

(No Model.)

M. WYSONG.
WHEEL HUB.

No. 552,569.

Patented Jan. 7, 1896.

Fig. 1.

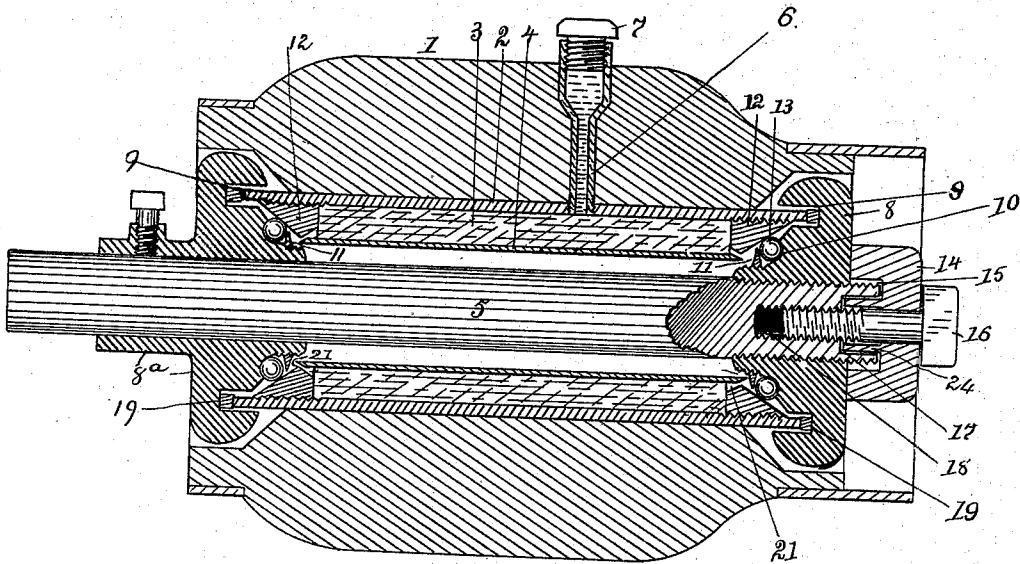
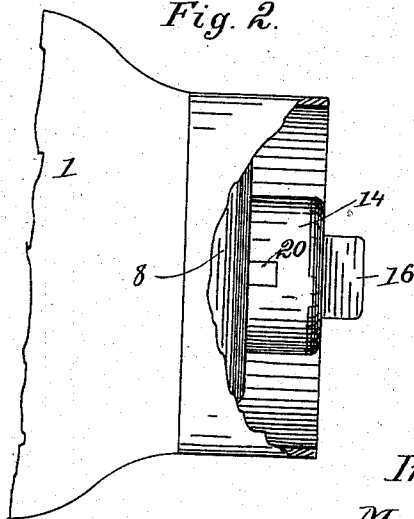


Fig. 2.



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WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 552,569, dated January 7, 1896.

Application filed September 6, 1895. Serial No. 561,698. (No model.)

To all whom it may concern.

Be it known that I, MAX WYSONG, of Maroa, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Wheel-Hubs, of which the following is a specification.

This invention is designed to provide a dust-proof, adjustable and self-lubricating ball-bearing for vehicle-wheels. It is exemplified in the structure hereinafter described and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a section lengthwise of a hub embodying my improvements. Fig. 2 represents an outer end of a hub with the rim or flange partly broken away to show certain peculiarities of construction.

The spoke-receiving part of the hub is shown at 1.

At 2 is shown a sleeve or boxing with internal screw-threads at each end. Hardened-steel bushes 12 are screwed one into each end of sleeve 2. An inner sleeve 4 is about flush with the inner surfaces of the bushes, and a wick 3 is held between the two sleeves. A tube 6 is set into the hub and the outer sleeve, and it is provided with a closure 7. Holes are made through the bushes, or through the ends of the inner sleeve, as shown at 21, to provide for the passage of the lubricant with which the wick is supplied through tube 6. The ends of the hub are recessed around the ends of the outer sleeve to admit the cone-bearings 8 and 8^a, one of which is threaded to screw onto the spindle 5 and the other of which is provided with a set-screw. The cone-bearings are each recessed, as shown at 9, to receive washers 19 and the ends of the outer sleeve. They are beveled, as shown at 10, to form bearings for balls 13, and they are externally threaded on their inner ends to receive the ball-retaining collars 11. The spindle 5 is made to project beyond the end of the bearing-cone 8. It is bored and threaded to receive the screw-bolt 16, and it is recessed to receive a boss 24 formed by recessing cap 14. The cap is recessed concentric with its axis, as shown at 15, and it is recessed radially to receive the tongue 20 on the cone-bearing 8, as shown in Fig. 2, so that said cap 14 will revolve with the cone-bearing

