

J. M. McDONALD.
CAR AXLE-LUBRICATOR.

No. 178,017.

Patented May 30, 1876.

Fig. 1.

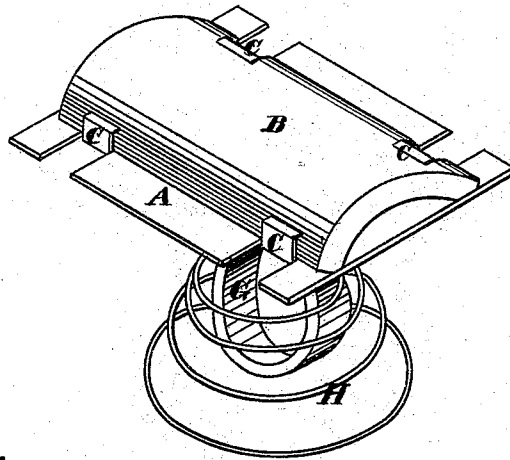


Fig. 2.

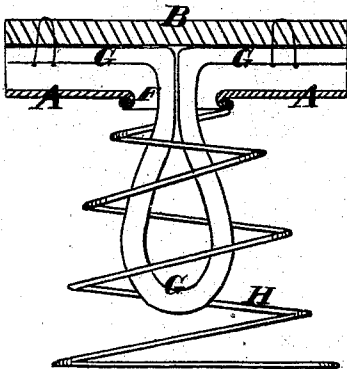


Fig. 3.

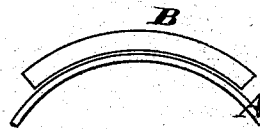


Fig. 4.

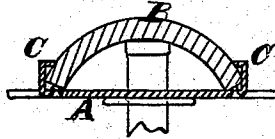
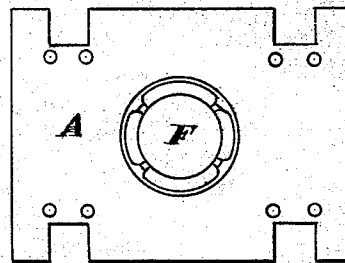


Fig. 5.



Witnesses
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JAMES M. McDONALD, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN CAR-AXLE LUBRICATORS.

Specification forming part of Letters Patent No. **178,017**, dated May 30, 1876; application filed November 18, 1875.

To all whom it may concern:

Be it known that I, JAMES M. McDONALD, of San Francisco city and county, State of California, have invented a Lubricator for Railway-Axles; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to certain improvements in the construction and application of that class of devices for supplying a lubricant to the journals of railway-axles in which the lubricant is raised through a wick by capillary attraction, and supplied to a pad of absorbent material, said pad being supported by a spring in such a manner that the saturated absorbent material will be kept in contact with the journal for the purpose of supplying it with a uniform quantity of oil.

These lubricating devices consist, essentially, of a pad composed of an absorbent material, a pad-holder, a spring for supporting the pad and holder, and a wick for supplying oil to the pad.

A number of patents have been issued on the various methods of arranging and adapting these parts in order to produce a successful lubricating device, and while these patented devices combine the elements of success, the manner of their combination and application has not been such as to render them sufficiently complete for continued practical use.

In the drawings accompanying this specification, Figure 1 is a perspective view. Fig. 2 is a sectional elevation. Figs. 3, 4, and 5 are detached views of parts of my device.

A is the pad-holder, or plate upon which the pad B, which is composed of absorbent material, is secured. In my lubricator I make the pad-holder either a plane surface, as represented at Fig. 1, and secure the pad upon it in a circular form, with its convex side upward, or I make the pad-holder with a convex upper surface, as shown at Fig. 3, and secure the pad over it, the object being to provide a broad convex surface next to the journal.

In order to secure the pad B in place upon the pad-holder, I form two or more clasps, *c c*, on each side of the holder by making two slits

in the edge of the plate, at a short distance apart, and turning the portion of metal between the slits upward vertically, and then bending their upper edges inward, so as to cause them to clasp over the edge of the pad, and hold it in place.

I am aware that upward-projecting flanges have been used to prevent the lateral displacement of the pad; but my flanges form clasps which serve to retain the pad without any other fastening.

In constructing the plate or holder, I punch holes from the under side of the plate upward just inside of the clasps, so that the burrs formed on the upper side by the punch will serve as teeth to prevent the pad from shifting its place when the clasps are used. In the center of the pad holder or plate A I make a circular opening, F, of sufficient size to allow the double wick G to pass easily through it, and in applying this wick I am able to support the middle line of the pad in its convex position by doubling the wick upon itself, passing the doubled portion down through the central hole in the plate A, while its two ends extend in opposite directions above the plate, and are secured to the under side of the pad along its middle line, so that when the opposite edges of the pad are bent down and secured to the plate A, the convex upper surface of the pad is formed, while the strip of felt which supports its middle forms a soft cushion.

In order to attach the spring H to the plate A, I slit the edge of the hole or opening F at short intervals, and after placing the upper coil of the spring in position against the under side of the plate below the hole, I bend the pieces of metal between the slits downward, and clasp them around the upper coil, thus not only forming a secure and neat attachment for the spring to the plate, but also providing a rounding edge to the hole or opening F, which prevents it from cutting or scraping the wick. In order to do this, however, the spring is made quite conical, so that its upper coil will be but little larger than the size of the opening which it is desired to make in the plate or holder.

The broad convex upper surface of the pad B provides a larger surface for the journal to bear against than when the pad is partially

wrapped around a rectangular block, and the pressure of the journal upon it will be more nearly in a vertical line.

I have proven by long-continued experiments and practical tests that the convex surface is the proper form of the pad, as it allows the waste oil and metallic erosions from the journal to flow or fall back into the oil-reservoir, instead of holding it in contact with the rotating journal.

By this present construction of a lubricating device I adapt every part in an easily-constructed and economical manner, and so as to avoid the difficulties heretofore encountered with this class of lubricators.

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

In a device for lubricating railway-axles, the plate A, having a central circular opening, F, with its edge curved outwardly, to receive the coiled spring, and having struck-up clips C C, in combination with the absorbent pad B, having a convex upper edge, the wick G, and coiled spring H, all constructed and arranged for the purpose set forth.

JAMES M. McDONALD.

Witnesses:

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