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L. R. DORRIS

GASOLINE FILLING NOZZLE

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Fig. 1.

Fig. 2.

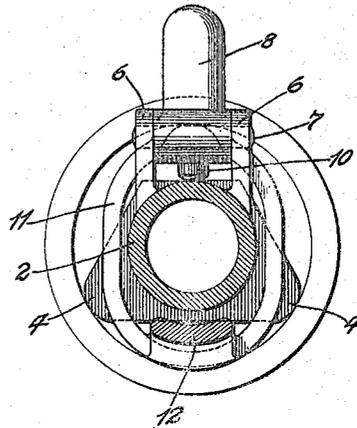
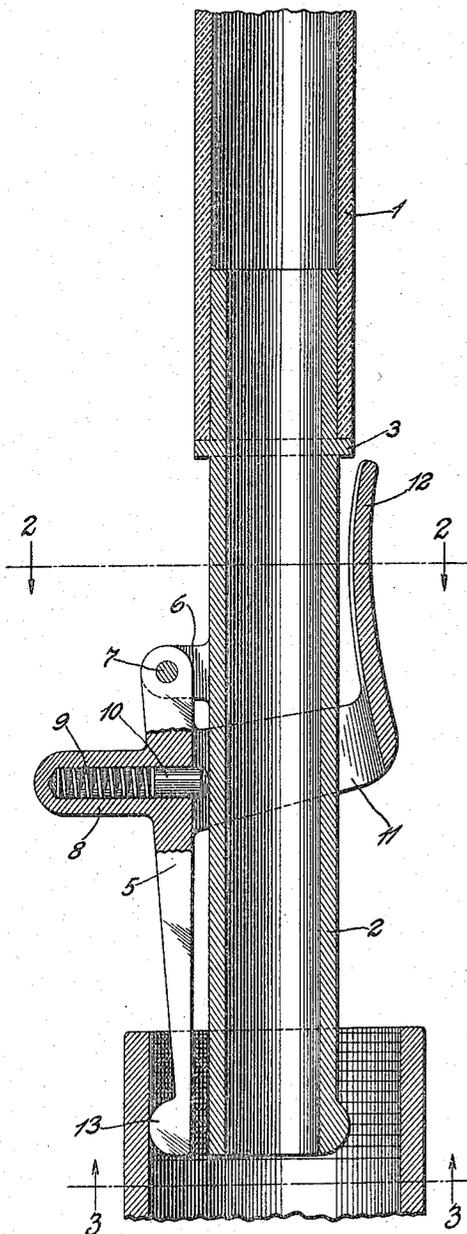
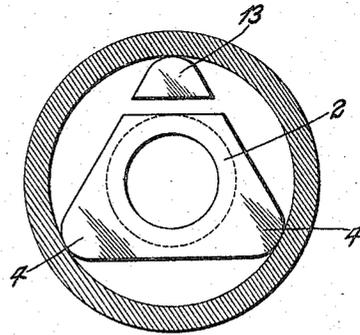


Fig. 3.



Inventor:
Lewis R. Dorris,
by Rippey Kingland,
His Attorneys.

UNITED STATES PATENT OFFICE.

LEWIS R. DORRIS, OF NASHVILLE, TENNESSEE.

GASOLINE FILLING NOZZLE.

Application filed August 6, 1923. Serial No. 655,912.

To all whom it may concern:

Be it known that I, LEWIS R. DORRIS, a citizen of the United States, residing at Nashville, Davidson County, Tennessee, have invented a new and useful Gasoline Filling Nozzle, of which the following is a specification.

This invention relates to gasoline filling nozzles.

The usual equipment employed by gasoline filling stations, etc., for filling the gasoline tanks of motor vehicles with gasoline comprises a relatively heavy hose of considerable length connected at one end with the pump or supply mechanism from which the gasoline is taken, and provided at its opposite end with a metallic nozzle adapted to be extended into the inlet opening of the gasoline tank on the motor vehicle so that the gasoline taken from the source of supply will be discharged into the gasoline tank of the motor vehicle. Due to the weight of the relatively long and heavy hose leading from the source of supply to the gasoline tank of the motor vehicle it frequently occurs that when the weight of the hose is increased by the gasoline passing through it, the nozzle is drawn out of the inlet opening of the gasoline tank and the gasoline flows from the hose to the ground and is wasted.

