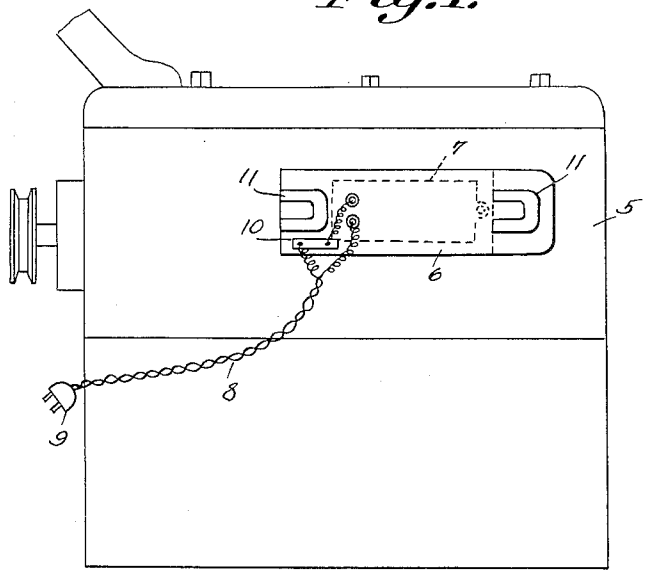
May 9, 1950 R. H. McCONNELL 2,507,213

INTERNAL-COMBUSTION ENGINE WARMER

Filed May 18, 1948

Fig. 1.



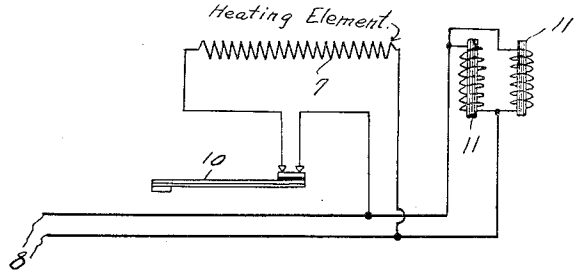




Fig. 2.

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## INTERNAL-COMBUSTION ENGINE WARMER

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1 Claim. (Cl. 219—19)

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This invention relates to a device designed for use in warming and maintaining engine blocks of internal combustion engines warm during cold weather, and when the motor is stored in a garage, as over night.

Another important object of the invention is to provide a device of this character which may be positioned on a motor block without the necessity of bolting, hanging or otherwise clamping the device to the motor block, to the end that the heating device may be positioned at any desired place, as for example adjacent to the carbureter or intake manifold, to maintain the carbureter or intake manifold warm to insure better combustion of the fuel passing therethrough.

Still another object of the invention is to provide a device of this character including a thermostat for cutting the device in or out, with the change of temperature.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing

Figure 1 is an elevational view illustrating an engine block warming device, constructed in accordance with the invention.

Fig. 2 is a diagram illustrating the circuit to the heating device and electromagnets.

Referring to the drawing in detail, the reference character 5 indicates an engine block on which the device is positioned, the device being shown as disposed adjacent to the rear end of the engine block.

The device comprises a body portion 6 which is provided with an open side fitted against the engine block 5, the body portion having an opening in which the resistance coil 7 is secured, the resistance coil being in circuit with electric wires 8 leading from a suitable source of house electricity supply, the wires 8 being plugged into the usual wall socket of the house wiring circuit, by means of the plug 9.

Disposed within the circuit is a thermostat 10 which is designed to control the circuit to the resistance coil 7, to cut the coil in or out, as is required.

The electromagnets 11, form an important part of the invention, since they are so constructed and arranged with respect to the body portion 6, that they will support the body portion 6 on the engine block, thereby providing means to permit the device to be either removed or replaced to reposition the device, at the will of the operator.

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The magnets also provide means whereby the device may be readily and easily disconnected when it is desired to move the engine or motor vehicle equipped with the engine and which has been warmed by the device.

As shown, the electromagnets 11 are in circuit with the source of electricity supply through the wires 8, in such a way that the electromagnets will remain energized, regardless of whether the electric circuit to the resistance coil 7, has been broken.

While I have shown and described an electromagnet as used in the circuit for removably securing the heater to an engine block, it is to be understood that the usual permanent horse-shoe magnet may be used in supporting the heater on the engine block in lieu of electromagnets, without departing from the spirit of the invention.

From the foregoing it will be seen that due to the construction shown and described, I have provided a means whereby an engine block or any part of the motor may be maintained warm during the cold periods or during a warming up period after being idle over night, to the end that the motor will be rendered easy starting.

Having thus described the invention, what is claimed is:

In a motor warmer, the combination of a body having an open side positioned adjacent to the engine block to be warmed, a resistance coil disposed within the open side of the body, wires providing an electric circuit leading from a source of electric power and being connected with the resistance coil and energizing the resistance coil, electromagnets in the circuit, the electromagnets being so constructed and arranged that they will attach the body to the motor block when electric input circuit is completed, the magnets being deenergized when the input circuit is broken, releasing the warmer, and a thermostatic switch in the circuit controlling the electric current passing to the resistance element and regulating the heat to the motor.

ROY H. McCONNELL.

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