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J. M. G. DARMS

1,922,930

GAS KEEPER

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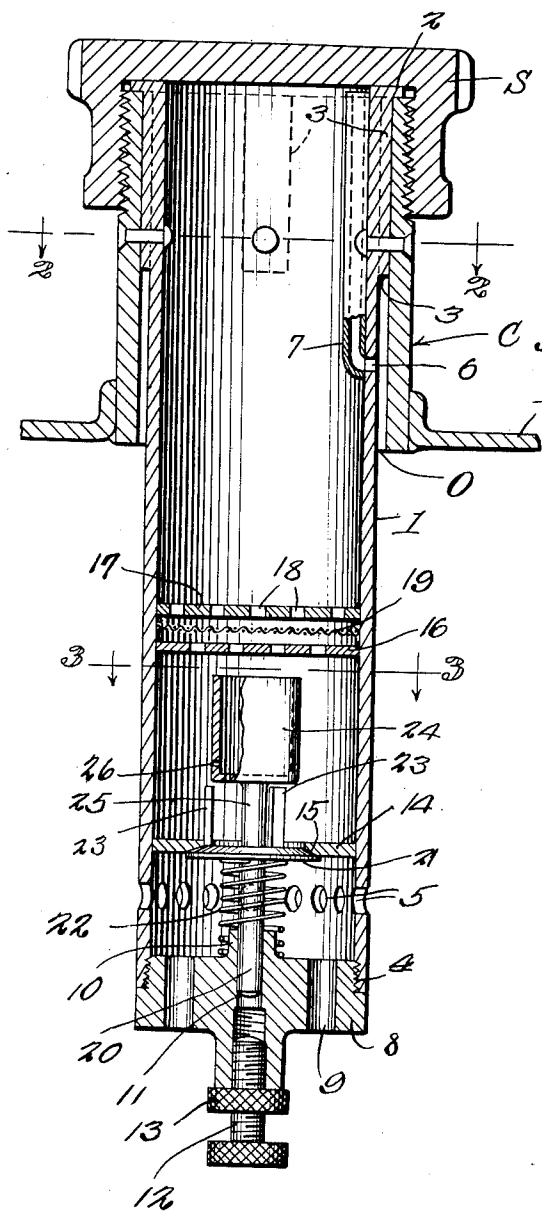


Fig. 1.

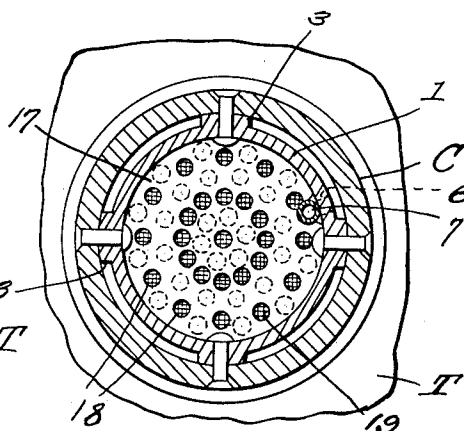


Fig. 2.

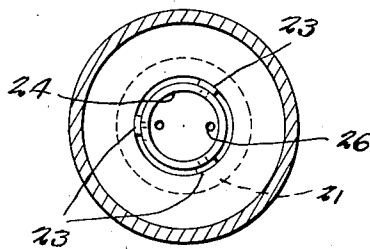


Fig. 3.

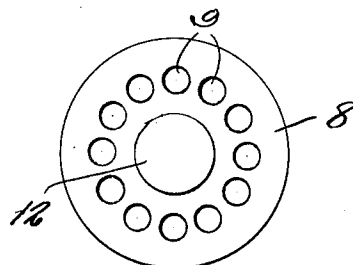


Fig. 4.

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UNITED STATES PATENT OFFICE

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Delaware County, Pa.Application September 23, 1932
Serial No. 634,595

4 Claims. (Cl. 220—86)

This invention relates to a means for preventing unauthorized removal of gasoline from the tanks of motor vehicles.

One of the objects is to provide a device of this character which can be suspended in a tank and secured in such a manner as not to be easily removed, there being a novel form of valve forming a part of the device adapted to be opened only by fluid flowing into the tank.

A further object is to use a valve which will close automatically after the flow of the supplied liquid has stopped, thereby preventing withdrawal of liquid past the valve by suction or otherwise.

A still further object is to combine a simple and efficient guard with the valve to prevent unseating of the valve with a wire or other object.

With the foregoing and other objects in view which will appear as the description proceeds the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is a vertical section through the device in position for use.

Figure 2 is a section on line 2—2, Figure 1.

Figure 3 is a section on line 3—3, Figure 1.

