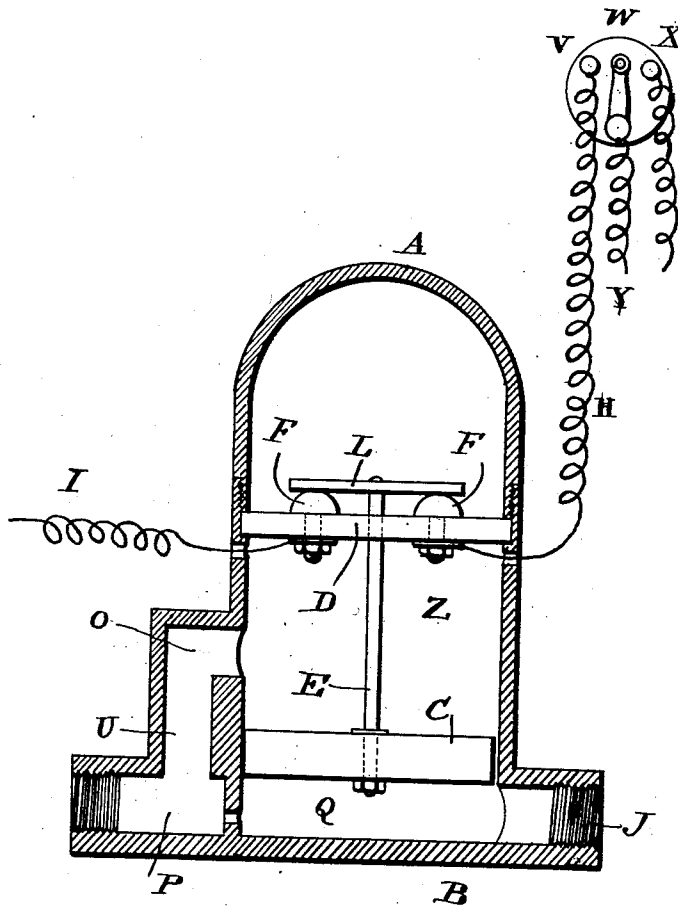


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 AUTOMATIC STOPPING DEVICE.
 APPLICATION FILED NOV. 17, 1913.

1,132,791.

Patented Mar. 23, 1915.



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JOSEPH PAGANO, OF MEMPHIS, TENNESSEE.

AUTOMATIC STOPPING DEVICE.

1,132,791.

Specification of Letters Patent.

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Application filed November 17, 1913. Serial No. 801,562.

To all whom it may concern:

Be it known that I, JOSEPH PAGANO, a resident of Memphis, Shelby county, Tennessee, have invented a new and useful Improvement in Automatic Stopping Devices, of which the following is a specification.

My invention relates to a device for short circuiting the sparking circuit and thereby automatically stopping a gasoline engine equipped with a pump oiling system when the oil in the crank-case becomes so low, or when the pump becomes so defective, as to prevent the further running of the engine without an impairment of its efficiency and a probable break-down through improper lubrication. This is accomplished by providing for automatically short circuiting or grounding the current to the sparking device, which in turn prevents the explosion of the mixture in the cylinders.

The objects of my invention are to prevent the cylinders from becoming too dry; to prevent the carbonization of cylinders through improper lubrication; and to give the operator of the machine immediate notice of imperfect lubrication, by stopping his engine. I attain these objects by the device illustrated in the accompanying drawings in which the figure is a vertical sectional view of a stopping device made in accordance with my invention.

A is a casting or chamber which screws into the walls of casting B providing the chamber Z; both castings A and B may be made of any suitable metal, but I prefer to have them cast of brass or aluminum.

D is a cylindrical washer or partition made of a non-conducting composition, preferably fiber, and rests on the shoulder carried by casting B as shown.

F, F are brass contact screws bolted to the cylindrical partition or washer D, one being placed on each side of the center as illustrated.

C is an oil float which moves freely upward and downward in chamber Z. This float is connected by a rod or stem E with a disk L, said disk must be of sufficient dimensions to touch or cover both contact screws F F when in its lowest position, and must be made of some conducting metal, preferably copper.

