(No Model.)

O. BARKER.

SELF LUBRICATING CAR WHEEL.

No. 338,694. Patented Mar. 30, 1886.

Fig. 1.

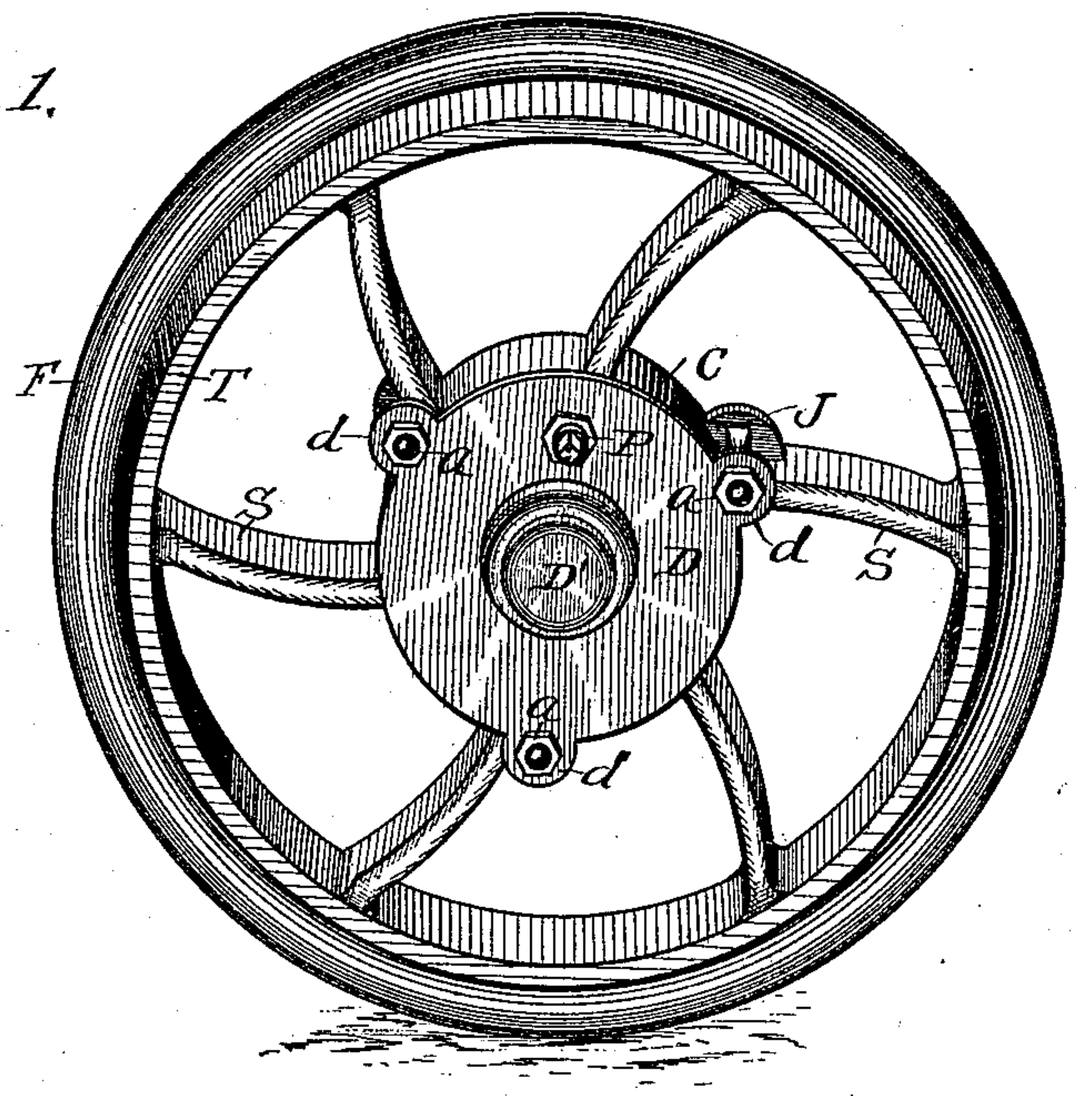


Fig. 2.

