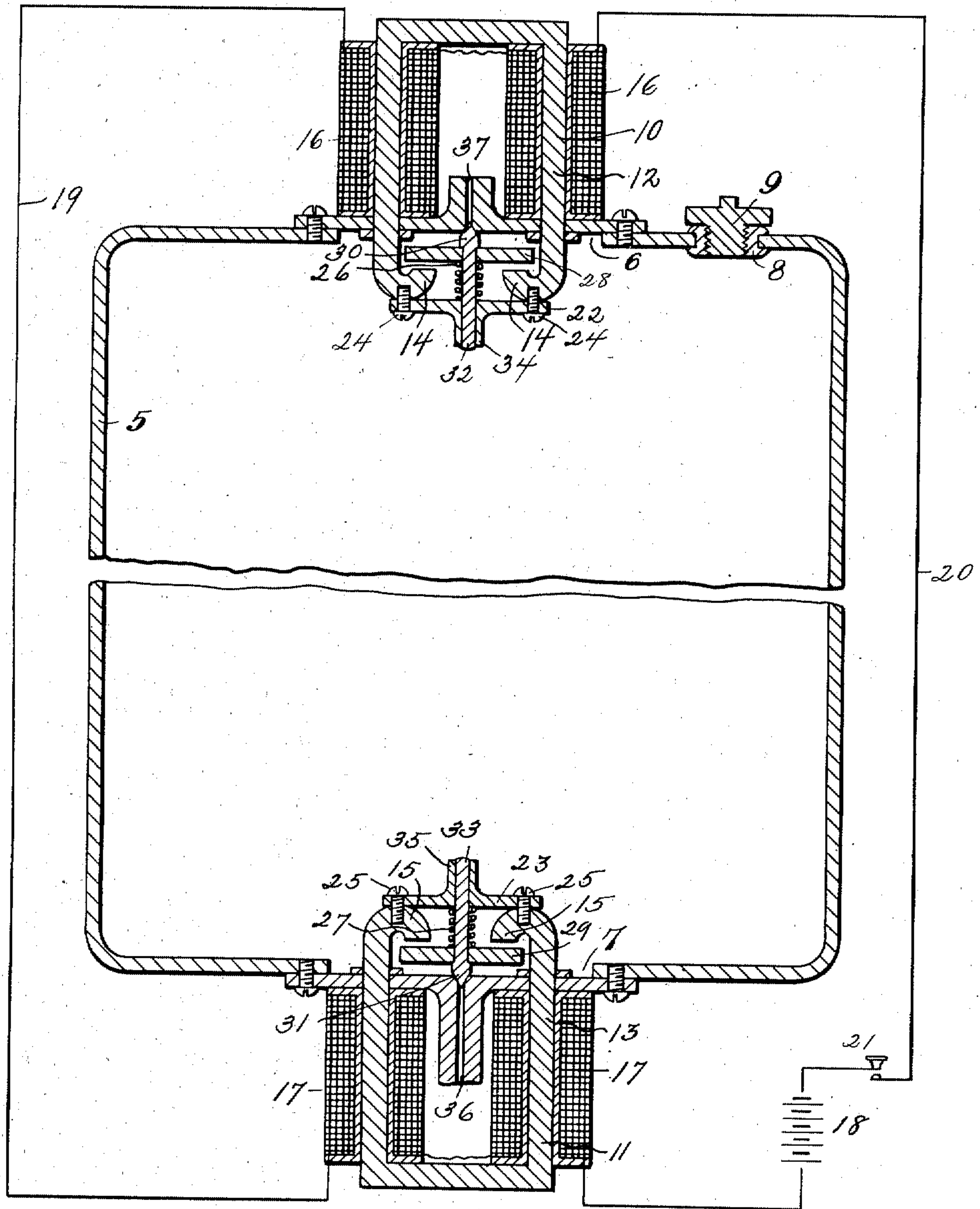


P. OKEY.
TANK FOR LIQUIDS.
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984,151.

Patented Feb. 14, 1911.



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Witnesses

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TANK FOR LIQUIDS.

984,151.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PERRY OKEY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Tanks for Liquids, of which the following is a specification.

