

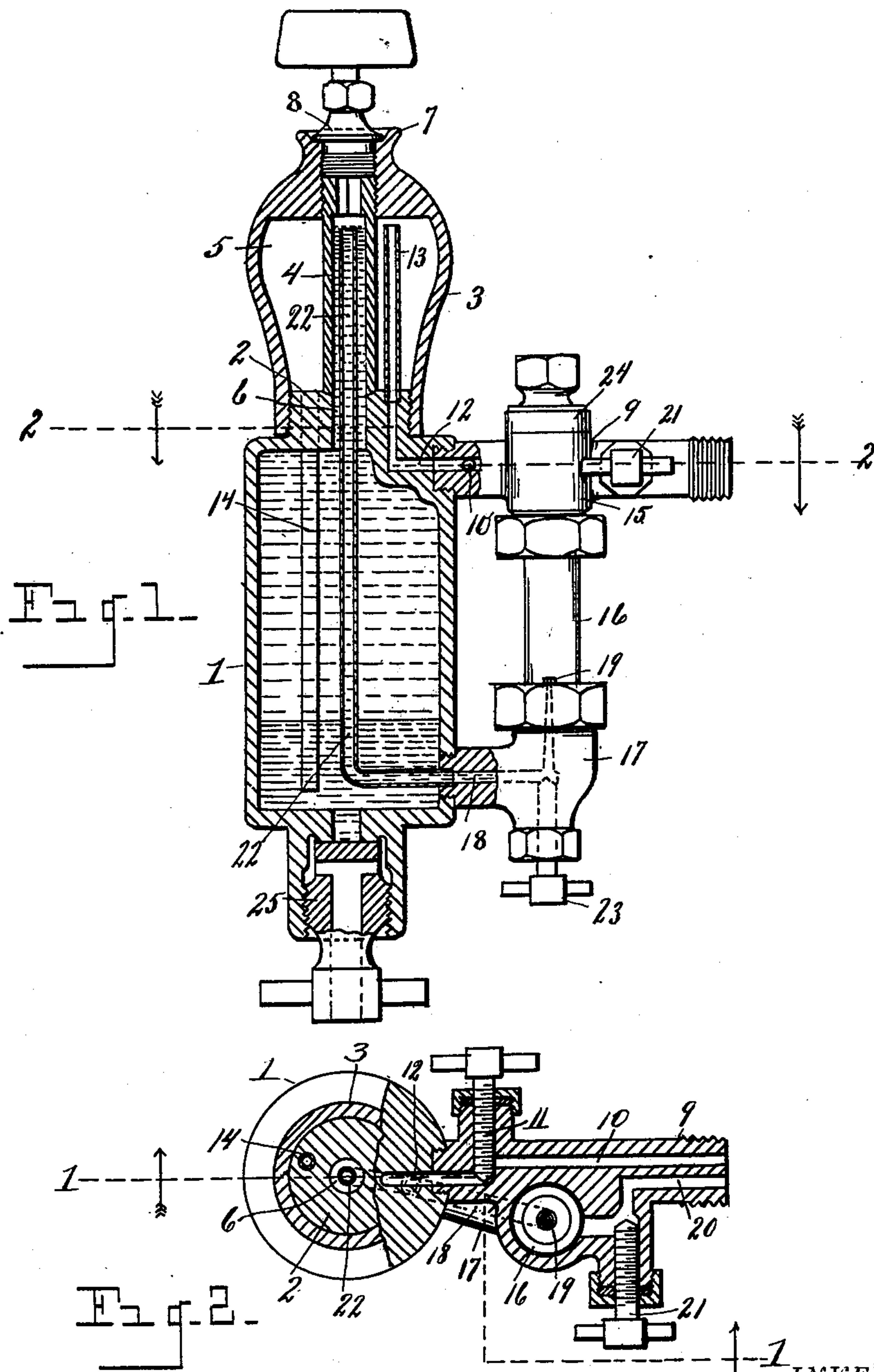
No. 678,980.

Patented July 23, 1901.

D. H. ROBERTS.
LUBRICATOR.

(Application filed Oct. 13, 1900.)

(No Model.)



WITNESSES.

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LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 678,980, dated July 23, 1901.

Application filed October 13, 1900. Serial No. 32,918. (No model.)

To all whom it may concern:

Be it known that I, DUGALD H. ROBERTS, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Lubricators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to lubricators; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a lubricator of simple, compact, and comparatively inexpensive construction in which the arrangement is such as to provide an oil-filling tube or duct passing centrally through the condenser, through which the oil-cup may be supplied with oil, and an oil-discharge tube or duct standing within said oil-filling tube, so that the oil which is fed through the lubricator is drawn from the point of highest temperature in the condenser, whereby the oil is maintained at a high state of fluidity, insuring a perfect operation of the lubricator even when exposed to a very low temperature. The above object is attained by the association of operative elements illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view through the condenser and oil-cup of a lubricator embodying my invention, as on line 1 1 of Fig. 2, the sight-feed glass and the oil-discharge and steam-induction arm appearing in elevation. Fig. 2 is a horizontal section, as on line 2 2 of Fig. 1.

