(No Model.)

W. J. JACKSON.

CAR AXLE LUBRICATOR.

No. 284,209. Patented Sept. 4, 1883.

Fig. 1.

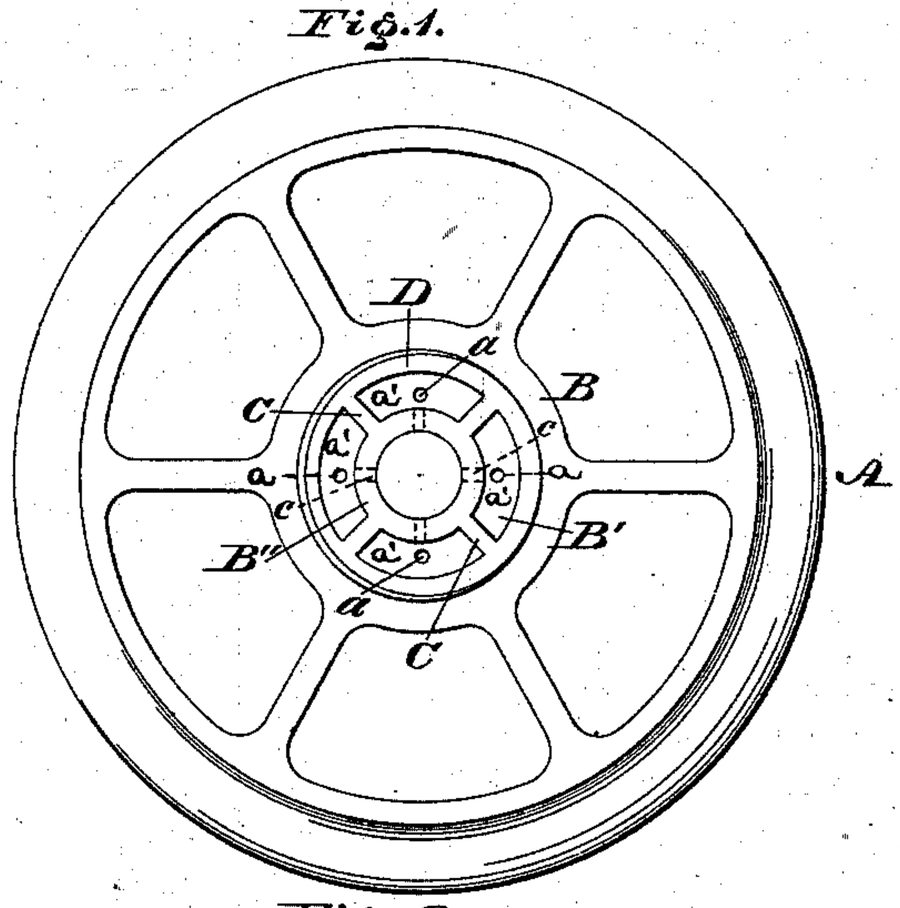


Fig. 2.