This invention relates to tanks for liquids and has for its object the provision of a pair of valves for controlling the flow of the liquid from the tank and for permitting the ingress of air at the top of the tank. A tank of this character may be utilized in many places; for instance upon automobiles it provides efficient means for cutting off the gasoline from the tank to the carbureter, eliminating the danger of leakage and consequently the danger from fire. It also provides a safe and efficient method of storing gasoline for lighting purposes upon trains, the valves in the tank being electrically controlled in such manner that if the electrical connections are broken by the shock of a collision or otherwise, the valves are automatically closed to prevent the passage of the gasoline therefrom. These and many other applications of the device will readily suggest themselves to persons desiring to employ tanks of this character.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

The figure shown in the accompanying drawing, is a vertical sectional view of a tank constructed in accordance with the invention with the electrical wiring diagrammatically illustrated.

Referring to the drawing, the numeral 5 designates a tank having an opening 6 in the top thereof and an opening 7 in the bottom thereof. A filling sleeve 8 is adapted to be closed by a plug 9. The valves at the top and bottom of the tank are exactly alike and a description of one will suffice for both of them. These valves comprise magnets 10 and 11, the cores 12 and 13 of which are of substantially inverted U-form, said cores having intumed ends 14 and 15. The magnet windings are indicated at 16 and 17, these windings being in series with each other and with a source of electrical energy indicated at 18, through the medium of conductors 19 and 20. A switch 21 provides means for closing the circuit when desired, to open the valves.

Cross bars 22 and 23 are secured to the cores 12 and 13 by screws 24 and 25. Springs 26 and 27 bear between these bars and the armatures 28 and 29. Valves 30 and 31 are provided with stems 32 and 33, said stems being slidably disposed in sleeve extensions 34 and 35 of the bars 22 and 23. The armatures 28 and 29 engage the valves 30 and 31 and normally tend to close said valves under the influence of the springs 26 and 27, so that if for any reason current is not present in the circuit to energize the cores 12 and 13, the springs 26 and 27 act to close the valves, the closing of the lower valve preventing the passage of the liquid within the tank through the port 36 and the closing of the valve 30 preventing the passage of air to the interior of the tank through the port 37. It will therefore be seen that the present invention comprises simple and efficient means for controlling the air inlet valve and the fluid outlet valve without the use of any moving parts extending from the outside to the inside of the tank, whereby the necessity of the employment of any stuffing boxes or glands, is obviated. It will also be seen that while the control of the valves is entirely electrical, the windings for the controlling magnets, are located upon the exterior of the tank, said windings being electrically connected in such manner that the valves are operated in unison.

It is apparent that if a tank of this character is used upon an automobile and the current for energizing the magnets, is secured from the magneto usually employed upon automobiles, the stopping of the automobile engine will automatically cut off the flow of gasoline to the carbureter, whereby the loss and danger from fire, resulting from leaking carbureters is eliminated.

It is often desired to employ fluid fuel for the lighting of trains and the herein described tank is particularly adapted for use in this connection. No fluid can pass from the tank to the points where it is to be used until the electrical circuit is manually closed by the switch 21 and if by reason of collision or other accident, this electrical circuit is broken, the flow of fluid from the tank is at once stopped and the danger of setting fire to the train is greatly minimized.

From the foregoing description, it will be seen that simple and efficient means are here-

in provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claim.

10 What I claim, is—

The combination with a fluid fuel tank having an opening in the top and bottom thereof, of a magnet core projecting through the top of the tank and a magnet core projecting through the bottom of the tank, windings for said cores located upon the exterior of the tank, an electric circuit in which said windings are included, a source

of electrical energy in said circuit, an air inlet controlling valve located upon the interior of the tank, a spring normally tending to close said valve, an armature arranged to be attracted by the magnet core at the top of the tank, said armature when attracted by said magnet core opening the air inlet valve, an armature arranged to be attracted by a magnet core at the bottom of the tank, said armature when attracted serving to open the fluid outlet valve, and springs normally tending to close said valves.

In testimony whereof I affix my signature in presence of two witnesses.

PERRY OKEY.

Witnesses:

C. P. BEACH,
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