Aug. 20, 1940. L. R. OLSEN 2,212,376

RESET LOCK FOR DISPENSING STANDS

Filed May 11, 1938 3 Sheets-Sheet 1

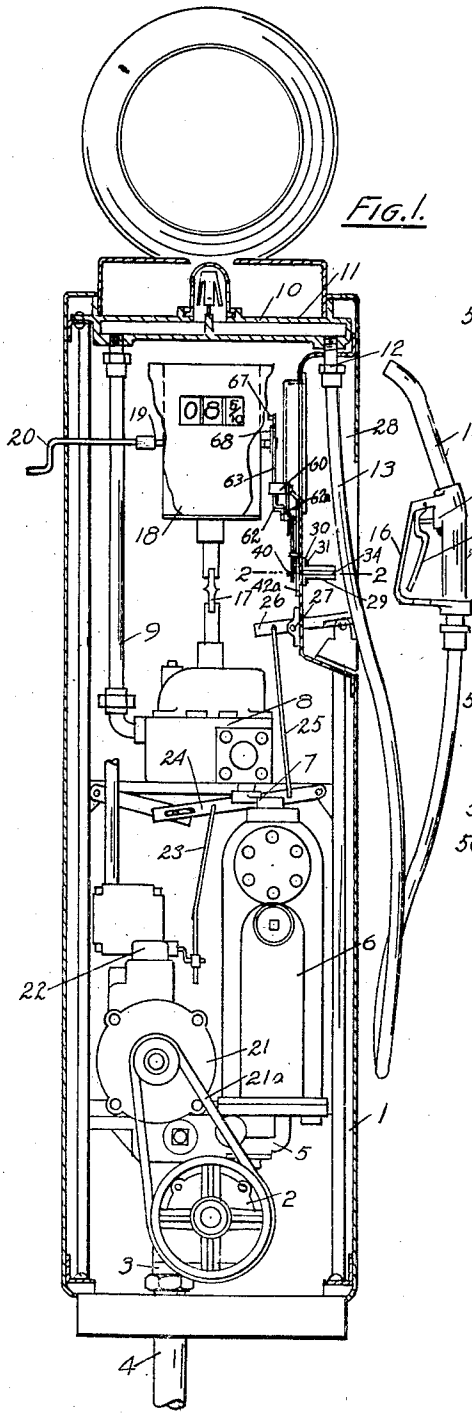


FIG. 1.

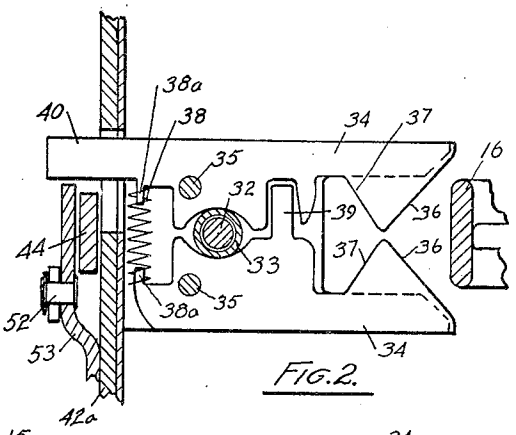


FIG. 2.

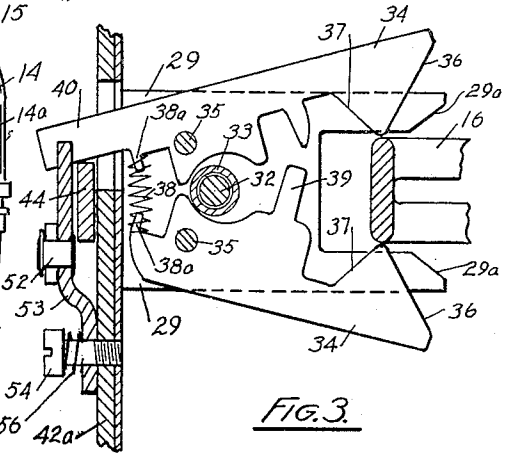


FIG. 3.

