H. H. KLEINBERG.

RESERVE SUPPLY TANK.

APPLICATION FILED MAY 10, 1921.

1,419,145. Patented June 13, 1922.

Fig. 1.

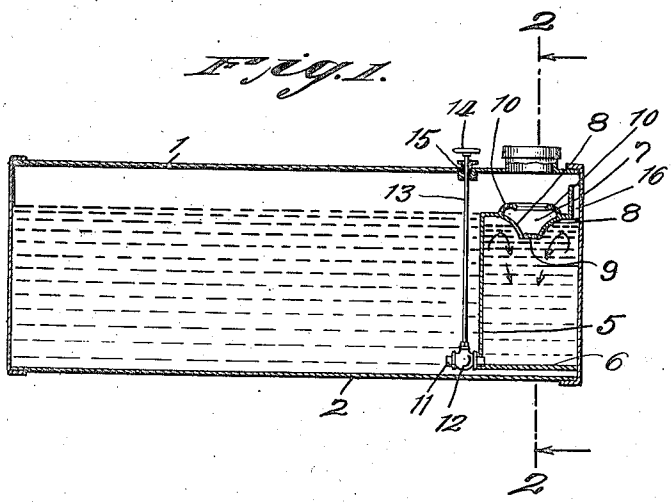


Fig. 2.

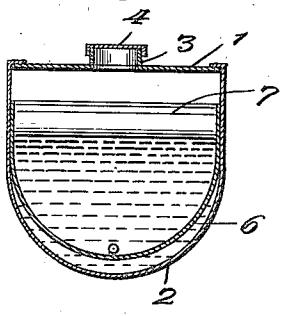


Fig. 3.

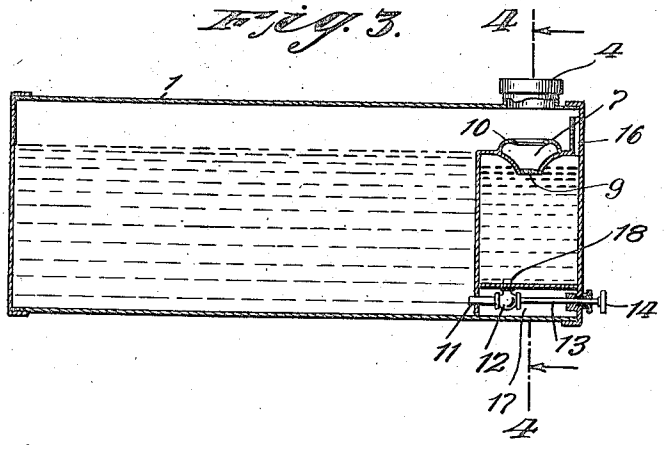


Fig. 4.

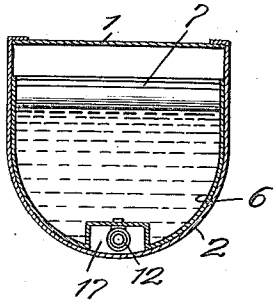
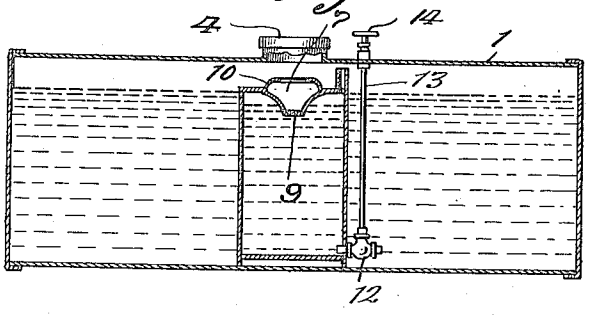


Fig. 5.



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RESERVE-SUPPLY TANK.

1,419,145. Specification of Letters Patent. Patented June 13, 1922.

Application filed May 10, 1921. Serial No. 468,414.

To all whom it may concern:

Be it known that I, HENRY H. KLEINBERG, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Reserve-Supply Tanks, of which the following is a specification.

This invention relates to improvements in reserve fuel supply tanks for use in connection with internal combustion engines and especially where same are employed for vehicle, aeroplane and motor boat propulsion.

Among the objects of my invention are to provide an auxiliary reservoir of special form and configuration, lending itself advantageously to receiving and storing an auxiliary supply of gasoline or other fuel without liability of spilling when the receptacle is subjected to vibratory movement or shock, while the vehicle or the like to which it is attached is in use.

A further object of the invention is to so relate the main and auxiliary tanks that the gasoline or other motive fuel when supplied to the tanks will enter the main storage tank only after the auxiliary tank has first been filled.

Other objects and advantages of the invention will manifest themselves upon a reading of the following specification.

Figure 1 is a view in vertical, longitudinal cross section, illustrative of a preferable embodiment of the principles of my invention.

