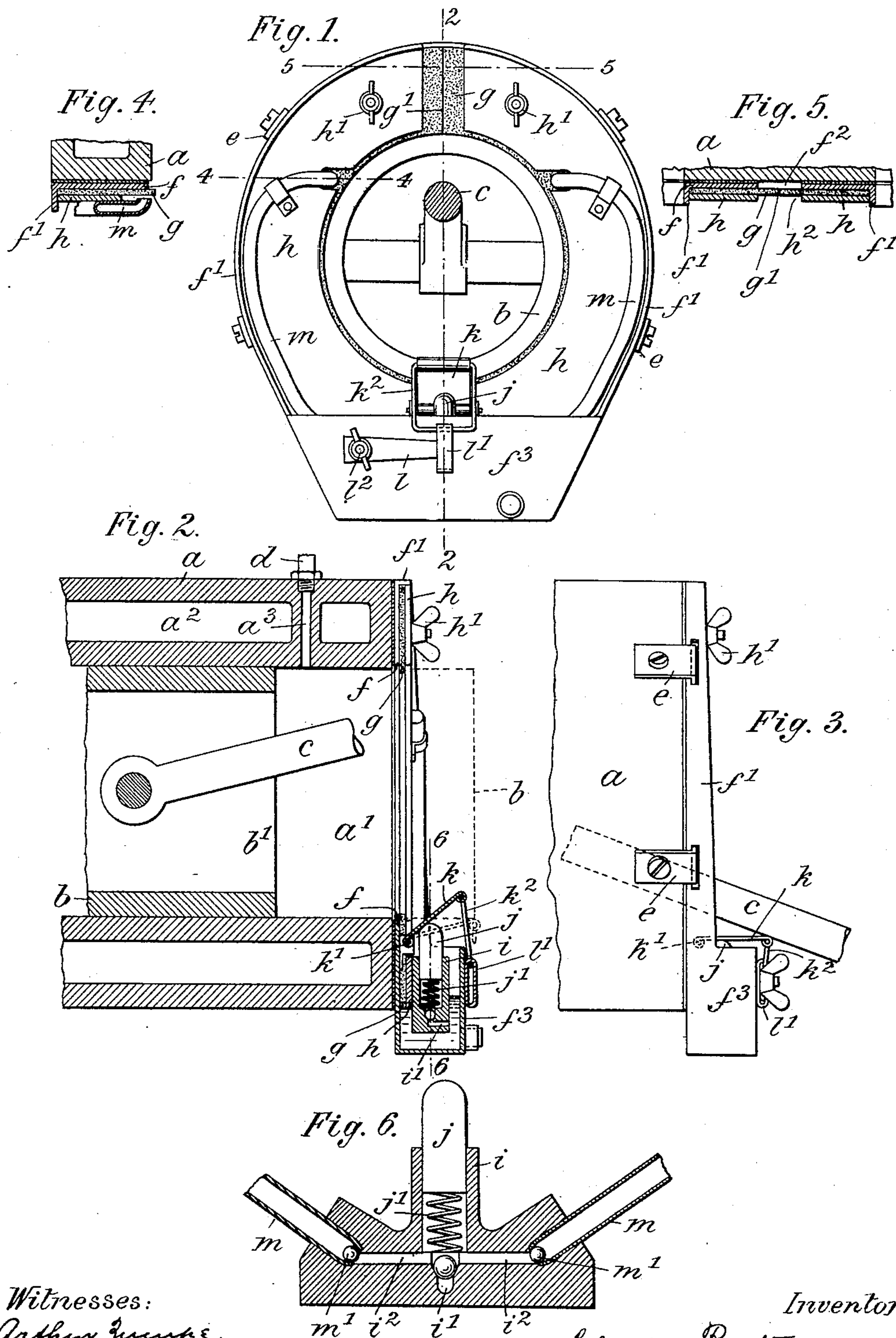


No. 814,082.


PATENTED MAR. 6, 1906.

C. RUTZ.  
LUBRICATOR.

APPLICATION FILED DEC. 12, 1905.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CHARLES RUTZ, OF NEW YORK, N. Y.

## LUBRICATOR.

No. 814,082.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed December 12, 1905. Serial No. 291,407.

*To all whom it may concern:*

Be it known that I, CHARLES RUTZ, a citizen of the United States, residing at New York city, Brooklyn, county of Kings, State of New York, have invented new and useful Improvements in Lubricators for Gas-Engine Cylinders, of which the following is a specification.

This invention relates to a lubricator for the cylinders of gas-engines, which distributes the lubricant uniformly, prevents spluttering, and automatically returns any drippings of the oil.

In the accompanying drawings, Figure 1 is a front view of my improved lubricator, showing it applied to the open end of a gas-engine cylinder; Fig. 2, a longitudinal section on line 2 2, Fig. 1; Fig. 3, a side view of the lubricator; Fig. 4, a section on line 4 4, Fig. 1; Fig. 5, a section on line 5 5, Fig. 1; and Fig. 6 an enlarged section through the lifter on line 6 6, Fig. 2.

