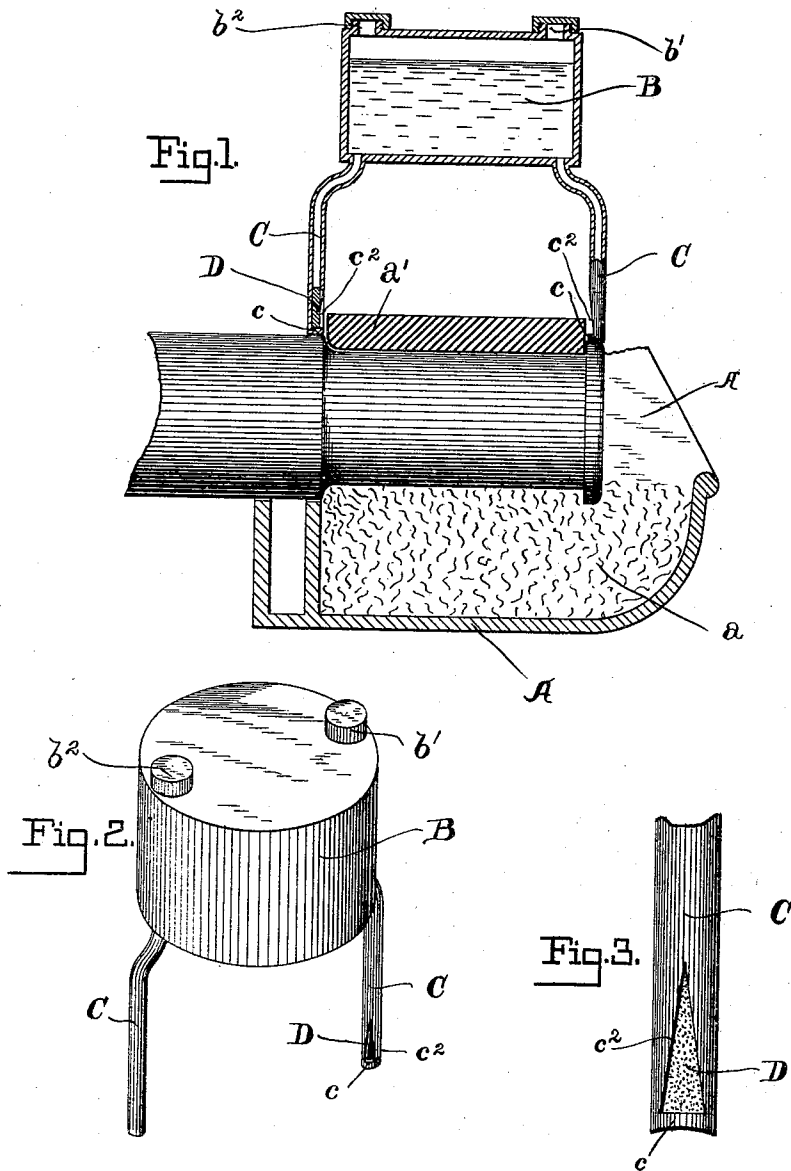


(No Model.)

J. R. WILSON.
AXLE LUBRICATOR.

No. 477,319.

Patented June 21, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN R. WILSON, OF PITTSBURG, PENNSYLVANIA.

AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 477,319, dated June 21, 1892.

Application filed April 28, 1891. Serial No. 390,733. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. WILSON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Lubricators and Coolers, of which the following is a specification.

My invention relates to an improvement in devices for preventing machinery-journals from becoming overheated; and it has for its object to provide a simple apparatus that is especially applicable to be secured to car-axle boxes, but that may also be used on any machinery, and that will automatically deluge and lubricate the journal when the same has reached a certain degree of temperature; and it consists of a reservoir or tank provided with tubes that are adapted to permit the full flow of the substance within the reservoir when the opening at the lower end of the tube or tubes has been opened by the action of the heat from the journal and of minor details of construction hereinafter more fully described, illustrated in the drawings, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a car-axle box and an end of a car-axle provided with my invention. Fig. 2 is a detail in perspective of the apparatus detached. Fig. 3 is a detail view of the delivering-tube detached from the reservoir, showing the plug-covering slot.

