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PATENTED JULY 31, 1906.

J. M. & S. D. HORGER.

ROLLER BEARING.

APPLICATION FILED MAY 6, 1904.

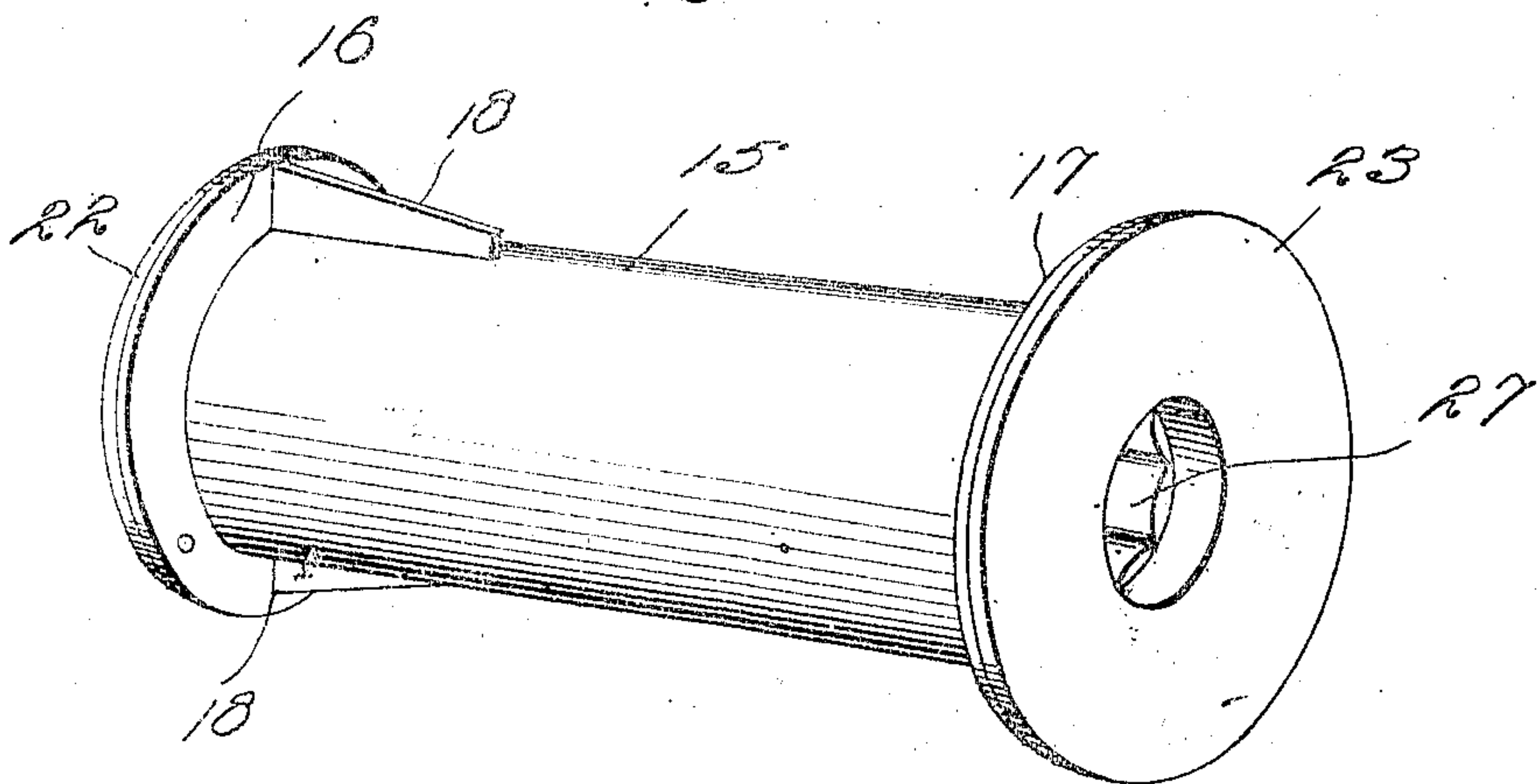
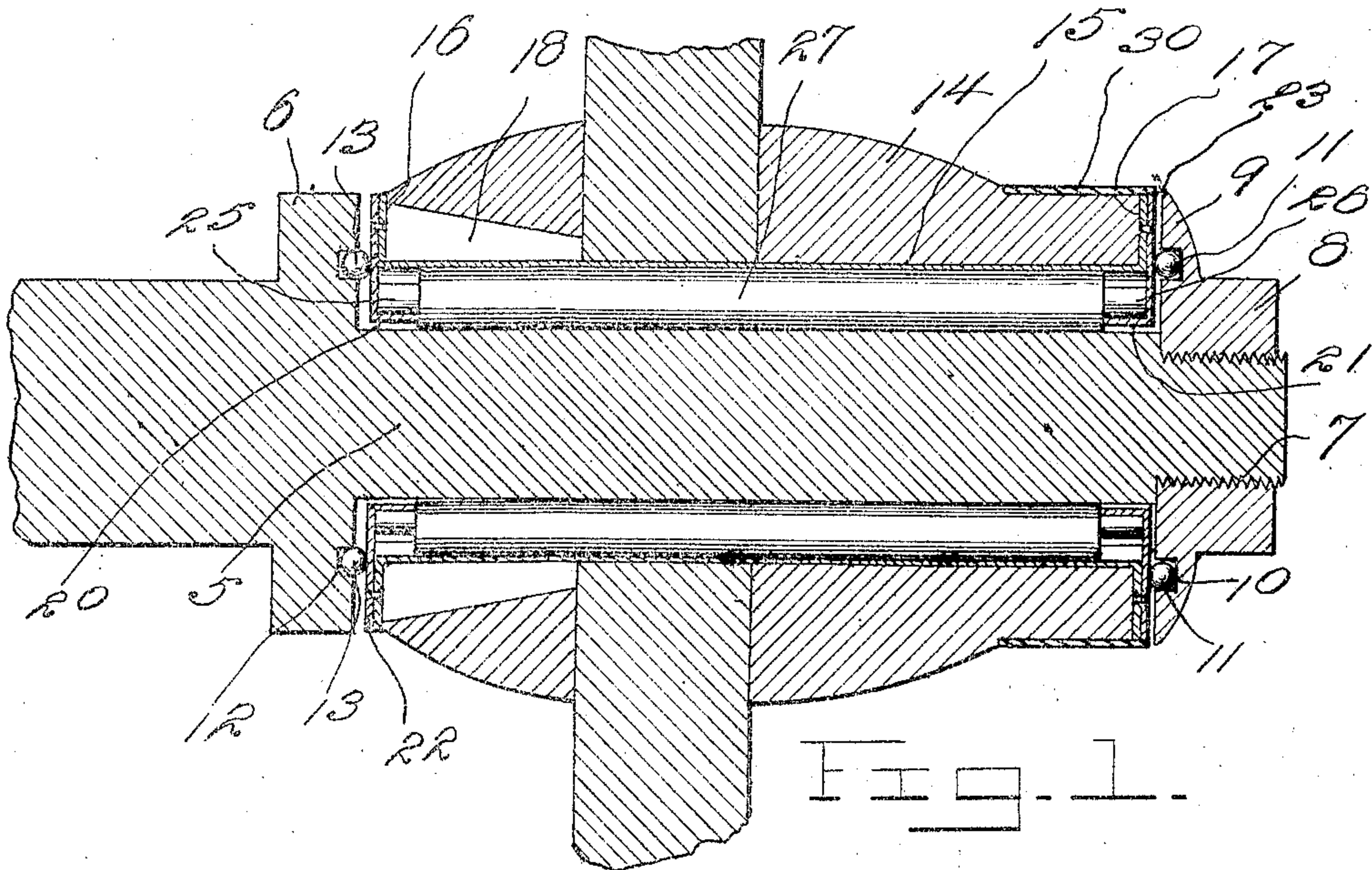


