No. 812,578. PATENTED FEB. 13, 1906.

J. MALOY & A. WHITE.

LUBRICATOR.

APPLICATION FILED OCT. 12, 1905.

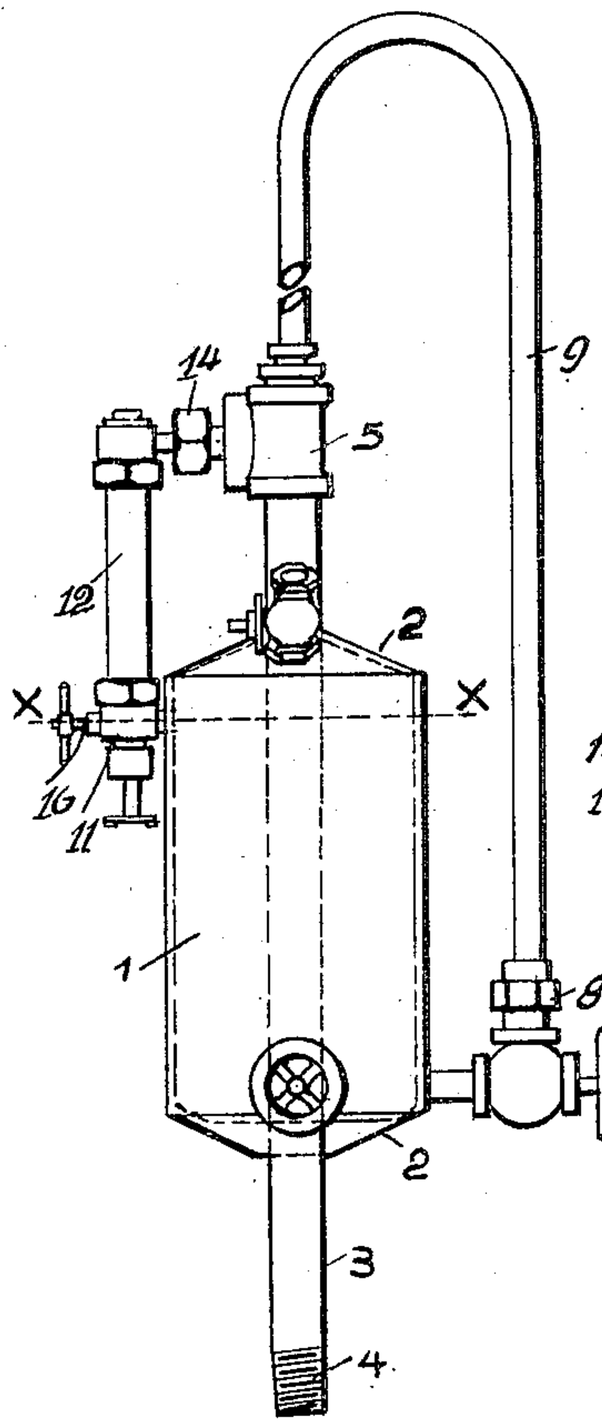

FIG. 1.

