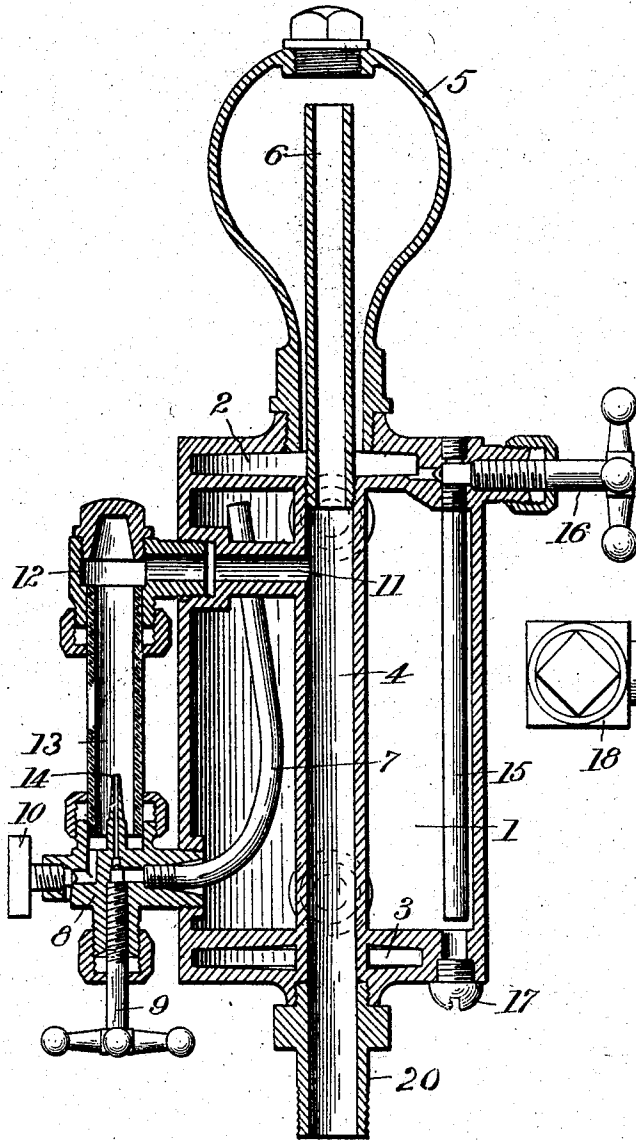


A. L. MATTESON.  
LUBRICATOR.

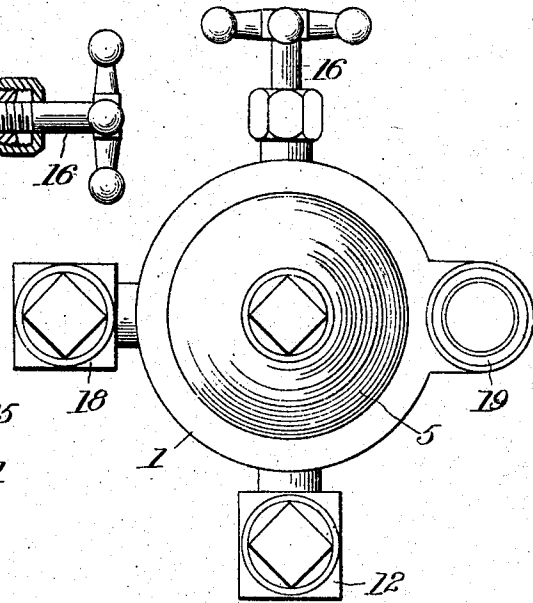
APPLICATION FILED JULY 29, 1905.

2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 3.*



WITNESSES:

*C. H. Walker.*  
*S. M. Chapman.*

INVENTOR

*Albert L. Matteson.*

By *Rexford M. Smith.*  
Attorney

A. L. MATTESON.  
LUBRICATOR.

APPLICATION FILED JULY 29, 1905.

2 SHEETS—SHEET 2.

Fig. 2.

