

(No Model.)

E. W. LONG
OIL CUP.

No. 537,051.

Patented Apr. 9, 1895.

Fig. 1.

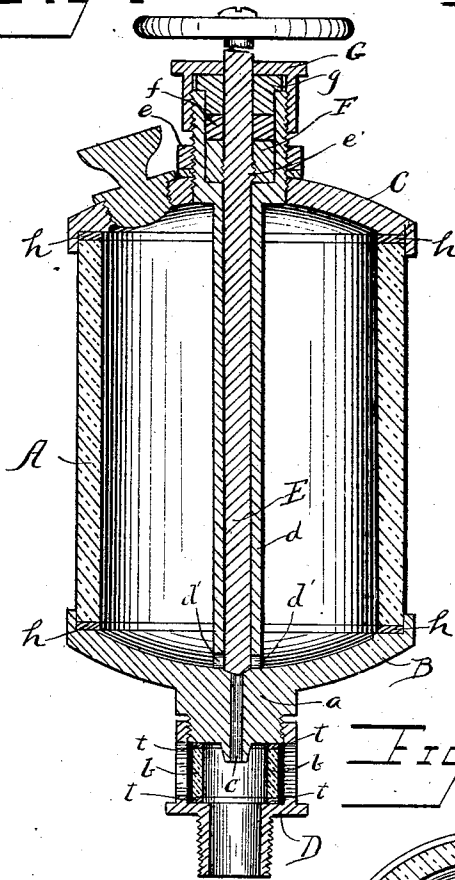


Fig. 2.

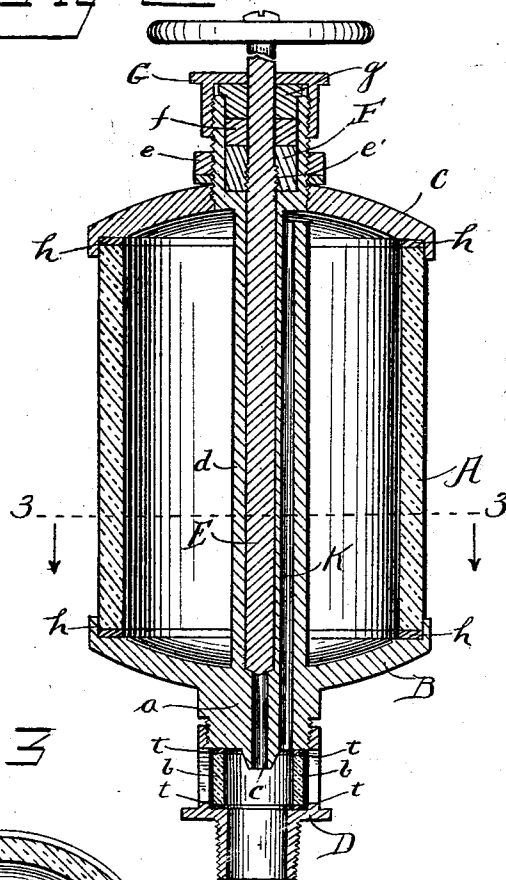
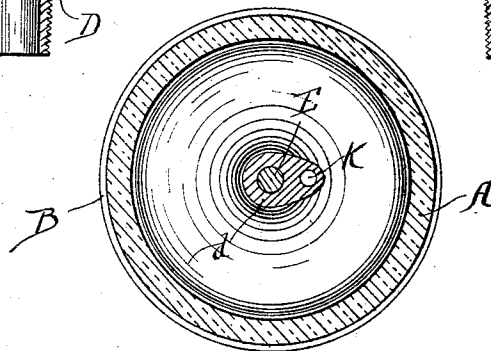


Fig. 3.



Witnesses
Louis S. Thomason, Eben Wilmer Long
Theo. B. Heller, by his attorney,
Frank D. Thomason

UNITED STATES PATENT OFFICE.

EBEN WILMER LONG, OF CHICAGO, ILLINOIS.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 537,051, dated April 9, 1895.

Application filed August 30, 1894. Serial No. 521,758. (No model.)

To all whom it may concern:

Be it known that I, EBEN WILMER LONG, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Oil-Cups, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of my invention is to provide an oil cup of simple construction from which the flow of oil can be easily and perfectly controlled by so constructing the said cup that the pressure of the gases generated by the machine will be equal both above the oil and against its discharge; substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a transverse vertical central section therethrough. Fig. 3 is also a vertical transverse central section through the same, but taken on a plane at right angles to that at which Fig. 1 is taken.

