

No. 658,596.

Patented Sept. 25, 1900.

W. E. SIMPSON.  
LUBRICATOR.

(Application filed May 23, 1900.)

(No Model.)

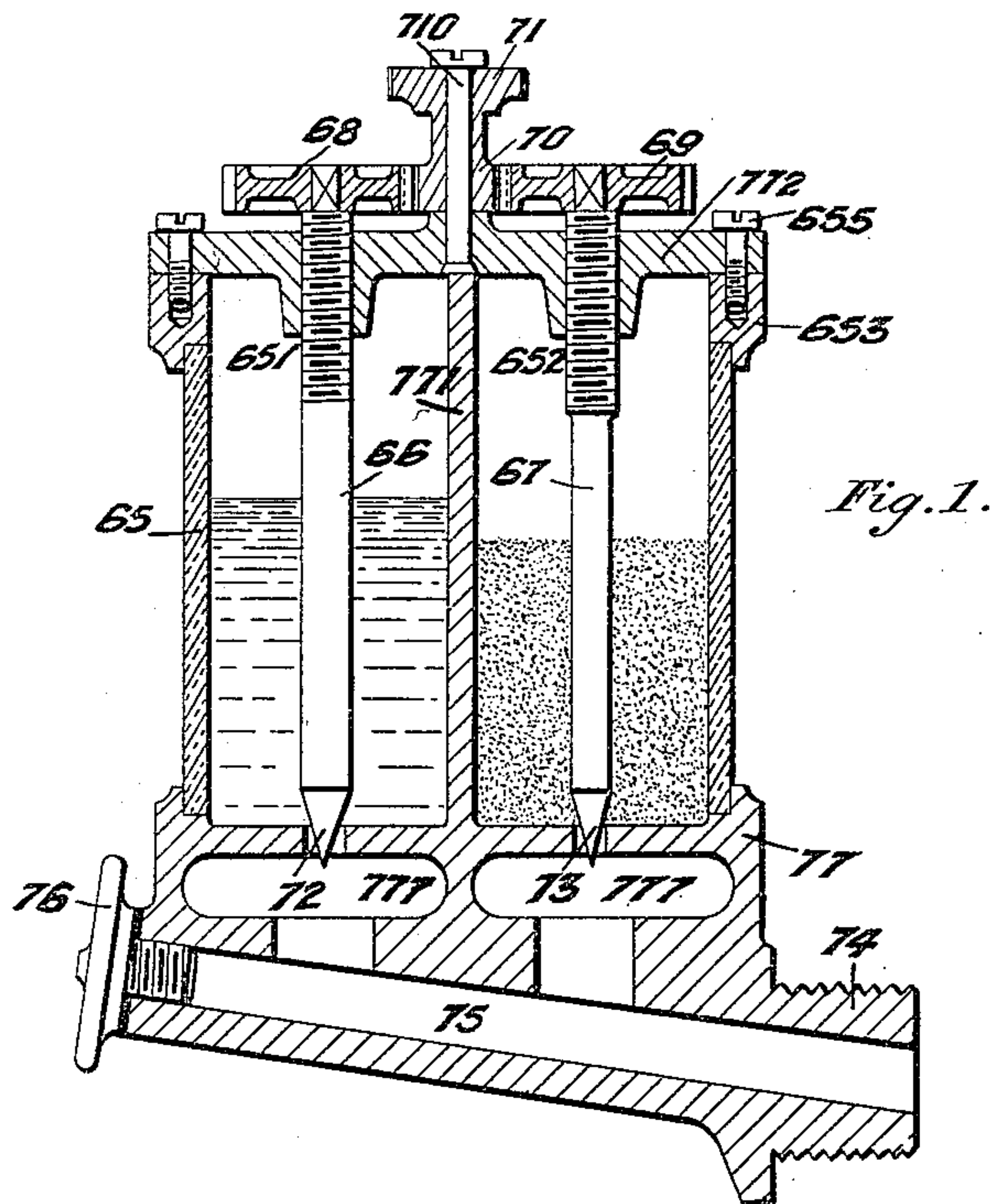


Fig. 1.

