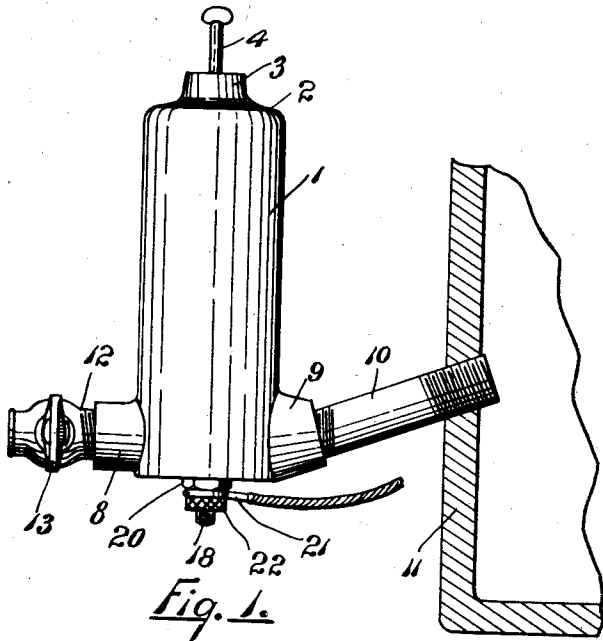
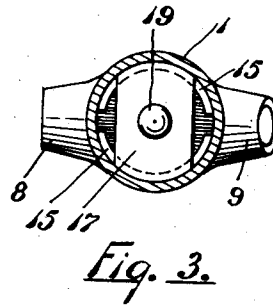
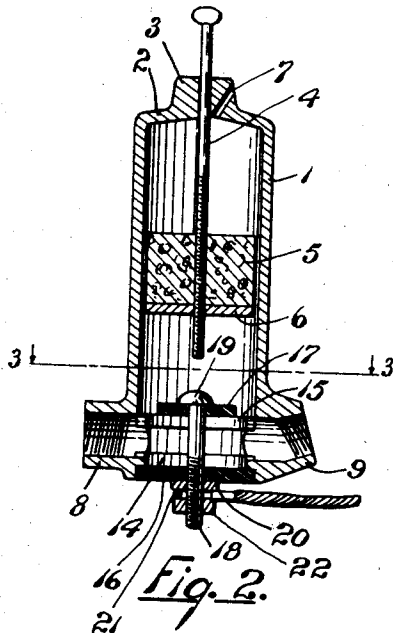
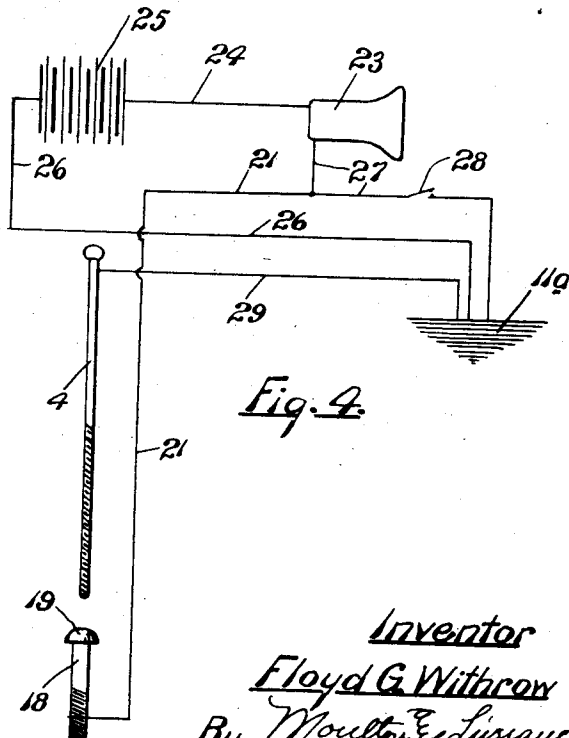


F. G. WITHROW.
OIL ALARM DEVICE.
APPLICATION FILED MAR. 12, 1919.

1,349,991.

Patented Aug. 17, 1920.



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UNITED STATES PATENT OFFICE.

FLOYD G. WITHROW, OF GRAND RAPIDS, MICHIGAN.

OIL-ALARM DEVICE.

1,349,991.

Specification of Letters Patent.

Patented Aug. 17, 1920.

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To all whom it may concern:

Be it known that I, FLOYD G. WITHROW, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Oil-Alarm Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an oil alarm device adapted to be applied to internal combustion engines and give notice that the oil has reached a point where it should be replenished. The invention is particularly applicable to the engines of automobiles and in the embodiment illustrated is designed for application to Ford motor vehicle engines. It is an object and purpose of the invention to make an alarm signal device which is of simple construction and may be readily applied, the same working with sureness whenever the oil has reached a point liable to be harmful to the engine, and giving unmistakable notice so that the oil must be replenished before the alarm stops.