In the drawings A represents glass or metal cylindric sides of the oil cup. B represents the base supporting the same, and C represents the head thereof.

The shape of both the base B and the head C is, preferably, saucer-shaped; the former having its concave side face upward, and the latter having its concave side face downward. Both the base B and head C correspond, preferably, in diameter, and are greater in circumference than the cylindrical sides A, and their edges are rabbeted, as shown, to form seats for the annular end edges of said side A, as shown.

The base B is provided with an integral boss *a* depending centrally downward therefrom, which has its lower end screw-threaded so as to screw into the upper end of a coupling D, by means of which the oil cup is attached to the machine. The lower portion of this coupling is reduced to less than the diameter of its upper part, thus providing a seat in the said upper part thereof for the glass cylinder *b*, which latter has its end edges protected by suitable packing rings *t*, and is

clamped in position tightly against the lower end of the boss *a*, as shown. Extending down centrally through the center of the base and boss thereof is a passage *c* which discharges into the "distributing chamber" inclosed within said cylinder *b*.

Made integral with and projecting centrally up from the base B concentric with passage *c* is a tube *d*, the bore of which is slightly greater in diameter than the passage *c*, and which has lateral inlets *d'* just above the plane of the base B near its base. This tube extends vertically upward through the head C but the diameter of both its inner and outer circumference is increased above the point where it enters and passes upward through said head. The outer circumference of the wider upper end of the tube is screw-threaded so as to receive the nut *e*, by tightening which the sides A, head C and base B are assembled and held rigidly together. Passing vertically and longitudinally through the tube *d* is a valve-rod E, which has a suitable handgrasp secured to its upper end, and has its lower end tapered or made conical so as to rest in and close the correspondingly countersunk end of the passage *c*, when desired. At a point on rod E when it is in position to close passage *c*, coming just above the upper end of the narrower portion of the tube *d*, I provide said rod with a screw-thread *e'*. This screw-thread meshes with the female screw of the bore of the bushing F, placed, as shown in the drawings, in the upper wider end of the tube, and above this bushing is a packing *f* of suitable material, which is held in place by the plug *g*, which (latter) is confined in place by a cap G screwed down over the upper enlarged extremity of tube *d*, as shown.

In order to supply the oil to the chamber of the oil cup inclosed by the sides A, head C and base B, I provide the head with a suitable opening *h* which may be closed by a stopper H, or may have an oil pump of the usual construction through which the oil may be pumped into the oil chamber without permitting any gas to escape therefrom. When the cup is thus filled with oil, the passage is opened by turning the valve-rod in the right direc-

tion. This at the same time opens the inlets d' in the tube d , and permits the oil to gravitate out of the oil chamber into the distributing chamber through passage c , from whence
 5 it is distributed to the parts of the mechanism needing lubrication. This flow of oil from the cup would soon stop unless the pressure, atmospheric, gaseous or otherwise was equal
 10 both against the upper surface of the body of oil in the oil cup proper, and against the oil being discharged so as to leave the action of gravity to equally exert itself on said oil all the time. I obtain this most desirable result
 15 by providing tube d with a longitudinal port, which extends from the distributing chamber up through the base B into and through the tube to a point immediately under the head C, where it is provided with a lateral opening
 20 k and thus bring into communication both the distributing chamber and the oil chamber. Now it will be apparent that, no matter how great the pressure of gaseous, vaporous or atmospheric pressure generated in the mechanism to which the oil cup is applied, which
 25 finds its way, either by design or accidentally into the oil cup, the pressure is alike both above and below the oil, and gravity is free to

exert itself at all times on the oil to regulate the flow thereof.

What I claim as new is—

In an oil cup, a head having a central screw-threaded opening, and a suitably closed opening alongside the same, the cylindrical sides, and a base B having a central boss extending
 30 down therefrom which is provided with a central passage c , and having an integral tube d projecting vertically therefrom concentric with said passage with which it communicates; said tube having inlets d' near its base, and having a longitudinal port that is provided
 35 with a lateral outlet into the oil chamber near its top and extends down into a distributing chamber, and said tube having its upper portion increased in diameter and the exterior thereof screw-threaded, nut e , cap G,
 40 plug g , and packing E, in combination with a valve-rod extending longitudinally down through said tube as far as passage c and having a limited longitudinal movement, and said distributing chamber, as set forth.

EBEN WILMER LONG.

Witnesses:

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 FRANK D. THOMASON.