

No. 630,914.

Patented Aug. 15, 1899.

F. MYERS.
BALL BEARING FOR CAR WHEELS.

(Application filed Apr. 26, 1899.)

(No Model.)

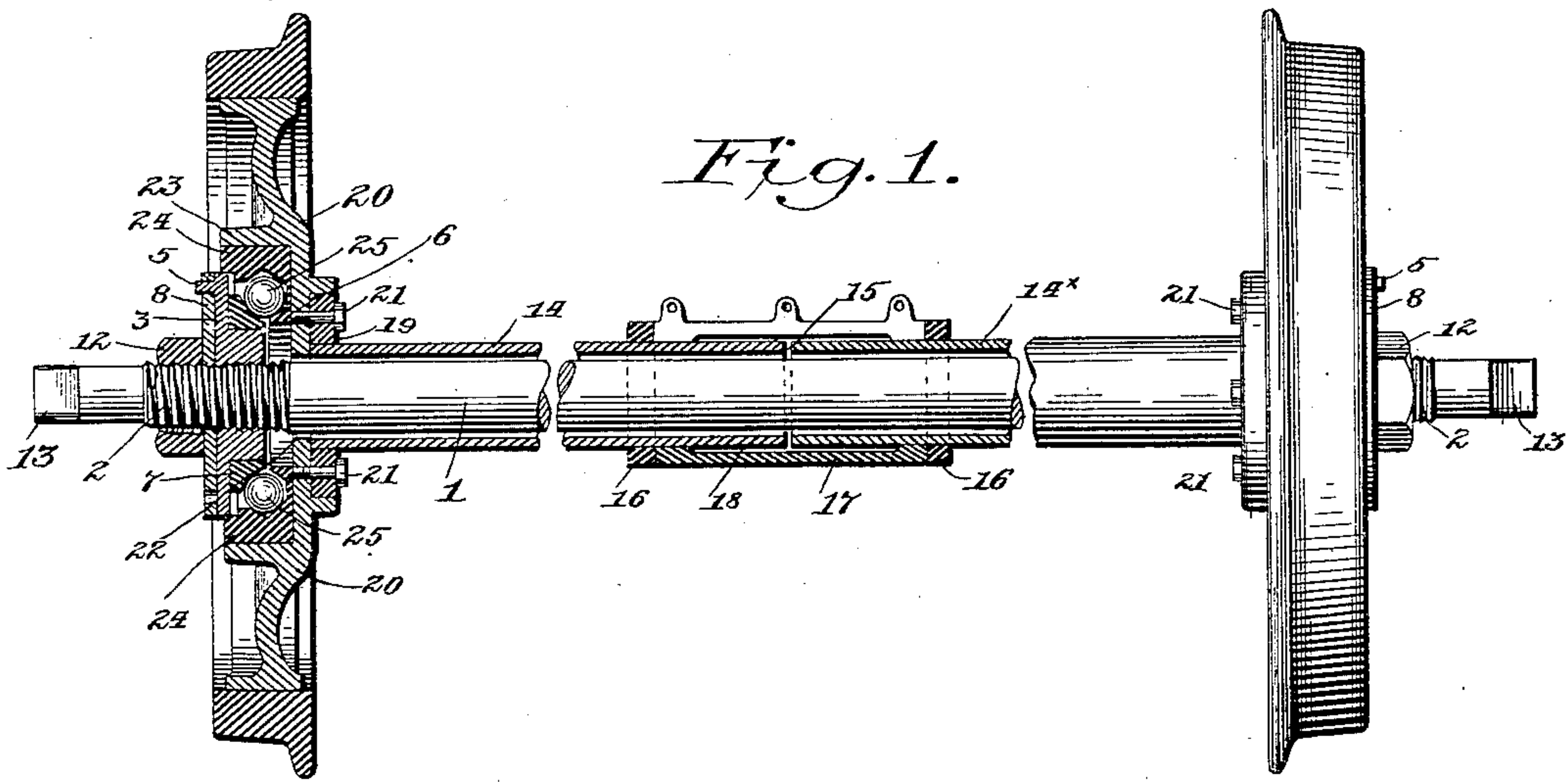


Fig. 2.

