(No Model.)

J. ROGERS.

LUBRICATING JOURNAL BOX.

No. 602,959. Patented Apr. 26, 1898.

Fig. 1.

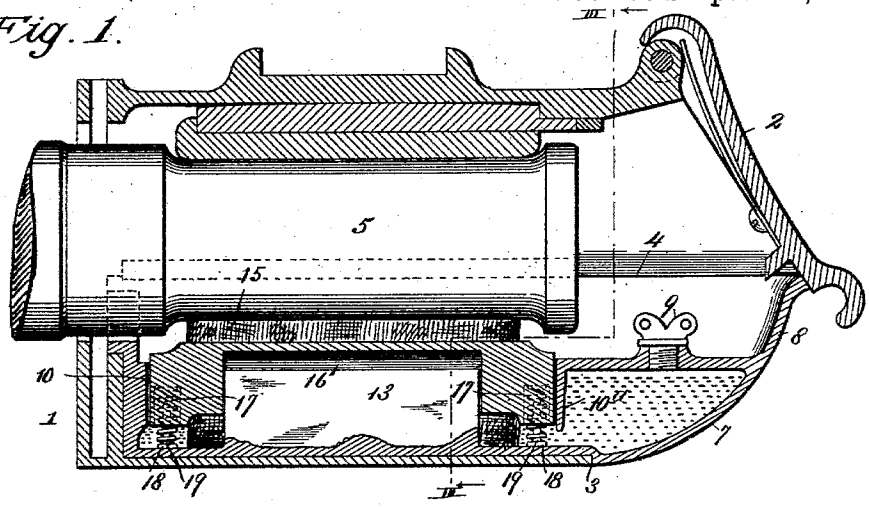


Fig. 2.

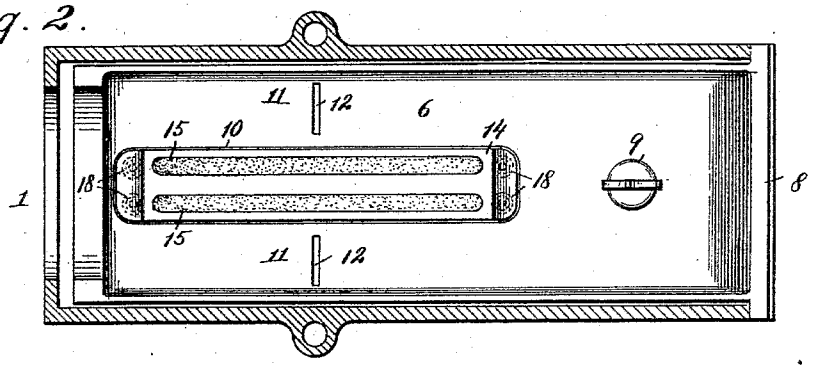
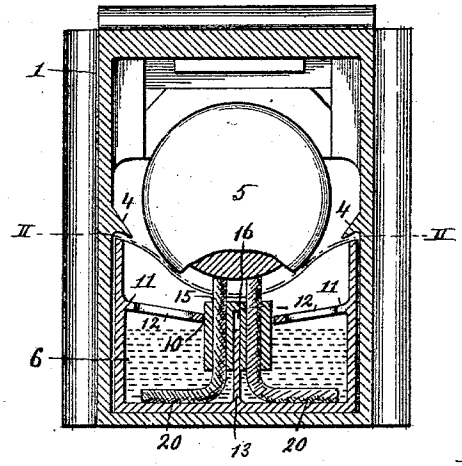


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN ROGERS, OF KANSAS CITY, KANSAS.

LUBRICATING JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 602,959, dated April 26, 1898.

Application filed July 1, 1897. Serial No. 643,084. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROGERS, of Kansas City, Wyandotte county, Kansas, have invented certain new and useful Improvements in Lubricating Journal-Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to combined car-axles and lubricating journal-boxes, and is designed more particularly as an improvement on the patent for a similar device granted to me on April 27, 1897, and numbered 581,307. Said box in actual practice was found to be objectionable in that the jolting of the cars and the rotation of the journal would splash and carry oil to a point above the sides of the reservoir, and this oil would run down the sides of the axle-box externally of the reservoir and make the same and the interior of the axle-box dirty and filthy in an undesirable degree. This oil would also be wasted, as it was unfit to use again, and, furthermore, it was almost impossible to get it out, and therefore unnecessarily occupied considerable time of the journal-box attendants.

The object of the present invention is to obviate this loss of time and labor by causing any oil which may be splashed or carried up to flow back again into the reservoir, and thereby make possible an economic use of lubricating-oil.

To this end the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a central vertical longitudinal section of a car-axle box and a lubricating journal-box embodying my invention. Fig. 2 represents a section taken on the line II II of Fig. 3. Fig. 3 represents a section taken on the line III III of Fig. 1.