Figure 2 is a transverse, vertical section, taken on line 2—2 of Figure 1.

Figure 3 is a similar view to Fig. 1 of a modification thereof.

Figure 4 is a view similar to Figure 2, but taken on line 4—4 of Figure 3.

Figure 5 is a similar view to Figure 1 of a still further modification.

Referring in detail to the drawings, the main storage tank is indicated by the numeral 1, and is provided with a curved or rounded bottom 2. This tank is provided with a filler opening 3, closed by removable cap 4. Housed within the main tank is an auxiliary tank 5, the lower part of which is provided with a rounded bottom 6, conforming substantially to the contour of the main tank. The auxiliary tank is provided with a specially-formed opening through which the gasoline is admitted.

This opening is indicated at 7, and is in the form of a long narrow slit, extending transversely of the main tank. The top of the auxiliary tank is provided with inwardly curved portions 8, their inner edges being spaced apart to receive a screen or filter member 9. The walls 8 are curved so as to tend to divert the gasoline away from the screened mouth of the tank, should it become agitated or splashed during the movement of the vehicle. As a further protection and to ensure the liquid fuel being retained in the auxiliary tank when so agitated, supplementary upwardly and inwardly curved lips 10, guarding the mouth of the entrance are provided, these acting to catch such portion of fuel as may be thrown through the mouth guarded by the screen 9, and thereby returning to the auxiliary tank.

The auxiliary tank is provided with an outlet pipe 11 controlled by a valve 12, which is operated by the valve rod 13 and hand wheel or grip 14, a stuffing box 15 being employed to effect a leak tight joint where the rod passes through the wall of the main tank. This valve is normally kept closed and is only opened when the main tank has been exhausted of fuel and it is desired to permit the fuel of the auxiliary tank to flow thereinto, in which case the valve is opened.

The auxiliary tank is preferably located directly under the filler opening 3 so that when replenishment of the fuel is made, said entering fuel is caused first to enter and fill the auxiliary tank (it being understood that the valve 12 is in its closed position), after which the fuel over-flows the auxiliary tank into the main tank. This feature of assuring a full supply of fuel to the auxiliary tank before the fuel can enter the main tank is of great moment, because, frequently, only a small amount of fuel is purchased at any one time, and if the flow were in the reverse direction, i. e., from the main tank to the auxiliary tank, there would be many instances where the auxiliary tank would receive no supply. The auxiliary tank is provided with a vent 16, so that no air resistance to the filling of the auxiliary tank will be created to hamper same.

In Figure 3, I have shown the valve 12 located in a chamber 17 separate from the gasoline storage space. By employing this means, one need not be so careful in effecting a leak-tight joint between the operating rod

and the casing of the tank, it only being necessary to effect a tight soldered joint between the pipe 11 and the wall through which it projects, and the pipe connection 18 with the bottom of the auxiliary tank.

In Figure 5, I have illustrated the auxiliary tank as being mounted mid-way of the length of the main tank, as when the filler opening is provided centrally of the main tank, of course, it is understood that the filler opening or the location of the auxiliary tank may be anywhere considered convenient.

It will be understood that while I have illustrated and described certain preferable embodiments of the principles of my invention, I do so by way of example and do not limit myself to the precise details of construction, as these may be varied and departed from without departing from the spirit and scope of my invention, as defined by the following claims.

Having thus described my invention, I claim:

1. The combination of a main fuel storage tank having a round filter opening in its top, an auxiliary storage tank located within said main tank and provided with a top located below the top of the main tank and having inwardly curved portions the edges of which are spaced apart to form a narrow slit-like filter opening extending across the axis of the filter opening in the top of the main tank, curved lips extending upwardly and inwardly from the top of said auxiliary tank and parallel to the filter opening therein, and a valved connection between said tanks.

2. In combination with a main tank, of an auxiliary storage tank provided with a contracted narrow slit-like opening extending substantially the width thereof.

3. In combination with a main tank, of an auxiliary storage tank provided with a contracted guarded narrow slit-like opening.

4. In combination with a main tank, of an auxiliary storage tank having narrow openings formed by inwardly and downwardly curved walls.

5. In combination with a main tank, of an auxiliary storage tank having a narrow opening formed by inwardly and downwardly curved walls, and an upwardly projecting, inwardly directed curved lip extending around the opening.

6. The combination of a main fuel storage tank, an auxiliary tank located within said main tank, the bottom and an extended wall of said auxiliary tank being arranged to cooperate with the bottom and a wall of said main tank to form a valve chamber sealed from said tanks, a valve located in said valve chamber and controlling communication between said tanks, and means for operating said valve from without said chamber.

In testimony whereof I have affixed my signature to this specification.

HENRY H. KLEINBERG.