The letter *a* indicates the open end of a gas-engine cylinder having annular head *a'*.

*b* indicates the piston, having open end *b'*, while *c* is the driving-rod. The cylinder *a* is provided with the usual water-jacket *a<sup>2</sup>*, through which passes the duct *a<sup>3</sup>* for conveying the lubricant from an oil-feeder *d* to the inner surface of the cylinder.

To the head *a'* is secured by suitable clasps *e* an annular plate *f*, corresponding in shape substantially to that of the head. Against the front of plate *f* is placed a layer of an oil-absorbing material *g*, which is also of annular form and extends beyond the inner edge of plate *f* to cross the path of piston *b*. The layer *g* is held to plate *f* by means of a face-plate *h*, secured to plate *f* by fastenings *h'*. Plates *f h* are slotted, as at *f<sup>2</sup> h<sup>2</sup>*, and layer *g* is cut open within such slots, as at *g'*, so that the device may be passed over piston-rod *c* when the parts are fitted to head *a'*.

A peripheral flange *f'* of plate *f* surrounds absorbent layer *g*, together with plate *h*, and merges at its lower end in a drip-pan *f<sup>3</sup>*. Within this pan is contained the barrel *i* of a pump or lifter, having valve-controlled oil-inlet *i'*, that communicates with the interior of pan *f<sup>3</sup>*. The piston *j* of the pump is normally raised by a spring *j'* and is engaged at its upper end by a hinged lid *k*, fulcrumed to plate *f* at *k'*. To front of lid *k* is hinged an eye *k<sup>2</sup>*, which engages the loop *l'* of a keeper *l*, adjustably secured to pan *f<sup>3</sup>* at *l<sup>2</sup>*. Spring *j'*

normally throws piston *j*, and consequently lid *k*, up, Fig. 2, the length of the upstroke of the piston being determined by the adjustment of keeper *l*. The assemblage of the parts is such that the lid *k* when tilted upward is in the path of piston *b* and also in the path of piston-rod *c* during the return stroke, Fig. 3. In this way two strokes of the pump occur during each complete stroke of piston *b*.

The pump-barrel *i* communicates by ducts *i<sup>2</sup>* with the lower ends of a pair of pipes *m*, controlled by check-valves *m'*. Pipes *m* extend upwardly along face-plate *h* and terminate at their upper open ends opposite the upper part of absorbent layer *g* through suitable openings in plate *h*.

The oil admitted through duct *a<sup>3</sup>* will by piston *b* be partly driven out of head *a'*. This excess of oil instead of scattering will be absorbed by layer *g*, which thus returns it to the piston. Any drippings from layer *g* will accumulate in pan *f<sup>3</sup>*, from whence they will be automatically pumped to the top of layer *g*. In this way a uniform lubrication is effected, objectionable spluttering is avoided, and all waste prevented.

What I claim is—

1. A lubricator for gas-engine cylinders, comprising an absorbent adapted to be secured to the cylinder-head, a drip-pan, and a lifter for returning the lubricant from the pan to the absorbent, substantially as specified.

2. A lubricator for gas-engine cylinders, comprising an absorbent adapted to be secured to the cylinder-head, a drip-pan, a communicating pump, and a pipe leading from the pump to the upper part of the absorbent, substantially as specified.

3. A lubricator for gas-engine cylinders, comprising an annular plate, an absorbent projecting inwardly beyond the same, a drip-pan, a communicating pump, and a pipe leading from the pump to the upper part of the absorbent, substantially as specified.

4. A lubricator for gas-engine cylinders, comprising an absorbent adapted to be secured to the cylinder-head, a drip-pan, and means actuated by the piston of the engine for returning the lubricant from the drip-pan to the upper part of the absorbent, substantially as specified.

5. A lubricator for gas-engine cylinders, comprising an absorbent adapted to be secured to the cylinder-head, a drip-pan, and means actuated by the piston-rod of the en-

gine for conveying the lubricant from the drip-pan to the upper part of the absorbent, substantially as specified.

6. A lubricator for gas-engine cylinders, 5 comprising an absorbent adapted to be secured to the cylinder-head, a drip-pan, a communicating lifter, and a hinged lid for actuating the lifter, substantially as specified.

7. A lubricator for gas-engine cylinders, 10 comprising an absorbent adapted to be secured to the cylinder-head, a drip-pan, a communicating lifter, a hinged lid for actuating the lifter, and an adjustable keeper controlling the lid, substantially as specified.

15 8. A lubricator for gas-engine cylinders,

comprising a flanged annular plate, an absorbent secured thereto, a drip-pan, a communicating lifter, a pipe leading from the lifter to the upper part of the absorbent, a hinged lid for actuating the lifter, and an adjustable keeper controlling the lid, substantially as specified. 20

Signed by me at New York city, (Manhattan,) New York, this 11th day of December, 1905.

CHARLES RUTZ.

Witnesses:

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