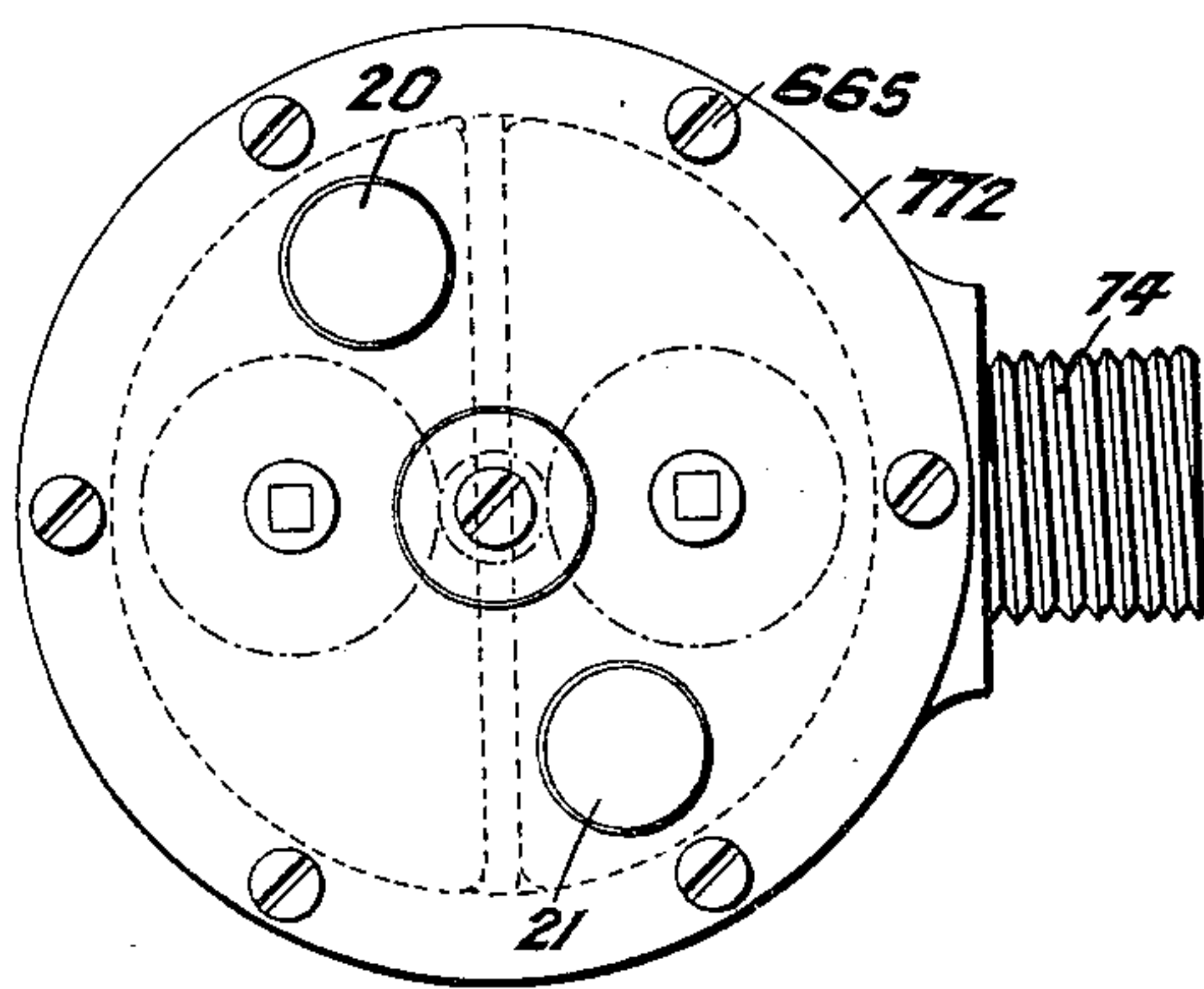


Fig. 2.

Witnesses:  
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Attys

# UNITED STATES PATENT OFFICE.

WILLIAM EDMUND SIMPSON, OF LONDON, ENGLAND.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 658,596, dated September 25, 1900.

Application filed May 23, 1900. Serial No. 17,743. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM EDMUND SIMPSON, a subject of the Queen of England, and a resident of 28 Victoria street, Westminster, London, England, have invented certain new and useful Improvements in Lubricators, (for which I have applied for a patent in Great Britain, No. 12,137, bearing date June 10, 1899,) of which the following is a specification.

This invention relates to lubricators particularly adapted for the hot cylinders of high-speed internal-combustion motors and for lubricating under similar adverse conditions.