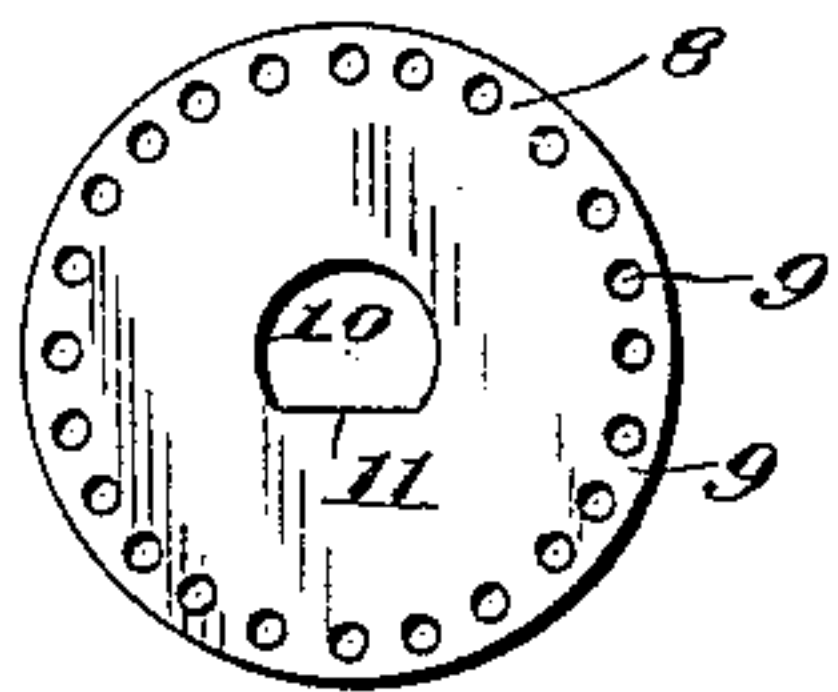


Fig. 3.

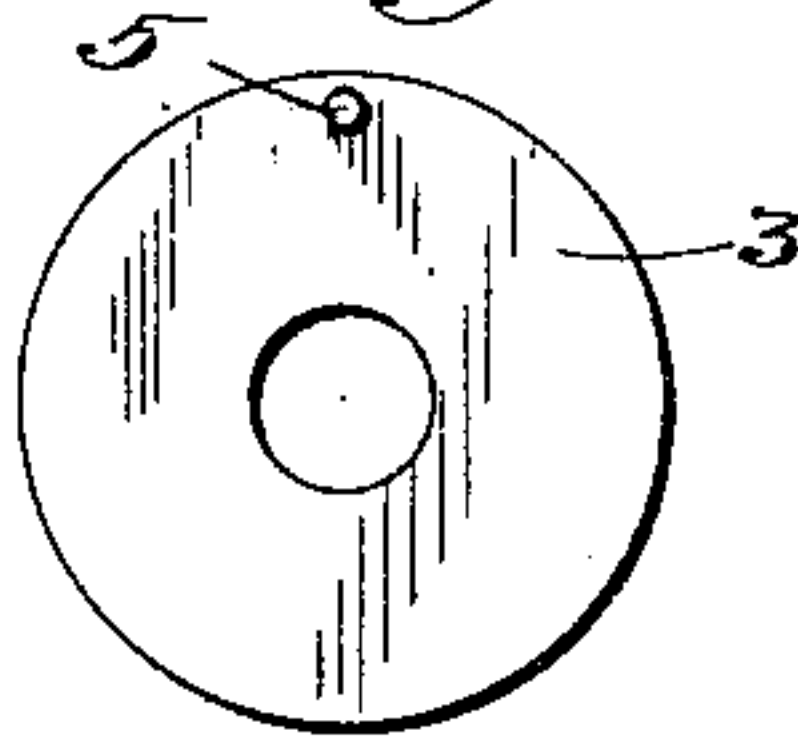
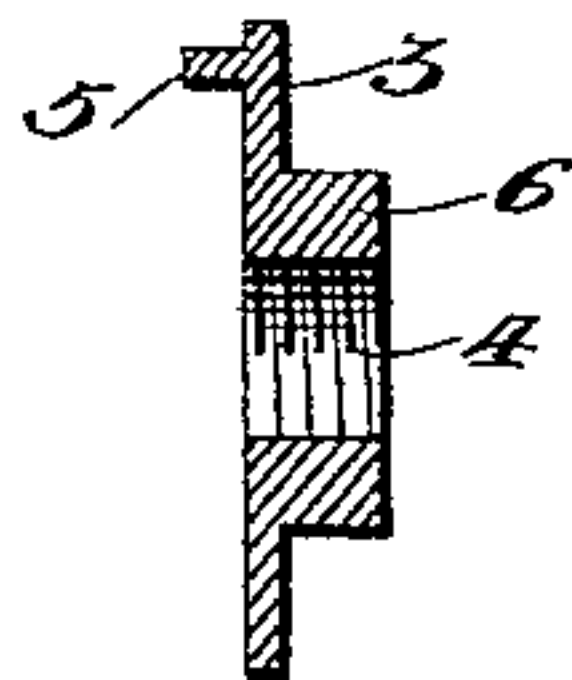


Fig. 4.



WITNESSES

A. B. Degges
L. D. Heinrich

INVENTOR:

Frederick Myers,
by Emmett P. Bunyan,
his Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK MYERS, OF NEW YORK, N. Y.

BALL-BEARING FOR CAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 630,914, dated August 15, 1899.

Application filed April 26, 1899. Serial No. 714,602. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK MYERS, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Ball-Bearings for Car-Wheels; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to ball-bearings for car-wheels; and the objects of the same are to produce a device of this character which shall be comparatively simple in construction, durable and efficient in use, the parts of which may be easily and quickly assembled, and which may be repaired without removal of all the parts.