An object of the present invention is to provide a novel and efficient device for holding the nozzle in the inlet opening of the gasoline tank of the motor vehicle so that when the weight of the connected hose is increased by the gasoline passing through it the nozzle cannot become detached or drawn out of the inlet opening.

Other objects will appear from the following description, reference being made to the drawing in which—

Fig. 1 is a longitudinal sectional view of my present invention in connection with the inlet of a gasoline tank.

Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view on the line 3—3 of Fig. 1.

My improved filling nozzle is designed and adapted for use in connection with the usual filling hose 1 for conducting the gasoline from the source of supply to the nozzle and thence into the gasoline tank of a motor vehicle, or the like. As shown, my improved nozzle comprises a tubular portion

2 having telescoping or other connection with the hose 1 and, in the present instance, being telescoped within the end of the hose 1 and having a circumferential flange 3 serving as an abutment for the end of the hose. The telescoping connection on the two parts forms a leak-proof joint.

The end of the nozzle 2 is provided with a pair of projections 4 which may be two rounded corners of a triangle as will be understood by reference to Fig. 3, and which are freely insertable in and withdrawable from the inlet opening of gasoline tanks on motor vehicles.

A lever 5 has one end pivoted to the nozzle 2 and the free end terminating in line with or approximately in line with the end of the nozzle 2. As shown, the lever 5 extends between a pair of ears 6 rigid with the nozzle 2 and is mounted upon a pivot 7 supported by said ears.

A spring barrel 8 in connection with the lever 5 extends in a direction away from the nozzle 2 and encloses a spring 9, the outer end of which abuts against the end of the spring barrel and the inner end of which presses a slidable element 10 into contact with the nozzle 2. The spring 9 is of the expansion type and its power is exerted to actuate the free end of the lever 5 in a direction away from the nozzle 2, with the result that when the ends of the nozzle and the lever are placed within the inlet opening of a gasoline tank, said nozzle and lever are spread apart and held into contact with the walls of the inlet opening forming a gripping device that will hold the nozzle in position even under the increased weight of the gasoline flowing through the hose. Thus waste of gasoline is prevented.

The lever 5 is formed with a loop or ring 11 embracing the nozzle 2 and having a handle or hand lever 12 in connection therewith on the side of the nozzle 2 diametrically opposite from the lever 5. The ring or loop 11 is of sufficient size to permit manipulation of the handle 12 to move the lever 5 toward the nozzle 2 and to permit the spring 9 to actuate the lever 5 some distance away from the nozzle. Extent of movement of the lever 5 away from the nozzle 2 is limited by contact of the ring 11 with the nozzle so that the part 10 cannot become detached.

The end of the lever 5 has an enlargement 13 thereon corresponding to the pro-

jections 4 and forming the third corner or apex of the triangle. The enlargement 13 is adapted to form gripping engagement with the inner surface of the inlet opening in the gasoline tank under pressure of the spring 9, while the projections 4 also engage the inner surface of the inlet opening.

From the foregoing it will be seen that when it is desired to insert the nozzle in the inlet opening of the gasoline tank it is only necessary to engage the nozzle 12 and press it toward the nozzle 2, thereby moving the free end of the lever 5 close to the nozzle to permit the end of the nozzle and the lever 5 to be inserted in the inlet opening. When the handle 12 is released the spring 9 presses the nozzle and the lever 5 apart causing the projections 4 on the nozzle and the enlargement 13 on the lever to form gripping engagement with the inside of the inlet opening. The spring 9 is strong enough to cause the parts to obtain gripping engagement that will prevent the nozzle from dropping or being drawn out of the inlet opening even under the increased weight of the gasoline flowing through the hose 1. Thus possibility of loss or waste of gasoline, that would occur should the nozzle become detached from the gasoline tank, is wholly prevented and all of the gasoline is saved. When it is desired to remove the nozzle it is only necessary to release the gripping engagement of the parts 4 and 13 with the inner surface of the inlet opening by proper manipulation of the handle 12.

From the foregoing it will be seen that my invention is a very simple and highly efficient device for obtaining all of its intended objects and purposes. The device may be economically manufactured and installed and effects a real and substantial saving by preventing the loss of gasoline due to the accidental disengagement of the nozzle from the gasoline tank.

