July 15, 1930. A. J. GELINO 1,770,642

CRANK CASE OIL HEATER

Filed May 15, 1929

Fig. 1.

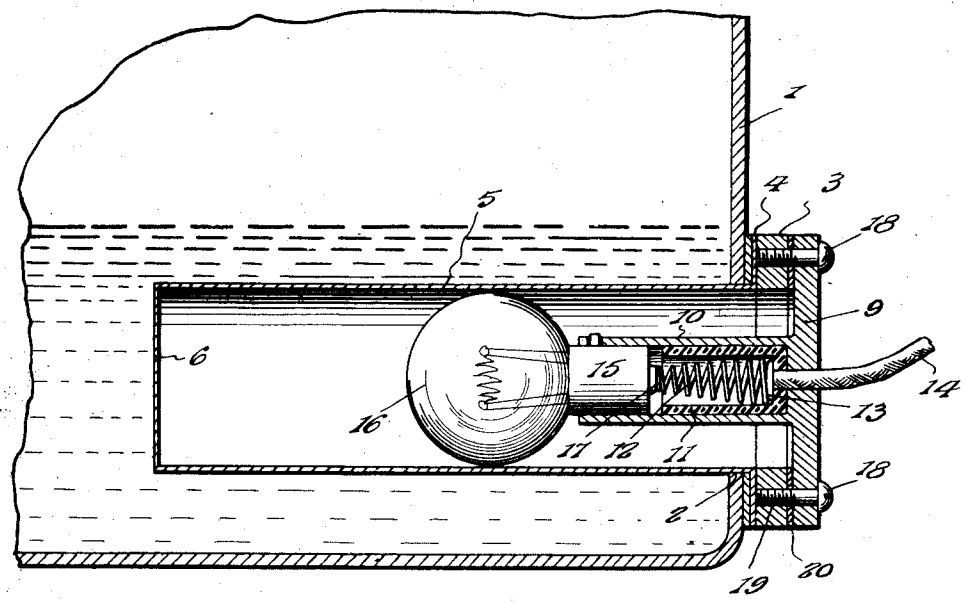


Fig. 2.

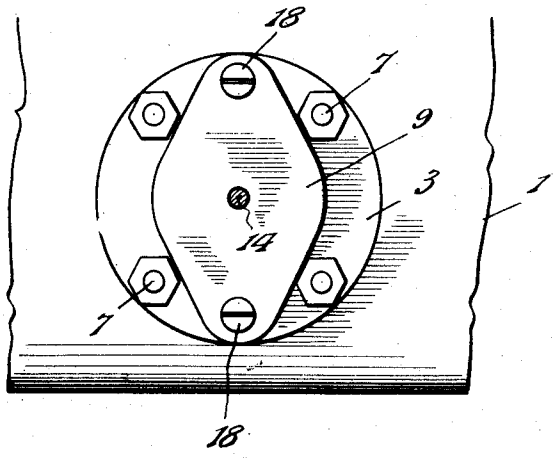
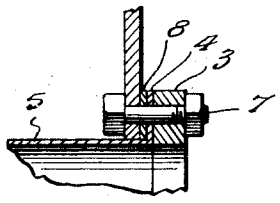


Fig. 3.



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CRANK-CASE OIL HEATER

Application filed May 15, 1929. Serial No. 363,373.

The present invention is directed to improvements in crank case oil heaters.

The primary object of the invention is to provide a device of this character adapted to be connected with the crank case of an internal combustion engine in order that the oil therein will be maintained at the proper consistency.

Another object of the invention is to provide a device of this character which can be easily and quickly applied to the crank case of a motor already in use, or can be applied thereto at the factory.

Another object of the invention is to provide a device of this character which is exceedingly simple in construction, efficient in operation, durable, and one which can be manufactured at a very small cost.

Another object of the invention is to provide a device of this character wherein an incandescent bulb can be used for the heating medium and it has been found from actual practice that such a bulb will effectively heat the oil and maintain the same at the proper consistency, and without the danger of overheating.