Another object is to produce an antifric-tion car-wheel which will permit ready adjustment of the ball-cones and which will permit said cones to be firmly locked upon the axle without dependence entirely upon threaded nuts.

Still another object is to provide means whereby each of the wheels upon a car-axle may have independent revolution in order that a car rounding a curved track may have its wheels travel at the required speed to prevent slipping on either rail.

Another object of my invention is to furnish a tubular axle mounted upon a solid shaft and divided centrally, so that each wheel may revolve in unison when traveling over a straight track and be permitted an independent revolution when rounding curves.

I attain the objects referred to by means of the construction shown in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a view in elevation and partial section of a car-axle and wheels and showing my invention applied thereto. Fig. 2 is a face or plan view of the cone-lock. Fig. 3 is similar view of the cone-support. Fig. 4 is a central vertical section of the same.

Like numerals of reference designate like

parts wherever they occur in the several views of the drawings.

Referring to the construction shown in Fig. 1 of the drawings, the numeral 1 designates a shaft. This shaft is screw-threaded near its ends, as at 2. A cone-support 3 is provided with a central screw-threaded bore 4, which fits the threaded portion 2 of the shaft 1. A stud or pin 5 projects outward from the outer face of the cone-support 3, and a boss 6 extends from the inner face of said support. A cone-ring 7 is fitted to the boss 6 of the cone-support and may be permitted a slight movement thereon, if deemed advisable.

To lock the cone-support 3 against movement on the shaft 1, a locking-disk 8 is provided. This disk has a series of perforations 9 extending around it near its periphery. A central aperture 10 in the locking-disk has a plane or flat wall 11. The shaft 1 is also squared to conform to the shape of the aperture 10 at the point where the disk is permitted to slip thereon. By means of this construction the cone and its support may be adjusted to the required degree upon the shaft, and when adjusted the locking-disk is placed against the support 3, and the stud or pin will pass through any one of the perforations 9 with which it registers. A nut 12 is turned up against the outer face of the locking-disk upon the threads 2 on the shaft. In this way the cone, the cone-support, and the locking-disk are held firmly to the shaft 1, and these parts do not normally revolve; but when found desirable all these parts may be moved around to assume a different position by placing a wrench upon the squared end 13 of the shaft 1.

The revolving parts of the wheel and axle will now be described. A tubular axle, made in two sections 14 14^x, is slipped over the shaft 1 and is sufficiently larger than said shaft to easily revolve around it. The two inner ends 15 of the tubular axle 14 14^x are brought together at a point substantially in the longitudinal center of the shaft 1. At points near the inner ends 15 rings or collars 16 are rigidly secured to the tubular axle-sections, and a split collar or clamp 17 surrounds the sections between the collars 16 to unite the ends

of said sections with just sufficient force to compel the two sections to revolve in unison when the wheels are traversing a straight track; but the force exerted by the collar 17 upon the sections 14 14^x is not sufficient to hold said sections together when the wheels are rounding curves. The collar 17 is recessed upon its inner face, as at 18, to reduce friction when the two sections of the axle are traveling at different rates of speed, as when traversing curved tracks, and said recess also serves to hold the lubricant. At the outer ends of the tubular sections 14 14^x a flange 19 is rigidly secured or formed therewith. The wheel-center 20 is secured by a series of bolts 21 to the flange 19. The aperture 22 in the wheel-center 20 is of the same diameter as the interior of the tubular axle-sections 14 14^x. An annular recess 23 is formed in the outer face of the wheel-center, and in this recess the ball-race 24 is seated, and between said ball-race and the cone-ring 7 the balls 25 are placed.

It will be obvious from the foregoing that the wheels revolve upon the balls 25, and since the connection between the tubular axle-sections and the wheels is of a fixed and rigid character the axle-sections revolve either in unison or separately, depending upon the course or curvature of the track upon which the wheels are traveling.

I am aware that there are many modifications as to details of construction which may

be resorted to without departing from the spirit and scope of my invention. Therefore I do not wish to be restricted to the precise construction shown.

What I desire to secure by Letters Patent and claim is—

1. An axle for car-wheels consisting of a solid shaft or axle, a cone-support adjustable on said shaft, a ball-cone ring mounted on said support, hollow axle-sections surrounding said solid shaft, car-wheels secured to the outer ends of said hollow sections, a clamp straddling the inner abutting ends of said sections, said solid shaft being normally non-revoluble and the hollow sections being out of contact therewith, substantially as described.

2. A car-wheel axle consisting of a normally non-revoluble solid shaft, a ball-cone adjustable on said shaft, a lock for holding the cone in adjusted position, tubular axle-sections, to the outer ends of which the wheels are secured, a clamp surrounding the inner ends of the tubular sections, said clamp being cut away on its inner face to reduce friction, substantially as described.

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

FREDERICK MYERS.

Witnesses:

J. C. QUADE,
E. A. PAUL.