

(No Model.)

N. J. H. DUNCAN.
LUBRICATOR.

No. 506,308.

Patented Oct. 10, 1893.

Fig: 1.

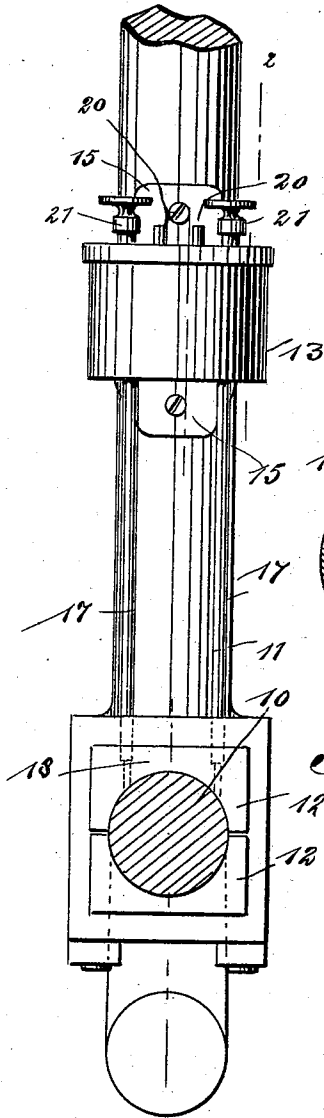


Fig: 2.

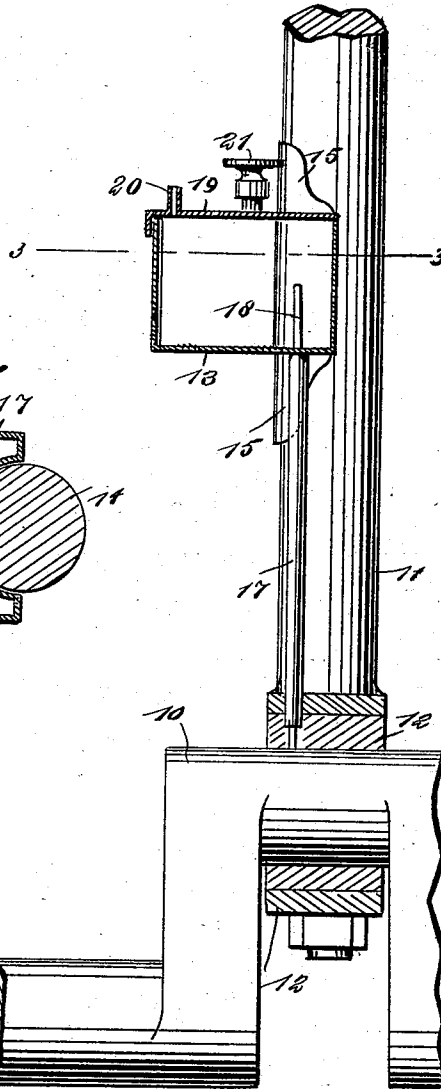


Fig: 3.

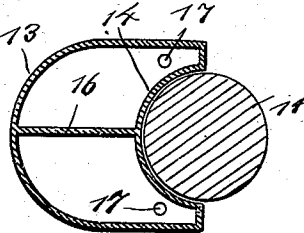
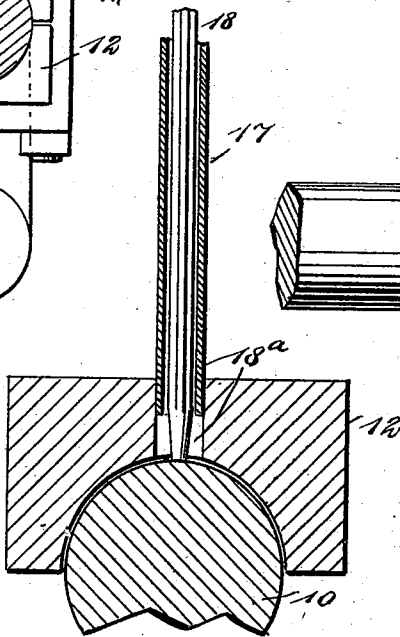


Fig: 4.



WITNESSES:

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NATHANIEL J. H. DUNCAN, OF PARKVILLE, MARYLAND.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 506,308, dated October 10, 1893.

