

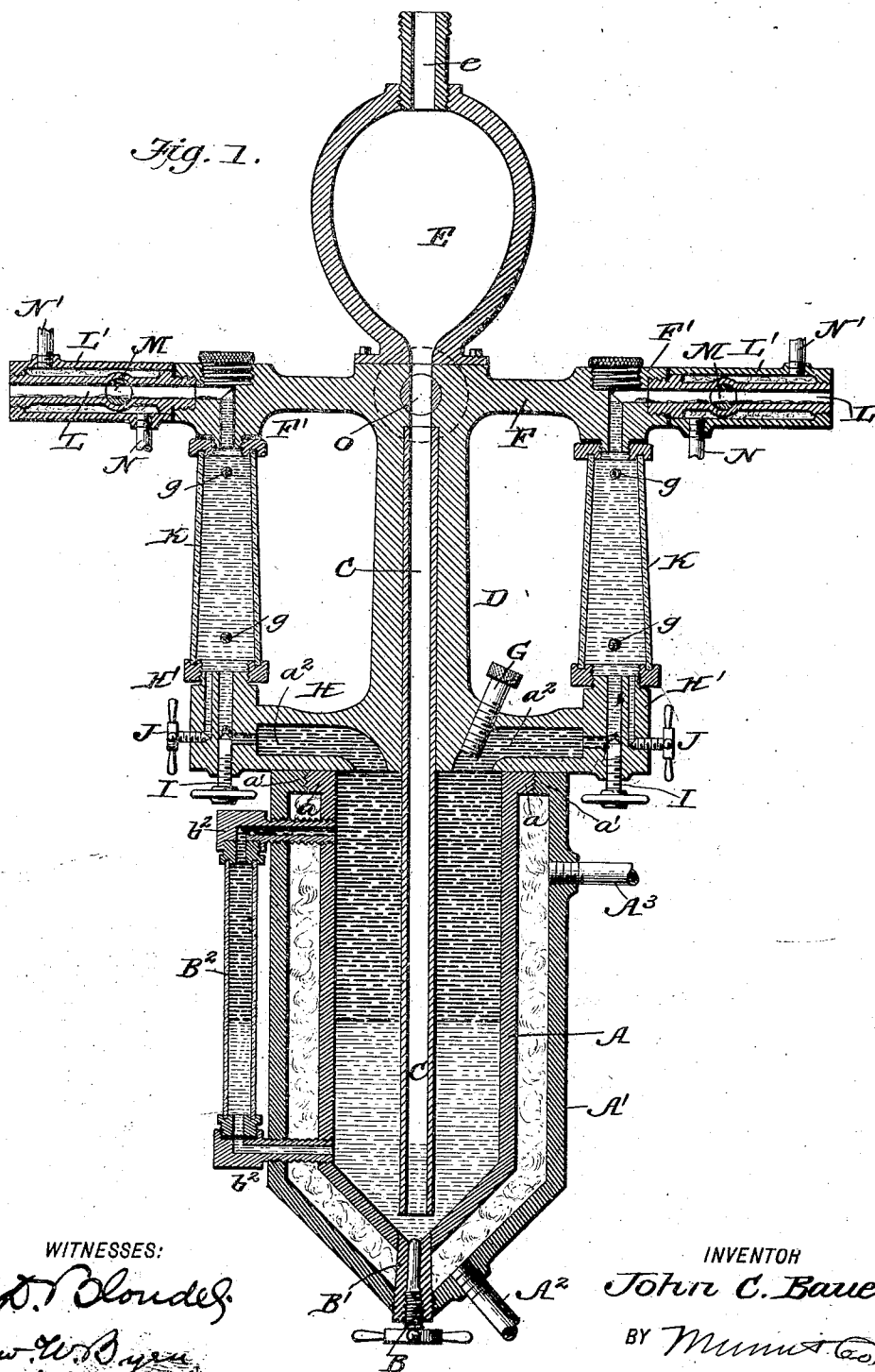
(No Model.)

2 Sheets—Sheet 1.

J. C. BAUER.
LUBRICATOR.

No. 578,193.

Patented Mar. 2, 1897.



WITNESSES:

W. D. Cloude
Edw. W. Byers

INVENTOR

John C. Bauer

BY *Munn & Co.*

ATTORNEYS.

