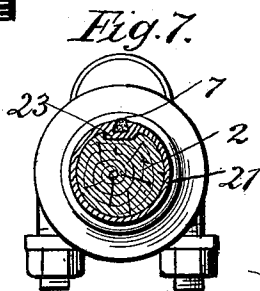
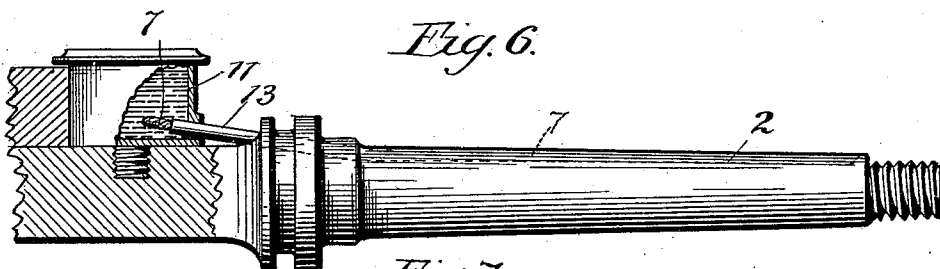
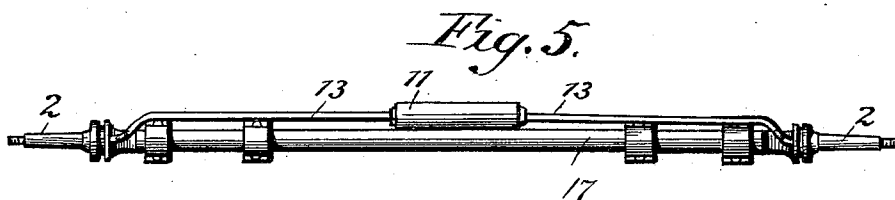
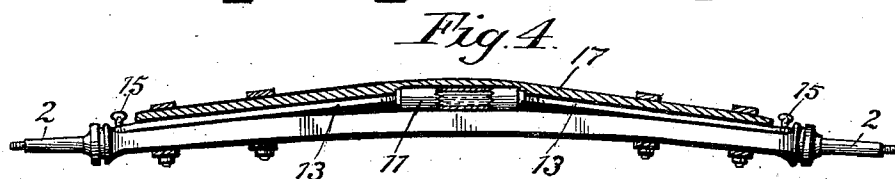
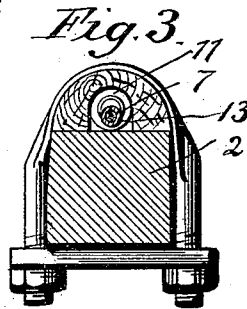
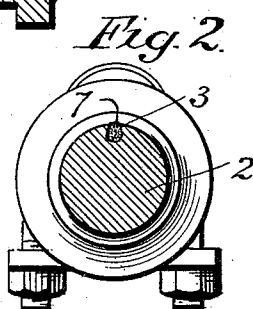
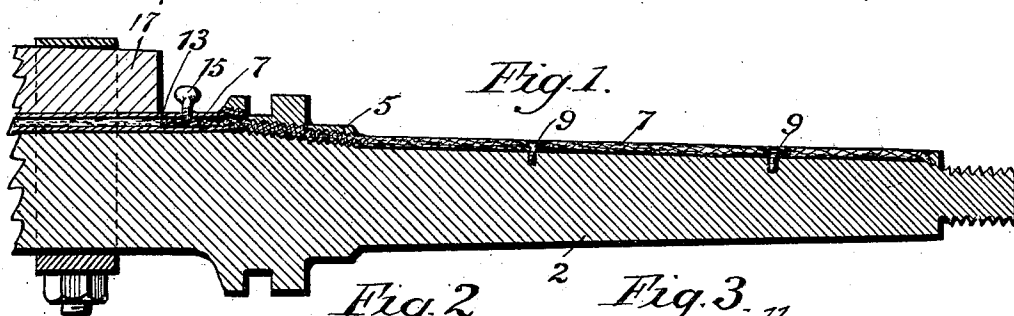


(No Model.)

J. L. HOUSE.
LUBRICATOR FOR VEHICLE AXLES.

No. 463,682.

Patented Nov. 24, 1891.



Witnesses:

J. Jensen.

C. Hawley.

Inventor:

Joseph L. House.

By Paul & ...

UNITED STATES PATENT OFFICE.

JOSEPH L. HOUSE, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF
TO PETER B. CHRISTIAN, OF SAME PLACE.

LUBRICATOR FOR VEHICLE-AXLES.

SPECIFICATION forming part of Letters Patent No. 463,682, dated November 24, 1891.