Another object of the invention is to provide a device of this character which, when in position, will maintain the oil in the crank case at the proper consistency so that the flow thereof will not be impeded, thus insuring that the oil will be properly distributed immediately upon starting the motor in cold weather.

With these and other objects in view, this invention resides in the novel features of construction, formation, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 is a longitudinal sectional view through the heater, showing the same in place.

Figure 2 is an end view thereof.

Figure 3 is a detail sectional view.

Referring to the drawing, 1 designates a section of a conventional form of crank case having an opening 2 formed therein.

The heater comprises a ring 3 which is adapted to engage the out turned flange 4 carried by the outer end of the casing 5, said casing being formed of copper and being preferably circular in cross section and having its inner end provided with a closure 6. The ring 3 is secured to the crank case by bolts 7 which will obviously clamp the flange tightly against the crank case and, if desired, a gasket 8 may be interposed between the flange and crank case wall to prevent any possibility of leakage.

A cap plate 9 is provided and is of elongated formation, as more clearly shown in Figure 2, said plate having carried thereby a socket member 10 in which is mounted a fiber insulating sleeve 11, said sleeve having a contact spring 12 mounted therein which has its outer end bearing against the contact 13 of the conductor 14, said conductor being furnished with current from the battery of the automobile. Engageable in the socket member 10 is the stem 15 of the incandescent bulb 16, said stem having its contact 17 engaged with the inner end of the spring 12 to complete the circuit. In order to hold the cap plate 9 firmly engaged with the ring and to close the opening thereof, screws 18 are provided and are passable through the cap plate and engaged in the openings 19 formed in the ring, as more clearly shown in Figure 1 of the drawing. If desired, a gasket 20 may be interposed between the ring and cap plate 9 to positively prevent leakage.

It will be obvious that upon removal of the screws that the cap plate 9 can be conveniently removed in order that a burnt out bulb can be readily replaced and without disturbing or in any way interfering with the securement of the ring 3.

I have illustrated the socket member 10 as forming an integral part of the cap plate 9 but it will, of course, be understood that this can be a separable part and welded to the plate, if desired.

It has been found from actual practice that a bulb of thirty-two candle power will effectively heat the oil within the crank case sufficiently to maintain the same at a consistency which will immediately start circulation upon imparting movement to the motor.

thereby permitting the motor to be readily started in cold weather.

From the foregoing, it is thought that the operation and many advantages of the herein described invention will be apparent to those skilled in the art without further description and it will be understood that various changes in the size, shape, proportions and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:

1. The combination with the crank case of an internal combustion engine having an opening therein, of a casing engageable in the opening and extended into the crank case, a ring for holding the casing within the opening, means for securing the ring to the crank case, a cap plate having a socket member carried thereby, a heating element carried by the socket, said socket member and heating element being insertable and removable through the opening of the ring without disturbing said casing, and means for removably securing the cap plate to the ring.

2. The combination with the crank case of an internal combustion engine having an opening therein, of a casing having a closed end, said casing extending into the crank case and having a flange upon its outer end for engagement with the exterior surface of the crank case wall, a ring bolted to the crank case for holding the flange engaged therewith, a cap plate having a socket member carried thereby, a heating element removably engaged in the socket, said socket member and heating element being passable through the opening of the ring into and out of said casing without disturbing said casing, and bolts passable through the cap plate and engaged in the ring for removably holding the socket extended into the casing.

3. The combination with the crank case of an internal combustion engine having a casing extending thereinto, of a ring engageable with the casing for holding the same in proper position within the crank case, a cap plate having a socket member carried thereby, a spring contact in the socket, an incandescent bulb engaged with the socket and contact, a terminal head engaged with the contact, means for conducting electricity to the contact head, said bulb and socket member being capable of being passed through the opening of the ring for disposition within the casing, and means for detachably securing the cap plate to the ring whereby the bulb and socket member may be removed from the casing without disturbing the casing.

In testimony whereof I affix my signature.

AMIL J. GELINO. [L. S.]