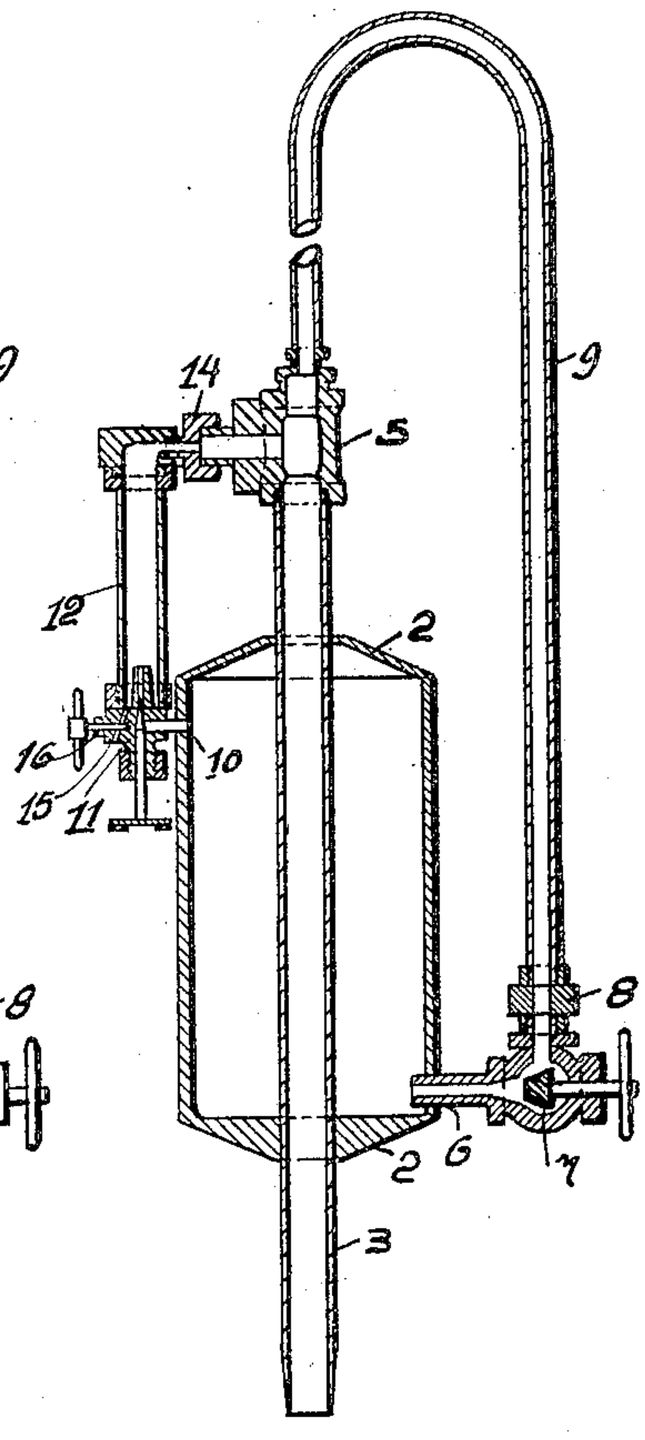

FIG. 2.

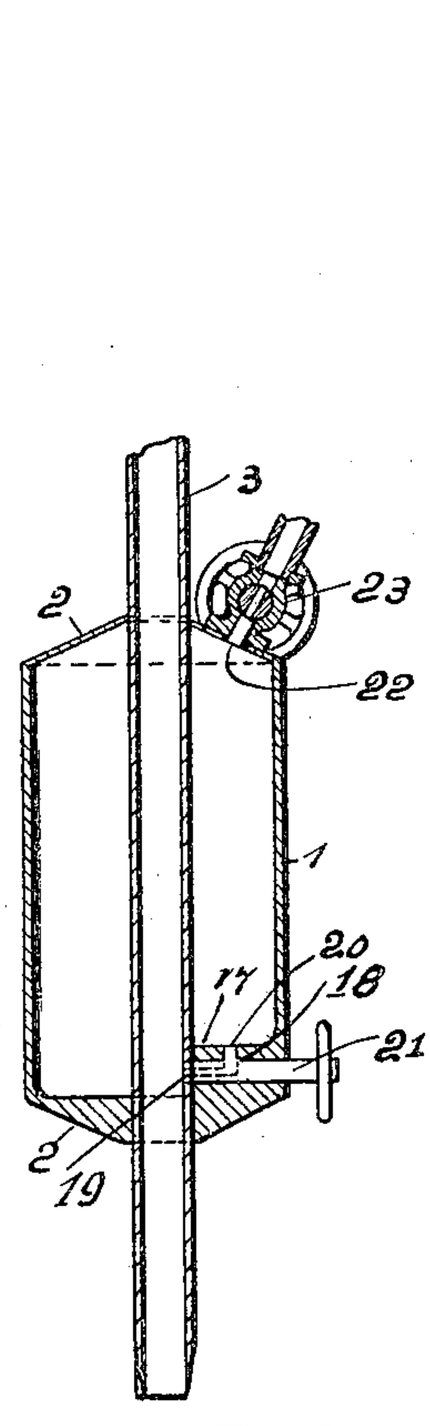

FIG. 3.

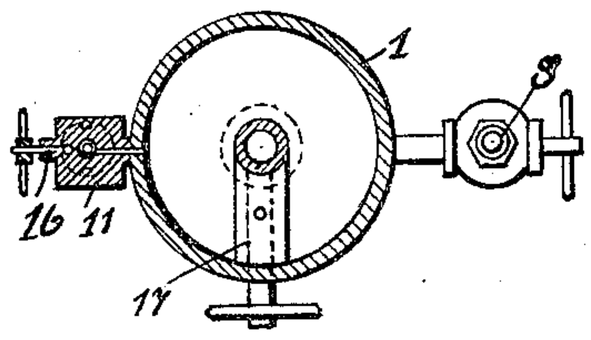

FIG. 4.