J is a connection with the oil pipe nearest the pump, through which the oil passes beneath the piston float C and into the chamber Z; P represents the connection between

casting B and the oil pipe leading to the bearings of the engine.

O is an aperture in the wall of the lower casting B through which the oil escapes into the chamber U, whence it passes through connection P to the engine bearings.

The short circuiting or grounding switch is of a triple contact type being provided with the contacts V and X, and the lever S. One of the contacts F carried by the disk D is connected by a wire H to the contact V on the short circuiting switch; the lever S is connected by wire Y to a magneto or other source of current supplying the ignition circuit, not shown; and the contact X is connected by the third wire shown to the crank case or other portion of the engine frame or to the ground. A wire I leading from the other contact F on disk L is also connected with the ground or to said engine frame. The wire Y and lever S being in the ignition circuit, and the contact X being connected to the ground, as well as the contact V when the disk L connects the contacts F F, it is evident that the wire Y will be grounded and the ignition stopped when the lever S connects with contact X, and also when it connects with contact V provided the disk L connects the contacts F F.

In engines equipped with pump devices, all oil may drain out of the chamber Z through hole Q when the pump is not running. To start the engine, contacts F F are first cut out of the circuit by turning the switch handle S to the neutral contact point W. After the engine has been spun sufficiently to get up circulation of oil through the pump and into chamber Z, the contacts F F are then connected with the magneto or batteries by turning the switch handle to contact point V. The oil is introduced from the pump through the connection J, and as the oil rises in chamber Z it carries with it float C, which breaks the contact between disk L and the said contacts F F. The oil passing freely into the chamber Z, passes out at O, through chamber U, through passage P to the parts to be lubricated. If the oil level is lowered beyond the safety line, the float C lowers with the level, and finally at the danger point makes a contact between disk L and contact screws F F, which short circuits or grounds the current to the sparking device, and the engine automatically stops. If the pump becomes weak or defective, and does not throw enough oil to prop-

erly lubricate the parts, the flow through passage J will be diminished, and hence a longer time will be consumed in filling the chamber Z.

- 5 Q is a small drain hole through the wall of the casting B. By making this hole Q smaller than the intake J, a short circuit of the ignition current becomes impossible as long as the pump is doing efficient work.
- 10 When however, the pump becomes weak, there will be a smaller quantity of oil introduced into the chamber Z, so that which is pumped in will drain out through hole Q causing the float to drop, the circuit short
- 15 circuited, and the engine to automatically stop, as hereinbefore described.

It is obvious that those skilled in the art may vary the details of construction as well as the arrangement of parts, without departing from the spirit of my invention and therefore I do not wish to be limited to the above disclosure, except as may be required by the claims.

What I claim is:

- 25 1. In a short circuiting device for explosive engines having ignition circuits the combination of a chamber for oil provided with an inlet, an outlet, and a drain opening into said outlet of a less capacity than
- 30 said inlet; a float in said chamber; contacts adapted to be controlled by said float; and short circuiting connections for the ignition circuit joined to said contacts, substantially as described.
- 35 2. In a short circuiting device for explo-

sive engines having ignition circuits the combination of a chamber provided with a float, an inlet, an outlet and a drain opening coacting with said float; a support within said chamber provided with a pair of 40 contacts; a ground connection for one of said contacts; a connection between the other of said contacts and said ignition circuit; means carried by said float for joining 45 said contacts and grounding said ignition circuit when said float reaches a predetermined position; and means comprising a switch for breaking said last mentioned connection and cutting out said contacts when it is desired to start the engine, substantially 50 as described.

3. In a short circuiting device for engines having ignition circuits, the combination of a chamber adapted to contain the lubricating oil for the engine; an inlet for said 55 oil adapted to be connected with a pump; an outlet for said oil adapted to be connected with the lubricating system; a drain from said chamber into said outlet having a capacity less than that of said inlet; a float; 60 contacts controlled by said float; and connections with said contacts adapted when said float is in a predetermined position to short circuit the current through said ignition circuit, substantially as described.

JOSEPH PAGANO.

Witnesses:

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