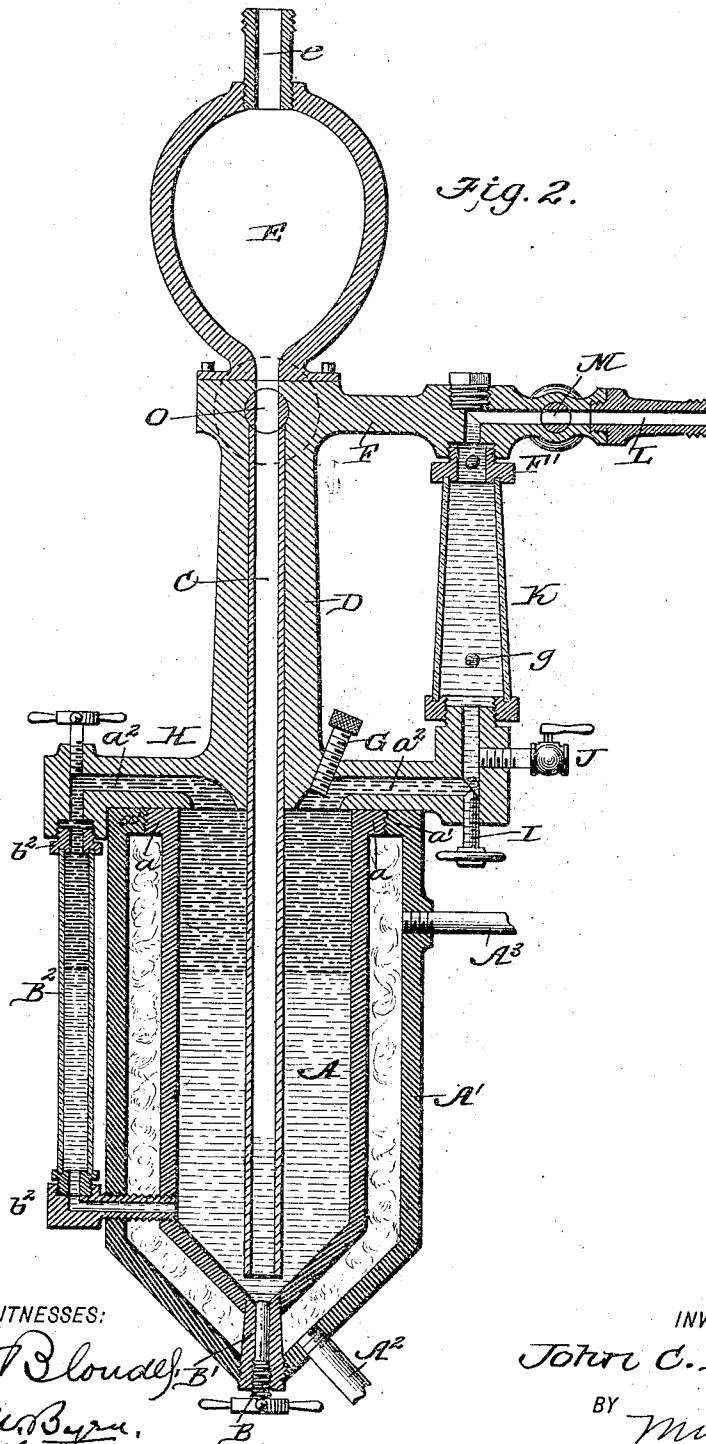
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M. A. P. Cloudes. B.
Edw. W. Byrne.

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UNITED STATES PATENT OFFICE.

JOHN C. BAUER, OF REMSEN, IOWA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 578,193, dated March 2, 1897.

Application filed October 23, 1895. Serial No. 566,610. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. BAUER, of Remsen, in the county of Plymouth and State of Iowa, have invented a new and useful Improvement in Lubricators, of which the following is a specification.

The object of my invention is to provide an automatic lubricator for feeding oil to the cylinders or other parts of a locomotive or traction engine which shall prevent the oil from getting cold and sticky and will feed the oil in determinate quantities in a perfectly uniform and reliable manner, as will be hereinafter fully described.

Figure 1 is a vertical section of my improved lubricator, and Fig. 2 is a similar view of a modification.

In the drawings, A represents the oil-reservoir, which is of cylindrical shape, with a conical lower end. Surrounding this is an outer casing A' of the same shape and sufficiently large to leave an annular space around the oil-reservoir to form a steam-jacket, which keeps the oil warm and fluid and prevents it from getting gummy and sticky. This steam-jacket is supplied with steam from the steam-dome through an inlet-pipe connection Δ^3 , while a corresponding outlet Δ^2 carries off the waste steam and condensed water to the boiler.

At the lower end of the oil-reservoir it has screwed into it and also into the outer casing A' a thimble B', which is perforated centrally and closed by a screw-valve B. This thimble B' serves to connect the two cylinders A and A' and hold them in place, and also affords a passage-way and drainage to the oil-reservoir A to let out the water which rests beneath the body of oil.

