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A. C. RIOUX

SPLASH OPERATED CIRCUIT CLOSER

Filed Feb. 16, 1925

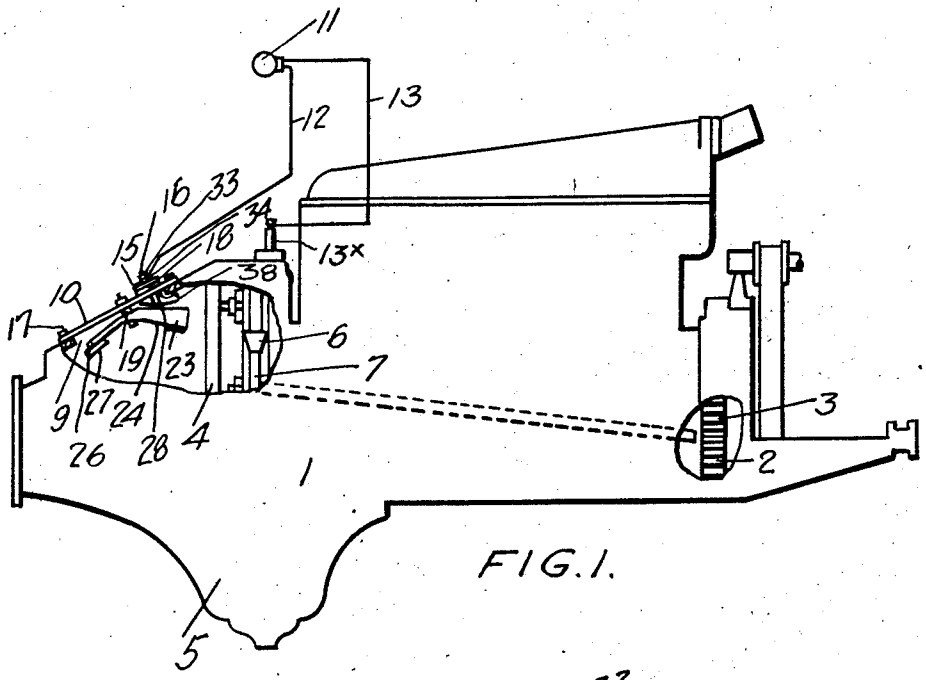


FIG. 1.

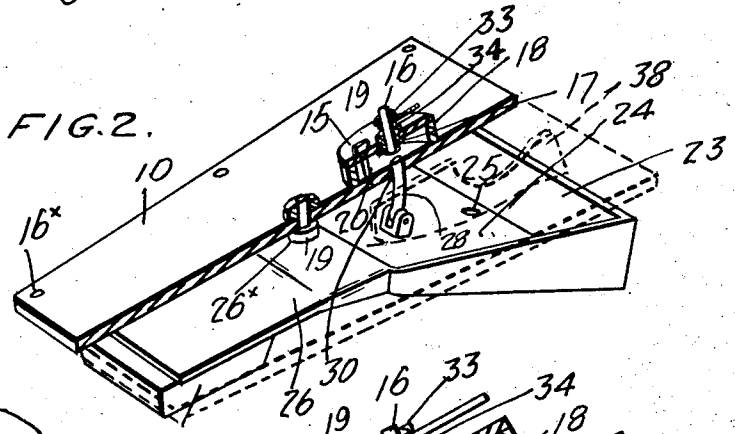


FIG. 2.

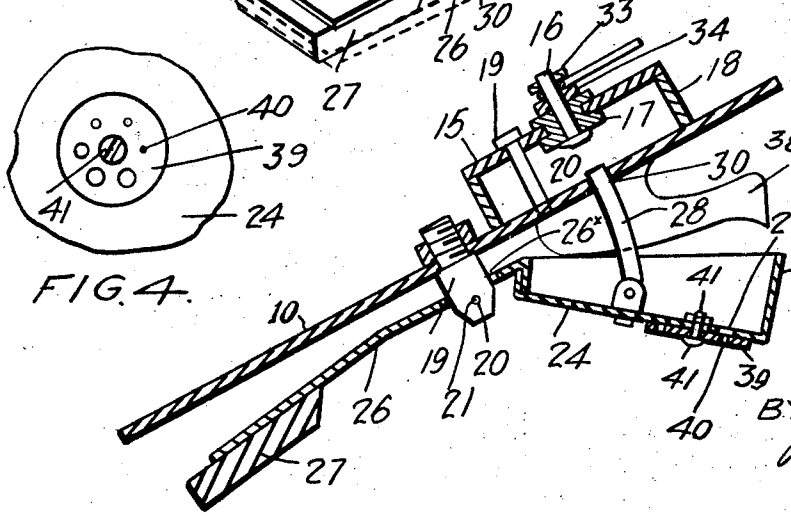


FIG. 3.

FIG. 4.

