

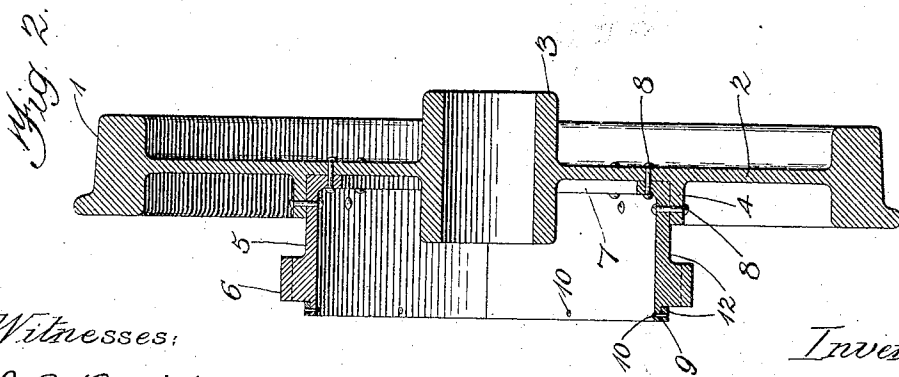
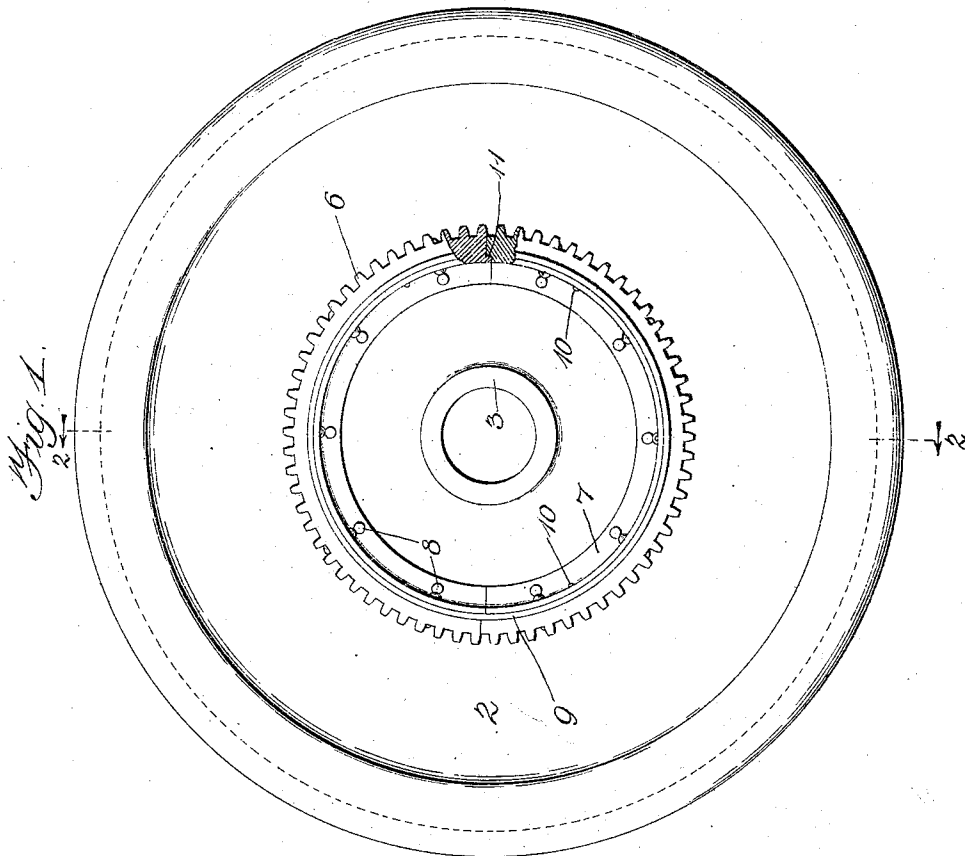
J. E. OSMER.

DRIVE WHEEL.

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944,495.

Patented Dec. 28, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN E. OSMER, OF CHICAGO, ILLINOIS.

DRIVE-WHEEL.

944,495.

Specification of Letters Patent. **Patented Dec. 28, 1909.**

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To all whom it may concern:

Be it known that I, JOHN E. OSMER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Drive-Wheels, of which the following is a specification.

My invention is herein shown as applied to the wheels of electric motor-car trucks.