Referring to the drawings by letter, A represents the ordinary car-axle box provided with the usual waste material *a*, upper journal-bearer *a'*, and the usual boxing and braces. Upon the top of the axle-box and suitably secured to the same is a tank or reservoir B, that is designed to hold either oil or some desirable chemical preparation, which will be fed to the heated journal to cool and lubricate the same at the proper time. The reservoir is constructed of any suitable material and made in any shape that may be desired, being adapted to be placed at any point to suit the various constructions of railroad or street-car trucks, and is provided with an ordinary oil-filling hole *b'* and vent-hole *b''*, that allow the same to be easily refilled when the contents have been once emptied. From the bottom of the tank or reservoir a depending tube or tubes C lead down within the jour-

nal-box and bear directly upon the journal, either at its outer or inner end, or both ends at the same time, or directly on the center of the journal, as may be preferred. The tube or tubes are bent or curved in a manner to suit the construction of the trucks or machinery upon which the apparatus may be adapted to be used or the point upon the journal on which the liquid is intended to be emptied, and the said tube or tubes are to be made round, square, or in any shape to conform with the space or location in which they are employed.

The lower ends of the delivering-tubes C conform in shape to the curvature of the axle upon which they bear and are solid at this point, as at *c*, for a short length up. Immediately above the termination of the solid portion *c* within the tubes the same are provided on their sides with triangular slots *c'*, the bases of which are at the top of the said solid portion, while the apex at the meeting-point of the long tapering sides is longitudinally of the direction of said tubes, thus forming an elongated slotted opening of a shape that offers no hinderance to the free, easy, and uninterrupted passage of the oil or other liquid to the heated journal, the location of the slots in the sides of the tubes being so placed as to throw the oil directly upon the journal and down on the waste within the boxing.

A fusible plug D, composed of a fusible alloy or a suitable chemical composition of matter, extends above the length of the slot *c'*, filling the opening and holding the fluid in check within the reservoir or tank until released by the fusion of the plug. Said plug may be tempered or prepared to suit the degree of heat at which it might be thought necessary to deluge and cool the journal.

The operation of my apparatus is apparent. When the journal becomes heated to that degree at which it is necessary for the same to be cooled and further lubricated, the heat from the journal is transmitted through the solid ends of the delivery-tubes and acts on the fusible alloy or substance covering the triangular exit-slot, melting the same and giving a free passage to the cooling and lubricating-fluid within the supplying tank or reservoir. By having the deluge openings or

slots c^2 in the sides of the tubes and formed directly above the solid portions of the tubes the said solid portions form the bases of the triangular openings, and when the plug is
5 fused the oil, rushing down the pipes C, first strikes the said solid bases under pressure and is naturally expelled or deflected in a stream laterally from the tubes, and thus distributes the oil over a materially greater area
10 of the journals than would be the case if there were no solid transmitting-base and the oil merely flowed in a vertical line out of the lower end of the tubes onto a comparatively small portion of the journal and not give the
15 entire heated journal the benefit of a continuous deluge.

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

20 In an automatic journal cooling and lubricating apparatus, the combination, with a car-axle box, of a supply tank or reservoir, delivering-tubes depending from said supply-tank and bearing directly upon the journal,

the same being provided with a solid curved
25 abutting portion conforming to the curvature of the journal, and laterally-triangular escape-slots formed in the sides of the same immediately above the termination of said solid
30 portion and facing inwardly toward the center of and in a line with the journal, and fusible plugs covering said slots, which plugs are adapted to be melted by the transmission of heat from the heated journal through the
35 solid abutting ends of said tubes, said solid portions also forming the bases of said lateral triangular openings, so as to expel the fluids in a deluge-stream laterally over the length of the journal when said plugs are
40 fused, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN R. WILSON.

Witnesses:

JAS. MCK. WALLACE,
JOSEPH MAHLER.