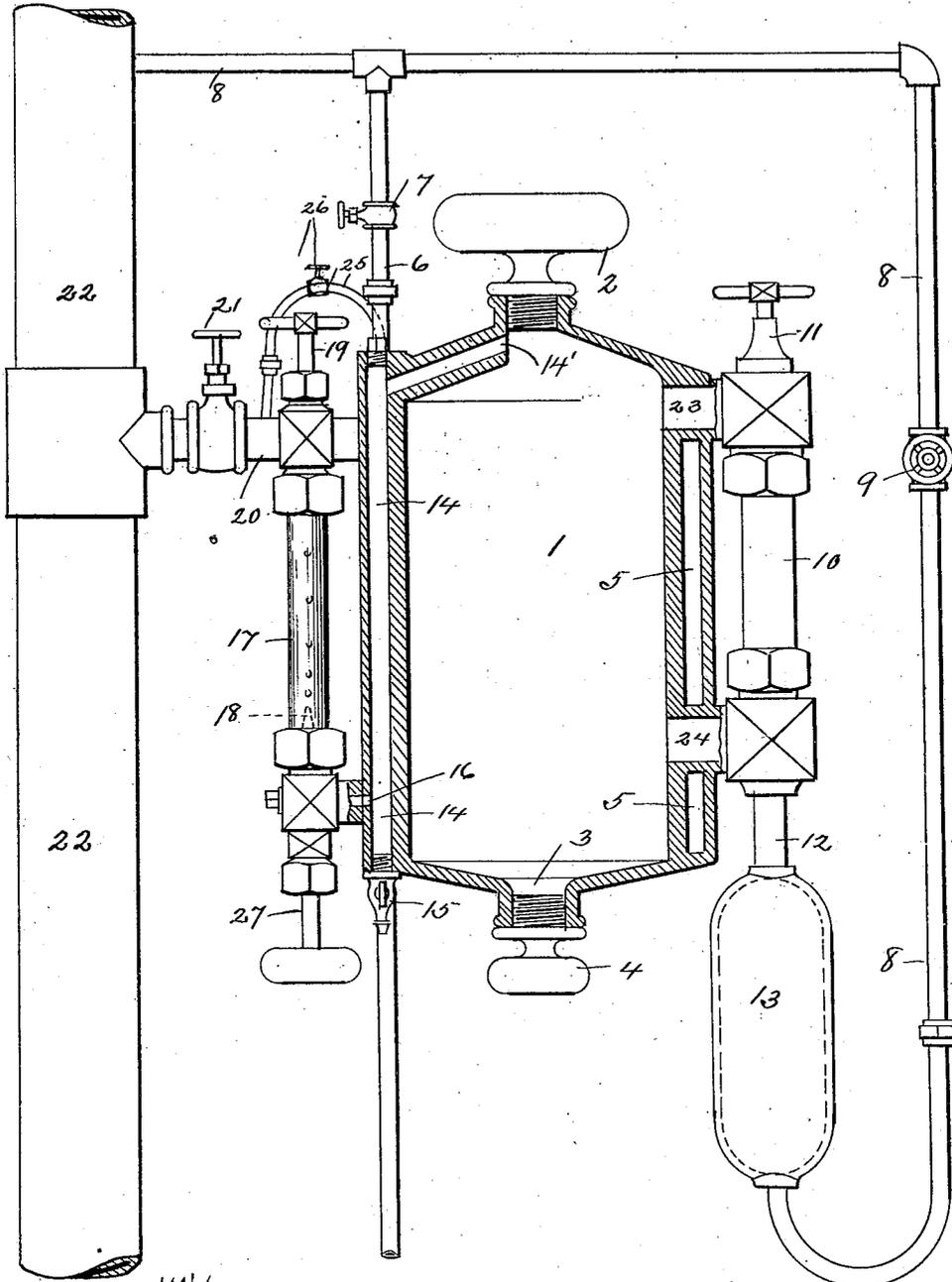


(No Model.)

G. L. BRISBIN.  
LUBRICATOR.

No. 577,004.

Patented Feb. 16, 1897.



WITNESSES:  
*H. E. Harrison*  
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att'y.

# UNITED STATES PATENT OFFICE.

GEORGE L. BRISBIN, OF MCKEESPORT, PENNSYLVANIA.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 577,004, dated February 16, 1897.

Application filed March 24, 1896. Serial No. 584,591. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE L. BRISBIN, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Lubricators for Engines; 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 drawing, and to the figures of reference marked thereon, which forms a part of this specification.

My invention relates to an improved lubricator for engines; and it consists in certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawing I have shown a side elevation of my improved lubricator, partly shown in section and connected to the steam-pipe leading to the cylinder of an engine.