The salient objects of the invention, when used in connection with electric railway cars, are to provide means for transmitting power from the motor directly to the car wheel instead of through the axle, as now commonly done; to dispense with the gear wheel mounted upon the axle and thereby permit of using the space thus saved to provide a wider or greater bearing for the motor; to reduce the cost of construction; to dispense with extension hubs on the car wheel or gear; and to eliminate the liability of breakage of the axle resulting from the present practice.

In the accompanying drawings, Figure 1 is a side elevation of a car wheel embodying the features of my invention. Fig. 2 is a sectional view taken in the plane of dotted line 2 2 of Fig. 1.

The embodiment selected for illustration comprises a railway car wheel having a tread 1, a web or spokes 2 and a hub 3 of usual length. Upon one side of the web and integral therewith is an annular flange 4 which is concentric with the hub 3 and to which the gear element is rigidly attached. In the present drawings, the gear element is shown as located inside of the flange 4. Said gear element comprises a ring 5 in the form of a short cylinder having upon its outer side a circular rack 6 and upon its inner circumference an annular flange 7 of such form as will adapt it to lie in contact with the web 2. The inner side of the flange 4 and the outer side of the ring 5 are machined so that said ring shall fit closely within the flange 4 and be thereby securely held in concentric relation to the hub. Suitable fastenings, such as rivets 8 are passed through the ring 5 and its flange 7 and the web 2 and the flange 4 of the car wheel.

The ring 5 may be formed in two semicircular sections, as herein indicated. The flange 4 and the rivets 8 serve to securely hold the inner portion of the ring together, the outer portion of the ring being bound

by a ring 9 encircling the ring 5 at the outer side of the rack 6. The ring 9 may be fixed in place in any suitable manner, as by means of rivets 10. In order to assist the parts 4, 8 and 9 in holding the two sections of the ring 5 in proper relation with each other, the adjacent edges of the ring sections may be complementarily rabbeted as at 11. The ring 5 is of sufficient width to provide a space 12 at each side of the rack 6 for a gear case (not shown), suitable packing being provided to prevent the escape of lubricant between the gear case and the ring 5.

In use, the drive pinion on the armature shaft meshes with the rack 6, power being transmitted directly to the wheel, instead of through the axle, as in the common construction. It will be seen that the rack 6 is practically a part of the car wheel. The rack is securely held in concentric relation with the car wheel by the machined flange 4, the rivets 8 not being primarily depended upon to attain this result. By placing the gear element upon the wheel instead of upon the axle, I am enabled to extend the mountings of the motor close to the car wheel, thereby obtaining a wider bearing for the motor than is possible with the usual construction, and consequently relieving the axle of a portion of the stress heretofore borne by it.

When it is desired to remove the gear element the rivets 8 and the ring 9 may be removed, whereupon the sections of the ring 5 may be withdrawn from the flange 4. The gear element being very rigidly secured to the car wheel, said element may remain in service the maximum length of time, whereas, in common constructions, when the fastenings fail the gear element ordinarily must be discarded.

I claim as my invention:

1. A car wheel having thereon an annular flange formed integral with the wheel, a ring fitting within said flange, an annular rack upon the periphery of said ring, and fastening members extending through said flange and said ring and rigidly securing said flange and ring together.

2. A car wheel having thereon an annular flange formed integral with the web of the wheel, a ring in the form of a short cylinder, said cylinder fitting within said flange and being rigidly secured in place, and an annular series of gear teeth on the periphery of said cylinder.

3. A car wheel having thereon an annular flange formed integral with the web of the wheel, a ring in the form of a short cylinder, said cylinder fitting within said flange and consisting of two semicircular sections, and fastening members extending through said flange and said ring and rigidly securing said ring in place, said flange opposing the action of centrifugal force upon the ring, said ring having gear teeth formed integral therewith and said ring being of sufficient width to provide space between the gear teeth and the web of the wheel for a gear case.
4. A car wheel having thereon an annular flange formed integral with the web of the wheel, a sectional ring fitting within said flange, the contacting surfaces of said ring and said flange being machined, said ring being rigidly secured to said flange, an annular flange on said ring and rigidly secured to the web of the wheel, said ring having a circular rack formed integral therewith, and a ring fitting over and rigidly secured to the outer end of said ring for securing together the sections thereof, said sectional ring being of sufficient width to provide space for a gear case.

JOHN E. OSMER.

Witnesses:

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