Application filed February 28, 1891. Serial No. 383,162. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH L. HOUSE, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain Improvements in Lubricators, of which the following is a specification.

This invention relates particularly to improvements in lubricators designed for use with the axles of wheeled vehicles; but the invention is also applicable generally to shafts, axles, or journal-bearings, and may be applied to machinery of any kind.

The invention consists in the construction and combination hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a longitudinal vertical section of a portion of a carriage-axle having my device applied thereto. Fig. 2 is a transverse section of the same on line *xx* of Fig. 1. Fig. 3 is a section on line *yy* of Fig. 1. Fig. 4 is a side elevation of the axle with the wooden portion thereof in section and with the oil-receptacle partly broken away. Fig. 5 is a top view of the axle, showing the oil-receptacle arranged at one side thereof. Fig. 6 is a detail view showing a separate oil-receptacle for each end of the axle. Fig. 7 is a transverse section showing the manner of applying the invention to a thimble-skein axle.

In the drawings, 2 represents a carriage-axle, which may be of any usual or ordinary construction. It may be a metal axle, as shown in Figs. 1 to 6, or a wooden axle having a thimble-skein thereon, as shown in Fig. 7. Formed, preferably, in the upper surface of the axle is a groove 3, extending longitudinally thereof. Where the axle is provided with collars, as shown in the drawings, a hole 5, preferably threaded, is run from the inner end of the groove through the axle, so as to pass below the collar, as shown in Fig. 1. A wick or piece of similar material 7 is secured in the groove 3 by screws 9 or other suitable devices. This wick also passes through the threaded hole 5. An oil-receptacle 11 is arranged, preferably, at the center of the axle, and is provided with tubes 13, that extend from its opposite ends to the end of the opening 5, to which it is connected, preferably, by

being screwed into a threaded opening formed in the inner side of the collar of the axle. The end of the wick 7 preferably extends into the pipe 13, and this pipe is also preferably provided with a screw-plug 15, by means of which the flow of oil through the pipe may be regulated. The oil-receptacle 11 may be arranged at one side of the axle, as shown in Fig. 5; or the wooden portion 17 of the axle may be hollowed out on the under side and the oil-receptacle located therein, as shown in Fig. 4. The pipes 13 in this instance will run from the oil-receptacle 11 through a groove in the under surface of the wooden part of the axle, as shown in Figs. 3 and 4. In either instance the oil-receptacle being supplied with oil, the plugs 15 are turned so as to permit the oil to feed out in the desired quantity, and the oil passing into contact with the wick 7 is carried out by capillary attraction through the groove in the axle, and the upper surface of this wick being exposed the oil will be fed regularly to the moving surface above.

In Fig. 6 I have shown an oil-receptacle arranged on the axle just inside of the collar, being preferably screwed into the top of the axle. The oil-pipe 13 is connected to this receptacle and conducts the oil to the wick in the grooved surface of the axle in the manner already described.

In Fig. 7 I have shown a wooden axle 2, having a metal skein 21, and this skein is preferably cast with an offset portion 23 upon its inner surface, and the groove 3 is formed in this offset portion, so that the axle-skein is not weakened by forming the groove. This groove may be undercut or wider at the bottom than at the top, so that the wick being crowded into it will be held by the walls of the groove.

I claim as my invention—

1. The combination, with the axle provided with a longitudinal groove in its upper surface, of a wick arranged in said groove, an oil-receptacle arranged upon said axle, and a pipe 13, extending from said oil-receptacle to the end of said groove and adapted to conduct oil to said wick, substantially as described.

2. The combination, with an axle having a longitudinal groove in its upper surface, of the threaded opening 5, connecting with said

5 groove, a wick arranged in said groove and extending through said threaded opening, an oil-receptacle arranged upon said axle, and pipes extending from said oil-receptacle and adapted to conduct oil to said wick, substantially as described.

10 3. The combination, with the axle, of the oil-receptacle 11, supported thereon, pipes 13, extending from said oil-receptacle to the opposite ends of the axle, longitudinal grooves formed in the bearing-surface of the axle, and wicks arranged in said grooves and connecting with said pipes 13, substantially as described.

15 4. The combination, with the axle provided with bearing-surfaces and the collars at the inner ends of said surfaces, grooves extend-

ing longitudinally in said bearing-surfaces, and threaded openings extending through said collars and connecting with said grooves, 20 of an oil-receptacle 11, arranged upon said axle, pipes 13, extending from said oil-receptacle to said threaded openings, the wicks 7, arranged in said grooves and extending through said threaded openings into said 25 oil-pipes 13, and regulating plugs or screws 15 in said pipes 13, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of February, 1891.

JOSEPH L. HOUSE.

In presence of—

F. S. LYON,

C. G. HAWLEY.