B² is a gage-glass whose end couplings are connected by thimbles B³, passing through both the walls of the outer casing and oil-reservoir and screwed into the same near the top and bottom thereof. This gage serves to indicate the level of the water and supernatant body of oil on the same.

At the upper end the oil-chamber A is formed with an externally-screw-threaded flange or lip *a*, which screws into a screw-thread of a corresponding inwardly-projecting lip or flange *a'* at the top of the outer casing, these two flanges serving to hold the two cylinders in proper concentric relation.

To the upper end of the cylinders is bolted or screwed the head II, having oil-passages a^2 in the same. In the center of this head is fixed a tubular standard D, through which passes a vertical pipe C, extending nearly to the bottom of the oil-reservoir and opening into the same. This pipe introduces the steam-pressure to effect the feeding of oil, and it communicates through a cut-off valve O with a globular water-condenser E, which has an inlet *e* at its upper end for steam.

Just below the water-condenser E and at the top end of central tube D is a cross-arm F, bearing at each of its outer ends a coupling F'. Corresponding couplings H' on opposite sides of the head II are arranged immediately beneath the couplings F', and between each coupling F' and H' below it is secured a water-glass K, filled with water or glycerin, through which the oil is designed to travel drop by drop, as at *g*, on its way to the cylinders of the locomotive. The coupling H' is channeled internally to open a passage-way between the passage-way a^2 leading from the oil-reservoir and the water-glass K. The passage of the oil through this passage-way is regulated in drops by a needle-valve oil-regulator I, while a drip-cock J permits the water or glycerin to be drained away from the glass K. In the upper coupling F' there is a similar passage-way leading from the top of the water-glass K to the pipe L, leading to the locomotive-cylinder, which pipe has a cut-off valve M. Around this pipe L is a steam-jacket composed of an outer pipe L', which has at N an inlet for steam and an outlet for steam at N'. This steam-jacket keeps the oil warm and fluent and enables it to be fed freely without getting cold and gummy.

To supply oil to the reservoir A, a filling-tube, with cap G, is tapped through the head II into the top of the oil-reservoir.

The operation of the device is as follows: Steam passes in through the condenser E, and condensing into water passes through pipe C into the bottom of the oil-reservoir A, forcing the oil on the top of the water out in drops past the valves I, which drops *g*, rising through the body of water or glycerin in glass tubes K, pass through couplings F' and pipes L to the cylinders of the locomotive. The oil in reservoir A and pipe L is

kept warm and fluent by the steam-jackets. When the water accumulates in the bottom of reservoir A and the oil needs replenishing, the level of the water rises in gage-tube B² and indicates this. Plug-valve O is then turned to cut off steam, water in lower part of reservoir is drawn off by opening valve B and filling-cap G, and valve B being then closed a fresh supply of oil may be inserted through the filling-tube. Cap G is then screwed on, valve O opened, and steam-pressure again admitted to the reservoir to feed the oil.

As so far described the apparatus is constructed for a double feed to both cylinders of a locomotive. I may, however, arrange it for a single feed, as shown in Fig. 2, in which case the oil-feeding devices on one side are omitted.

I am aware that the general principle of feeding oil as herein described is not broadly new, and I therefore only claim the special construction and arrangement of the parts, which make a very efficient lubricator which is not liable to become gummed or obstructed.

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

1. A lubricator for steam-engines comprising an inner reservoir A for oil having a perforated and conical lower end, and an outwardly-turned and screw-threaded flange *a*

at the top, an outer casing A' surrounding the same and having at its upper end an inwardly-turned and screw-threaded flange *a'* meshing with the thread of flange *a*, and a screw-threaded and perforated bottom end, the said perforation being concentric with that in the oil-reservoir A, and a tubular connecting plug or thimble B' screwed into the registering openings in the bottoms of the two chambers and serving to connect and hold the two, and having also a valve B to discharge the contents of the inner or oil receptacle substantially as shown and described.

2. A lubricator for a steam-engine comprising an outer jacket or casing and within it an oil-receptacle, a head H closing the upper end of the same and formed in one piece with a stem D and cross-bar F, and having also oil-ducts *a*² in the same and a filling-plug G, in combination with the tube C leading from the condenser extending through stem D to the lower part of the oil-reservoir, the glass tube K connecting the arm F and head H, said arm and head being also provided with channels and valves for regulating the passage of the oil in drops substantially as and for the purpose described.

JOHN C. BAUER.

Witnesses:

THEO. P. SCOTT,
A. HUBERTY.