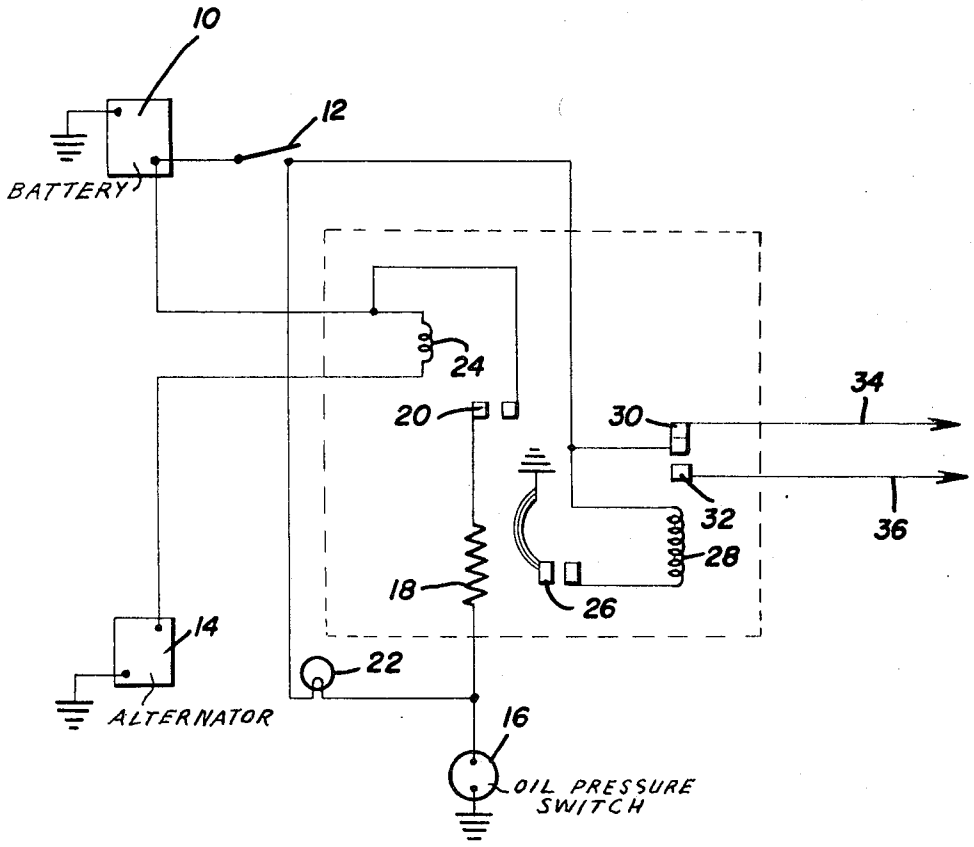
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OIL PRESSURE GUARDIAN

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OIL PRESSURE GUARDIAN

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ABSTRACT OF THE DISCLOSURE

A low oil pressure warning system which automatically warns a person when oil is low in pressure and which automatically shuts down an engine at the same time, the system including an electric circuit that contains a normally open switch controlled by a relay, and wherein there is a heater device which after a time delay activates a thermal switch.

The present invention generally relates to a warning device associated with the lubricating oil system of an internal combustion engine such as found in various vehicles in order to warn the operator of a low oil pressure condition and also stop the engine by interrupting the ignition circuit.

An object of the present invention is to provide a low oil pressure warning and protective system which is automatic in operation and will not only provide a visual and audible signal but also automatically shut down the engine in order to warn the operator of the engine and prevent damage to the engine by preventing it from running with inadequate lubrication.

A further object of the present invention is to provide an oil pressure guardian which is simple in construction, easy to install and dependable in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refere to like parts throughout, and in which:

The figure is a schematic illustration of the present invention.

Referring now specifically to the drawing, numeral **10** designates the storage battery normally found in various automotive vehicles with the ignition switch **12** being associated therewith in a conventional manner as is the alternator **14** all of which are conventional in construction. An oil pressure switch **16** is communicated with the oil pressure system so that it will operate in response to oil pressure in the engine.

A resistance type heating element **18** is provided in the line extending to the pressure switch **16** which also includes a normally open switch **20** controlled by arming relay **24**. An oil pressure light **22** is provided in a circuit

extending from pressure switch **16** to ignition switch **12** when the pressure switch closes in response to low pressure.

A thermal switch **26** is disposed adjacent heater element **18** and completes a circuit through relay **28** to open switch **30** and close switch **32** thus interrupting line **34** to the primary side of the ignition coil and completing a circuit through line **36** to a warning device.

When the engine is not operating, the switch **20** is normally open as is switch **26** and switch **32**. When the engine starts, the arming relay **24** closes switch **20** and normally closed switch **30** supplies ignition current to the coil. Power is available to heater **18** and relay **28** but as long as pressure of the oil is adequate, no action occurs. When oil pressure becomes low, switch **16** will close thus grounding heater **18** and light **22**. After a time lag, the heater will close thermal switch **26** thus grounding relay **28** for opening switch **30** and closing switch **32** thereby stopping the engine and energizing an alarm such as an audibile buzzer or the like. The time lag may be approximately 30 seconds so that the device will not be activated by a temporary low pressure such as when starting or stopping the engine.

What is claimed as new is as follows:

1. A warning device for use in combination with an internal combustion engine of the type having a pressurized lubricating oil system and an electrical ignition system including a source of electrical energy and an ignition switch, and oil pressure switch communicated with the oil system and being normally opened and closed under adverse low pressure conditions, a signal device connecting the pressure switch to the source of electrical energy with closing of the pressure switch closing a circuit through the signal device to actuate the signal device when the oil pressure drops to a dangerous low point, said device including a normally closed relay switch in the electrical ignition system, and a time delay thermal switch responsive to closing of the pressure switch to interrupt the circuit to the electrical ignition system, said thermal switch being operated after a time lag in response to a heater device incorporated into the circuit to the oil pressure switch for energization when the pressure switch closes, said time lag being approximately 30 seconds in duration so that said device will not be activated by a temporarily low pressure such as occurs when starting or stopping the engine.

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ALVIN H. WARING, *Primary Examiner.*

U.S. Cl. X.R.

340—52; 180—82