It is found that in high-speed internal-combustion motors the trouble experienced in lubrication is practically overcome by adding about ten per cent. of flake-graphite to the usual lubricating oil or grease; but if the amount of graphite be excessive the working parts become clogged.

The object of the present invention is to provide a sight-feed lubricator so constructed that graphite and oil may be supplied in constant proportion, although the supply of mixture may be varied or shut off altogether when not required.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section of a lubricator constructed according to the invention, while Fig. 2 is a plan corresponding thereto.

In carrying the invention into effect, as illustrated in the accompanying drawings, a single cup 65, preferably of glass or transparent material, is fitted upon a base part 77 and is divided into two reservoirs 651 and 652 by means of the vertical partition 771, cast integral with the base part 77, so that thereby one reservoir 651 is formed for oil and another 652 for graphite. The cup 65 is fitted with a rim 653, to which the cover or lid 772 is secured by means of screws 655.

The valves 66 and 67 are preferably of the screw-down or needle type, having screwed stems on which are fixed pinions 68 and 69, gearing with a central pinion 70, having a milled head 71, mounted upon a pin 710, carried by the lid or cover 772.

Outlet-orifices 72 and 73 are provided at the bottom of each of the chambers 651 and 652, through which the oil and graphite, respec-

tively, may pass out, such orifices being controlled by means of the valves 66 and 67.

The lubricants preferably drop into and pass through a single transverse and inclined passage 75 and through a single external screwed portion or shank 74, by which the lubricator is attached to the cylinder, and the lower portion of the lubricator may be provided with plugs, such as 76, or cocks for inspection and clearing of the outlets.

It will be understood that the valves 66 and 67 are lifted on the rotation of the milled head 71 and are lowered on its rotation in the opposite direction.

Each of the reservoirs may be provided with the usual filling-orifices and closed with screwed plugs, such as 20 and 21, and instead of providing a body of glass or transparent material separate tubular glass stems may be fitted to a metal or opaque cup or body, through which the quantities of lubricants in the reservoirs and also the quantities passing through the outlet orifices or valves 72 and 73 may be visible.

As illustrated in the drawings, recesses 777 are provided beneath each of the chambers, and panes of glass or transparent material may form one of the sides to these recesses, so as to permit of the lubricants being visible as they drop into the inclined passage 75.

The feeding of the lubricants may be assisted by the pressure in the cylinder or in the crank-chamber or by other means.

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

1. A lubricator, comprising a body or vessel having two chambers, one for oil the other for graphite, valves controlling the outlets from such chambers, and a transverse passage beneath the chambers, and within the body or vessel into which both the oil and graphite pass upon the opening of the valves, for the purpose and substantially as described.

2. A lubricator, consisting of two chambers, one for oil, the other for graphite, valves controlling the outlets from such chambers, such valves having screwed stems, and pinions at their outer extremities, a central pinion in gear with said pinions, by which the screwed stems of the valves are rotated for the operation of the valves, and a passage beneath the



chambers into which both oil and graphite pass upon the opening of the valves, for the purpose and substantially as described.

3. A lubricator consisting of a base part 77, 5 a cylindrical cup 65, forming with the central partition 771 two chambers, one for oil, the other for graphite, a cover, 772 closing said chambers, screwed needle-valves 66 and 67 carried by said cover, closing orifices in the 10 bottom of each of the chambers, means for rotating the valves 66 and 67 to open or close them, and an inclined passage beneath the chambers, for the purpose and substantially as described.

4. A lubricator, consisting of a base part 77 15 a cylindrical cup 65, forming with the central partition 771 two chambers, one for oil, the other for graphite, a cover 772, closing said chambers, screwed needle-valves 66 and 20 67 carried by said cover, closing orifices in the bottom of each of the chambers, means for rotating the valves 66 and 67 to open or

close them consisting of pinions 68 and 69 and gearing with a central pinion 70, which is provided with a milled head 71, and an in- 25 clined passage beneath the chambers, for the purpose and substantially as described.

5. A lubricator, consisting of two chambers, one for oil, the other for graphite, valves for letting out a constantly-proportioned mixture, 30 and means for simultaneously operating both said valves for the purpose and substantially as described.

6. A lubricator, consisting of two chambers, one for oil, the other for graphite, valves con- 35 trolling outlets from such chambers and positively geared to operate together.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILLIAM EDMUND SIMPSON.

Witnesses:

WILLIAM EDWARD EVANS,  
ANTON PAULI.