Application filed September 2, 1892. Serial No. 444,881. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL J. H. DUNCAN, of Parkville, in the county of Baltimore and State of Maryland, have invented a new and Improved Grease-Cup, of which the following is a full, clear, and exact description.

My invention relates to improvements in oilers, and especially to that variety of oilers which are intended for use in oiling the crank pins of engines. It is well known that the condition of the oil varies with the temperature of the engine room, and that the amount of oil necessary to oil the crank pin varies with the speed of the crank.

The object of my invention is to produce a simple and efficient oiler which may be applied to the connecting rod and crank of the engine, and which will automatically deliver just the right quantity of oil to the crank without regard to the speed of the engine or the temperature of the oil.

To this end, my invention consists in an oiler, the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the oiler as applied to a connecting rod and crank. Fig. 2 is a vertical section on the line 2—2 in Fig. 1. Fig. 3 is a sectional plan on the line 3—3 in Fig. 2; and Fig. 4 is an enlarged detail sectional view of one of the oil tubes, its contained plunger, and the connection between the plunger and tube and the crank.

The crank 10, is of the usual kind, and connects in the ordinary way with the connecting rod 11, the crank being held in the ordinary brasses or boxes 12. The oiler has a reservoir 13, which has a concave back side 14, shaped to fit the connecting rod 11, and the back wall of the reservoir is formed into an elongated flange or plate 15, which is screwed firmly to the connecting rod 11. The reservoir 13 may be of any suitable material, but for large oilers it is preferably cast so as to make it strong and cheap. The reservoir is divided vertically by a partition 16, which thus forms two compartments adapted to contain grease and this arrangement prevents the too rapid outflow of the grease. Opening

from the bottom of each compartment is a tube 17, which leads downward into the upper box 12 of the crank, and in this tube is a plunger 18, which is preferably of hexagonal or octagonal section, and which in any event should have flat sides so as to facilitate the flow of grease. This plunger extends well up into the reservoir 13, and its lower end extends downward through a recess or hole 18^a in the box 12 and rests on the crank 10. The plunger and tube thus form a simple pump, and the revolution of the crank causes the plunger to be thrown up and down, and this action creates sufficient suction in the tube 17 to make the grease flow readily downward through the tube. It will be understood that when the movement of the crank is relatively slow, the movement of the plunger will be correspondingly slow and but little grease will be supplied, and if the crank moves very fast, as when the engines are racing, the plunger will move correspondingly fast and a large supply of grease will be directed upon the crank. It will be seen then that without regard to the speed, just the right quantity of grease will be supplied, and if the grease becomes thick and creamy, the plunger will act upon it so as to cause it to be fed through the tube 17.

The reservoir 13 is provided with a suitable cover 19 which fits tightly thereon, and this cover is provided with air vents 20, which enable the reservoir to be easily filled, and the cover has also suitable holes for grease which are closed by screw caps 21 of the usual kind.

From the foregoing description it will be seen that this oiler may be easily applied to any engine, and that by its use the grease will be supplied in correct quantities to the crank. This enables the crank to run easily, and it also effects a large saving of grease.

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

1. An oiler, comprising a compartment reservoir having a concave back and provided with securing flanges and with a tube projecting from the bottom of each compartment, and plungers fitting loosely in said tubes, substantially as described.

2. The combination, with the connecting rod and crank, of an oiler having a concave back wall to fit the connecting rod and adapt-

ed to be fastened to the same, tubes leading from the reservoir to the box of the crank, and reciprocating plungers held within the tubes and adapted to rest upon the crank, substantially as described.

- 5 3. The combination, with the connecting rod and crank, of a divided grease reservoir adapted to be secured to the connecting rod, tubes leading from the several compartments of the reservoir and into the box of the crank, and reciprocating plungers held to slide in the tubes and rest upon the crank, substantially as described.

4. The combination, with the connecting rod and crank, of a reservoir having a plurality of compartments and a concave back wall to fit the connecting rod, means for fastening the reservoir to the connecting rod, tubes leading from the compartments of the reservoir to the crank box, and sliding plungers held within the tubes and adapted to rest upon the crank, substantially as described.

NATHANIEL J. H. DUNCAN.

Witnesses:

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