No. 666,488. Patented Jan. 22, 1901.

F. BURIE.

WHEEL LUBRICATOR.

(Application filed July 9, 1900.)

(No Model.)

FIG. 1.

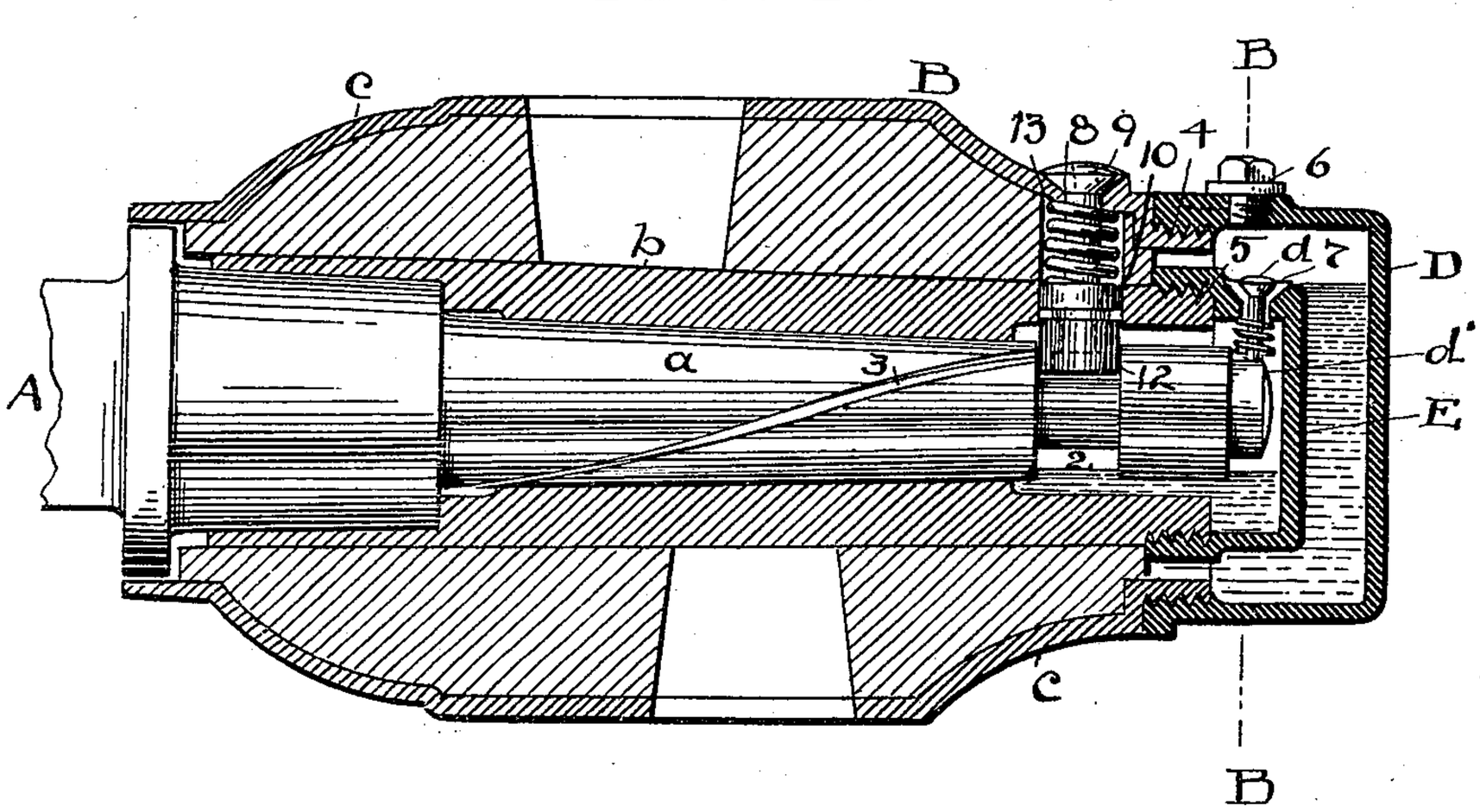


FIG. 3.