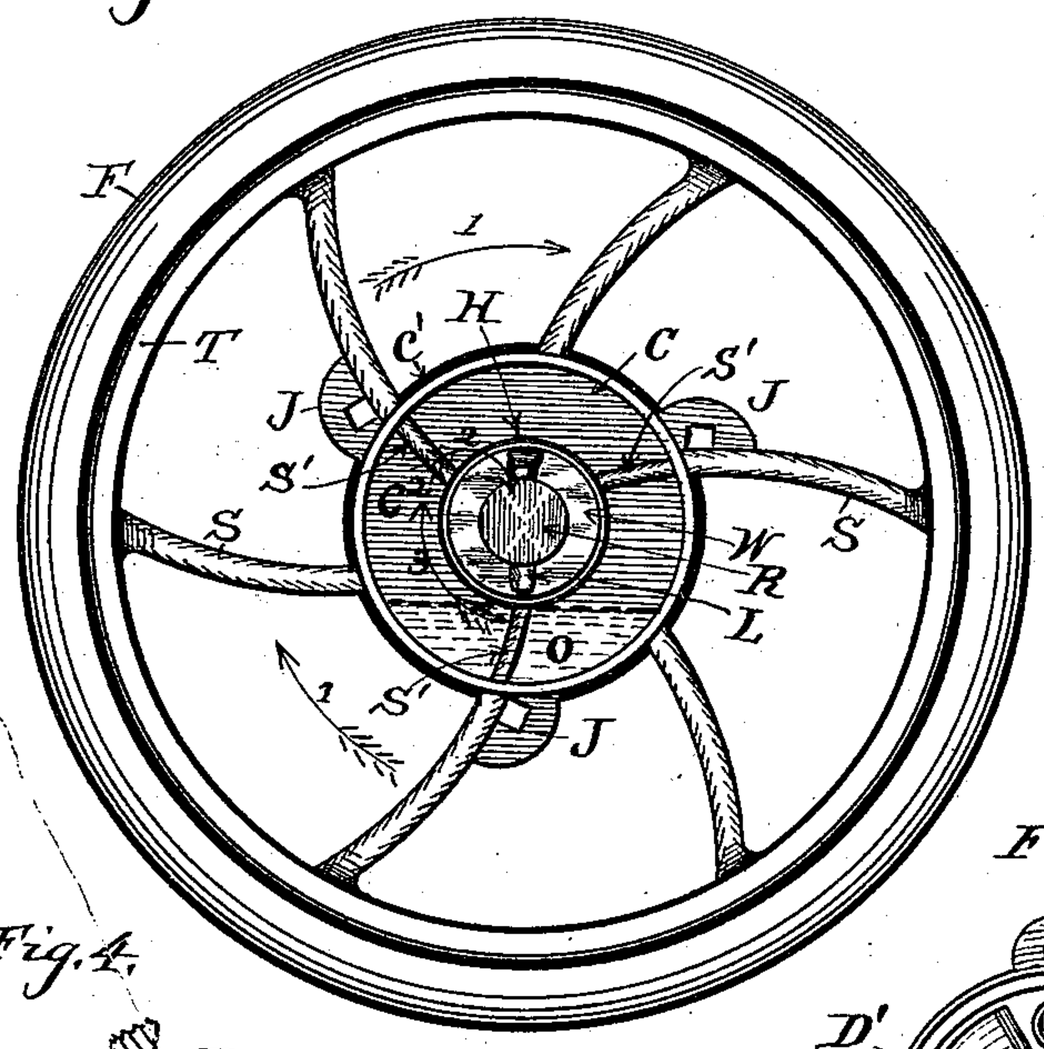


Fig. 3.