The construction for attaining this end is shown in the accompanying drawing in which,

Figure 1 is a side elevation, partly in section, of the alarm and its connection to a motor vehicle engine.

Fig. 2 is a vertical section through the device.

Fig. 3 is a section taken horizontally on the line 3—3, of Fig. 2, and

Fig. 4 is a diagrammatic layout of the electrical connections used for operating a signal member by the device when the oil gets low.

Like reference characters refer to like parts in the different views of the drawing.

In construction, a hollow housing 1 is provided open at its lower end but practically closed at its upper end by a top 2 having a projecting boss 3 which has an opening made downwardly therein through which a rod 4 loosely passes, the same being threaded at its lower end and carrying a float 5 of cork or like material which rests on a plate 6 threaded on to the rod 4 whereby it and the float above it may be readily adjusted to different positions, as will be evident. A vent opening 7 is made in the top of the housing as shown. Oppositely extending

bosses 8 and 9 are cast integral with the housing near its lower end, the same being interiorly bored and threaded and a short pipe 10 may thread into the boss 9 and at its other end into the oil receiving portion 11 of a Ford engine as shown, taking the place of the lower pet cock present on all engines of this type. In the opposite boss 8 a valve member 12 may be threaded, the valve therein being turned to different positions by turning the winged member 13 usual in pet cock constructions of this character.

The interior of the housing, near its lower end is machined to make two annular ribs 14 and 15, the former being spaced a short distance below the latter and against which a fiber disk 16 is seated while a similar disk 17 rests on the upper rib, having opposed sides cut away, however, to permit oil to freely pass thereby upwardly into the housing. A screw 18 having a head 19 passes downwardly through the members 17 and 16 and a nut 20 is threaded on to the lower end of the screw to secure the parts in position. A wire 21 is connected at one end to the screw 18, a binding nut 22 being used. This construction when attached to an engine in the manner described permits oil therefrom to pass into the housing, elevating the float in accordance with the amount of oil passed and always in accord with the level of the oil in the engine, and at the same time a free passage for the oil between the disks 16 and 17 is made so that anyone desiring to know something of the condition of the oil may turn the valve at 12, whereupon the oil will pass out, as is obvious.

This device is designed to be coupled up with an electric horn, such as indicated at 23. A wire 24 connects the horn with one pole of a battery 25, or equivalent source of electrical energy, another wire 26 leading from the opposite pole to a ground, indicated at 11^a. In practice the engine body will be the ground, or the motor vehicle frame with which said bolt is connected. A wire 27 leads from the horn to the ground and a switch 28 is interposed therein for closing the circuit whenever desired to sound the horn. The wire 21 attached to the screw 18 is secured, or at least electrically connected with said wire 27. The rod 4 in contact with the housing 1 is grounded, but in the diagram this connection with the ground is indicated by the connection 29,

though in reality no wire or other ground connection is necessary.

In practice, when the oil is at a high level, the float elevates the rod 4 so that its lower end is above the head 19 of the screw 18. As the oil lowers, the lower end of said rod 4 more closely approaches said head 19, and if the oil is not replenished, in time it contacts therewith, thus closing a circuit and causing the horn to sound, which it will continue to do until oil is placed in the engine sufficient to again raise the float. This makes a sure alarm and one giving notice which cannot be disregarded. By reason of the adjustability of the float on the rod 4, different levels of oil may be selected at which the alarm will operate, this being a feature of value as different drivers have different wishes with respect to the quantity of oil needed in an engine, as well as different ideas as to how low it should be permitted to get. The fiber members 16 and 17 may be of any other suitable insulating material. The construction is simple, efficient, and readily installed with little trouble.

I claim:

1. A device of the character described comprising a hollow housing having a closed upper end, a rod which constitutes one contact and which passes loosely down through said upper end of the housing, a float attached to the rod, a disk of insulating material in the lower end of the housing, a second disk positioned above the first disk and supported within the housing, the second

disk also being of insulating material, a screw which constitutes the other contact, has a head at its upper end, passes downwardly through the disks and receives a nut at its lower end to bind the disks against disengagement from the housing, and inlet and outlet means at opposite sides of the housing whereby liquid may pass into the housing, between the disks and out at the opposite side, or upwardly into the housing, the second disk being cut away to provide passage for the liquid into the housing, substantially as described.

2. In combination, a hollow housing provided with annular inwardly extending and spaced apart ribs adjacent its lower end, a disk of insulating material placed against the lower rib and closing the lower end of the housing, a second disk of insulating material located against the upper rib, said second disk having portions cut away to provide passages between the second disk and the inner sides of the housing, means tying the disks together, said means being of electro-conductive material, means for entering oil into the housing at a point between the disks, an outlet directly opposite the inlet means, a float in the housing above the disks, and a rod passing through the float and through the upper end of the housing and positioned so that its lower end will contact with the tying means for the disks when lowered sufficiently, substantially as described.

In testimony whereof I affix my signature.
FLOYD G. WITHROW.