

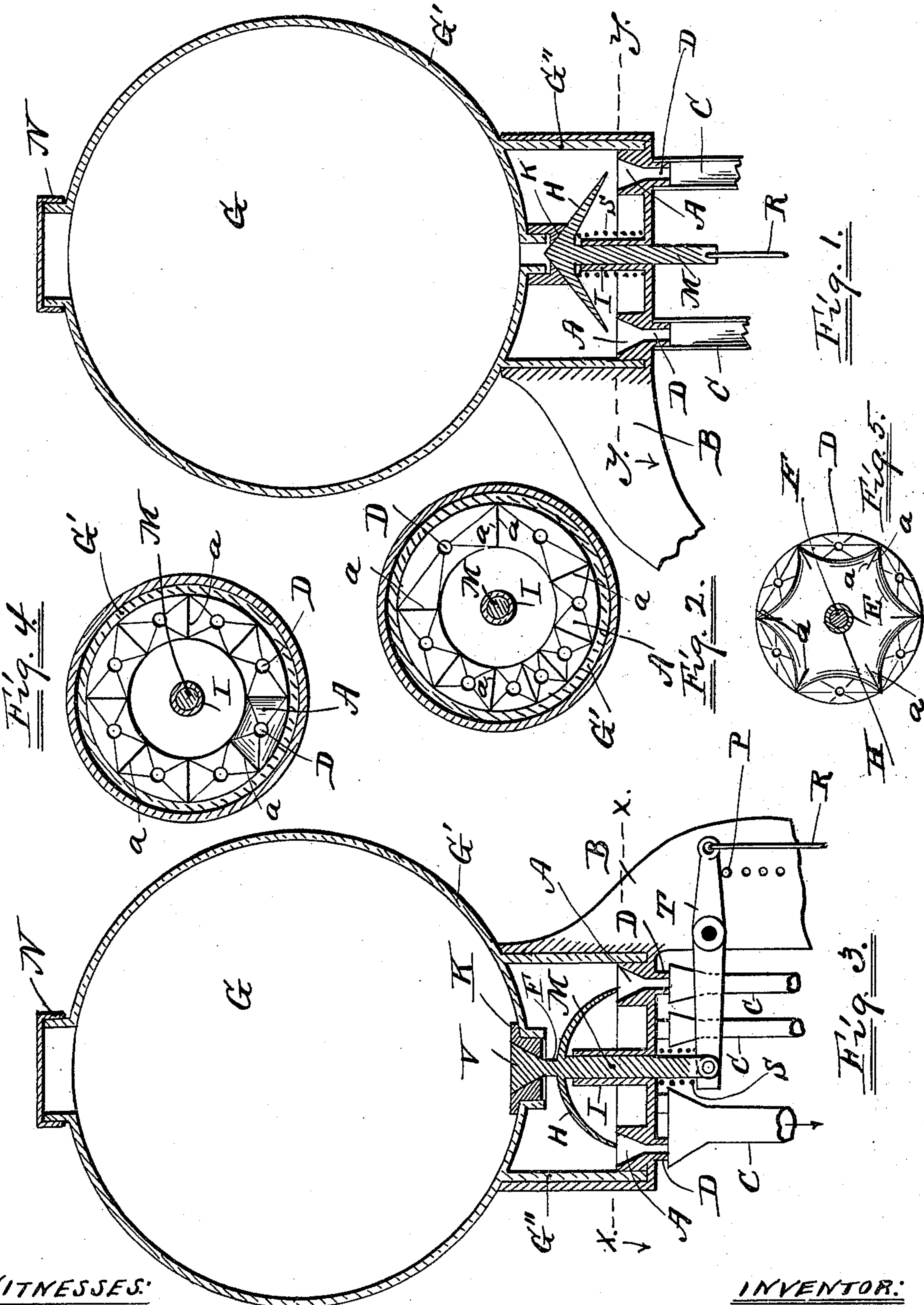
No. 617,554.

Patented Jan. 10, 1899.

W. H. BIGELOW.
LUBRICATOR.

(Application filed July 13, 1897.)

(No Model.)



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LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 617,554, dated January 10, 1899.

Application filed July 13, 1897. Serial No. 644,464. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BIGELOW, a citizen of the United States, residing at Tarpon Springs, in the county of Hillsborough, in the State of Florida, have invented certain new and useful Improvements in Lubricators, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to lubricators which are designed to supply a liquid lubricant to the working parts of a machine and is of that class in which the lubricant is conveyed to a plurality of journal-bearings from a single point.

The objects of my invention are, first, to so divide the lubricant that each and every journal-bearing shall receive a portion of it, and, second, to so apportion the lubricant that journal-bearings of different dimensions and requirements as to lubricant shall receive different and suitable portions of it.