I am aware that the construction and arrangement may be varied from that shown and I do not restrict myself to the exact form shown and described, nor otherwise except as within the scope of the appended claims.

What I claim and desire to secure by Letters Patent is:—

1. The combination with a nozzle insertable in and withdrawable from the filling opening of a gasoline tank, of a lever pivoted to the nozzle at a distance from the discharge end of the nozzle and insertable in the filling opening with the nozzle, and automatic means for pressing the lever and the nozzle apart and into engagement with opposite edges of the filling opening.

2. The combination with a nozzle insertable in the filling opening of a gasoline tank, of a lever pivoted to the nozzle at a distance from the discharge end of the nozzle and

having its free end insertable in the filling opening with the nozzle, automatic means for pressing the lever and nozzle apart to bifurcated relationship and into engagement with opposite edges of the filling opening, and a handle in connection with said lever and on the opposite side of the nozzle for moving the lever toward the nozzle.

3. The combination with a nozzle insertable in the filling opening of a gasoline tank, of a lever pivoted to the nozzle at a distance from the outlet into the nozzle and extending toward said outlet end, an actuator between the lever pivot and the discharge end of the nozzle for actuating the lever and the nozzle into bifurcated relationship and into engagement with opposite edges of the filling opening, and a handle in connection with said lever extending beyond the other side of the pivot from said actuator for moving the lever toward the nozzle.

4. The combination with a nozzle insertable in the filling opening of a gasoline tank, of a lever pivoted to the nozzle at a distance from the outlet into the nozzle and extending toward said outlet end, an actuator for actuating the lever and the nozzle into bifurcated relationship and into engagement with opposite edges of the filling opening, and means independent of said actuator for pressing said lever toward the nozzle to disengage said lever and nozzle from the edges of the filling opening.

5. The combination with a gasoline filling nozzle, of a projection near the discharge end of said nozzle, a lever pivoted to the nozzle at a distance from the outlet end of the nozzle and extending toward said outlet end and having an enlargement on its free end, and an actuator for actuating said lever and said nozzle in the directions to cause said projection and said enlargement to engage the wall of an opening in which the end of the nozzle is placed.

6. The combination with a gasoline filling nozzle, of a projection near the discharge end of said nozzle, a lever pivoted to the nozzle at a distance from the outlet end of the nozzle and extending toward said outlet end and having an enlargement on its free end, an actuator for actuating said lever and said nozzle in the direction to cause said projection and said enlargement to engage the wall of an opening in which the end of the nozzle is placed, and a handle for moving said lever toward the nozzle in opposition to said actuator to permit withdrawal of said nozzle from the opening in which it is placed.

7. The combination with a gasoline filling nozzle, of a number of projections near the outlet end of said nozzle, a lever pivoted to said nozzle a distance from the outlet end thereof, an enlargement on said lever near the outlet end of the nozzle, and an actuator for actuating the lever and the nozzle in

opposite directions to cause said projections and enlargement to engage the wall of an opening in which they may be placed.

5 nozzle, of a number of projections near the outlet end of said nozzle, a lever pivoted to said nozzle a distance from the outlet end thereof, an enlargement on said lever near the outlet end of the nozzle, an actuator for
10 actuating the lever and the nozzle in opposite directions to cause said projections and enlargement to engage the wall of an opening in which they may be placed, and a handle in connection with said lever for moving
15 said lever toward the nozzle to release said projections and said enlargement from the wall of the opening in which they may be placed.

20 9. The combination with a gasoline filling nozzle having an outlet end adapted to be

inserted into the inlet opening of a gasoline tank, of a gripping device adjacent to the outlet end of said nozzle, and an actuator for actuating the gripping device in a direction to cause the gripping device and the
25 nozzle both to engage the wall of the inlet opening in which they are inserted.

10. The combination with a gasoline filling nozzle having an outlet end adapted to be inserted into the inlet opening of a gaso-
30 line tank, of a gripping device adjacent to the outlet end of said nozzle, an actuator for actuating the gripping device in a direction to cause the gripping device and the nozzle
35 both to engage the wall of the inlet opening in which they are inserted, and means for releasing the gripping device from the wall of the inlet opening.

LEWIS R. DORRIS.