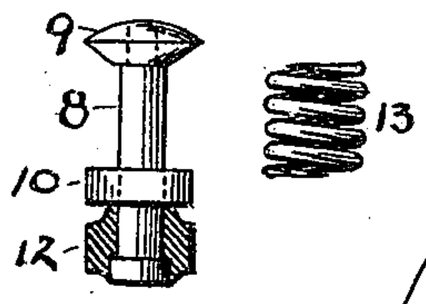
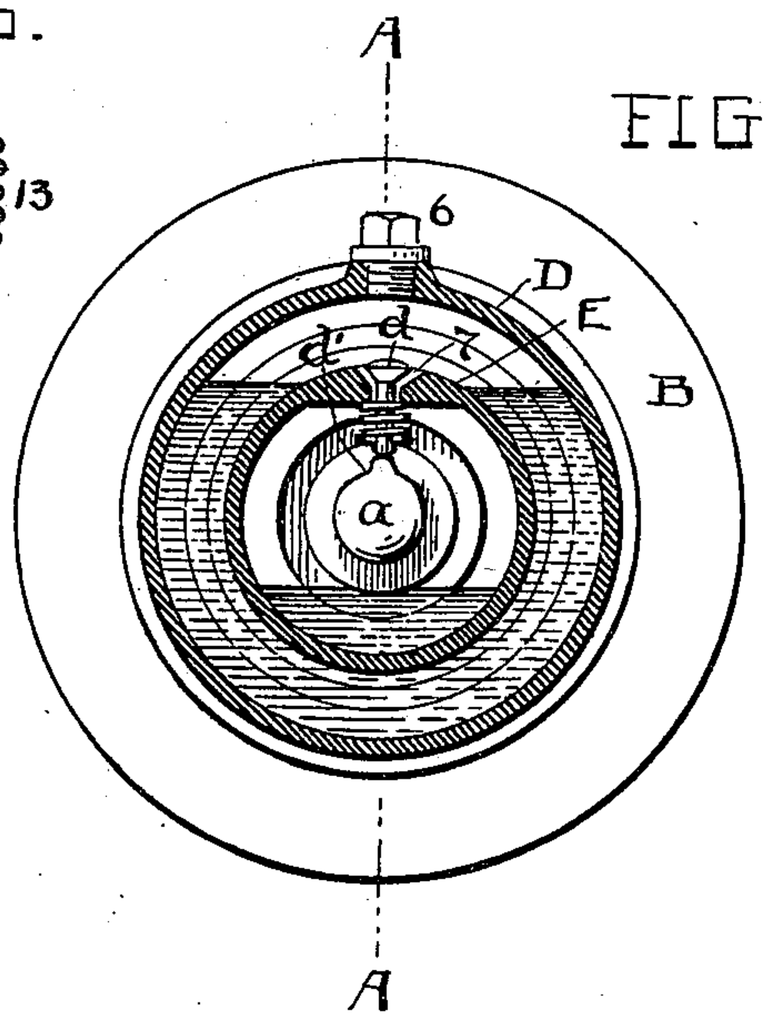


FIG. 2



ATTEST

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FREDRICK BURIE, OF BEDFORD, OHIO, ASSIGNOR TO PHILIP RAMER, OF SAME PLACE.

WHEEL-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 666,488, dated January 22, 1901.

Application filed July 9, 1900. Serial No. 22,901. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK BURIE, a citizen of the United States, residing at Bedford, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Wheel-Lubricators; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wheel-lubricators; and the object of the invention is, first, to provide an automatically-controlled oil-supply for the spindle from a reservoir on the wheel, and, secondly, to provide a wheel and spindle combined adapted to utilize the foregoing oiling mechanism and yet be free for easy and speedy removal and replacement without disturbing the oil reservoir or fountain.

To these ends the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a wheel-hub and the spindle united as in use; and Fig. 2 is a cross-section on a line corresponding to B B, Fig. 1. Fig. 3 is a detail of the wheel-confining mechanism alone.

