,014.

*To all whom it may concern:*

Be it known that I, HENRY J. LAWRENCE, citizen of the United States, residing at Longbeach, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Wheel-Hubs, of which the following is a specification.

The present invention relates to certain new and useful improvements in the construction of hubs for vehicle wheels and aims to provide a novel device of this character comprising few and durable parts which are peculiarly designed so as to be readily manufactured and assembled to produce a finished article.

A further object of the invention is to design a hub which can be shifted upon the spindle to enable proper compensation to be made for wear and which operates with a comparatively small amount of friction.

The invention further contemplates a hub from which an old or broken spoke can be removed without removing the tire or other part of the rim, and which will enable the manufacturer to construct a wheel, the rim or felly of which may be embedded in a concave tire.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a portion of a wheel having the improved hub applied thereto, one of the cup shaped members being removed. Fig. 2 is a longitudinal sectional view through the hub.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The invention is shown as applied to a wheel comprising a rim 1 of the usual construction and the spokes 2. The inner ends of the said spokes have their adjacent faces beveled so as to fit closely together in the usual manner, and applied to opposite sides of the central portion of the wheel are the plates 3 connected by suitable fastening members such as the bolts 4 passing between the spokes 2. In the present instance the bolts 4 pass between adjacent pairs of spokes. These plates 3 are of circular formation and in the present instance one of the said plates is shown as integral with a tubular boxing 5

while the opposite plate is provided with an opening receiving the boxing and is keyed thereon the two ends of the boxing projecting outwardly beyond the plates upon opposite sides of the wheel. It will also be observed that each of the plates 3 is provided at its periphery with a laterally projecting annular flange 6.

The spindle 7 upon which the wheel rotates passes loosely through the boxing 5 and carries the cup shaped members 8 which are located upon opposite sides of the wheel and have their larger ends received within the flanges 6 projecting from the plates 3. These cup members 8 are rigidly secured to the spindle by means of the set screws 9 and are adjustable longitudinally thereon so that when one portion of the spindle becomes worn the wheel can be shifted to another position. Clamped upon the spindle 7 within each of the cup members 8 is a collar 10, the said collars being designed to engage the ends of the boxing 5 for the purpose of properly positioning the wheel upon the spindle. These collars 10 are also adjustable upon the spindle and are locked in position by any suitable means such as the set screws 11. If found desirable ball bearings may be interposed between the flange 6 and the cup members 8 for the purpose of reducing the friction between the said members. With this construction it will be readily apparent that the wheel is held securely in its proper position upon the spindle but is permitted to rotate freely thereon. Attention may also be directed to the fact that the spokes have no tenons and that the necessity of employing a mortising and tenoning machine is entirely eliminated in constructing the hub.

Having thus described the invention, what is claimed as new is:

1. A hub comprising plates applied to opposite sides of a wheel, a boxing carried by the wheel, a spindle, cup shaped members applied to the spindle and engaging the plates, and collars applied to the spindle within the cup shaped members.

2. A hub comprising plates applied to opposite sides of a wheel and provided with peripheral flanges, a boxing carried by the wheel, a spindle, cup shaped members applied to the spindle and received within the before mentioned peripheral flanges of the plates, and collars applied to the spindle within the cup shaped members.

3. A hub comprising plates applied to op-



posite sides of a wheel, each of the plates being formed with a peripheral flange, a boxing carried by the wheel, a spindle, cup shaped members adjustably mounted upon the spindle on opposite sides of the wheel, the larger ends of the said cup shaped members being received within the peripheral flanges of the plates, and collars adjustably clamped upon the spindle and housed within the cup shaped members.

4. A hub comprising plates applied to opposite sides of a wheel, each of the plates being provided with a peripheral flange, and one of said plates being integral with a tubular boxing while the opposite plate is provided with an opening receiving the boxing and is keyed upon the boxing, the ends of

the boxing projecting beyond the plates upon opposite sides of the wheel, a spindle, cup shaped members adjustably mounted upon the spindle on opposite sides of the wheel, the larger ends of the said cup shaped members being received within the peripheral flanges of the plates, and collars adjustably clamped upon the spindle within each of the cup shaped members for engaging the ends of the boxing.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY J. LAWRENCE. [L. s.]

Witnesses:

EDWARD S. LAWRENCE,  
CARRIE GENTRY.