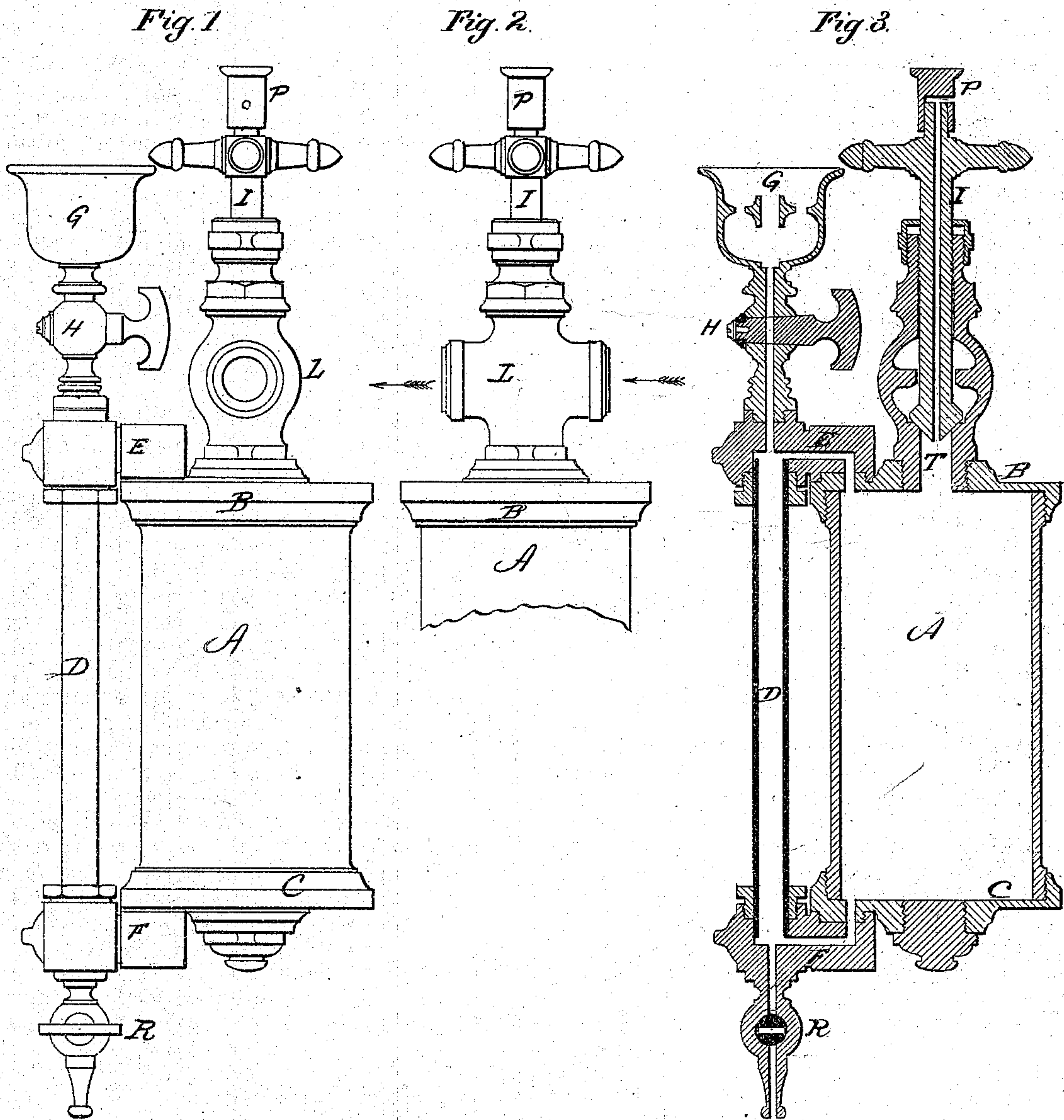


JAMES HARPER.

Improvement in Lubricators for Steam Engines.

No. 119,269.

Patented Sep. 26, 1871.



Witnesses.

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JAMES HARPER, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. 119,269, dated September 26, 1871.

To all whom it may concern:

Be it known that I, JAMES HARPER, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Lubricators for Steam-Engines; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a side view; Fig. 2, a similar view of the upper portion turned one-fourth around to the left; and in Fig. 3, a vertical central section in position of Fig. 1.

This invention relates to improvements in that class of steam-lubricators in which the lubricating material is transferred from the lubricator, by the action of the steam, to the points where lubrication is desired; and my invention consists in the arrangement of a chamber for the lubricating material having an outside passage communicating with said chamber at top and bottom, and a valve connected with said chamber, through which the steam passes, so that the condensation of the steam occurring at or near the valve passes freely into the said chamber, causing the lubricating material to rise proportionately into said valve, or where it may communicate directly with the steam, and there mingling with the steam be carried by the flowing steam to the valves or whatever it may come in contact with, as more fully hereinafter described.

A is the lubricating-material chamber, this and the other parts being proportioned to the size of apparatus to which this device is to be applied; B the upper, and C the lower head. D is a tube, of glass or other suitable material, and is arranged so as to open into the top and bottom of the chamber A by passages E F; therefore, the position or quantity of fluid in the chamber will always be indicated in the tube D. Above the highest part of the chamber A, I arrange a filling-cup, G, here represented as a continuation of the tube D; and below this filling-cup G, and in the leading-tube, I arrange a cock, H, or other suitable cut-off, by which the communication from the cup G to the chamber may be cut off above the chamber; and at a convenient point

below the chamber I arrange another cock, I, by means of which the contents of the chamber may be drawn off. At some convenient point above and in connection with the chamber I arrange a valve, L, which, when in the position seen in Fig. 3, allows the free passage of the steam there-through. The spindle I of the valve is, for convenience, perforated longitudinally to allow the escape of air from the chamber when being filled. This perforation is opened and closed by a cap, P, or other suitable device.

This apparatus should be arranged so that the valve or steam-passage L be above the highest valve or point to be lubricated. Arranged in such position, run the spindle I down to close the passage T between the steam-passage L and chamber A, open or remove the cap P, open the cock or passage H, and pour in the lubricating material until the chamber is perfectly filled and no air remains, and this will be when no more oil or material will pass from the cup; then close the cock H and cap P; now open the passage T by slightly raising the spindle I. The condensation of the steam at or near the passage or valve L will drip into the chamber A through the passage T, and, being heavier than the lubricating material, will sink to the bottom of the chamber A, causing the lubricating material to rise proportionately into the steam-passage, where it mingles with the steam and is taken with the steam to the valves, or wherever it is desired to lubricate or oil, by contact with the steam. The quantity of oil or lubricating material thus supplied depends upon the extent to which the passage T is opened or the amount of condensed steam which enters the chamber through said passage. The water from condensation which falls to the bottom of the chamber also flows into the tube D, and, maintaining the same level in both, indicates at all times in the tube the amount of lubricating material in the chamber, and, consequently, the rapidity with which the material is being consumed. The consumption is regulated by opening or closing the passage T as more or less is required. To replenish the chamber, close the passage T, open the cock H and cap P and cock R; through the latter the water will pass out, and, when all out, close the cock R and fill the chamber, as before described.

I do not wish to be understood as confining myself to the precise construction of the parts as described, it only being requisite that substantially the relative position specified be maintained.

I claim as my invention—

1. The chamber A, provided with a means for filling, combined with the steam-passage L and passage T, the said passage T provided with a

valve to open or close said passage, substantially as and for the purpose specified.

2. In combination with the subject-matter of the first claim, the indicating-tube D, as and for the purpose described.

JAMES HARPER.

Witnesses:

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