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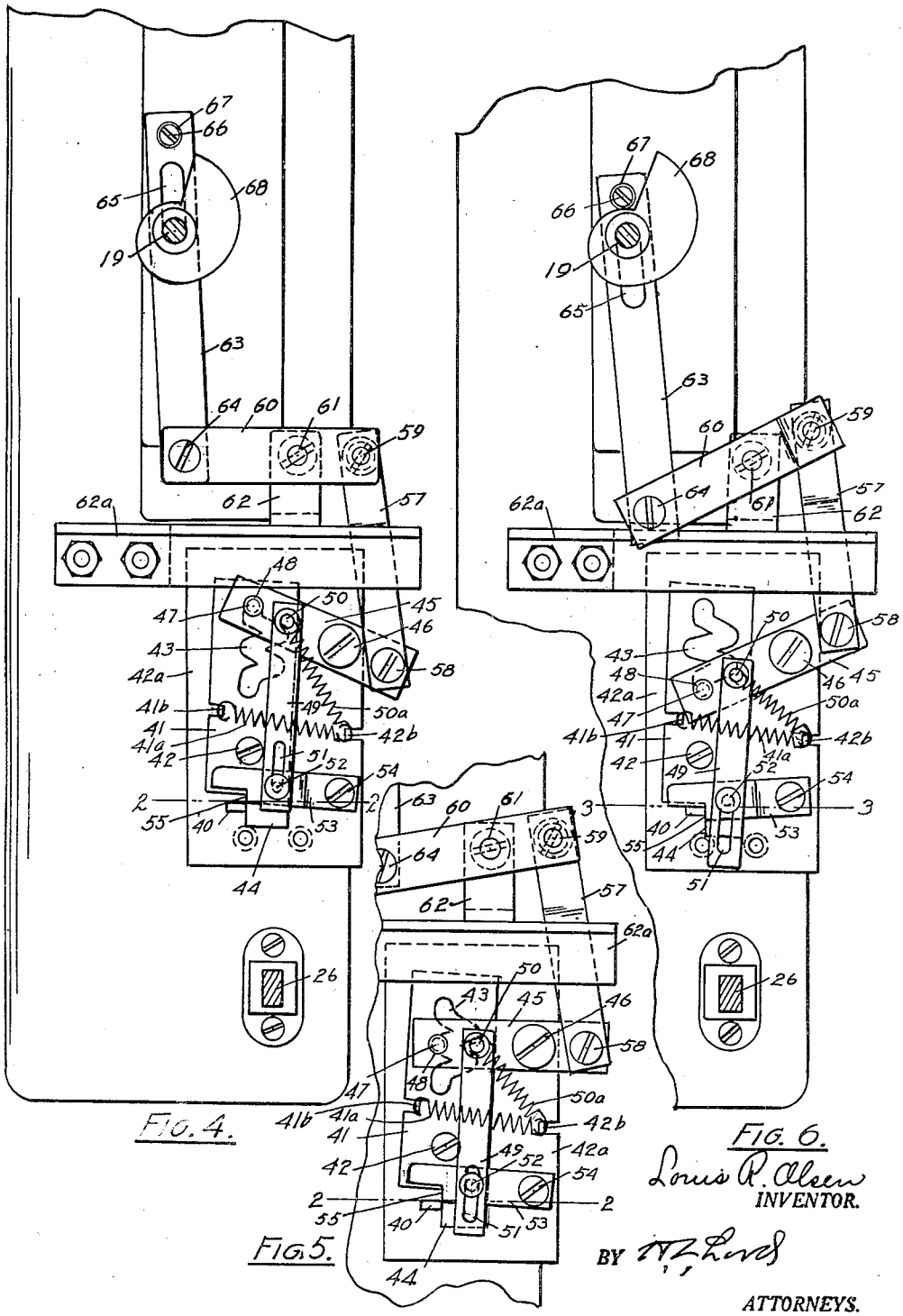


FIG. 4.

FIG. 6.

FIG. 5.

