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GASOLINE DISPENSING NOZZLE AND GUARD

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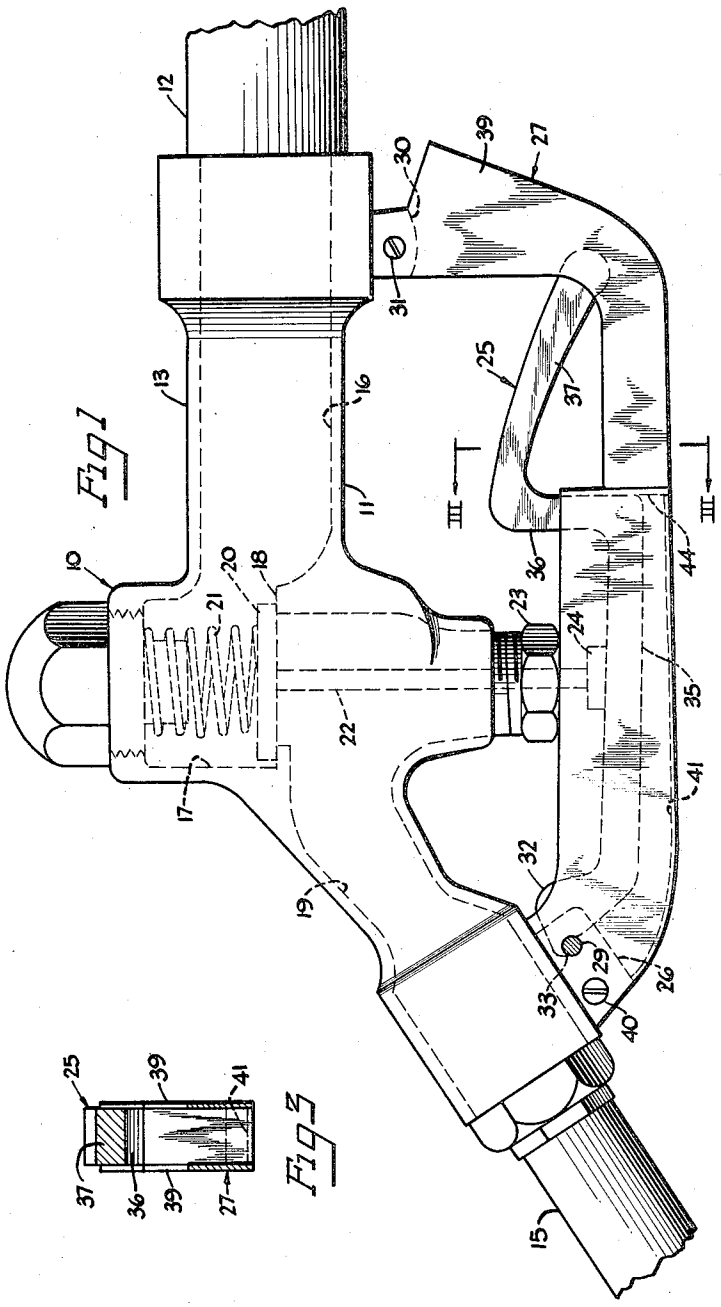


Fig 1

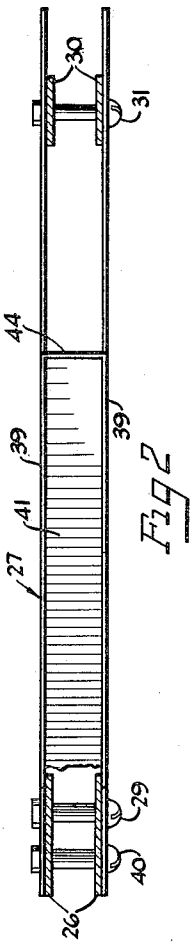


Fig 2

Fig 3

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GASOLINE DISPENSING NOZZLE AND GUARD

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This invention relates to improvements in nozzles and more particularly relates to an improved form of nozzle adapted for coin operated gasoline dispensers and the like.

Where gasoline is measured and dispensed by coin operated mechanisms, and particularly where the customer of the filling station fills his own tank, wedging objects such as a piece of wood or a stone are frequently wedged under the control lever or trigger for the nozzle and force the trigger in position to hold the nozzle valve open and effect the delivery of gasoline without exerting manual pressure on the nozzle control trigger.

While a coin controlled gasoline dispenser will stop the delivery of gasoline when an amount corresponding to the value of the coins deposited in the coin slot has been delivered, the customer frequently does not remove the wedge and hangs the nozzle on the nozzle hook in its receptacle, with the wedge holding the nozzle valve open.