Figure 4 is a bottom plan view.

Referring to the figures by characters of reference, 1 designates a tube or valve casing having a supporting flange 2 at one end with spaced longitudinal ribs 3 extending therefrom. The other end of the tube is screw-threaded interiorly as at 4 and has outlet openings 5 adjacent to the thread. An air vent opening 6 is provided in the tube near the upper end thereof and can open into a vent tube 7 formed in or secured to the tube 1.

The lower end of the tube 1 is provided with a screw plug 8 having outlet openings 9 and a central boss 10 is formed on this plug. A bore 11 extends through the plug and its lower end receives an adjusting screw 12 preferably provided with a lock nut 13. It is to be understood that either set of openings 5 and 9 can be dispensed with if desired and that the adjusting screw can also be eliminated or other adjusting means might be used.

Fixedly held in tube 1 above plug 8 is a ring

14 providing a tapered valve seat 15. Above this ring are spaced guard disks 16 and 17 having non-alining openings 18. A strainer in the form of a metal screen 19 is interposed between but spaced from the guard disks. Obviously these parts can be placed in other relative positions if found desirable.

The bore 11 constitutes a guide for the stem 20 of a tapered valve 21. This valve is held normally to its seat 15 by a light coiled spring 22 mounted on the stem and engaging the boss 10 and plug 8.

Guide fingers 23 project upwardly from the valve and are slidable in the opening in ring 14 so as to center the valve when unseated. A cup 24 is supported above the valve by a pin 25 and has one or more small drain openings 26. This cup is supported under the guard disks and well above the ring 14.

In Figure 1 a portion of a gasoline tank has been indicated at T and the filling opening O is surrounded by the usual collar C with a cap S or the like. The device constituting the present invention is inserted into the collar until the flange 2 rests thereon. Ribs 3 will act as spacing means and rivets R or other fastening means can then be used for fixedly securing the tube to the collar. The cap 5 when in position, will close the tube 1 as will be apparent.

By removing the cap the gasoline can be directed into tube 1a in the usual manner. A portion of the fluid will fill the cup 25 and the weight thereof will cause the valve to open against the action of its spring. The valve will remain open as long as fluid is supplied thereto, and as the fluid flows downwardly it will pass through the openings 5 and/or 9. The extent of movement of the valve under the action of the weight of its cup contents can be limited by pre-adjustment of the screw 12.

As soon as the supply of fluid is discontinued and as the tube or casing 1 empties the contents of cup 25 will begin to drain through the openings 26 until the action of spring 22 is no longer overcome whereupon said spring will close the valve automatically and gradually, leaving the tube or casing 1 practically empty. Obviously the closed valve will prevent removal of the fluid by suction or other means and tampering with the valve is prevented by the guards 16 and 17.

While the improvements are designed especially for preventing removal of gasoline from the tanks of motor vehicles it is to be understood that they can also be employed advantageously to

protect other liquids from unauthorized removal from their containers.

What is claimed is:

1. A device of the class described including a tubular valve casing having an inlet, an outlet and a valve seat between the inlet and outlet, a valve movable between the seat and outlet, resilient means for holding the valve normally against its seat, and a cup having an open top supported by the valve between the seat and inlet to receive liquid and hold the valve open after the casing has been emptied, said cup having a drain opening for gradually releasing the liquid from the cup and retarding the closing of the valve.

2. A device of the class described including a tubular valve casing having an inlet, an outlet and a valve seat between the inlet and outlet, a valve movable between the seat and outlet, resilient means for holding the valve normally against its seat, a cup having an open top supported by the valve between the seat and inlet to receive liquid, said cup having a drain opening and being of such capacity as to hold an amount of liquid sufficient to hold the valve unseated against the action of its spring after the casing has been emptied and before the cup has been drained.

3. A device of the class described including a

tubular valve casing having an inlet, an outlet and a valve seat between the inlet and outlet, a valve movable between the seat and outlet, resilient means for holding the valve normally against its seat, a cup supported by the valve between the seat and inlet and having a drain opening, said cup being of such capacity as to hold an amount of liquid sufficient to keep the valve open against the action of its spring, after the casing has emptied and before the cup has been drained and guard means in the valve casing between the cup and the inlet.

4. A device of the class described including a tubular valve casing having an inlet, an outlet and a valve seat between the inlet and outlet, a valve movable between the seat and outlet, resilient means for holding the valve normally against its seat, a cup supported by the valve between the seat and inlet and having a drain opening, said cup being of such capacity as to hold an amount of liquid sufficient to keep the valve open against the action of its spring, after the casing has emptied and before the cup has been drained, and adjustable means at the outlet end of the casing for limiting the movement of the valve when unseated.

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