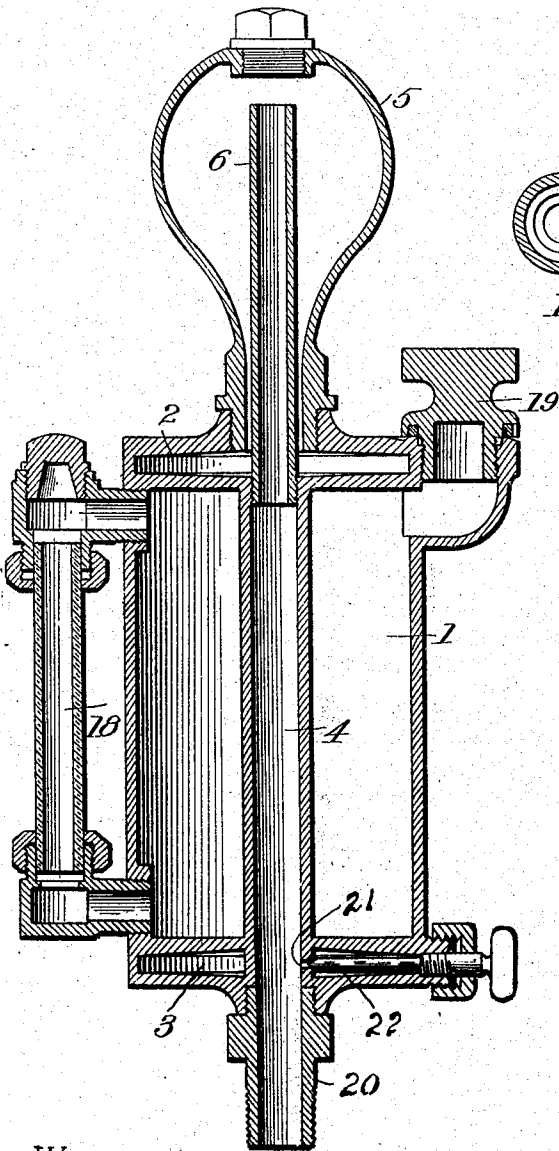


Fig. 4.

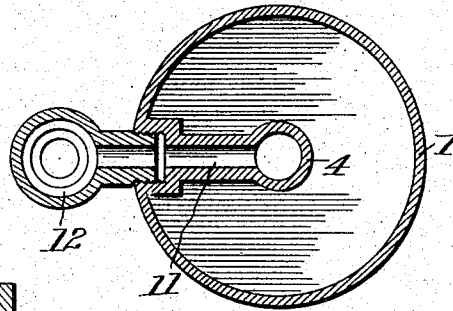
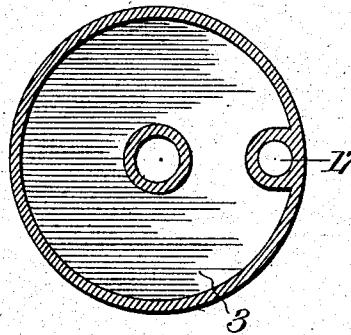


Fig. 5.



WITNESSES:

*C. M. Walker,*  
*S. P. Whipple,*

INVENTOR

*Albert L. Matteson.*

BY *Rayford M. Smith*  
Attorney

# UNITED STATES PATENT OFFICE.

ALBERT L. MATTESON, OF BATTLECREEK, MICHIGAN.

## LUBRICATOR.

No. 806,421.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed July 29, 1905. Serial No. 271,749.

*To all whom it may concern:*

Be it known that I, ALBERT L. MATTESON, a citizen of the United States, residing at Battlecreek, in the county of Calhoun and State of Michigan, have invented a certain new and useful Lubricator, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to lubricators, the object of the invention being to provide a lubricator for steam-engines which is adapted to be associated with the steam-supply pipe to convey oil directly to the cylinder and which is capable of being easily regulated to raise the lubricant to the desired temperature and maintain it in a properly-heated condition, so that the same will be effectively liquefied in the coldest weather, thus insuring the feeding of the oil in proper condition at all times to the cylinder.

The invention relates particularly to the construction of the lubricator, the manner in which the heating of the oil and its maintenance in a properly-heated condition is controlled and regulated, and in connection therewith the means by which the water of condensation is supplied to the oil-reservoir and sight-feed tube and maintained at the requisite temperature, and in the manner in which the oil is delivered from the lubricator and its liquefaction maintained up to the instant of its discharge from the lubricator.

A further object of the invention is to provide, in connection with a condensation and oil-discharge pipe, a steam-heating chamber for the oil-reservoir and means for regulating the supply of steam to said chamber and also cutting off said supply altogether.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a diametrical longitudinal section through a lubricator embodying the present invention. Fig. 2 is a similar section taken at right angles to Fig. 1. Fig. 3 is a top plan view of the lubricator. Fig. 4 is a cross-section through the lubricator, taken in line with the oil-discharge tube. Fig. 5 is a cross-section taken through the lower portion of the lubricator.

Like reference-numerals designate corresponding parts in all figures of the drawings.

The lubricator contemplated in this invention comprises an oil-reservoir 1, which is preferably of cylindrical form, as shown, although any desired shape may be given thereto. This reservoir in carrying out the present invention is provided in its upper end with a condensation-chamber 2 and in the bottom with an automatic steam-heating chamber 3, the said chambers practically covering the entire cross-sectional area of the top and bottom of the reservoir, as shown.

Extending between the chambers 2 and 3 is a combination condensation and oil-discharge pipe 4, which communicates with both of said chambers and is preferably cast or formed integrally therewith and in one piece with the body of the reservoir.

The reservoir, the walls of the chambers 2 and 3, and the condensation and oil-discharge pipe 4, above referred to, are all made in one piece under the preferred embodiment of this invention.

A globe-shaped condensation-chamber 5 extends upward from the top of the reservoir and communicates at its bottom with the internal condensation-chamber 2, as shown, and a condensation-tube 6 extends from the upper end of the pipe 4 upward into the upper portion of the chamber 5.