In the said drawings, 1 designates a car-axle box provided with the customary door 2 and with a large opening 3 in its front end below said door. The side walls of the box are internally provided with inwardly-projecting deflecting-ribs 4, for a purpose which will be presently explained. 5 designates the journal of an axle, projecting into said box and arranged in the customary manner.

6 designates the reservoir of the lubricating journal-box. It is of elongated rectangular form, so as to fit snugly between the side walls of the axle-box, and of a length to extend from the back wall, which it abuts against and overlaps, to the front end of the axle-box, of which end it forms a part, it being rounded at its lower end, as at 7, and extended or flanged upwardly, as at 8, to the plane of the deflecting-ribs 4. Said rounded and flanged end 7 and 8, respectively, of the reservoir fits snugly in and closes the opening 3 of the axle-box, as shown clearly in Fig. 1. The weight of the door and the pressure of its actuating-spring, which is shown, but not described, as it is of the customary form and arrangement, is adapted to hold the reservoir in proper position in the axle-box, and it will be obvious that when said door is opened the reservoir may be easily slid from position, owing to the fact that when the door is open there is no front end to the box except that formed by the reservoir, and consequently there is no lifting or tilting required to remove the latter.

The reservoir, near its front end, is provided with an opening through which it may be supplied with oil without removing it from position, and said opening is normally closed by means of a screw-plug 9, and it is also provided centrally with a longitudinal slot or opening 10 in its upper side, the rear end of said slot being coincident with the rear wall of the reservoir and its front end vertically below the end of the journal, at this point the reservoir being provided with a depending vertical flange 10^a for a purpose which will presently be explained. The top wall, for about the length of said slot, slopes downwardly and inwardly, as at 11, so that any oil which may drip thereon will be conveyed back into the reservoir through said slot or opening 10, and it is also provided with the transverse slots 12, through which pins or hooks (not shown) may be inserted when it is desirable or necessary to adjust the wicks, as hereinbefore referred to. The reservoir is also provided centrally with a guide-rib 13, projecting vertically upward from its bottom.

14 designates the wick-tube, which is of form to fit snugly within the slot or opening 10, and yet not so snugly as to interfere with the reëntrance of oil in the reservoir from its upper sloping surface 11, as hereinbefore referred to. Said tube is provided with a pair of vertical wick-passages 15 and with a central recess 16, into which the guide-rib 13 projects, and thereby insures a direct vertical movement of the wick-tube when adjusted automatically to accommodate the wear upon the wicks. Said tube is provided at its opposite ends and in its under side with one or more cavities 17, within which fit snugly expansive springs 18, coiled around the guide-pins 19, projecting upwardly from the base and centrally of said cavities. These springs tend constantly to elevate the wick-tube, and the only restraint upon such movement is due to the fact that the wicks 20 bear firmly against the journal at their upper ends. As such ends wear by frictional contact with the journal the wick-tube is automatically lifted by said springs and a constant contact thereby maintained between the wick and the journal.

The back wall of the reservoir and the depending flange 10^a at the opposite end of the guide-tube assist the guide-rib 13 in maintaining the wick-tube in its vertical position, so that the springs shall always be free to perform their proper function and the wicks, consequently, always in engagement with the journal.

Owing to the fact that the back wall projects above the top wall and that the flange 8 projects also above the same, it is obvious that the rocking or oscillatory movement of a car cannot cause the surplus oil, which may splash up through the openings 10 or 12 or be carried up by the journal and by centrifugal force discharged against the side walls of the axle-box above the deflector-ribs 4, to escape past the ends of the reservoir, nor will such movement materially retard the reëntrance of the oil to the reservoir in the manner hereinbefore explained.

From the above description it will be apparent that I have produced a combined car-axle and lubricating journal-box which insures proper lubrication and an economic use of oil and which is simple, strong, durable, and inexpensive of manufacture, and it is to be understood, of course, that these lubricating journal-boxes I design for use in connection with locomotive-journals or in connection with the journals of any style of vehicle to which it can be applied without necessitating such changes as would be a departure from the spirit and scope of the invention.

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

1. A lubricating journal-box, comprising a reservoir provided with a central slot or opening in its top wall, a depending flange at one end of the same, and a vertical longitudinal rib projecting upwardly from its bottom and centrally of said slot or opening, and a vertically-adjustable wick-tube fitting snugly in said opening and provided with a recess 16 into which said guide-rib projects, substantially as described.

2. In a device of the character described, the combination with a car-axle box provided with an opening in its front end below its door, and horizontal ribs projecting internally from its sides coincidentally with the upper edge of said opening, of a lubricating journal-box fitting snugly within and upon the bottom of the car-axle box and provided with a rounded end and flange closing the opening in the front end of the box, and provided with a central slot or opening, and with a central rib projecting upwardly from its bottom; a double wick-tube fitting snugly in the slot or opening and provided with a recess fitting on said rib; and springs bearing upon the bottom of said box and exerting a constant upward pressure upon said tube, substantially as and for the purpose described.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN ROGERS.

Witnesses:
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