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G. H. BROWN

2,084,076

CIRCUIT CLOSING DEVICE

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Fig. 1.

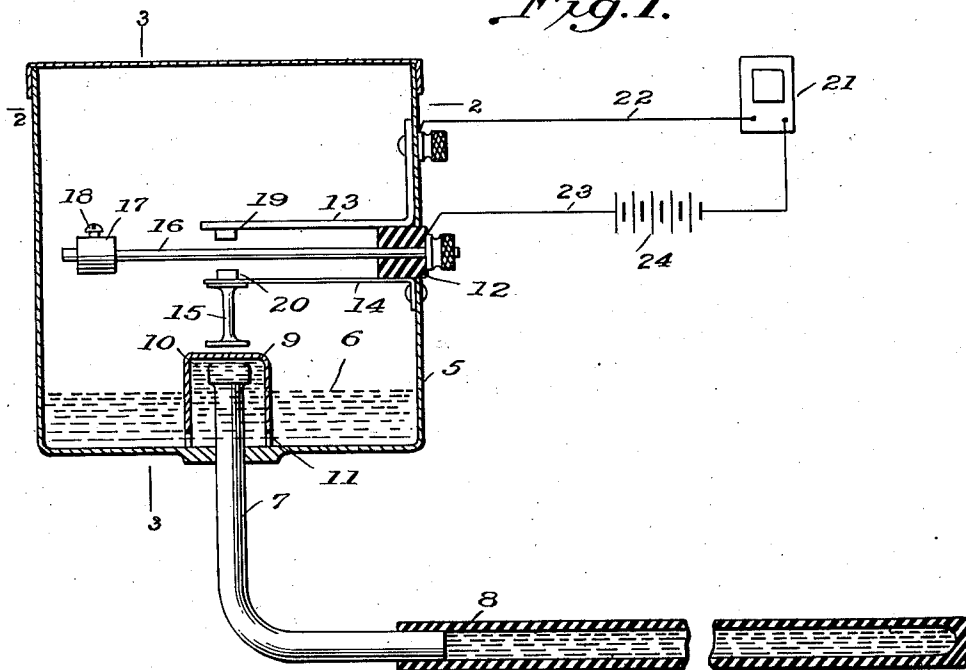


Fig. 2.

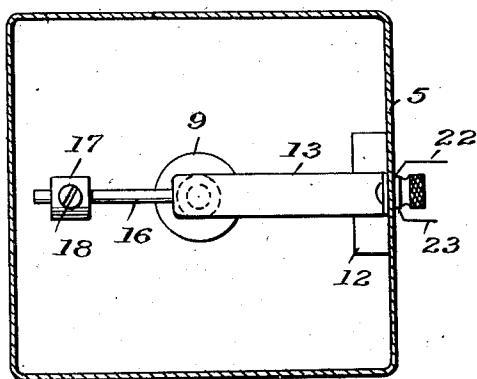
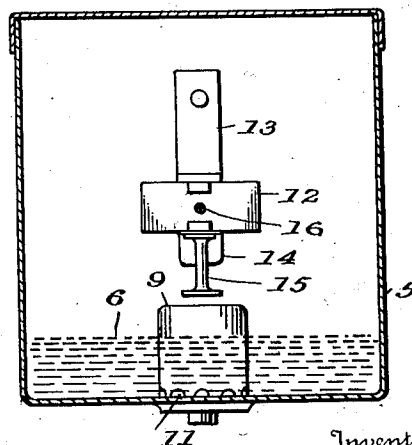


Fig. 3.



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CIRCUIT CLOSING DEVICE

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1 Claim. (Cl. 200—86)

My invention relates to a circuit closing device particularly adapted for operating a signal device in service stations and garages to inform the attendants of the arrival of a motor vehicle.

It is an object of the invention to provide a circuit closer which is operated by a vehicle passing over a flexible conduit containing a suitable fluid, which under pressure actuates the circuit closer to operate the signal.

A further object of the invention is to provide a circuit closer which upon being set in operation by the pressure of the fluid will intermittently operate the signal device.