7 represents the oil-pipe, which connects at its lower end with the valve-casing 8, located adjacent to the lower end of the reservoir and carrying the feed-control needle-valve 9 and the drain-valve 10. The opposite upper end of the oil-pipe is arranged near the top of the reservoir to receive the oil as it is raised by the water of condensation and overflows into said pipe.

Communicating with the upper portion of the reservoir is an oil-discharge pipe or tube 11. This tube leads from the central pipe 4 outward through the reservoir, where it connects with a coupling 12, which receives the upper end of a sight-feed glass or tube 13, the lower end of which connects with the valve-casing 8, above referred to.

14 designates an oil-dropping tube or nozzle extending from the valve-casing 8 upward into the sight-tube 13.

15 represents the tube which receives the water of condensation from the chamber 2 and carries the same into the bottom of the oil-reservoir 1, the same being controlled by a water-admission valve 16, located at the upper end thereof, as shown in Fig. 1. In the

bottom of the reservoir, beneath the pipe 15, is arranged a drain-plug 17.

At one side of the reservoir 1 is arranged an oil-gage 18, which communicates with the top and bottom portions of the reservoir and indicates the oil-level therein. The reservoir is also provided with an oil-filling plug 19.

20 designates a union at the bottom of the reservoir, by which the lubricator is connected into the steam-supply pipe leading from the boiler to the cylinder or steam-chest, said union communicating directly with the steam-heating chamber 3 and the pipe 4.

The oil in the reservoir is heated by the steam in the heating-chamber 3, which is advantageously located in the bottom of the reservoir, covering the entire bottom thereof and draining itself automatically into the steam-supply pipe, the walls of said chamber being thus constantly maintained in a highly-heated state.

Water is supplied to the oil-reservoir and sight-feed glass through the combination condensation and oil-discharge pipe 4, through which the oil also passes on its way to the steam-supply pipe and cylinder of the engine. The oil does not pass outside of the lubricator-body except as it passes through the sight-feed glass, so that it is impossible for the oil to become chilled on its way to the cylinder. This makes it practicable to use the heaviest oils in the coldest weather.

By locating the heating-chamber in the bottom of the reservoir the heat therefrom rises easily and rapidly. A great advantage of the invention also lies in the fact that it requires only one pipe to furnish condensation for both the oil-reservoir and the sight-feed glass, heating the water of condensation and providing means for conveying the oil to the steam-supply pipe and cylinder without any liability of the oil becoming chilled on its way.

The pipe or tube 4 where it extends through the chamber 3 is provided with a small hole 21, and said hole is controlled by a hand-operated valve 22, which provides for cutting off communication between the pipe 4 and chamber 3, the stem of said valve passing through the chamber 3, as shown in Fig. 2. When the valve 22 is opened, the chamber 3 fills with steam and raises the oil to a scalding heat in a very short space of time. By adjusting said valve the degree of heat may be varied to suit conditions. In very hot weather the valve 22 may be entirely closed, leaving the lubricator as cool as the ordinary lubricator.

It will be observed that the lubricator is simple in construction and free from narrow and tortuous passages, an objection to which many lubricators are open.

Having described the invention, I claim as new—

1. A lubricator comprising an oil-reservoir; a steam-heating chamber located in the bottom thereof; a condensation and oil-discharge pipe extending through the reservoir and steam-heating chamber, and means for controlling communication between the said pipe and steam-heating chamber.

2. A lubricator comprising an oil-reservoir having a steam-heating chamber located in the bottom thereof above the steam-supply pipe; a condensation and oil-discharge pipe leading through the steam-heating chamber, and means for controlling the supply of steam from said condensation and oil-discharge pipe to said steam-heating chamber.

3. A lubricator comprising an oil-reservoir; a steam-heating chamber in the bottom thereof; a condensation and oil-discharge pipe formed integrally with the walls of the steam-heating chamber and reservoir and leading through the steam-heating chamber with which it communicates, whereby the oil is heated at the point of outflow, and means for cutting off communication between the condensation and oil-discharge pipe and said steam-heating chamber.

4. A lubricator comprising an oil-reservoir; a sight-feed glass; a steam-heating chamber located in the bottom of the reservoir; a condensation and oil-discharge pipe extending through the reservoir and steam-heating chamber and arranged to supply the steam-heating chamber and to furnish condensation to both the oil-reservoir and the sight-feed glass, said pipe and the walls of the steam-heating chamber, and also the walls of the reservoir being integrally formed, and means for cutting off and regulating the supply of steam from said pipe to the steam-heating chamber without cutting off the discharge of oil.

5. A lubricator comprising an oil-reservoir; a condensation-chamber in the upper part of the lubricator; a steam-heating chamber in the lower part of the lubricator; a condensation and oil-discharge pipe passing from the said condensation-chamber to the steam-heating chamber and communicating with both of said chambers and the oil-supply, and means for regulating and cutting off the supply of steam from said pipe to the steam-heating chamber.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT L. MATTESON.

Witnesses:

G. V. ROTHENBERG,  
P. D. FERGUSON.