Referring to the views thus shown, A represents the axle, and *a* the wheel-spindle, having a channel or groove 2 around the same near its reduced end or extremity. From said channel there extends a groove 3 back to the base or thicker part of the spindle, which is adapted to convey the lubricant to said base, where the greater weight of the load is apt to manifest itself and there is most danger of dryness and heating. The said channel or groove also serves as a distributing medium for the lubricant the entire length of the channel, thus both insuring and evening lubrication all the way. It will be noticed that it runs from about the top of the spindle at the front down to the bottom of the spindle at the rear, thus utilizing gravity-feed as well as the distributing action of the wheel for carrying the oil back in sufficient quantity for all purposes. I have planned for only enough oil and not too much, and by my further oil-regulating mechanism I am enabled to control the oil so as not to get either excessive lubrication or waste of oil.

B represents the hub proper of the wheel, and *b* the box or sleeve therein. The said box or sleeve, as usual, envelops the axle, and there is also shown here a shell *c*, inclosing the hub and extending forward thereof beyond the hub proper, relatively as shown, and in this instance evenly with the forward projection of the box. Both the extensions 4 and 5 are threaded exteriorly and each has its own cap D and E, respectively.

D represents the reservoir or fountain cap fixed on extension 4 of the shell, and within this and proportionally smaller is shell E, fixed on extension 5. Both caps are oil-tight on their threads. Cap D has a threaded plug 6 for the oil-supply orifice, and cap E has a drip-orifice 7 in its top with a funnel-shaped mouth, so that a relatively small quantity of oil will gather into this orifice when the wheel is in action and none at all when it is at rest. A lug or cam-like projection *d'* on the end of the spindle raises valve *d* each rotation at the top; but if the valve stops elsewhere it will be closed, thus preventing flooding of the wheel with oil. Hence also the maximum quantity of oil within cap E and available for the spindle is relatively light, and by no possibility can the spindle be flooded. From the cap E the oil works back gradually, but not excessively, and this keeps the wheel lubricated, but also clean without.

The wheel is confined on the spindle by means of a spring-pressed bolt 8, having a head 9 outside resting snugly on the hub-shell *c* and having a close-fitting collar 10 resting normally in the hub, and beneath this a roller 12, which runs in the channel 2 around the spindle. Between the inside of the shell *c*, under bolt-head 9 and collar 10, there is a spiral spring 13, which exerts a constant inward pressure on the bolt and keeps the roller-head 12 faithfully in its place, thus insuring the retention of the wheel and making an easy, silent, and effective operating engagement of the parts with no unnecessary looseness of play and with perfect security for the wheel. This also makes the spindle absolutely dust-proof, and the wheel will run indefinitely through all kinds of roads and weather without attention. This construc-

tion is good for all kinds of vehicles, light or heavy, and affords an attractive finish, as well as being of evident utility in every respect. It will be noticed that the wheel-hub is alone equipped with the oil-confining caps, the outer cap affording a reservoir of supply and the inner cap a lubricating-chamber with only a minimum quantity of oil at the most. Both caps are removably secured on concentric extensions threaded to receive them.

What I claim is—

1. A vehicle-wheel having two concentric threaded extensions at its outer end and a cap threaded onto each extension, the inner cap having an oil-inlet orifice and a valve therefor, and means for intermittently opening said valve, substantially as described.

2. The wheel-spindle having an upward projection on its extremity, in combination with a wheel having a cap with an oil-inlet orifice opposite said projection, and a valve for said orifice provided with a stem to engage said projection, substantially as described.

3. In a vehicle-wheel, a hub having two concentric threaded projections at its front spaced apart, and a cap on each projection, a wheel-spindle extending within the inner cap having a lug on its end and a valve in said inner cap in actuating relation to said lug, substantially as described.

Witness my hand to the foregoing specification this 23d day of June, 1900.

FREDRICK BURIE.

Witnesses:

LORENZO D. COX,

GEORGE L. LEE.