Another object of the invention is to provide a device of the above-mentioned character which is simple and durable in construction, reliable and efficient in operation, and inexpensive to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

Figure 1 is a longitudinal sectional view of the circuit closing device,

Figure 2 is a horizontal section taken on the line 2—2 of Figure 1, and

Figure 3 is a vertical section taken on the line 3—3 of Figure 1.

In the drawing, wherein for the purpose of illustration, I have shown a preferred embodiment of my invention, the numeral 5 denotes a metal container for holding a suitable fluid 6, such as non-freezing oil. A pipe 7 extends through the center of the bottom of the container, the lower end of the pipe being curved at right angles and connected to one end of a flexible conduit or hose 8, which has its opposite end closed. The upper end of the pipe terminates above the bottom of the container and is covered by a cap 9, the walls of which are spaced from the walls of the pipe, to provide a space 10 for the passage of the fluid between the pipe and container. The lower edge of the cap normally rests on the bottom of the container and at spaced intervals is provided with notches 11, to permit passage of the fluid when the cap is resting on the bottom.

The circuit closer is mounted within the container 5 and includes a block of insulation material 12 attached to the side wall of the container. A pair of contact strips 13 and 14 extend from the top and bottom sides of the block 12, respectively, having their outer ends disposed in vertical alignment with the cap valve 9. The upper contact strip 13 is rigid, while the lower contact strip 14 is flexible, and depending from

the outer end of the strip 14 is a plunger 15 adapted to be engaged by the cap 9 when the same is forced upwardly by the fluid pressure. Disposed intermediate the strips 13 and 14 is a vibrating contact strip 16 extending through the center of the insulation block 9. The free end of the strip 16 extends beyond the ends of the strips 13 and 14 and a weight 17 is adjustably mounted on the free end to adjust the vibration of the strip and is held in its adjusted position by a set screw 18. The contact strips 13 and 14 are each provided with contact points 19 and 20 which are alternately engaged by the vibrating strip 16 when set in operation. A suitable signal, such as a buzzer or horn 21 is connected in circuit with the circuit closer through wires 22 and 23, the wire 22 being connected to the contact strips 13 and 14 and the wire 23 connected to the vibrating strip 16. A battery 24 or other suitable source of current is interposed in the wire 23, for operating the buzzer when the circuit is closed.

In operation, the hose 8 and pipe 7 are filled with a fluid 6, and a small quantity of fluid is also placed in the container 5 to cover the lower end of the cap 9. The hose 8 is positioned across the driveway leading to the service station, and upon the passing of a vehicle over the hose, the fluid within the hose is compressed and thereby forcibly ejected from the end of the pipe 7 within the container. The pressure of the discharged fluid from the end of the pipe 7 forces the cap 9 to move upwardly into engagement with the plunger 15 which causes the flexible contact strip 14 through its contact point 20 to engage and set in operation the vibrating contact strip 16. As the strip 16 vibrates, it alternately engages the contact points 19 and 20, which intermittently close the signal circuit causing sounding of the buzzer 21, to inform the attendants of the service station that a vehicle has entered the station. After the vehicle has passed over the hose 8, the fluid discharged into the container 5 will be caused to flow back into the pipe and hose through the suction created in the hose when expanded to its normal position.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size, and arrangement of the parts may be made without departing from the spirit of the invention or scope of the subjoined claim.

What is claimed is:

A circuit closer comprising a container, a pair

of opposed contact strips mounted in said container, one of said strips being rigid and the other flexible, a vibrating contact strip disposed intermediate said rigid and flexible contact strips, adapted to alternately contact said strips, 5
a compressible container having a duct protruding through the bottom of said container, a liquid in said compressible container and duct, a plunger depending from said flexible contact strip in alignment above said duct, an inverted 10
cup covering the protruding end of said duct having its lower marginal portion resting on the

bottom of the container and having passages therethrough, said cup being adapted to be elevated into engagement with said plunger by the pressure of liquid discharged from the protruding end of said duct when the compressible container is compressed, whereby said plunger raises 5
said flexible contact strip to set said vibrating strip into operation, and a liquid in said first-named container to a depth to cover said passages when said cup is in elevated position. 10

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