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1,922,150

OIL AND WATER HEATER FOR INTERNAL COMBUSTION ENGINES

Filed July 29, 1932

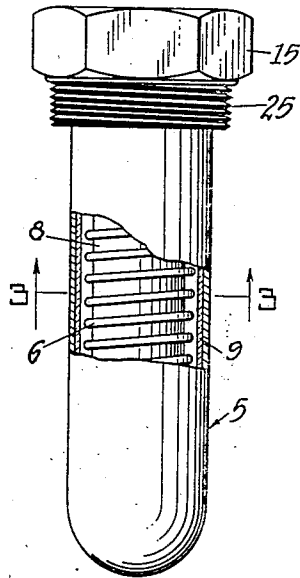


FIG. 1

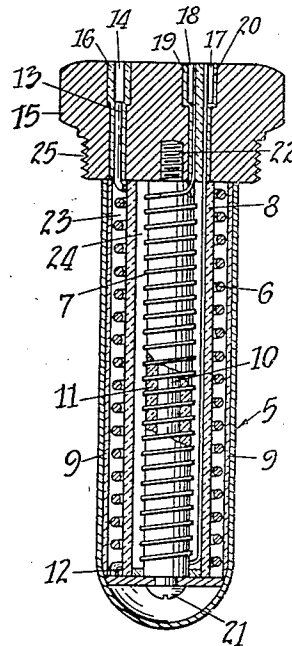


FIG. 2

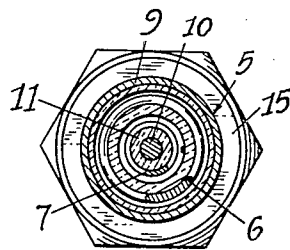


FIG. 3

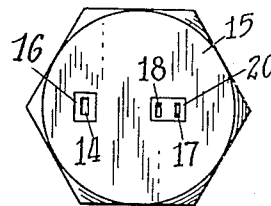


FIG. 4

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OIL AND WATER HEATER FOR INTERNAL COMBUSTION ENGINES

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2 Claims. (Cl. 219—38)

The present invention relates generally to new and useful improvements in electric heaters but more particularly to electric heaters adapted in form to heat lubricating oil or water of engines of motor vehicles by inserting the invention through the oil intake pipe or through the radiator filling intake of the vehicle.

The primary object of the instant invention is to provide a heater that may be readily attached to any electric light socket or other suitable means of contacting electric current of 110 volts that may be adapted to heat the lubricating oil or water in order to render starting of the engine more readily in cold climates particularly.

Another object of the invention is to provide an electric heater of the 110 volt type that may be constructed so that it may be readily inserted in the mouth of a radiator or intake of oil pipe contacting the fluid therein.

Another object of the invention is to provide an electric heater for heating the oil or water of engines that is comparatively cheap to manufacture, compact and fool-proof.

Another object of the invention is to provide a heater that may be readily inserted into any make of internal combustion engine suitably used for automobile construction.

Still another object of the instant invention is to provide an electric heater suitably constructed for use in heating water contained within the water jackets of the conventional internal combustion engines suitably adapted for the propulsion of motor vehicles.

Still another object of the present invention is to provide a device of the class described which may be manufactured for a nominal sum, applicable to all internal combustion engines having closed crank cases to enable quick and easy starting where oil has a tendency to freeze rendering the engine stiff due to gumming of the cylinder oil.

Still another object of the invention is to provide a heater of the class described having two heating elements of 110 volt resistance and an auxiliary winding of 6-8 volt resistance the later being adapted to receive its source of energy from the storage battery of the vehicle and used only when 110 volts is not available.

Other objects and advantages of the invention will become apparent with reference to the subjoined specification and the accompanying one sheet of drawing in which:—

Figure 1 is a side elevation of the invention partially in section showing the outer cylinder

broken away to illustrate the outside or low resistance winding;

Figure 2 is a sectional view illustrating both the low and high resistance windings of the heater;

Figure 3 is a transverse sectional view of the invention taken on the section line 3—3 of Figure 1, illustrating the core and heating elements; and

Figure 4 is a plan view of the invention showing means for connecting the device to the current supply.

Referring more particularly to the drawing in which the preferred form of the invention is disclosed the numeral 5 designates a tubular member in which the heating element 6, being the 6-8 volt, and the 110 volt element 7 are contained therein, the heating element 6 and 7 are held apart by the insulating member 8, the heating element 6 is insulated by an insulator 9 and serves to keep the heating element 6 from contacting the tubular shell or member 5, the 110 volt element 7 is wound about the core 10 and serves to support the insulator 11 of the heating element 7.

The heating element 6 is grounded to the tubular member 5 at the point 12 and serves to complete the opposite side of the circuit 13 to the female contact clip 14 and is insulated from the hexagonal member 15 by the insulator 16. The heating element 7 is wound about the insulator 11 and connects to the female contacts 17 and 18 which are insulated from the hexagonal member 15 by the insulators 19 and 20.

The tubular member 5 which carries the entire heating mechanisms is fastened to the hexagonal member 15 by means of a bolt 21 at the point 22 and serves to make the heating chambers 23 and 24 water or oil tight.

The hexagonal member 15 embraces threads 25 and serves to engage similar threads not shown when making ready for operation.

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

1. In an electric heater of the character described, a threaded plug adapted for screwing into a liquid container, an elongated sealed casing secured to said plug, an insulator secured to said plug and extending into said casing, a high voltage heating element wound about said insulator, a second insulator surrounding said high voltage heating element, a low voltage heating element wound about said second insulator, a third insulator surrounding said low voltage element, and terminals for said elements mounted in said plug.

2. In an electric heater of the class described, a threaded plug, an elongated cylindrical casing secured to said plug and depending therefrom, said casing being hermetically sealed and having a rounded lower end, a plate in the end of said casing, an axially disposed insulator extending between said plate and said plug, a high voltage heating element wound about said insulator, a hollow insulator surrounding said high voltage heating element, a low voltage heating element wound about said hollow insulator, a third hollow insulator surrounding said low voltage heating element, and terminals for said elements mounted in said plug, one side of said low voltage element being grounded on said plate.

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10	8
15	9
20	9
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150