In the accompanying drawings, Figure 1 is a central vertical section of a lubricator embodying my invention. Fig. 2 is a horizontal section of the lubricator on the line *y y* of Fig. 1. Fig. 3 is a central vertical section of another lubricator embodying my invention in a modified form. Fig. 4 is a horizontal section of the lubricator shown in Fig. 3 on the line *x x*. Fig. 5 is a top plan view, sectional through guide F of Fig. 3, of the table H in a modified form.

Like letters denote corresponding parts. In the drawings, G is a receptacle for the lubricant, preferably made of glass, (indicated by G',) and G'' is a cylindrical base integral with it.

N is a cap covering the opening at which the receptacle is filled.

B is a bracket-supporting cup. At the bottom of the cup and integral with it are pockets A A and ducts D D.

C C are conduits which conduct the liquid from the ducts to the journal-bearings.

H is a dome upon which the lubricant is delivered from the receptacle and whose horizontal base circumference overhangs the pockets A A.

M is a standard integral with H, which moves vertically within the guide I.

K is a valve-seat.

S is a spiral spring which closes the valve, and R is a cord upon which a downward pull opens the valve. *a a a* are radial partitions between the pockets.

In Fig. 1, H is a hollow cone with a vertical axis and horizontal base. The apex and upper part of this cone in the valve-seat K forms the supply-valve. The apex of the cone is always (whether the valve is open or closed) above the port of the valve and always wholly within the valve-seat K.

Referring to Figs. 1 and 2, it is apparent that the pockets when taken in connection with the overhanging base circumference of H subtend unequal segments of said circumference and therefore receive unequal portions of the drip from H, and that pockets which subtend the greater segments receive the greater portions of the lubricant, and these greater portions are conveyed through ducts and conduits to journal-bearings requiring the larger allowances, while the receipts from pockets which subtend lesser segments will go to bearings which require less lubricant. It is obvious that in this manner with accurate construction each modicum of liquid delivered through the valve may be apportioned among a number of journal-bearings in proportion to their several requirements, and, further, that all bearings connected with pockets receive some portion of the modicum.

In Fig. 3 the dome H is a section of a hollow sphere with vertical axis and horizontal base. V is a cone-valve in its seat K, and F is a cylinder which serves as a guide to the lubricant when being delivered upon the table H, and, in combination with the valve-port, which is circular, causes the lubricant when it is being delivered upon the dome H to assume a pipe shape, whose horizontal cross-section is annular. Instead of a cylinder a frustum of a cone or other form may be put in the center of the valve-port, the object being to shape the escaping lubricant into annular form in horizontal cross-section. F, K, V, H, and M have one and the same vertical axis. In the lubricator shown in Fig. 3 a lever T is employed to open the supply-valve, and in the bracket at T are pin-holes adapted to receive a pin, and thereby graduate the opening of the supply-valve.

In the lubricator shown in Figs. 3 and 4 each of the pockets subtend an equal segment of the overhanging base circumference of the dome H, and therefore each receives an equal share of the modicum of liquid when delivered through the valve upon H, and, through its own proper duct and conduit, conveys it to its allotted bearing. In this construction if an unequal and larger portion is desired it can be secured by joining the receipts of two or more pockets, as shown in Fig. 3, where two ducts lead into one conduit.

For the dome in Fig. 3 either a section of a hollow cone or section of a hollow spheroid may be substituted for the section of a hollow sphere.

For the dome in Fig. 1 either a section of a hollow sphere or section of a hollow spheroid may be substituted for the section of a hollow cone, and the dome H in Fig. 1, or either of its substitutes, may be provided with a cylindrical guide like F in Fig. 3.

In Fig. 5 the dome is concaved near the base and the number of valleys are separated from each other by ridges along meridian lines *a a a*, at which points ridges or partitions are located. These valleys serve as conduits to pockets which have ducts D, and these pockets and ducts are integral with the dome H and not integral with the bracket-cup, as shown in the other drawings.

It is manifest that the lubricators shown in Figs. 1 and 3 may be so modified in their construction that the partitions which divide the lubricant at or near the base circumfer-

ence of the dome H shall be integral with said dome, and that the pockets also shall be integral with the dome and as well the ducts, and these may be the preferable forms of my invention.

E shows the form which the lubricant assumes around about the cylindrical guide F when the valve is opened, and the lubricant assumes a like annular form below the ports of the valves around about all the domes shown in the drawings.

In the lubricator shown in Fig. 1 the extent of the opening of the supply-valve is limited by the shoulder at the top of the guide I.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In combination, the reservoir, having the supply-opening leading therefrom, the series of conduits, the dome having a valve portion, means for moving the dome to open the valve and the spring for returning the dome to a closed position.

2. In combination, the reservoir, the dome below the same having the cylindrical part F at its apex and the valve portion V closing downwardly, the said dome and valve being movable, and the conduits for receiving the lubricant from the dome, the said cylindrical part F passing through the port leading from the reservoir, substantially as described.

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Witnesses:

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