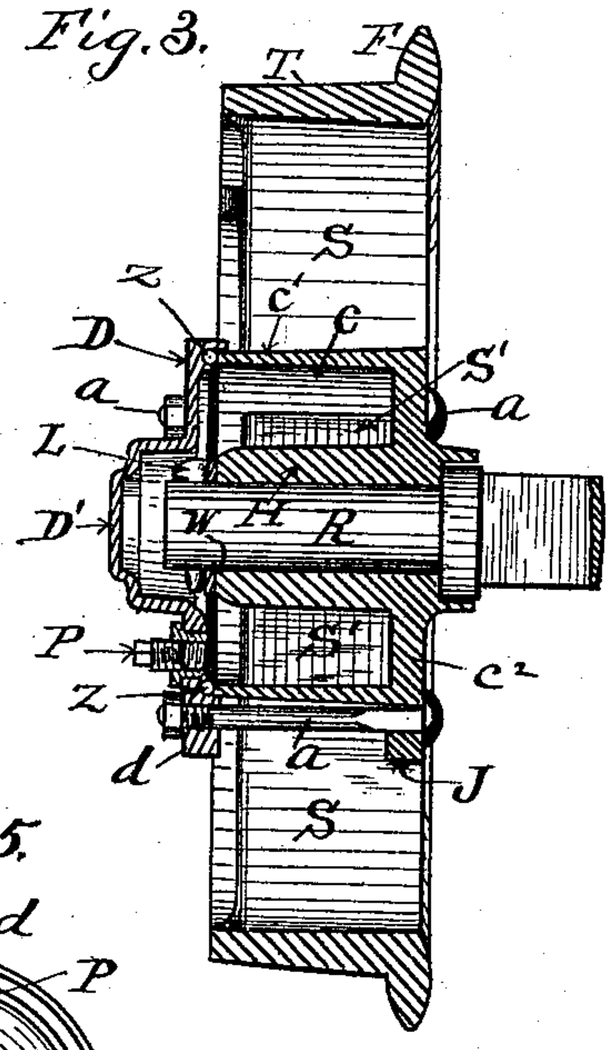


Fig. 4.

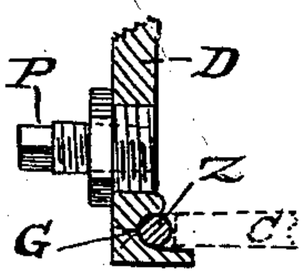
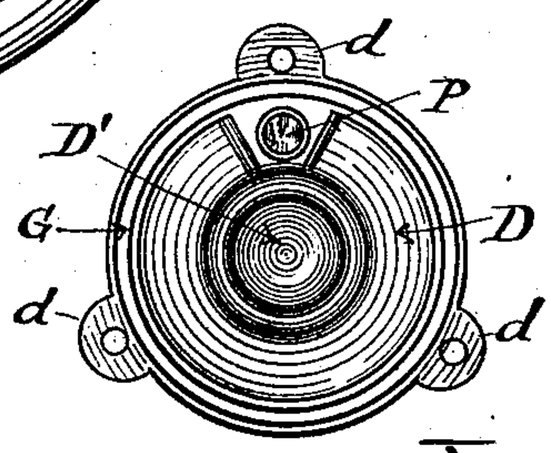


Fig. 5.



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UNITED STATES PATENT OFFICE.

ORSON BARKER, OF BRAIDWOOD, ILLINOIS.

SELF-LUBRICATING CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 338,694, dated March 30, 1886.

Application filed January 11, 1886. Serial No. 188,263. (No model.)

To all whom it may concern:

Be it known that I, ORSON BARKER, a citizen of the United States of America, residing at Braidwood, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Self-Lubricating Car-Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in self-lubricating car-wheels of the class wherein the wheel is loose on the axle, and provided with a chamber for holding oil, and so constructed as to distribute the lubricant around the outer end of the axle-spindle, so it may enter between it and the hub as the wheel travels, which improvements are fully set forth in the following specification and claims, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the car-wheel as it would appear on the axle ready for use. Fig. 2 is a front side view of the car-wheel and of the outer end of the axle-spindle on which it is placed, and having the cap forming the front wall of the oil-chamber removed to show the interior of the oil-chamber. Fig. 3 is a central vertical cross-section of the car-wheel and a side view of the axle-spindle and of a portion of the car-axle. Fig. 4 is a cross-section of a portion of the oil-chamber cap and its packing at the feed-aperture, showing the screw-plug for closing said aperture; and Fig. 5 is a plan view of the inner face of the cap, forming the front wall of the oil-chamber as it would appear detached from the car-wheel.