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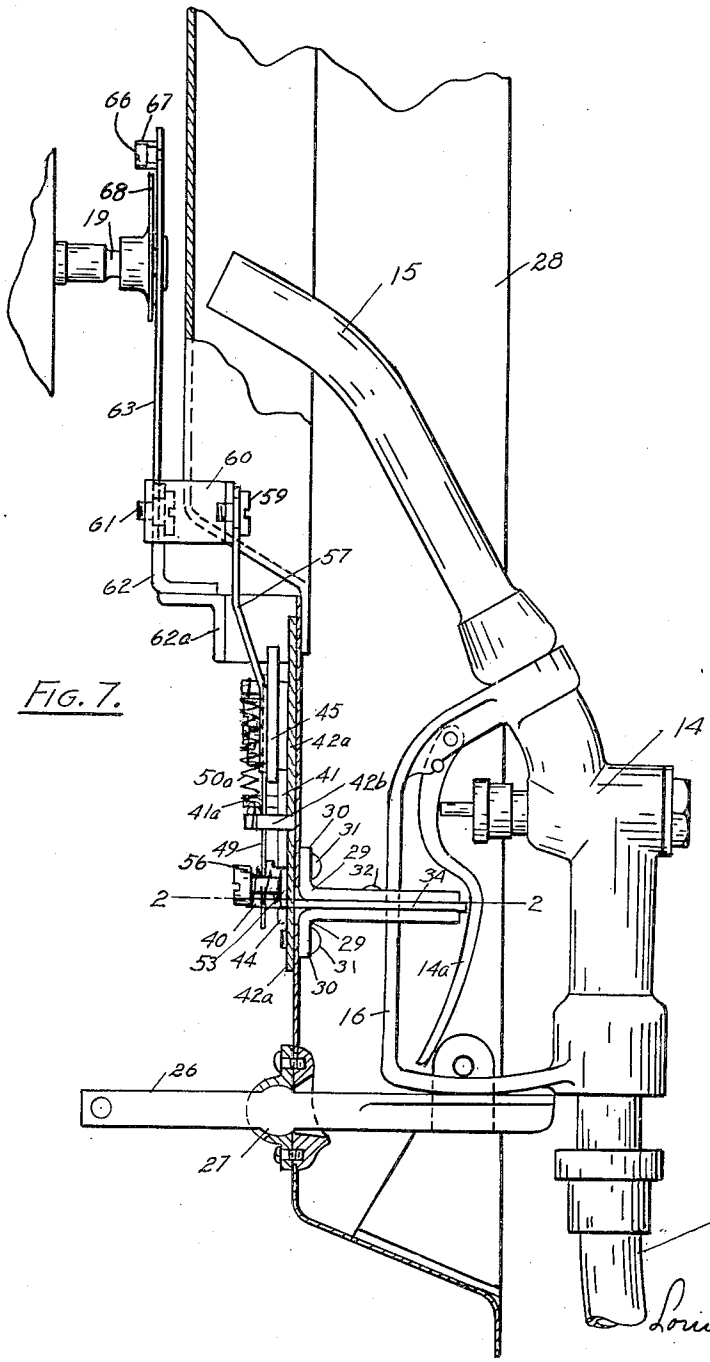


FIG. 7.

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Patented Aug. 20, 1940

2,212,376

UNITED STATES PATENT OFFICE

2,212,376

RESET LOCK FOR DISPENSING STANDS

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Application May 11, 1938, Serial No. 207,235

4 Claims. (Cl. 221—95)

The present invention is designed to provide a simple and efficient mechanism requiring the resetting of the metering device before the hose can be unhooked for a second operation. In other words, a mechanism compelling the resetting to zero with each operation. The invention relates to the simplification and improvement of the mechanism for accomplishing this purpose. Features and details of the invention will appear from the specification and claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings as follows:

Fig. 1 shows a vertical sectional view of the stand.

Fig. 2 a section on the line 2—2 in Figs. 1, 4 and 7.

Fig. 3 a section on the line 3—3 in Fig. 6.

Fig. 4 an enlarged rear view of the locking mechanism with the meter reset and the parts in position to permit the release of the hose.

Fig. 5 a similar view showing the parts after the removal of the hose.

Fig. 6 a similar view with the parts in locking position.

Fig. 7 is an enlarged sectional view similar to that of the locking mechanism, the section being similar to that shown in Fig. 1.