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UNITED STATES PATENT OFFICE.

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SPLASH-OPERATED CIRCUIT CLOSER.

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My invention relates to improvements in oil supply indicating devices and the object of the invention is to devise a device which will indicate to the driver when the oil supply is running short, and to provide such a device which will obviate any danger of giving a false alarm by being inadvertently operated by the vibration of the automobile, and further to devise simple means for regulating the flow of oil from the oil receiver, and it consists essentially of the arrangement and construction of parts as hereinafter more particularly explained.

Fig. 1 is a side elevation of an automobile engine showing my device applied thereto, part of the engine casing being broken away to exhibit the position and construction of my device.

Fig. 2 is an enlarged perspective detail of my device.

Fig. 3 is a longitudinal sectional view through Fig. 2.

Fig. 4 is a plan detail of the oil regulating device inverted.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 indicates an automobile engine of any ordinary construction in which are located in the usual position time gears 2 and 3.

4 is the fly wheel of the engine rotating in the oil well 5 in the usual manner so as to throw up oil, which is receive at a funnel end 6 of the lubricating pipe 7 which feeds the oil downward to the gearing 2 and 3, such oil returning in the usual manner back to the oil well.

9 is the usual opening which is formed in the transmission cover and provided with the usual cover plate 10, the opening being located above the transmission, and through which transmission bands may be adjusted. 11 is a signal light in the form of an incandescent bulb from which extend wires 12 and 13, the wire 13 being connected to the ignition post 13×.

15 is a plate upon which the stationary contact 16 of my switch is carried, being insulated therefrom by an insulating sleeve 17. 18 is a spacing collar clamped by a bolt 19 to the cover plate 10 to form a contact chamber 20. The plate 15 is provided with holes 16× through which securing bolts 17 of the cover plate 10 pass, so as to secure the plate 15 in position.

19 is a bearing piece depending from the plate 10 provided with an orifice 20 in which is driven a cross pin 21. 23 is an oil receiver or drip pan having an inclined bottom 24 inclining downward. Adjacent the lower end of the bottom 24 is located a perforation 25.

26 is an arm secured to the wall at the shallow end of the drip pan and extending rearward therefrom and carrying a counterbalancing weight 27. The arm 26 is provided with an orifice 26× through which the bearing piece 19 extends so that the arm and pan swing on the cross pin 21.

28 is a curved rod pivotally secured to a bracket 29 secured to the bottom 24 of the drip pan 23. The rod 28 is preferably arched so as to be concentric with the centre of swing of the drip pan. The upper end of the rod 28 extends through an orifice 30 formed in the plate 10 directly beneath the lower end of the stationary contact 16.

The free end of the wire 12 is connected by nuts 33 and 34 to the upper end of the stationary contact 16 so as to be electrically connected thereto.

38 is a deflecting plate secured to the plate 10 and depending therefrom over the drip pan 23.

In order to control the flow of oil through the perforation 25 so as to accelerate or retard the tilting of the pan 23, I have provided a circular plate 39 provided with a circular series of holes 40, the plate being pivotally mounted at 41 so the holes 40 may be brought into a line beneath the perforation 25 and thus control the flow according to the size of holes 40.

Having described the principal parts involved in my invention I will now briefly describe the operation of the same.

As the fly wheel 4 revolves it throws up the oil in the usual manner, which oil is caught by the funnel shaped end 6 of the oil feed tube 7 and conveyed to the gears 2 and 3, according to the common practice.

A certain amount of this oil which is caught up in this way is also caught by the plate 38 and drips downward into the drip

pan 23. The size of the perforation 25 is controlled as above set forth so as to cause the pan to retain some of the oil dripped thereinto. The weight of such oil in the pan 23 is sufficient to counter-balance the weight of the counter-weight 27, causing the pan 23 to tilt downward and carry the end of the rod 28 out of engagement with the contact 16 thereby breaking the alarm circuit. When the supply of oil runs out the pan 23 empties so that it tilts upward and carries the rod 28 into contact with the contact 16 to close the alarm circuit.

During the running of the gear, and when the engine is supplied with a normal amount of oil, the amount thrown up by the fly wheel is sufficient to hold the rod 28 and contact 16 out of engagement.

Although I have shown my device as operating a usual signal such as an incandescent bulb, any other form of electrically operated signal may be employed.

What I claim as my invention is:

A splash operated circuit closer comprising a plate, a stationary contact carried by the plate and insulated therefrom and forming one terminal of the circuit, a drip pan pivotally mounted at one end upon the plate and having a perforation in the lower portion of the inclined pan bottom, a counter weight formed integral with the pan and located at the opposite side of the pivot point thereof, a lug carried by the pan bottom, and a movable contact piece pivotally mounted at its lower end upon the lug and extending through the aforesaid plate at its upper end to oppose the stationary contact.

ALFRED CALIXTE RIOUX.