8. The threads for the cone-bearing 8 and those of bolt 16 are in reverse directions—that is to say, one is right hand and the other is left hand—to properly lock the parts. The washers 19 are made of felt or leather. There may be more than one of the tongues 20, (shown in Fig. 2,) and a corresponding number of recesses formed in the cap.

The inner bearing 8^a may be adjusted on the spindle by loosening and retightening the set-screw. The outer cone-bearing 8 may be adjusted by turning it on its threads, the bolt 16 being first loosened sufficiently to permit, and when the bolt is retightened its tendency is to lock the bearing against turning. This tendency results from the reverse arrangement of the screw-threads on the bearing and the bolt and the tongue-and-groove connection between the cap and the bearing, which makes the cap and the bearing the same as one so far as the pressure of the bolt-head is concerned.

The connections of the bushes 12 with the sleeve 2 are so made as not to disturb the cylindrical form of the sleeve, thus enabling the sleeve to be easily fitted into the hub. The bushes strengthen rather than weaken the sleeve, and there are no joints other than the threaded ones to be formed.

The arrangement of the two sleeves, the bushes and the inclosed wick adds strength to the hub and provides a self-lubricator that needs replenishing only at very long intervals, and the tube with its removable closure enables the wick to be supplied with oil when necessary without removing the hub from the spindle or making any other change in the relation of the parts.

The collars 11, together with the grooves in the cones, embrace the balls slightly more than one-half their circumference, and when properly adjusted they hold the balls in their operative positions in the grooves. This enables the cones to be removed for examination of the balls and the bearings without permitting the detachment of the balls from the cones. The collars 11 may be adjusted to the balls with the utmost nicety, and the balls are held from contact with the collars, when in operation, by the direction of the pressure of the bushes, and consequently

there is no tendency to disturb the collars in a manner to permit the escape of the balls when the cones are removed.

The formation of grooves 9 in the cones into which the projecting ends of the sleeves fit provides a practically dust-proof connection. By adding felt washers at 19 dust is more completely excluded, and, as the washers will speedily become saturated with oil, the introduction of felt washers will exclude water as well as dust.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A ball-bearing cone for the spindles of vehicles, having the inner end of its periphery screw threaded and a groove for the balls, and a ball-retaining collar internally screw tapped and screwed onto the inner end of the cone, substantially as set forth.

2. In a ball-bearing hub for vehicles, the combination of the spindle 5 bored in its end and threaded interiorly and exteriorly in reverse directions, a ball-bearing cone 8 adapted to be screwed onto said spindle and having a radial tongue, a cap adapted to fit over the end of the spindle and having a recess to receive said tongue on the cone, and a threaded bolt 16 adapted to screw into the end of the

spindle and against the cap, substantially as set forth.

3. The combination, with a hub for vehicles, of an outer sleeve 2 threaded internally at its ends, an inner sleeve 4, beveled bushings 12 screwed into the ends of the outer sleeve and partly surrounding the ends of the inner sleeve 4, forming with said sleeves an oil receptacle, an oil tube 6 passing through the hub and through the outer sleeve and having a closure, a wick 3 or other packing in the oil receptacle, said oil receptacle having oil passages, substantially as set forth.

4. In a hub for vehicles, the combination of the hub 1, the internally threaded sleeve 2, the bushings 12 screwed into the sleeve said sleeve having its ends projecting beyond the bushings, the cones inclosed within the hub and having annular recesses, as 9, to receive the ends of the sleeve, and washers 19 in the recesses between the ends of the sleeve and the inner walls of the recesses, substantially as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

MAX WYSONG.

Attest:

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