1 marks the case, 2 a pump in the case having an intake 3 leading from a source of supply through a pipe 4. A discharge 5 leads to an air separating tank 6. The air separating tank has a connection 7 leading to a meter 8. A pipe 9 leads from the meter to a passage 10 in a cap 11. A hose discharge 12 leads from the passage 10. A hose 13 leads from the discharge 12 to a control valve 14 from which a nozzle 15 extends. The valve is provided with the usual guard handle 16 and operating handle 14a. The meter drive 8 is connected by a shaft 17 with an indicating mechanism 18, the indicating mechanism having a reset shaft 19 operated by a crank 20. The pump is driven from a motor 21 by means of a belt 21a. A switch 22 controls the motor. An operating rod 23 extends from the switch to a rock arm 24 carried in the case. A link 25 extends from the rock arm 24 to a switch control arm 26. The arm 26 is pivoted at 27 in a bracket in the rear wall of the nozzle pocket 28. Bracket plates 29 have the angle bases 30 which are secured to the rear wall of the pocket 28 by screws 31. The plates 29 are spaced from each other and are connected by screw 32 which passes through the plates and a spacer collar 33. Locking plates 34 are pivoted on pins 35. These plates are arranged in the space between the bracket plates 29. They have the cam ends 36 which in closed position register with the inclined entrance opening 29a of the bracket plates. Locking shoulders 37 are arranged at the rear of the cam surfaces 36. As the hose is put to place it is forced in between the locking plates 34, the cam surfaces spreading these plates to permit this opening action. A spring 38 arranged in notches 38a and the locking plate tends to close them, and a stop finger 39 limits the closing movement. This finger also prevents the independent opening of the locking plate carrying the finger.

One of the locking plates has a rear extension 40 which extends through the rear wall of the pocket 28. A control plate 41 is pivoted by a screw 42 on a control mounting 42a. The control plate has a zig-zag slot 43 and a locking extension 44 which is in the path of the extension 40 so that with each operation of the locking plates the control plate is oscillated. A rock arm 45 is pivoted by means of a screw 46 on a mounting plate and has a pin 47 extending through the slot 43. This is provided with a roller 48 to ease the movement of the pin in the slot. A link 49 is pivotally mounted by a pin 50 on the rock arm 45. At its lower end it has a slot 51 through which extends a pin 52, the pin being mounted in a lock arm 53. The lock arm 53 is pivotally mounted by a screw 54 on the mounting plate 42a. The rock arm has a stop shoulder or surface 55 at its free end and is yieldingly held in an elevated position by coil spring 56 which is arranged around the screw 54 anchored on the screw and the arm so as to exert pressure on the arm. A spring 56a is secured to the pin 50 and anchored on a hook 42b on the mounting 42a. A second spring 41a extends from the hook 42b to a hook 41b on the control plate 41. The spring 56a yieldingly draws downwardly on the rock arm 45, and the spring 41a yieldingly holds the control plate toward the right as shown in Figs. 4, 5 and 6. A link 57 is pivotally secured on an extension on the rock arm 45 by means of a screw 58 and is pivotally secured by a pin 59 on a lever 60, the lever being pivotally mounted at 61 on a post 62, the post extending from the bracket 62a in the case. A link 63 is pivotally mounted to the lever 60 by means of a screw 64. The link has a slot 65 through which the reset shaft 19 extends. A pin 66 is fixed on the upper end of the link 63 and is provided with a roller 67. A cam 68 is fixed on the reset shaft and is so formed as to

lift the link 63 when the cam is rotated in a resetting operation and to take a position at the zero position to permit the downward movement of the link 63 to clear the cam as clearly shown in Figs. 4 and 6.

In the operation of the device, starting with the nozzle in its set position, the controlling and locking parts will be in the position shown in Figs. 2, 4, 5 and 6 except that the valve handle will be behind the locking shoulders 37 in Fig. 2. The locking shoulders are slightly inclined so that if the nozzle is grasped it may be withdrawn, but the withdrawal of the nozzle rocks the lock plates 34 and therefore swings the extension 40 against the extension 44 on the control plate 43. This moves the control plate as shown in Fig. 4 to the left and this permits the downward movement of the pin 47 in the control slot following the first stage in that slot as the control lever is swung to the left. As the locking plates snap closed on the removal of the hook this allows the extension 40 to return to its position shown in Fig. 2 and the control plate 41 to swing back to the right under the influence of the spring 41a and the incline of the slot under the influence of the spring 50a. The pin 47 stops in the middle turn of the control slot and the parts remain in this position during the servicing operation. It will be noted that in this downward movement of the rock arm 45, the link 49 has been depressed and the slot 51 is moved downwardly on the pin 52 not quite to the limit of its movement, the intermediate position of the parts being shown in Fig. 5. The lock arm 53 still remains in its upward position so as to permit a free movement of the extension 40.