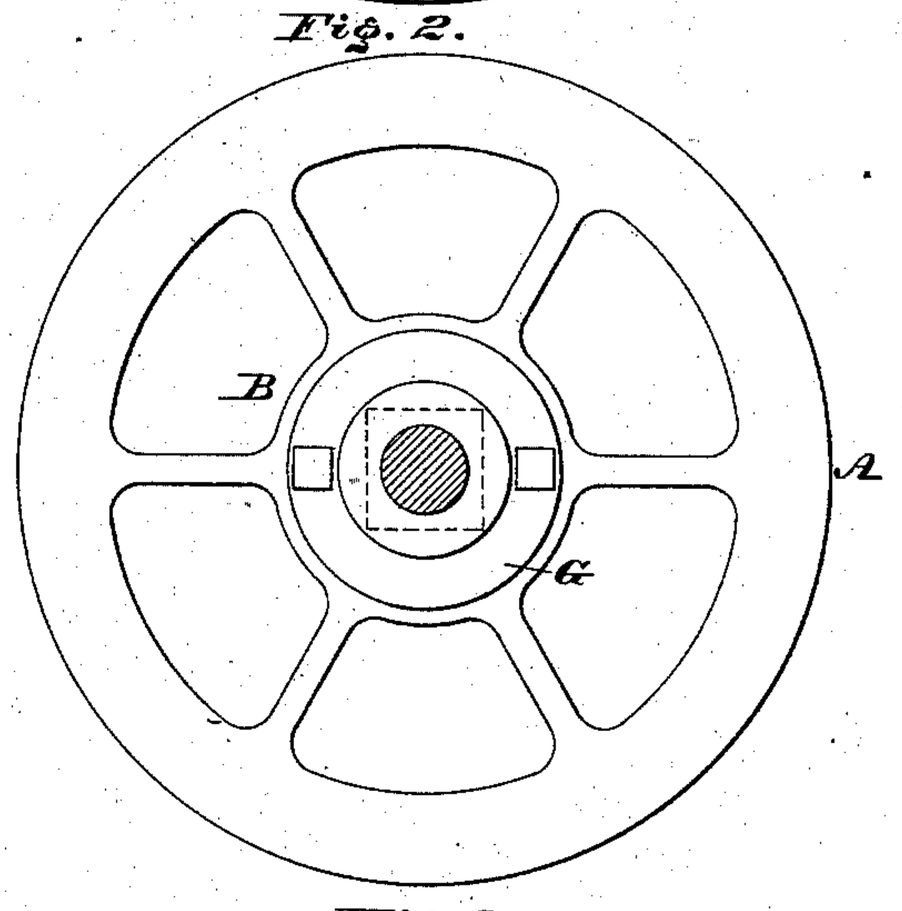
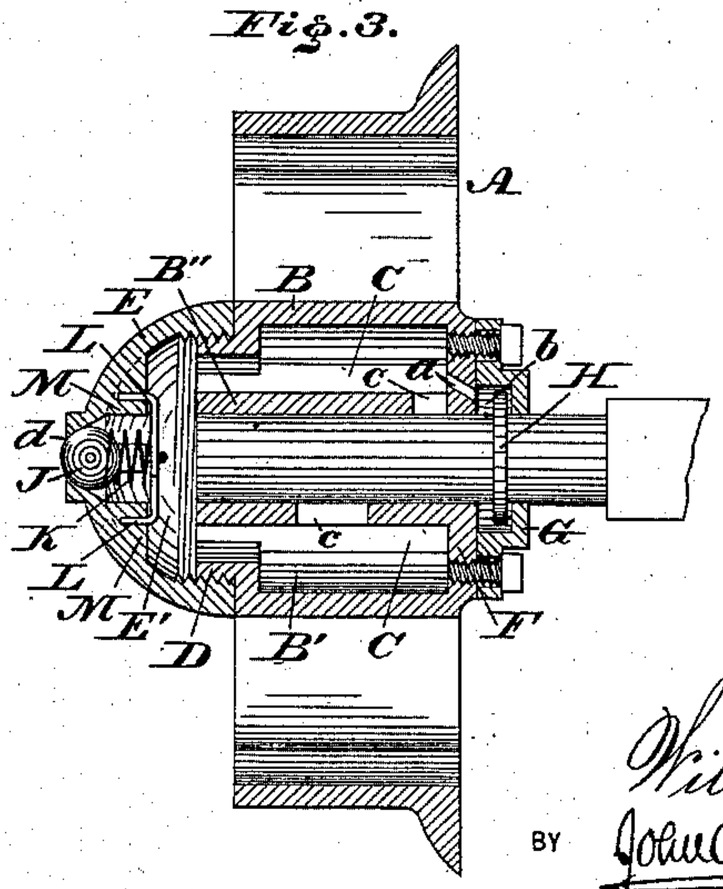


Fig. 3.



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CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 284,209, dated September 4, 1883.

Application filed June 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. JACKSON, a citizen of the United States, residing at Osceola Mills, in the county of Clearfield, State of Pennsylvania, have invented a new and useful Improvement in Car-Wheel-Axle Lubricators, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front view of a car-wheel-axle lubricator embodying my invention, the cap being removed. Fig. 2 is a rear view thereof. Fig. 3 is a diametrical section thereof, the cap being in position.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a car-wheel-axle lubricator in which the hub is strengthened, the axle continuously and uniformly lubricated, the escape of the lubricant and entrance of dirt are prevented, and a collar is provided for connecting the wheel and axle, the same being lubricated and inclosed, all as will be hereinafter set forth.