A next customer, not being aware the nozzle valve is wedged open, will deposit coins in the coin slot, remove the nozzle from the nozzle receptacle and raise the pump switch lever to effect the delivery of gasoline in accordance with the value of coins deposited. The nozzle valve control lever or trigger being wedged open, gas will immediately be delivered through the nozzle, and many times the entire amount of gasoline paid for will be delivered before the nozzle can be inserted in the tank inlet.

A principal object of the present invention is to provide a novel form of tamperproof nozzle so arranged as to prevent the holding of the nozzle valve open when the operator's hand is removed from the valve operating trigger.

Another object of the invention is to provide a new and improved form of gasoline dispensing nozzle having a novel form of guard for the valve opening lever or trigger for the nozzle, so arranged as to prevent the dispensing of gasoline unless the trigger is operated by the hand, to hold the valve in an open position.

These and other objects of the invention will appear from time to time as the following specification proceeds and with reference to the accompanying drawings wherein:

FIGURE 1 is a view in side elevation of a gasoline dispensing nozzle constructed in accordance with the principles of the invention;

FIGURE 2 is a top plan view of the nozzle guard with the connecting ears from the nozzle to the guard shown in section; and

FIGURE 3 is a partial fragmentary transverse sectional view taken substantially along line III—III of FIGURE 1.

In the embodiment of the invention illustrated in the drawing, I have shown in FIGURE 1 a nozzle **10** for dispensing gasoline. Said nozzle may be of a conventional form and includes a body **11** having an inlet hose **12** communicating with said nozzle at the rear end of a handle portion **13** of said nozzle. The nozzle also has a tube or spout **15** leading from the outlet end thereof and adapted to be inserted within the inlet pipe of a gasoline tank and the like.

A passageway **16** leads from the hose **12** through the handle **13** to a valve chamber **17**, having an annular seat **18** therein, affording communication between the passageway **16** and an outlet passageway **19** communicating with the spout **15**. A poppet valve **20** of a conventional form, is biased into engagement with the seat **18** as by a compression spring **21**. A stem **22** is connected to and leads

downwardly from the poppet valve **20** outwardly of the valve body through a packing nut **23**. The stem **22** forms a plunger opening the valve **20** upon depression of said stem.

The stem or plunger **22** is engaged at its lower end by a seat **24** on a valve opening lever or trigger **25**, intermediate the ends of said lever. The under surface of the body **11**, adjacent the spout **15**, has a pair of laterally spaced ears **26** extending therefrom in a generally angularly downwardly direction and forming a mounting for one end of a trigger guard **27**, and a mounting for the fulcrum bolt or pin **29** for the trigger **25**. The opposite end of the trigger guard **27** is mounted on a pair of spaced depending lugs **30**, as by a nut and bolt **31**.

As shown in FIGURE 1, the lever or trigger **25** has an upturned forward end portion **32** terminating in a downwardly facing hooked end portion **33**, having bearing engagement with the fulcrum pin **29**. The trigger **25** also has a generally horizontally extending portion **35**, extending from the hooked end portion **32** beneath the stem or plunger **22** and having the seat **24** for the stem **22** mounted thereon, intermediate the ends of said horizontally extending portion. The horizontally extending portion of the trigger **25** terminates into an upright portion **36**, extending generally vertically from said horizontally extending portion and having a handle portion **37** extending angularly rearwardly and downwardly therefrom, with the rear end thereof extending within the limits of the trigger guard **27**.

The trigger guard **27** comprises two parallel spaced guard plates **39** extending along opposite sides of the horizontal portion **35** of the operating lever or trigger **25** and secured to the spaced ears **26** at their forward ends as by the fulcrum pin or bolt **29**, and an angularly downwardly and forwardly spaced bolt **40**.

As shown in FIGURES 1 and 2, the plates **39** are closed at their bottoms by a bottom plate **41** extending between said plates for a portion of the length thereof and extend upwardly to the packing nut **23**, to form a guard for the horizontal portion **35** of the trigger **25** and valve stem **22** throughout the entire extent of valve opening movement of said trigger and valve stem.

The bottom plate **41** terminates at its rear end into a vertical partition **44**, extending between the guard plates **39** and upwardly along the rear end of the vertically extending portion **36** of the trigger **25**. The space between the guard plates **39** rearwardly of the partition **45** is open.

It may be seen from the foregoing that the operating portion of the valve operating lever or trigger **25** and the valve stem **22** are covered during the entire extent of valve opening and closing movement and that the bottom plate **41** and the partition **45** guard the trigger and valve stem from being wedged open by a stone or the like, to hold the nozzle valve open when the hand is released from the hand grip portion **37** of the trigger.

It may further be seen that the trigger guard is of a simplified construction and may be adapted to various forms of commercial gasoline dispensing nozzles and renders the nozzle tamperproof and is particularly adapted for coin operated gasoline dispensers in that it protects the nozzle against the uncontrolled delivery of gasoline attained by wedging the trigger in an open position by a piece of wood, a stone or the like.

