

H. W. LINDSEY, Jr.
 FUEL RESERVE SUPPLY SYSTEM.
 APPLICATION FILED NOV. 22, 1918.

1,410,104.

Patented Mar. 21, 1922.

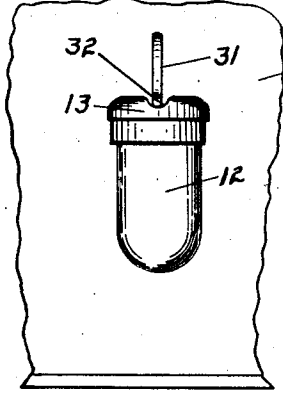
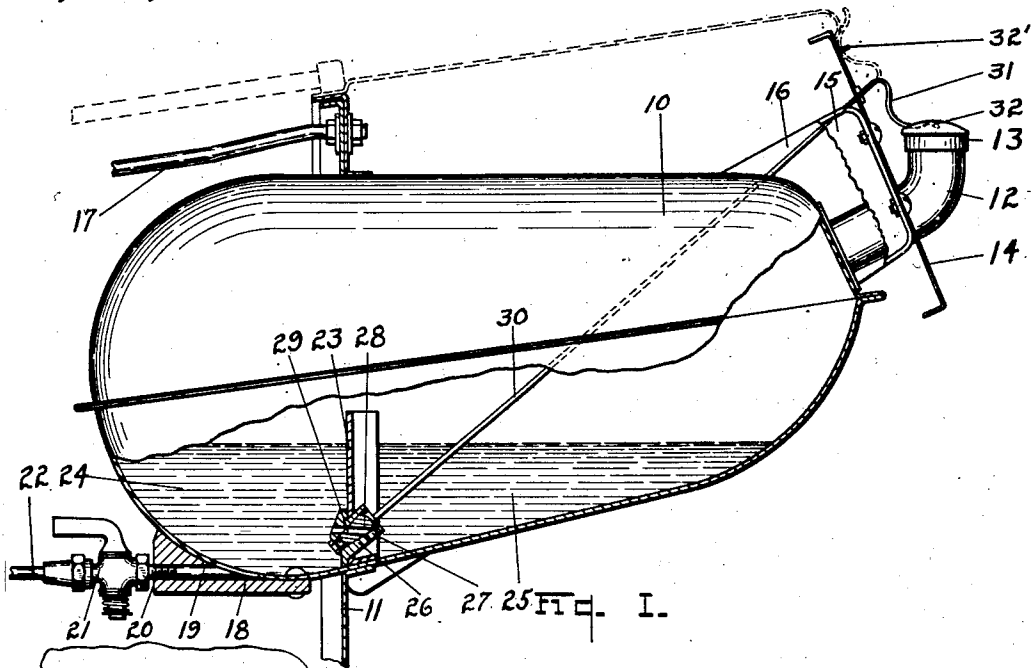


FIG. I.

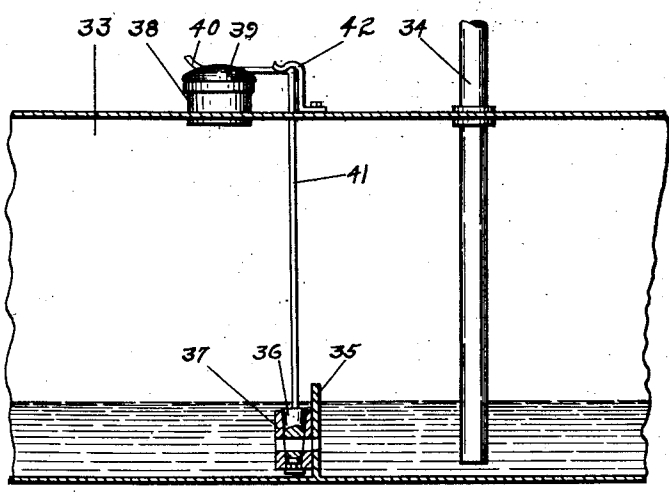


FIG. II.

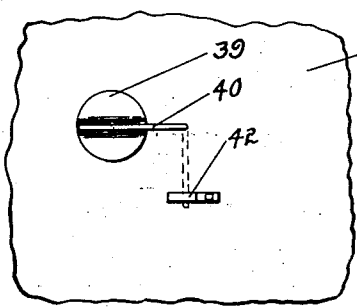


FIG. IV.

