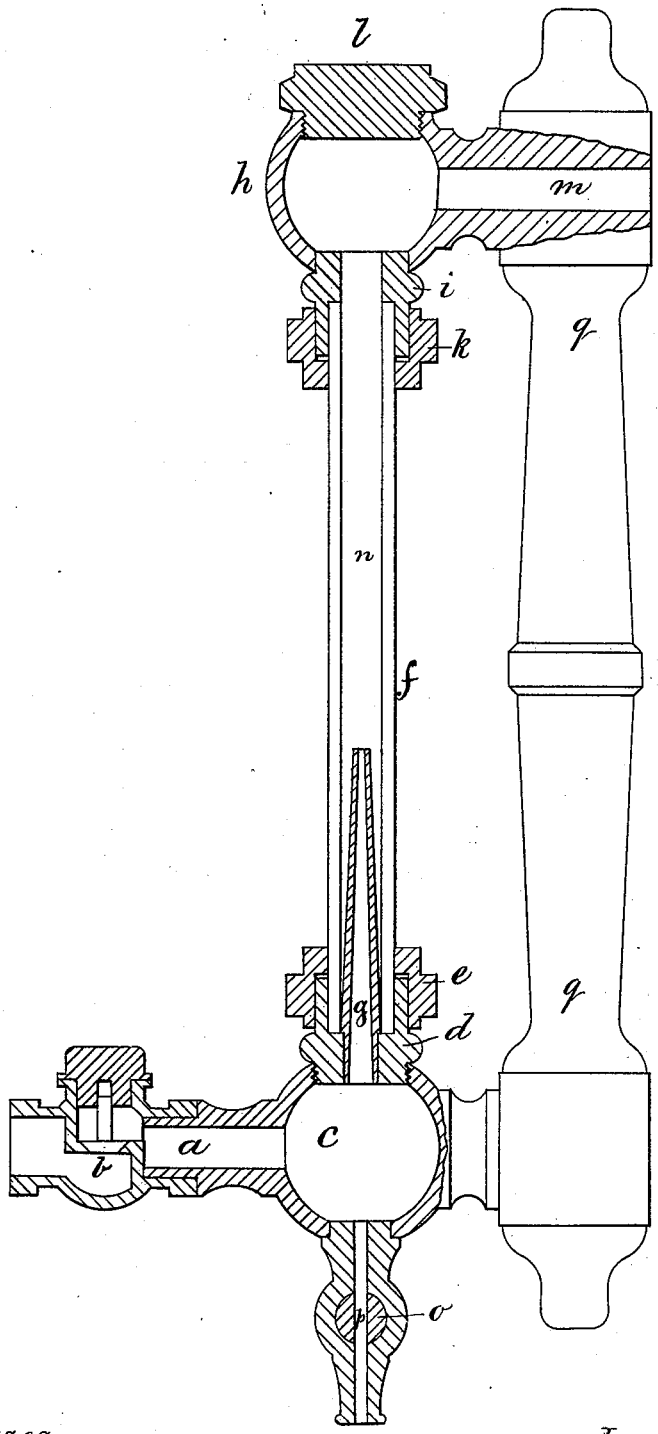
G. W. FARNHAM.

Steam-Engine Lubricator.

No. 201,402. Patented March 19, 1878.



Witnesses.
Henry Chadbourn.
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UNITED STATES PATENT OFFICE.

GEORGE W. FARNHAM, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN STEAM-ENGINE LUBRICATORS.

Specification forming part of Letters Patent No. **201,402**, dated March 19, 1878; application filed February 19, 1878.

To all whom it may concern:

Be it known that I, GEORGE W. FARNHAM, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sight Feeder and Indicator for Lubricating Steam; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in sight feeders and indicators for steam-lubricators; and this my invention consists of a pipe leading from the lubricator or oil-cup that contains the lubricating-oil, which pipe communicates with an upright escape-pipe that is surrounded with a transparent cylinder containing water or other suitable transparent liquid of a greater density than that of the lubricating-oil, by which the latter is forced upward, drop for drop, in globular form, through the water or other liquid, from the central escape-pipe, and is allowed to escape freely at the top through a pipe or opening communicating with the steam-pipe in which the steam is to be lubricated.

I employ a suitable check-valve on the oil-feed pipe leading from the oil-cup or lubricator, for the purpose of preventing the water, &c., contained in the transparent-glass cylinder aforesaid from running back into such oil-cup or lubricator.

The advantage of this invention is that the amount of lubricating-oil that is fed to the steam-pipe or other part of the steam engine or cylinder is at all times apparent to the engineer or other person in charge of the engine, and all unnecessary waste of oil is thus prevented.

This invention is intended to be used in connection with any of the ordinary lubricating-oil cups, with its condensing-chamber and regulating-valves or cut-offs, and the oil may be supplied to the steam-pipe leading into the valve-chest of the steam-cylinder, or to any other part of the steam-engine in which it is desired to lubricate the steam.

The accompanying drawing represents a central longitudinal section of my improved sight feeder and indicator.

a represents the oil-supply pipe leading from the lubricator or oil-cup, which pipe is provided with the check-valve *b*, for the purpose set forth. *c* is a chamber communicating with the oil-supply pipe *a*. *d* is the stuffing-box, and *e* is the cap on the said stuffing-box, for making a tight connection with the transparent glass cylinder *f*.

Inside of the said transparent cylinder *f* is located the central feed-pipe *g*, that is secured tightly within the lower part of the stuffing-box *d*, so as to prevent any of the oil from the supply-pipe *a* and chamber *c* from entering the glass cylinder *f* and obscuring its interior surface. The upper end of the transparent cylinder *f* is connected tightly to the head *h* by means of the stuffing-box *i* and cap *k*, as usual in water-gages. The head *h* is provided on the top with a removable nut or screw-cover, *l*, through the opening of which, when it is removed, the transparent cylinder *f* can be filled with water in starting.

m is a pipe or opening leading from the upper end of the pipe *f* and its head *h* to the steam-supply pipe or other part of the steam-engine in which the steam is to be lubricated. *n* represents the water-space within the cylinder *f*, through which the oil is forced upward through the central feed-pipe *g* from the oil-supply pipe *a* to the delivery-pipe *m*. *o* represents a stop-cock, with its opening *p* located below the chamber *c* and centrally below the feed-pipe *g*, through which a wire can be inserted from below when the cock is open for the purpose of cleaning the feed-pipe *g*, as may be required. The said cock *o* is, of course, closed when the apparatus is in use.

q represents a suitable frame or standard connecting the heads or chambers *c h*, so as to relieve the glass cylinder *f* from undue strain.

Having thus fully described the nature, con-

struction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. In a sight feeder and indicator for steam-lubricators, the combination of the transparent cylinder *f* with the central internal oil-feed pipe *g*, as and for the purpose set forth and described.

2. The combination of the oil-supply pipe *a*, its check-valve *b*, the transparent water-receptacle *f*, and central oil-feed pipe *g*, substantially as herein described, and for the purpose set forth.

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

GEORGE W. FARNHAM.

Witnesses:
ALBAN ANDRÉN,
BENJAMIN LAWRENCE.