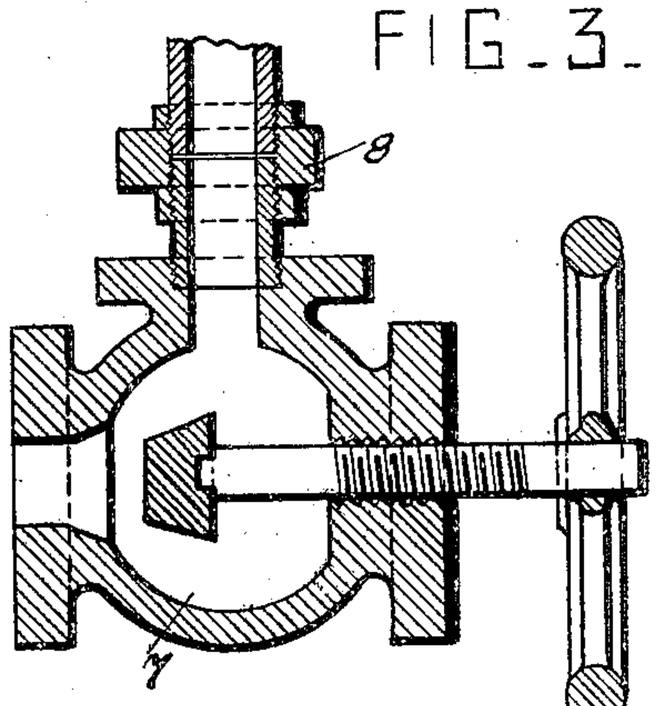

FIG. 5.

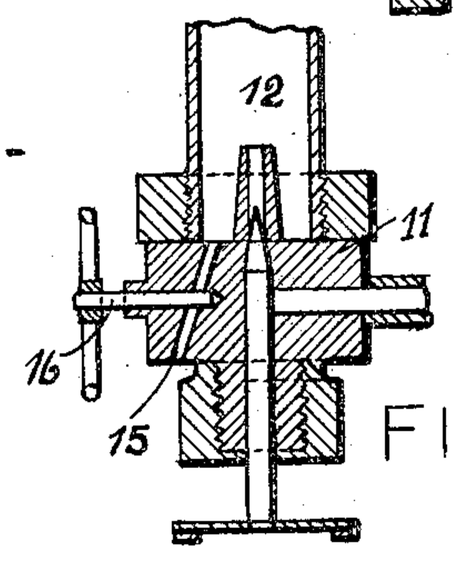

FIG. 6.

WITNESSES

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LUBRICATOR.

No. 812,578. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed October 12, 1905. Serial No. 282,446.

To all whom it may concern:

Be it known that we, JOHN MALOY and ARCHIE WHITE, citizens of the United States of America, residing at Dunbar, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Lubricators, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in lubricators; and the invention relates more particularly to that type of lubricators adapted to automatically feed oil or grease into a steam-line supplying a cylinder or steam-chest.

The primary object of this invention is to provide a novel form of receptacle or cup adapted to be connected with a steam-line, the steam being utilized indirectly to force the contents of the receptacle into the steam-line supplying the steam to the cylinder or steam-chest. To this end we have devised a novel form of lubricator in which premelted grease or oil is employed as a lubricant and novel means devised for heating and governing the amount of lubricant to be fed to the cylinder or steam-chest.

With the above and other objects in view, which will be more fully apparent as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described and then claimed.

Referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of our improved lubricator. Fig. 2 is a vertical sectional view. Fig. 3 is a vertical transverse sectional view of a portion of the same. Fig. 4 is a horizontal sectional view taken on the line *x x* of Fig. 1. Fig. 5 is an enlarged detail sectional view of a valve employed in connection with the lubricator, and Fig. 6 is a similar view of a needle-valve.

To put our invention into practice, we construct our improved lubricator of a metallic receptacle 1, having cone-shaped ends 2 2. Passing upwardly through the receptacle is a pipe 3, said pipe being threaded upon its one end, as indicated at 4, and provided with a T connection 5 upon its upper end. The receptacle 1 near its bottom is provided with an opening 6, in which is mounted a conventional form of globe-valve 7. Connecting with the globe-valve by means of a union 8 is an inverted-U-shaped pipe 9, the opposite end of which connects with the T 5, thereby forming a circuitous passage for the contents of the pipe 3 to enter the receptacle 1, the globe-valve 7 controlling the inlet into the receptacle. The receptacle is also provided with an opening 10 near its top, and communicating with said opening is a conventional form of needle-valve 11. The valve supports one end of a sight-glass 12, the upper end of the sight-glass being connected to the T 5 by a union connection 14. The needle-valve 11 is provided with a drainage-passage 15, which is controlled by a valve-stem 16, the drainage-passage 15 being employed to drain the sight-glass at any time desired.

