M. G. RYAN.

Improvement in Lubricators.

No. 114,716. Patented May 9, 1871.

Fig. 1.

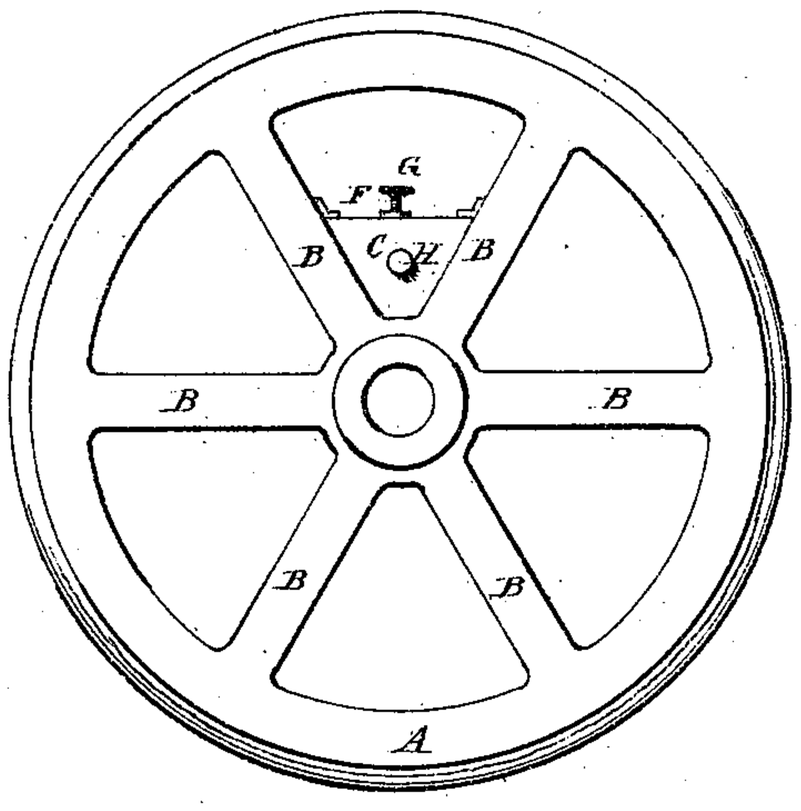
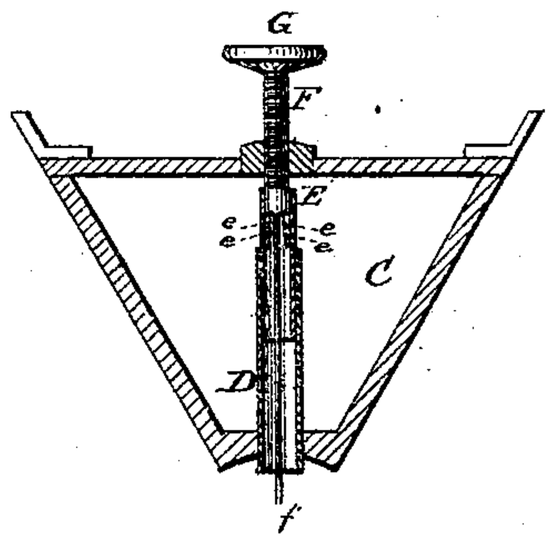


Fig. 2.



Witnesses.

R. E. Le Mesle

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UNITED STATES PATENT OFFICE.

MICHAEL G. RYAN, OF FROSTBURG, MARYLAND, ASSIGNOR TO HIMSELF, R. C. PAUL, AND J. J. HOBLITZELL, OF SAME PLACE.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **114,716**, dated May 9, 1871.

To all whom it may concern:

Be it known that I, MICHAEL G. RYAN, of Frostburg, in the county of Alleghany and in the State of Maryland, have invented certain new and useful Improvements in Lubricators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of a car-wheel having my device attached thereto, and Fig. 2 is an enlarged vertical central section of said device in a line with the rail.