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FUEL-RESERVE-SUPPLY SYSTEM.

1,410,104.

Specification of Letters Patent. Patented Mar. 21, 1922.

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To all whom it may concern:

Be it known that I, HARRY W. LINDSEY, Jr., a citizen of the United States, residing at Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Fuel-Reserve-Supply Systems, of which I declare the following to be a full, clear, and exact description.

My invention relates to fuel reserve supply systems for self-propelled vehicles and has for its object to provide simple and inexpensive means by which a reserve supply of fuel may be maintained in a compartment adjacent to or forming a part of the main fuel supply tank from which fuel is fed to the engine.

Another object of the invention is to provide a liquid holding receptacle having separate compartments between which free communication is established above a predetermined point and below which means are provided for intermittently establishing communication between said compartments, said means being adapted when in one position to prevent the removal of a cap or cover provided for the purpose of closing the filling opening through which fuel is supplied to the receptacle. To these and other ends the invention comprises certain novel features of construction and arrangement of parts as will be hereinafter more fully described and claimed, it being understood that various modifications in the detail construction of the device may be made without departing from the spirit of the invention or sacrificing any of its advantages.

A structure illustrating one embodiment of my invention is shown in the accompanying drawing, forming a part of this specification, in which:

Figure I is a view in elevation and partly in section of a liquid holding tank and associated parts embodying the preferred form of the invention.

Figure II is an end view of the filling tube shown in Figure I.

Figure III is a sectional elevation of a modified form of tank to which the invention is shown applied.

Figure IV is a plan of the tank filling tube shown in Figure III.

Like reference characters throughout the several views of the drawing indicate corresponding parts.

Referring to the drawing, 10 represents

the main fuel supply tank of a self-propelled vehicle such as an automobile, the dash 11 of which forms a suitable support for the tank which is provided preferably at its rear end with a filling tube 12 having a removable cap or cover 13, preferably adapted to be screwed upon said filling tube. The tube 12 is extended through the instrument board 14 of the car, which is braced by the channels 15 and 16 between which said tank is mounted. The support or dash 11 is also braced by the rod 17 which may be suitably connected to the radiator of the car (not shown). Upon the lower front wall of the tank is secured a connection 18 having a fuel outlet passage-way 19 into which a short pipe 20 is screwed. A valve 21 for controlling the discharge of fuel from the tank is connected to the short pipe 20 and from said valve conduit 22 leads to the carburetor of the engine (not shown), to which fuel is supplied by gravity. Transversely of the tank and preferably at a point substantially in line with the dash or support 11 is a partition 23 terminating at any desired point below the top of the tank so as to divide the same into the separate compartments 24 and 25, the latter serving to hold the reserve supply of fuel for use after the main supply has been consumed. Although the partition is shown terminating below the top of the tank, it may be extended the full height thereof and be provided with openings for establishing free communication between said compartments at any desired height. Adjacent the bottom of the tank the partition is provided with a valve casing 26 having a passage-way 27 controlled by a valve 28, which is also provided with a passage-way 29 adapted to be brought into registering relation with the passage-way 27 when it is desired to establish communication between said compartments through said partition for the purpose of releasing the reserve supply of fuel when the driver's attention has been called to the fact that the main supply has been exhausted, which results in the stopping of the engine. The valve 28 is preferably of the rotary type but may be of any other type found desirable for use in this connection.

The operating mechanism for the valves preferably comprises a rod 30 which is extended through the top of the tank and

through the instrument board at a point in line with the center of the filling tube 12, as shown in Figure II. The rod 30 at its free end is preferably formed of yieldable or spring-like material and is bent to form the handle portion 31, which extends into the groove 32 of the filler cap 13 to yieldingly engage the same for the purpose of preventing its removal when the valve 28 is in open position, as shown in Figure I. This arrangement is for the purpose of compelling the attendant to close the valve 28 before the tank can be refilled after the reserve supply of fuel or a portion thereof has been consumed. The handle 31 is bent in such a way that when it is turned through an angle of 180° from the position shown by the full lines in Figure I to that shown by dotted lines, it will yieldingly engage the instrument board by reason of the slant thereof. The instrument board at this point is preferably provided with a catch or stop 32, which serves to indicate to the driver when the handle has been turned a sufficient amount to insure the proper closing of the valve.