The bottom of the receptacle 1 is provided with a radially-disposed enlargement 17, which is drilled to form a bore 18, said bore communicating with the pipe 3 by an opening 19 and with the interior of the receptacle by a port 20. In the bore 18 is mounted a valve-stem 21, which is adapted to control the passage of the contents of the cylinder 1 into the pipe 3, the port 20, bore 18, and opening 19 being employed to drain the receptacle of a portion of its contents. The top of the receptacle 1 is provided with an inlet-port 22, and controlling this port is a conventional form of valve 23.

When our improved lubricator is to be used, the pipe 3 is adapted to be tapped into a steam-line which supplies the receptacle or a steam-chest. The passage of steam through the pipe 3 into the receptacle 1 is controlled by the valve 7, and we will assume that the valve is open and steam is passing into said receptacle. The lubricant to be used in connection with our improved lubricator is placed in the receptacle 1 through the valve 23, and then said valve is closed. The admission of steam to the receptacle 1 will maintain the lubricant in a fluid state, heating the same and preventing it from freezing or clogging the ports of the cylinder. The condensed water from the steam floats the lubricant upwardly, and a portion of said lubricant and steam passes through the opening 10 into the needle-valve 11. This valve is adapted to admit certain quantities of lubricant to the sight-glass 12, from whence the steam forces the same upwardly into the T connection 5, and the lubricant passing through the sight-glass is fed into the pipe 3

and may pass to the cylinder or steam-chest to be lubricated. In practice the needle-valve is set to permit drops of lubricant to enter the sight-glass and pass into the pipe 3, the amount of lubricant being ejected from the receptacle depending entirely upon the surface or size of cylinder to be lubricated.

The sight-tube 12 during the operation of the lubricator is partially filled with water, which results from the condensation of steam, and the oil or other lubricant rises through this water and floats on top thereof. The excess of water is drained off through the drainage-passage 11 and the valve-stem 16 is utilized to regulate the rate at which the water will be allowed to escape.

When the lubricator is to be placed out of operation, the valve-stem 16 is manipulated to entirely drain the sight-glass 12 and the valve 21 is manipulated to drain the receptacle 1, and thereby prevent the lubricant from becoming solidified or frozen within the sight-glass or receptacle. It will be noted that the grease or lubricant used in connection with our improved lubricator is maintained in a fluid state or condition during the operation of the lubricator and that the same can be easily and quickly regulated to feed various quantities of lubricant to the cylinder or steam-chest to be oiled.

What we claim, and desire to secure by Letters Patent, is—

1. In a lubricator the combination of a cylindrical receptacle, a steam-pipe passing centrally through said receptacle, an inverted-U-shaped pipe connected to the upper end of said steam-pipe, one leg of said U-shaped pipe extending downwardly alongside said receptacle, a globe-valve connected to the lower end of said leg, said globe-valve being connected with said receptacle, a needle-valve carried by said receptacle, a sight-glass carried by the receptacle and provided with a drainage-passage, a valve-stem controlling said drainage-passage, said sight-glass being in communication with said U-shaped pipe above the upper end of said steam-pipe.

2. In a lubricator the combination with a cylindrical receptacle, of a steam-pipe passing centrally through said receptacle, said receptacle being provided with a radially-disposed enlargement on its bottom, said enlargement having a bore communicating with said steam-pipe and with the interior of the receptacle, a valve-stem adapted to control the passage through said bore, a pipe leading from the upper end of said steam-pipe to the lower end of the receptacle, a globe-valve on said pipe, a needle-valve mounted on the receptacle, and a sight-glass mounted on said receptacle and communicating with the last-named pipe.

3. In a sight-feed lubricator the combination with a receptacle and a pipe passing therethrough, of a U-shaped pipe connected to the first-named pipe above the top of the receptacle, one end of said U-shaped pipe extending downwardly to and communicating with the lower end of the receptacle, a needle-valve carried by the receptacle and a sight-glass mounted on said receptacle and communicating with said U-shaped pipe.

In testimony whereof we affix our signatures in the presence of two witnesses.

JOHN MALOY.
ARCHIE WHITE.

Witnesses:
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E. S. VAUGHN.