J. D. IMBODEN.

Car-Axle Box.

No. 162,073. Patented April 13, 1875.

Fig. 1.

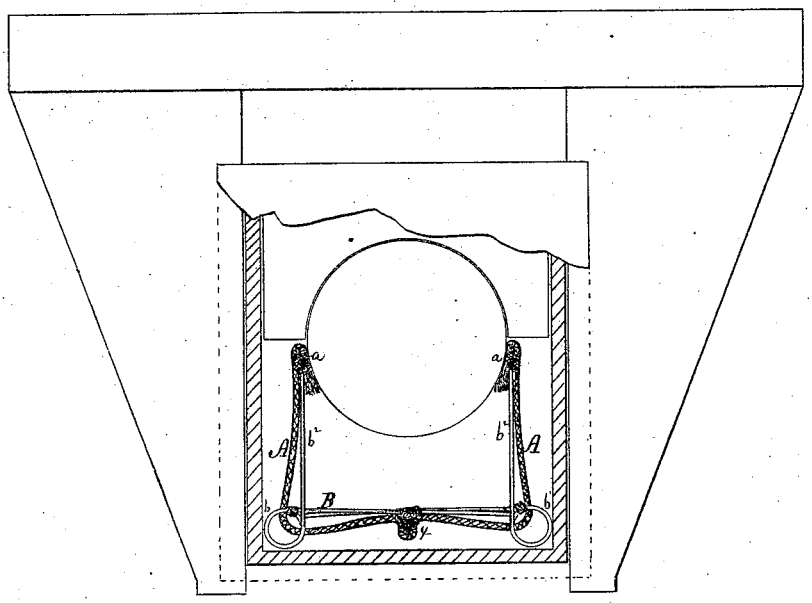
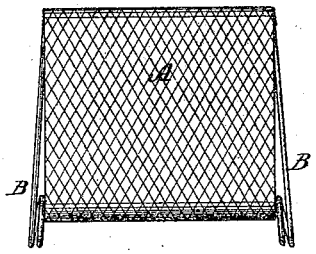


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN D. IMBODEN, OF RICHMOND, VIRGINIA.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **162,073**, dated April 13, 1875; application filed March 2, 1875.

To all whom it may concern:

Be it known that I, JOHN D. IMBODEN, of Richmond, in the county of Henrico and State of Virginia, have invented a new and Improved Car-Axle Lubricator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a vertical cross-section; Fig. 2 a side elevation.

The invention relates to that class of lubricators in which is employed some wicking or other absorbent, which takes up oil, free from sediment, and conveys it by capillary attraction into contact with the surface of journal and bearings. It consists in a structure or framing, that supports the wicking or textile fabric in its intended location, and thus enables it to always remain in proper relative position to the journal and bearing.

This invention will first be fully described, in connection with the drawing, and then clearly pointed out in the claim.

A represents a webbing, and B the elastic wire-frame. The frame B holds up against the two sides of the journal, immediately below the brass bearings, the two ends of a piece of cotton, textile webbing, or lamp-wick, A, while the central portion is spread out to the width of the box, and rests on or near the bottom of the same in a horizontal position, so as to be always in contact with the oil, which is carried up to the ends of the webbing by capillary attraction, and applied to the journal by the gentle pressure of the webbing A on both sides of the journal, thus lubricating the journal effectually, and at the same time wiping off and cleaning the journal from any particles of dust or sand that may find their way into the box, and by this cleaning process protecting the journal and bearings from the rapid wearing away and cutting out occasioned by sand and dust when permitted to find a lodgment between the journal and its bearings. This dimishes the liability of hot boxes.

The peculiar form of my device insures the separation of all earthy and solid matter from the oil before its introduction between the bearing-surfaces, and the deposit of such solid matter in the bottom of the box, where it can do no harm. These objects are attained by the clasping or clamping operation of the springs, which insure perfect contact between webbing and opposite sides of journal, and in all its movements and under all conditions. These springs may be flat, and either broad or narrow, and be made of steel or brass, bent in the proper shape, and united by cross-bars at top and bottom; or they may be simply constructed of wire, as herein described and have the webbing stitched to them, as indicated in the drawing. If desirable, the ends of the webbing may be folded over a small strip of leather, to act as a cushion under the points of contact between the webbing and the journal, and thus materially increase the durability of the webbing.

The form and size of my device admit of its introduction into any railway-axle box without screws or other fastenings. It is kept from rising by the brass bearings, made of the proper width. The sides or walls of the boxes prevent any lateral motion of the bottom frame, and the rim at the end of the journal keeps it adjusted longitudinally in the box.

The base of the spring, from b to b^1, is equal in length to the clear width of the inside of the box, and the arms b^2 b^2 and B D about a half-inch shorter than the distance between the bottom of the box and lower edges of the brass bearings over the journal. Or, in lieu of such springs, and preferably, I use simply brass or steel wire of small size, employing two pieces, and bend them alike, as shown, with a single spiral turn at b b^1; and I bend the two ends toward each other, so as to be brought together parallel to the bottom of the box, turning down about a half-inch of the wire at each extremity, to secure them together with a few stitches through the webbing.

Having thus made two wire-springs, each of which has a pair of upright arms, I lay them together so that the bottom part of the two springs form a parallelogram, b b^1 b b^1, two sides of which, it is obvious, will have a double wire running transversely across the bottom of the box, while the ends will have only a single wire, equal in length to the width of the webbing.

Having thus prepared my frame, I cut a

piece of webbing and fold the ends together, running a seam across the fold in the middle, at *x*, thus securing a projection of the webbing to touch the bottom of the box, and to draw up the oil as long as there is any. I then set the springs on the webbing, stitching the double wires to the webbing at *x*, and then at the corners *b* b^1 *b* b^1. This being done, I turn up the ends of the webbing over the horizontal double bars, connecting so as to bring the frayed ends on the inside next to the journal, and stitch them securely in that position, inserting a strip of leather in the fold, if desirable, when the device is completed and ready for insertion into the box.

I am aware that an absorbent or capillary fabric has been employed to draw the fluid lubricant gradually into contact with the journal; and that a wire-frame, fastened in the axle-box by slot and hooks, has been used to hold the web or fabric; but my object is to unite sufficient spring with the frame, which is simply held by its own adaptation to the inside of axle-box, to always retain the fabric in position, and yet make the whole device removable by hand, without loss of time with fastening appliances. Hence,

What I claim is—

As an article of manufacture, the detachable spring-frame B, for the purpose of holding a lubricating-fabric pressed against a car-axle journal, as set forth.

JOHN D. IMBODEN.

Witnesses:

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RICHARD L. MAURY.