

CHARLES H. PARSHALL.

Improvement in Lubricators for Steam-Engines.

No. 126,572.

Patented May 7, 1872.

Fig. 1.

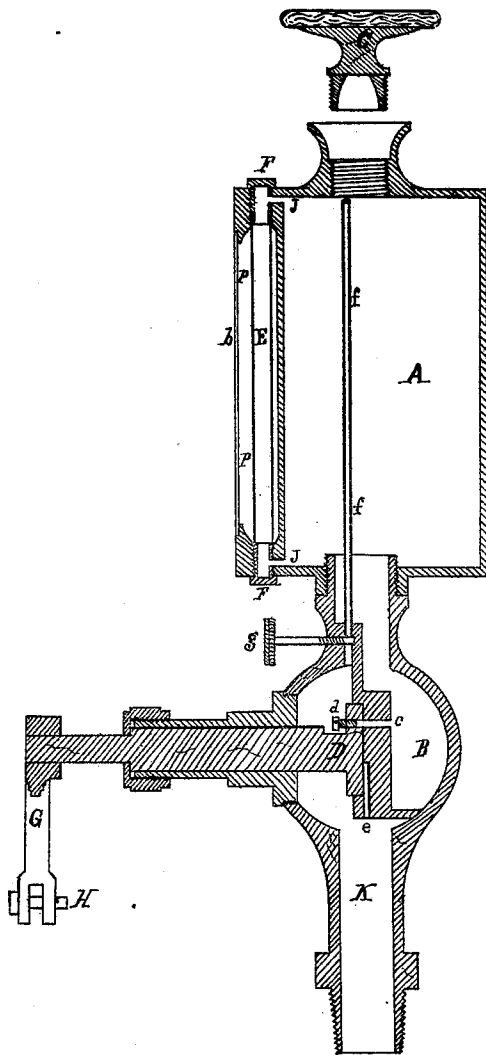


Fig. 2.

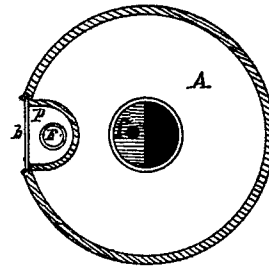


Fig. 3.

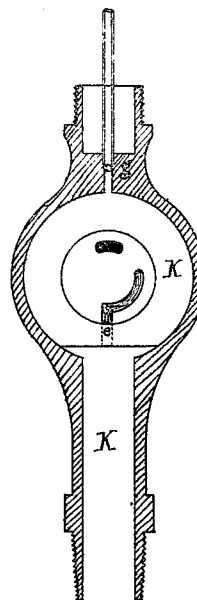


Fig. 4.



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IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. 126,572, dated May 7, 1872.

Be it known that I, CHARLES H. PARSHALL, of Detroit, county of Wayne, State of Michigan, have invented a new and Improved Lubricator for Steam-Engines; and I declare the following to be a full, clear, and exact description of same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawing which forms a part of these specifications.

My invention relates to the general construction and relation of the parts, whereby the oil is furnished, as required, by drops, to the formation of a sure oil-indicator, &c.

In the drawing, Figure 1 is a section by a vertical plane containing the axis of the valve-rod D, in which A is the lubricant-chamber; B is an opening or chamber communicating, at the top, with A; C is the only opening below from the chamber B, and through which the oil flows into and fills the disk *c'*, Fig. 4, in the end of valve-rod D, which in reversing carries the oil into the groove *e*, and thence into duct K and to the working part of the machinery to be lubricated. E is a glass tube provided with openings *jj* at top and bottom. *b* is a plate-glass or warped-glass face. *f* is a small tube, opened or closed by the thumb-screw *g*, for admitting a small jet of steam into the chamber A. C is a screw-stopper. G is an arm which operates the valve D, and is attached at H to valve-rod or rock-shaft of the engine. *d* is a set-screw for regulating the size of the drops of oil.

Fig. 2 is section on *ab* by a horizontal plane.

Fig. 3 is part section by vertical plane, containing the plane of the valve-face D.

Fig. 4 is the face of the valve D.

Fig. 5 is enlarged section through hot-air chamber P by horizontal plane.

My invention consists as follows: I form the chamber A with an opening at the top in which to insert the lubricant, and the top C is provided with a male screw which sets into a female screw in the opening. I also insert a small metal tube, *f*, through the top of the chamber A down through the dividing-wall into the opening or duct K beneath. This is opened and closed by a thumb-screw, *g*, with milled head, which governs the influx of a small jet of steam through the tube, which

keeps the lubricant in a warm fluid state, and supplies heat for the hot-air chamber P, as well as exerting a downward pressure on the surface of the oil. A small glass tube, E, is placed in a separate chamber, P, (at the left of Figs. 1 and 2,) and is retained in position by hollow screws at either end. Communications *jj* are made through the sides of these screws with the chamber A, so that the tube will always indicate the height of the lubricant in the chamber A.

When used on a locomotive, or in any other very cold position, the lubricant in the tube will congeal, unless protected, and fail to indicate the expenditure of oil. I propose, therefore, to cover the face of this chamber with glass *b* closely, so as to form a tight hot-air chamber, P, inclosing the indicating tube E, which will keep the lubricant in the latter thin and warm.

The chamber B is closed off from the duct K by a partition wall, the only opening through which is the slot *c*. The oil passes through this at every revolution or oscillation of the valve D and fills the disk *c'*, which in passing around discharges itself into the groove *e*, and thence into the duct K to its termination in the machinery to be lubricated. This disk is successively charged and discharged as the valve D is successively revolved or oscillated by the arm attached to the valve-rod. This valve-rod may sometimes be operated by means of a grooved wheel, around which a band or cord passes. A regulating-screw, *d*, operates within the disk *c'*, by which the drops of oil may be made of any required size.

This lubricator is especially adapted for use on locomotives, but may be used on any other engine or other machinery.

I do not limit myself to this shape or exterior form, but propose to vary it to suit the circumstances of its employment.

When the tube *f* is closed by the thumb-screw *g* the top can be removed and the lubricator refilled.

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

1. The lubricator herein described, provided with chambers A and B, and duct K, indicator E with openings *jj*, hot-air chamber P,

glass face *b*, tube *f*, and thumb-screw *g*, slot *c*, disk *c'*, and set-screw *d*, groove *e*, drop-valve D, and screw-stopper C.

2. In a lubricator, the combination of drop-valve D, disk *c'*, and regulating-screw *d*, slot *c*, and groove *e*, for furnishing the lubricant in drops, substantially as set forth and shown.

3. The steam-tube *f* and thumb-screw *g*, for the purposes described.

4. In a lubricator, the glass tube E, when the same is provided with ducts *jj*, and inclosed in the hot-air chamber P, provided with glass face *b*, substantially as and for the purposes described.

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Witnesses:

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