Referring to the characters of reference, 1 designates the body of the lubricator, provided with a raised top portion 2, which is of annular formation and threaded to receive the condenser 3, which is screwed thereon, so that the condenser becomes attached directly to the body or cup of the lubricator. The upper end of the condenser is provided with a central threaded aperture, in which is screwed a duct or filling-tube 4, which depends within and passes centrally through the condens-

ing-chamber 5 and at its lower end has terminal contact with the margin of the aperture 6, formed through the top 2 of the lubricator cup or body and establishing communication between said tube and the oil-space or reservoir of the lubricator. The opening at the upper end of the condenser is flaring, as shown at 7, and is adapted to be closed by a screw-plug 8, which screws into said opening above the upper end of the tube 4. By removing said plug oil may be poured into said tube, which passes therethrough into the oil-chamber to replenish the cup.

An arm 9 is screwed into the body of the lubricator at the top and carries a steam-induction duct 10, controlled by a valve 11 and communicating with an angular passage 12, formed in the wall and the top of the lubricator-body and communicating with the tube 13, standing vertically within the condenser, and through which steam is supplied to the condensing-chamber. Extending downwardly from the chamber of the condenser is a tube 14, through which the water of condensation passes to the bottom of the oil-chamber. The arm 9 carries a coupling 15, which supports the upper end of the sight-feed glass 16, the lower end of said glass being supported by a bracket 17, screwed into the body of the cup at the bottom and having an oil-duct 18, passing therethrough and communicating with the nipple 19, standing within the sight-feed glass. The upper end of the sight-feed glass communicates with an oil-discharge port or duct 20, which is formed in the arm 9 and is controlled by a suitable valve 21, the end of said duct or port opening through the end of said arm, as clearly shown in Fig. 2. This lubricator is of the single-connected pattern, and the outer end of the arm 11 is threaded for connection to the steam-pipe of the engine, whereby a balancing of the cup is effected, as is well understood in the art, and provision is made for supplying steam to the condenser and for discharging the oil or lubricant directly into the steam-pipe.

Lubricators of the character described herein are adapted for use on traction-engines and engines that are more or less exposed to the weather, and it is a matter of great importance that the oil which is being fed from

the lubricator be maintained at such a temperature as to flow readily through the passages leading to the discharge-port to avoid a congealing of the oil and a consequent interruption to the action of the lubricator in cold weather. To provide for drawing the oil from the hottest part of the lubricator, the oil-tube 22, which communicates with the oil-duct 18, leading to the sight-feed glass, is extended upwardly through the oil-cup and into the tube 4, passing through the condenser, the upper end of said tube terminating near the top of the condenser at a point where the steam is discharged into the condensing-chamber from the steam-tube 13, whereby the oil which flows into the upper end of the tube 22 is carried to the point of highest temperature before entering said tube, imparting a high degree of heat thereto and insuring a free passage of oil through the ducts of the lubricator and out the discharge-port in the arm 9.

In the operation of the cup it will be understood that the water of condensation which forms in the condensing-chamber precipitates through the tube 14 to the bottom of the oil-cup, causing the oil to rise thereon and fill the tube 4. The oil as it is displaced by the water flows into the upper end of the tube 22, standing within the filling-tube 4, and through said tube and sight-feed glass into the educt-port of the discharge-arm, as is well understood. Should the upper end of the tube 22 become choked, it is made readily accessible for cleaning by unscrewing the plug 8, and for the purpose of cleaning the condensing-chamber or any of its communicat-

ing tubes or channels said condenser is made to unscrew from the lubricator-body. The feed of the oil is regulated by the valve 23, which controls the oil-duct 18. A screw-plug 24 closes an opening in the coupling 15, through which the sight-feed glass is placed in position. A plug-valve 25 is located at the bottom of the cup for the purpose of draining the cup of its contents.

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

1. In a lubricator, the combination of the oil-cup having an oil-discharge port, a condenser mounted on the oil-cup, a steam-induction port leading into the top of said condenser, a tube connecting the condenser with the oil-cup, an oil-tube passing vertically through the condenser and communicating with the oil-cup and an oil-duct communicating with the interior of said oil-tube within the condenser and leading to the oil-discharge port.

2. In a lubricator, the combination of the oil-cup, a condenser communicating with the oil-cup, a steam-induction tube communicating with the condenser, an oil channel, or chamber, communicating with the oil-cup and extending into the condenser and an oil-educt tube extending into said channel, or chamber, within the condenser.

In testimony whereof I sign this specification in the presence of two witnesses.

DUGALD H. ROBERTS.

Witnesses:

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