Fig. 2.

Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN M. HORGER AND SIMEON D. HORGER, OF NEWTON, TEXAS.

## ROLLER-BEARING.

No. 827,638.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed May 6, 1904. Serial No. 206,718.

*To all whom it may concern:*

Be it known that we, JOHN M. HORGER and SIMEON D. HORGER, citizens of the United States, residing at Newton, in the county of Newton, State of Texas, have invented certain new and useful Improvements in Roller-Bearings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to roller-bearings, and has for its object to provide an improved bearing for vehicle-wheels, although it will of course be understood that it may be used wherever it is adapted.

The object of the invention is to provide an improved arrangement of boxing for holding bearing-rollers and for providing races against which the thrust-bearing balls may rotate.

In the drawings forming a part of this specification, Figure 1 is a longitudinal section through an axle-spindle and hub equipped with the present bearing, the balls and rollers being in elevation. Fig. 2 is a detail perspective view of the boxing with its rollers.

Referring now to the drawings, there is shown a wagon-spindle 5, having the usual shoulder 6 at its rear end portion, while its free end portion is reduced and threaded, as shown at 7, to receive a retaining-nut 8, having a radiating flange 9, which in the present instance is provided with a groove 10, that receives thrust-bearing balls 11. The flange 6 at the base of the spindle has also an annular groove 12, which receives thrust-bearing balls 13.

The wheel-hub 14 is held between the flange 6 and the nut 8 and is provided with a boxing comprising a cylinder 15, having at its ends the radiating flanges 16 and 17, which fit tightly against the ends of the hub. Wings 18 are formed upon the outer face of the boxing 15 at the inner end thereof and engage in

the hub 14 and hold the boxing against rotation in the hub.

Within the ends of the boxing are disposed rings 20 and 21, respectively, that are concentric to the boxing, at the outer ends of which are radiating flanges 22 and 23, respectively, that lie closely against and are riveted to the flanges 16 and 17, respectively. The flanges 22 and 23 form races against which the thrust-bearing balls 13 and 11, respectively, bear.

The boxing 15 is of greater diameter than the spindle 5, as is also each of the rings 20 and 21, the rings being of lesser diameter than the boxing and lying in spaced relation to the spindle. Between the rings and the corresponding ends of the boxing are received the reduced ends 25 and 26, respectively, of bearing-rollers 27, which latter contact with both the boxing and the spindle and form bearings for the wheel. The usual metal band 30 is disposed upon the outer end of the hub, as illustrated.

What is claimed is—

The combination with a spindle, of a wheel-hub, a cylindrical boxing fitted within the hub and having radiating flanges at its ends standing against the corresponding ends of the hub, means for holding the boxing against rotation within the hub, retaining-rings disposed within the ends of the boxing in spaced relation thereto, flanges carried by the rings and riveted against the outer faces of the flanges of the boxing, and friction-rollers having reduced ends held between the rings and boxing and lying with their body portion in contact with the boxing and spindle.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN M. HORGER.

SIMEON D. HORGER.

Witnesses:

R. L. ODOM,

J. A. McKIM.