Referring to the drawings, T represents the tread of the wheel; F, the flange of the tread; S, the spokes, and H the hub surrounded by an annular oil-chamber, C, encircled by means of the annular flange C′, forming the peripheral wall of said chamber, and connected to the rear end of said hub by means of the integral web C^2, said web C^2 forming the rear side wall of said chamber. The said chamber in this instance is divided into three connected compartments by means of the integral radial partitions S′, located between the hub H and flange C′. These partitions S′ are shorter than the chamber is deep, as shown in Fig. 3, so the said several compartments may be connected with each other, and so the lubricant may pass said partitions from one compartment to the other, for the purpose hereinafter stated.

The spokes S terminate at the flange C′, as shown in Fig. 2, and said flange and spokes are supported to a great extent by means of the said partitions.

D represents a detachable cap, forming the front wall of said chamber, secured to the flange C′, to inclose said chamber, by means of bolts *a*, passing through its integral lugs *d* and through the lugs J, integral with spokes S, as shown in Fig. 3. A packing lies in groove G of said cap, between it and said flange C′, to render the oil-chamber tight. The central part, D′, of said cap is dome-shaped in form, to cover the end of the axle-spindle R and give it room in said chamber. A linchpin, L, passing through the end of said spindle holds the car-wheel on, and a washer, W, between said linchpin and hub H prevents great wear of the parts. The cap D is made detachable, so the chamber C may be easily cleaned, and so the linchpin may be removed when the wheel is placed on or removed from the spindle. The feed-aperture is located in the face of the cap D, at one side of its dome D′, and is closed by means of the screw-plug P, which is protected by means of said dome from injury by adjacent objects.

The mode of operating said car-wheel to cause it to be self-lubricating is substantially as follows: The wheel having been placed on the axle-spindle, and the cap D having been secured in place, as shown in Fig. 1, oil is poured into the chamber C through the feed-aperture in said cap to about the depth shown at O in Fig. 2. The open space between said cap and said partitions S′ connects all the compartments of the chamber C, so that the oil may pass from one to the other. When the wheel travels forward in the direction shown by the arrows 1 and 3, Fig. 2, the partitions S′ will carry a portion of the oil forward and upward with them, and cause it to fall over their free ends and run over the end of the hub H, as shown by arrow 2 in said figure, and enter between said hub and spindle and above the spindle, where the space between it and said hub is greatest, to thoroughly and continuously lubricate the said spindle. By

means of these partitions S′ the oil is kept pretty evenly divided between the several compartments while the wheel travels, and when it stops the oil will fall to the bottom of the chamber, as shown in Fig. 2. Any number of these partitions S′ may be used, and they may be set parallel with the length of the hub or at an angle or spirally, as may be desired. By this construction no oil is wasted, except it pass through the hub between it and the spindle, and it can be kept clean and free from all dirt and foreign substances and perpetually oil the spindle until the oil is exhausted.

In the first instance the wheel is cast so as to form the oil-chamber extending the length of the hub and surrounding it, open at one end, as shown in Fig. 2, the chamber being formed so as to require no cores when being cast, and so the wheel will draw readily from the sand. The cap is then used to close the front end of the chamber, so it will hold the lubricant, and is detachable, for the purpose specified.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

The self-lubricating car-wheel shown and described, having the oil-chamber C surrounding its box and extending its length, and cast with its front end open, said chamber having the equidistant longitudinal partitions S′ extending from its rear wall to near the front end of the box, but not entirely across said chamber, in combination with the detachable cap D, having a feed-aperture provided with a screw-plug, P, substantially as set forth.

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