The object of this invention is to provide a lubricator that will feed any grade of a lubricant, such as oil or tallow, in the coldest weather and maintain a regular feed of as many drops per minute as desired in an economical manner and without waste. This I accomplish by means of a steam-jacket placed about the body of the lubricator in a manner that the contents of the same may be expanded and vaporized before entering the cylinder of the engine, together with a means for taking up the surplus lubricant caused by expansion, and also to provide a by-pass for the fluid should the weak or frail glass hull break.

To construct a lubricator in accordance with my invention, I form a casting consisting of a cylinder 1, capable of holding a quantity of lubricant, said cylinder having an opening at the top, fitted with a plug 2, by means of which the said lubricant may be introduced into the holder 1, and also an opening 3 and threaded plug 4 at the base for the purpose of cleaning and draining the device. Surrounding this holder is a jacket leaving an intermediate steam-space 5, which is connected by small pipes or tubes 6 8 to the steam-pipe 22, leading to the steam-cylinder of the engine, by means of which a constant supply of live

steam is kept circulating about the exterior walls of the holder 1, and thereby keeping the lubricant contained therein at a high temperature. This pipe 8, leading from the steam-pipe 22, is fitted with a valve or cock 9 and extends downward and attached to the base of the indicator-glass tube 10, with an intermediate condensing-reservoir 13. This reservoir 13 serves as a means for taking up the surplus lubricant due to expansion, and having about one-fifth ( $\frac{1}{5}$ ) the capacity of the holder 1 will gradually return the oil to the holder 1 after the same has become partly reduced. This indicator-glass 10 is formed with a passage 23 at the top and another 24 at the bottom and will show the level of oil and water in the holder 1.

Formed at the opposite side of the holder 1 is a vertical annular opening 14, fitted with a drain-cock 15 at the bottom and sealed by a screw-plug at the top, and also communicating with the interior of the holder 1 by a passage 14'. This passage 14 is connected to a duct 16, leading to and through a suitable valve 27 to a jet 18, entering a glass tube 17, which, by means of a pipe 20, communicates with the interior of the steam-supply pipes 22. Arranged intermediate of the glass tube 17 and the steam-pipe 22 are two valves, the one, 21, to close entirely the passage to said steam-pipe 22 and the other, 19, to close the passage to the glass tube 17. Arranged between these two valves 21 19 is a small pipe 25, leading direct to the holder 1, which, by the aid of a valve 26, serves as a by-pass for the lubricant should the tube 17 break on being repaired.

It is understood by all skilled in the art that the oil or other lubricant must attain the same heat as that of the live steam before it will assimilate with the steam and reach all points of the steam chest and cylinder, and that when the lubricant is fed into the cylinder at a temperature of perhaps 75° Fahrenheit from thirty to sixty per cent. of it is carried away by the exhaust-outlet before time was given to attain the same temperature as that of the steam; but with a lubricator such as above described the proper degree of heat is attained before leaving the holder 1, and by the use of the steam-jacket the oil may be heated to such a degree that it will immediately vaporize upon coming in

contact with the steam, thus insuring perfect lubrication, from the fact that the heating process develops and holds in readiness all the lubricating qualities the oil contains.

5 In operation the lubricant is placed into the holder 1 through the opening at the top and the plug screwed tightly in position, the valves and cocks 7, 9, 19, 21, and 27 opened, which will admit live steam into the annular  
 10 steam-space 5, to bring the lubricant to a high temperature, and steam to the holder 1, through the pipe 6, and 8 through the condenser 13, and passage 24. This steam by reason of condensation will accumulate in the  
 15 bottom of the holder 1 and gradually elevate the oil to the passage 14', and eventually to the injecting tube or nozzle 18. The quantity of oil passing through the nozzle 18 can be regulated by the valve 27 to the desired number  
 20 of drops per minute, as seen through the glass tube 17.

Having thus described my invention, I claim—

1. The combination of the oil-receiver a discharge-pipe therefor the gage-glass connected to said oil-receiver, the condenser connected to, and arranged beneath said gage-glass, whereby the oil in the oil-receiver is permitted to expand, and means for supplying steam to said condenser as and for the purpose set forth. 25 30

2. The combination of the oil-receiver a discharge-pipe therefor the gage-glass connected to said oil-receiver, the condenser connected to, and arranged beneath said gage-glass, and means for supplying steam thereto said oil-receiver having a surrounding steam-jacket, the sight-glass, and means for supplying steam to said steam-jacket, substantially as described. 35 40

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

GEORGE L. BRISBIN.

Witnesses:

E. M. ARTHUR,

H. J. LEVIS.