As the nozzle is returned to its place, the handle entering the locking plates cams them open swinging the extension 40 against the extension 44 of the control lever 41 throwing the upper end of the control lever toward the left and permitting the downward movement of the pin 47 in the slot and bringing the upper end of the slot 51 in the link 49 nearly into engagement with the pin 52. As the hose handle reaches its final position the locking plates return to their normal position, thus swinging the extension 40 clear of the lock arm 53. This permits the link 49 to move downwardly and through its engagement with the pin 52 to move the lock arm 53 downwardly, the spring 50a being stronger than the spring 56. The downward movement of the lock arm brings the lock shoulder 55 back of the extension 40, thus preventing an opening movement of the locking plates by reason of the engagement of the extension 40 with the shoulder 55.

The apparatus can only be operated again by turning the reset shaft 19 to zero position thus turning the cam 68. The cam 68 operating on the roller 67 lifts the link 63 and through the connected mechanism actuates the rock arm 45 lifting it to its initial position as shown in Fig. 4, and in its upward movement moving upwardly the link 49 which picks up the pin 52 and forces the lock arm to its upper position. The spring 56 yieldingly accomplishes this purpose as the pin is relieved of the pressure of the upper part of the slot 51. This upward position of the lock arm permits the swinging movement of the extension 40 and consequently an outward or releasing movement of the valve handle.

It will be noted that in this structure while a resetting action is compelled before the nozzle can be a second time removed, the valve of the nozzle may be actuated, and by reason of the freedom of the handle 16 to move upwardly back on the locking shoulders 37 the control switch lever 26 may be set to control the switch if such action is desired.

What I claim as new is:

1. In a resetting locking device, the combination with a dispensing apparatus having a meter mechanism; a discharge hose having a nozzle; and a nozzle support; of a locking member actuated by a horizontal movement of the nozzle on the support; means retaining the member in locking position; and devices responsive only to movement of the meter to reset position rendering the retaining member inoperative.

2. In a resetting locking device, the combination with a dispensing apparatus having a meter mechanism; a discharge hose having a nozzle; and a nozzle support; of a locking member actuated by a movement of the nozzle on the support; means retaining the locking member in locking position; means controlling the locking member in response to movement of the locking member through the removal and return of the nozzle to the support, said movement of the controlling means making the retaining means active said retaining means comprising devices acting on the controlling means, limiting its movement to a plurality of steps; and devices operating with a resetting movement of the meter acting on the controlling means and rendering the retaining means inactive.

3. In a resetting locking device, the combination with a dispensing apparatus having a meter mechanism; a discharge hose having a nozzle; and a nozzle support; of a locking member actuated by a movement of the nozzle on the support; means retaining the member in locking position; controlling means for the retaining means comprising a controlling plate actuated by the locking member and having a zig zag slot therein, a movable arm having a projection in the slot said projection traversing the slot by two successive movements along the slot, a guiding means controlling the path of the movement of the arm, and a lost motion connection between the arm and the retaining means, said controlling means placing the retaining means in retaining position with the two actions of the controlling plate; and means acting with the resetting of the meter returning the controlling means.

4. In a resetting locking device, the combination with a dispensing apparatus having a meter mechanism; a discharge hose having a nozzle mechanism; and a nozzle mechanism support; of a locking receiving member receiving the nozzle mechanism as said nozzle is moved in a horizontal direction to set position, said receiving member having a locking projection in the path of the nozzle mechanism, said projection having front and back faces inclined to the horizontal path of the nozzle mechanism forming locking and camming surfaces actuating the locking receiving member with each pass of the nozzle mechanism to and from its support; means retaining the locking receiving member in locking position with each alternate pass of the nozzle mechanism to its support; and means rendering the retaining means inoperative with the resetting of the meter.

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