Referring to the drawings, A represents a car-wheel, in the hub B of which is formed a chamber, B′, which extends parallel with the axis of the wheel and encircles the bearing portion B″ of the hub. C represents radial partitions, which are formed with the bearing portion B″ and outer wall of the chamber, serving to unite said parts and divide the chamber into sections. The front end of the hub is formed with a neck, D, which is threaded for engagement of a screw-cap, E, the latter closing said end, and forming a chamber, E′, for the reception of the lubricant, it being noticed that said cap is in communication with the chamber B′ of the wheel through the slots or ducts *a′* in the front wall of the neck. The inner end of the hub is closed by a wall, F, in which is a central opening for the car axle or spindle and ducts *a*, which are in communication with the chamber B′, and lead to a closed chamber, *b*, formed on the inner end of the hub, outside of the chamber B′, by means of a cap, G, which is screwed or bolted to the hub, and contains within it a collar, H, formed on or secured to the axle of the wheel, it being evident that dirt is prevented from reaching the chamber *b* and collar H, owing to the inclosing nature of the cap G. The radial partitions B″ join the front wall of the neck and the inner wall, F, of the hub, thus sustaining the neck and the outer wall of the hub, said neck also enlarging the lubricant-chamber C, and forming the connecting part for the screw-cap without weakening the hub with bolt-holes heretofore employed.

In the bearing portion B″ of the hub are slots or outlets *c*, which are in communication with the chamber B′, and the central opening or bore of the hub for directing the lubricant to the axle which occupies said opening.

In the center of the cap E is an opening or inlet, *d*, for supplying the chamber E′ with lubricant, said opening being closed by a valve, J, which occupies a position within said chamber, and is pressed against its seat by a spring, K, one end whereof bears against the valve, and the other end bears against wires or rods L, which are secured to lugs M, formed on the inner face of the cap. The lugs M are disposed at intervals, or a single annular lug may be employed, and the wires or rods L in the present case are attached to the lug or lugs during the operation of casting the cap and lugs, and crossed or meeting centrally, so as to form a bearing for the spring, thus providing a cage for the valve and spring, the same occupying but a small portion of the chamber E′ of the cap. The chambers E′ B′ are supplied with oil or lubricant through the inlet *d*, the valve J being forced back, so as to open and uncover said inlet, after which the valve is permitted to close, so as to prevent the escape of the lubricant and entrance of dirt into the chambers. As the wheel revolves, the lubricant reaches the axle through the slots *a*, and thus continually and uniformly lubricates said axle, the escape of the lubricant around the axle on the inner end of the hub being prevented by the wall F. The ducts *a*, however, direct the lubricant from the chamber B′ to the chamber *b* of the cap G, whereby the collar H and portion of the axle in contact with said cap are fully and uniformly lubricated. As the cap gathers the lubricant that leaves the compartments of the chamber B′ as they rise, it again directs the lubricant into the compartments as they reach the level of the lubricant, and thus each com-

partment is continuously supplied, the slots *a* being thereby filled and continuously directing the lubricant to the axle.

The collar H being encircled by the cap G, which is secured to the hub, serves to connect the wheel and axle, and obviates linchpins and other fastenings.

The partitions C, connecting the bearing B″ and outer wall of the chamber B′, as has been stated, provides the sustaining-walls for the hub through said chamber from end to end of the hub, the entire length of the bearing portion thus being supported by said partitions, and adapted to endure the severe usage to which it is subjected.

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

1. In an axle-lubricator, a wheel having a chamber or reservoir encircling its central bearing portion, and a threaded neck, D, which projects forwardly from the center of the hub, in combination with a screw-cap which engages with said forwardly-projecting neck, substantially as and for the purpose set forth.

2. A screw-cap, in combination with the wheel, having a reservoir encircling the central bearing portion thereof, a threaded neck projecting forward from the hub, and radial partitions which join the front wall of said projecting neck and inner or rear wall of the hub, and the inner and outer walls of the lubricant-chamber, said walls, neck, and partitions being cast together, substantially as and for the purpose set forth.

3. In a car-axle lubricator, the cap C, provided with a valve, J, and formed with lugs M at intervals on its inner face, in combination with wires which are connected with said lugs, the wires and lugs forming a cage for said valve and the closing-spring thereof, substantially as and for the purpose set forth.

4. An axle having a collar, H, in combination with a wheel having a central lubricant-reservoir, C, and at each end a cap forming the chambers E′ *b*, the front wall of said reservoir having ducts *a*′, leading from the chamber E′ into the reservoir C, and the rear wall having duct *a*, leading from said reservoir into the chamber *b*, substantially as and for the purpose set forth.

5. The axle having a collar, H, in combination with the wheel having a reservoir, B′, a forwardly-projecting threaded neck, D, and radial partitions C, the front screw-cap, E, with a valve, the inner cap, G, the front wall of the neck D having ducts *a*′, and the rear wall of the hub having ducts *a*, the wheel, with the neck D and partitions C, being cast together, all substantially as and for the purpose set forth.

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