While I have herein shown and described one form in which my invention may be embodied, it may readily be understood that various variations and modifications in the invention may be attained without departing from the spirit and scope of the novel concepts thereof.

I claim as my invention:

1. In a nozzle for dispensing gasoline and the like, a nozzle body, a valve stem projecting downwardly of said nozzle body, a trigger extending along said nozzle body

and disposed beneath said valve stem and having operative engagement therewith, a fulcrum for one end of said trigger, adjacent the forward end of said nozzle body, said trigger having a generally horizontally extending operating portion extending rearwardly of said fulcrum beneath said valve stem, and having an upright portion extending upwardly of the rear end thereof having a finger grip extending rearwardly therefrom, a trigger guard extending along opposite sides of said trigger and including spaced guard plates of sufficient depth to guard said trigger and valve stem for the full extent of movement thereof, and a partition connecting said guard plates together and extending upwardly along the vertically extending portion of said trigger.

2. In a nozzle for dispensing gasoline and the like, a nozzle body, a valve stem projecting downwardly of said nozzle body, a trigger extending along said nozzle body and disposed beneath said valve stem and having operative engagement therewith, a fulcrum for one end of said trigger, adjacent the forward end of said nozzle body, said trigger having a generally horizontally extending operating portion extending rearwardly of said fulcrum beneath said valve stem, and having an upright portion extending upwardly of the rear end thereof having a finger grip extending rearwardly therefrom, a trigger guard extending along opposite sides of said trigger and including spaced guard plates of sufficient depth to guard said trigger and valve stem for the full extent of movement thereof, and a partition connecting said guard plates together and extending upwardly along the vertically extending portion of said trigger, and a bottom wall extending between said guard plates from the region of said fulcrum to said partition.

3. In a nozzle for dispensing gasoline and the like, a nozzle body, a valve stem projecting downwardly of said body and guided for extensible and retractible movement with respect to said body, a trigger for operating said valve stem and extending therebeneath and along the underside of said body, a packing nut for said valve stem, a fulcrum for said trigger, at the forward end thereof, and a seat for said valve stem on said trigger intermediate the ends of said trigger, said trigger having an upright portion spaced rearwardly of said seat and having a finger grip extending rearwardly therefrom, and said nozzle guard comprising spaced guard plates extending along opposite sides of said trigger upwardly into the region of said packing nut and having a rear end portion rearwardly of said upright portion of said trigger, of reduced height, to accommodate the fingers to grip said finger grip and retractibly move said valve stem to effect the flow of gasoline through said nozzle, and a partition between said guard plates extending vertically along the upright portion of said trigger and preventing access to said trigger between said fulcrum and the rear end portion of said upright portion of said trigger.

4. In a nozzle for dispensing gasoline and the like, a nozzle body, a valve stem projecting downwardly of said body and guided for extensible and retractible movement with respect to said body, a trigger for operating said valve stem and extending therebeneath and along the underside of said body, a packing nut for said valve stem, a fulcrum for said trigger, at the forward end thereof, and a seat for said valve stem on said trigger intermediate the ends of said trigger, said trigger having an upright portion spaced rearwardly of said seat and having a finger grip extending rearwardly therefrom, and said nozzle guard comprising spaced guard plates extending along opposite sides of said trigger upwardly into the region of said packing nut and having a rear end portion rearwardly of said upright portion of said trigger, of reduced height, to accommodate the fingers to grip said finger grip and retractibly move said valve stem to effect the flow of gasoline through said nozzle, and a partition between said guard plates extending vertically along the upright portion of said trigger and preventing access to said trgger between said fulcrum and the rear end portion of said upright portion of said trigger, said guard plates being closed along their bottoms from the region of said fulcrum to said partition and being open along their bottoms rearwardly of said partition in the region of said finger grip.

5. In a nozzle for dispensing gasoline and the like, a nozzle body, a depressible valve stem projecting downwardly of said nozzle body, a trigger extending along said nozzle body and disposed beneath said valve stem and pivoted to said body at one end and having a generally horizontally extending operating portion extending rearwardly of the pivot of said trigger to a portion of said body beneath said valve stem and also having an upright portion extending upwardly of said operating portion, rearwardly of said valve stem, and having a finger grip extending angularly downwardly therefrom in a convenient position to be engaged by the fingers to operate said trigger to depress said valve stem and effect the delivery of gasoline through said nozzle, and means preventing the wedging of said trigger and valve stem in a valve opening position comprising two guard plates connected to said nozzle body at one end and extending along said trigger beyond said finger grip upwardly to said nozzle body, said guard plates extending upwardly along opposite sides of the valve operating portion of said trigger and upwardly along said valve stem toward said valve body and completely enclosing the valve operating portion of said trigger and said valve stem for the entire length of valve opening and closing travel thereof.

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