Letters of like name and kind refer to like parts in each of the figures.

My invention is intended for use upon revolving bearings, such as loose pulleys, car-wheels, &c.; and it consists, principally, in the employment of a reservoir for containing oil, secured to and revolving with the pulley, wheel, &c., and provided with a tube that extends from the central bearing nearly to the outer side of the interior of said reservoir, substantially as and for the purpose hereinafter shown. It further consists in the means employed for regulating the flow of oil through said tube, substantially as is hereinafter set forth. It finally consists in the whole device, constructed and arranged substantially as is hereinafter specified.

Although my device is applicable to all revolving bearings, the principle involved in each would be the same, so that it is only necessary to describe its employment in one instance, which, for convenience of illustration, is a loose car-wheel, such as is used upon coal-cars.

In the annexed drawing, A represents a car-wheel of the usual open pattern, having secured upon and between two contiguous spokes, B, a metal reservoir, C, the exterior shape of which corresponds to the space between said spokes next to the hub, its radial depth being determined by the quantity of oil to be contained. Secured within and passing radially outward through the hub, and through the center laterally of the reservoir, is a tube, D, open at both ends, and having its outer end near the outer side of the interior of said reservoir, so that, when the latter is partially filled with oil and the wheel is revolved, a small quantity of said oil will pass into the end of said tube, and through the same into or upon the bearing. In order that the quantity of oil admitted to the tube may be regulated at will, a second tube, E, provided with a series of small openings, *e*, is fitted within and fills the upper end of said tube, and is adjusted laterally therein by means of a screw, F, which is secured within its upper end, and, passing through a corresponding threaded opening in the outer wall of the reservoir, is provided upon its upper end with a milled head, G.

As thus constructed, by moving the tube E laterally within the tube D, a greater or less number of the openings *e* will be exposed above the upper end of the latter, and consequently a larger or smaller quantity of oil will be permitted to pass through the same to the bearing.

As the device works to the best advantage when the reservoir is not more than half full of oil, it is desirable that some means should be employed by which it may be known when the desired quantity has been poured therein, and also to enable the same to be filled regardless of its radial position. To accomplish these results, I provide an opening in and through one side of the reservoir at its transverse center, and so adjust its position radially as that the capacity of that portion of the reservoir outside of said opening shall be equal to the portion inside of the same, so that if said reservoir be filled to said opening the oil will maintain the same position with relation to the latter, whatever the radial position of the former. Said opening, being threaded, is closed when not in use by means of a screw-plug, H. A small wire rod, *f*, secured upon the end of and revolving with the screw F, and extending downward through the tube D, furnishes a means whereby the latter may be freed from obstructions without rendering it necessary to remove any portion of the device.

The device, as constructed and arranged, is capable of adjustment, so as to cause from one drop to any desired amount of oil to be deposited upon the bearing-surface at each revolution of the wheel, so long as a sufficient quantity remains within the reservoir, and, applied to ordinary car-wheels, will contain a supply sufficient to lubricate the same for several days

without renewal, and without the waste of one drop.

The especial advantages possessed by this device are, the certainty and economy of its action, and, from the simplicity of its parts, the comparatively small cost at which it can be furnished.

Having thus fully described the nature and merits of my invention, what I claim as new is—

1. A lubricator composed of a reservoir for containing oil, secured upon and revolving with a bearing, and provided with a fixed tube, which extends radially outward from the bearing-surfaces nearly to the outer side of said reservoir, substantially as and for the purpose specified.

2. In combination with the tube D, the means employed for controlling the admission of oil thereto, consisting of the perforated tube E, fitting into and made longitudinally adjustable within the same by means of the screw F, substantially as shown and described.

3. The hereinbefore-described lubricator for revolving bearings, consisting of the reservoir C, provided with the stationary tube D, the adjustable perforated tube E, and the supply-opening and plug H, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of February, 1871.

M. G. RYAN.

Witnesses:

GEO. S. PRINDLE,

EDM. F. BROWN.