In the modification shown in Figures III and IV, the main supply tank 33 is preferably provided with a suction conduit 34 adapted to be connected with any suitable source of suction, such as the intake manifold of the engine (not shown). The partition 35, valve 36, and valve casing 37 of Figure III are constructed and operated on the same principle as that shown in Figure I, and a detailed description of these parts is therefore not deemed necessary. The filling tube or short pipe 38 in the modified form of invention is placed immediately upon the top of the tank and provided with a grooved filler cap 39, similar to that shown in Figures I and II, and is adapted to receive in a similar manner the spring handle 40 of the valve operating rod 41, as shown in Figures III and IV.

A catch or stop 42 is provided upon the top of the tank for securing said handle when the valve 36 is in closed position, as shown by dotted lines in Figure IV.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A device of the class described comprising adjacent liquid holding compartments provided with a supply opening, said compartments having free communication above a pre-determined point and a transverse passage-way below said point, a cap for said supply opening, a valve for intermittently opening and closing said passage-way to permit the liquid to flow from one of the compartments to the other, a yieldable operating member for said valve adapted when said passage-way is open to yieldingly engage said cap to prevent the removal there-

of, and means for holding said operating member against accidental displacement when said valve is in position to close said passage-way.

2. A device of the class described comprising a receptacle having adjacent liquid holding compartments separated by a partition terminating below the top of the compartments, a valve casing secured upon said partition adjacent the bottom thereof and provided with a passage-way therethrough, a rotatable valve movable to effect the opening and closing of said passage-way, a rod for actuating said valve having a substantially right angle portion at its free end formed of yieldable material, a filling tube for said receptacle, a cap therefor having a depressed portion in which said yieldable portion of the rod is adapted to rest when said valve is in open position, and means adapted to prevent the accidental displacement of said rod when said valve is in closed position.

3. The combination of a receptacle provided with liquid holding compartments having free communication above a pre-determined point in the receptacle, a plate member adjacent to the receptacle, a filling tube for the receptacle adapted to extend therefrom through said plate member, a removable cap for said filling tube on the opposite side of the plate member from the receptacle, a valve for intermittently establishing communication between said compartments adjacent the bottom thereof, and an operating member for said valve having a yieldable portion adapted to prevent the removal of said cap when the valve is in open position, and to be yieldingly held against accidental displacement by said plate member when said valve is in closed position.

4. The combination of a receptacle provided with liquid holding compartments having free communication above a pre-determined point in the receptacle, a plate member adjacent to the receptacle, a filling tube for the receptacle adapted to extend therefrom through said plate member, a removable cap for said filling tube on the opposite side of the plate member from the receptacle, a valve for intermittently establishing communication between said compartments adjacent the bottom thereof, and an operating member for said valve adapted to prevent the removal of said cap when the valve is in open position.

5. A device of the class described comprising a tank having a partition therein terminating below the top thereof and forming separate liquid holding compartments within the tank, said tank having an inlet opening independent of the partition, a valve adapted to control a passageway between the compartments, operating means

for the valve, a cover for said inlet opening, removal of which is prevented by said operating means when said passageway is open, and means adapted to normally hold
5 said valve operating means in position to prevent accidental opening of the valve.

6. A device of the class described comprising adjacent liquid holding compartments provided with a common inlet, said
10 compartments having free communication above a predetermined point and a connecting passageway below said point, a cover for said inlet, a valve controlling said passageway, operating means for said valve
15 adapted when the valve is open to prevent removal of the cover, and means independent of said valve and cover by which said operating means is adapted to be held against accidental displacement.

7. A device of the class described comprising a frame structure, a tank supported
20 thereby and having adjacent liquid holding compartments provided with a common inlet opening, said compartments having free communication above a predetermined point, 25
a removable cover for said inlet opening, a valve controlling a passageway between said compartments, and operating means for the valve adapted when said passageway
30 is open to prevent removal of the cover, said operating means being normally held against displacement by a portion of said frame structure when said passageway is closed.

In testimony whereof, I affix my signature. 35

HARRY W. LINDSEY, JR.