Nov. 5, 1957 W. S. FERDON 2,811,993

SANITARY DOOR AND SHELF FOR LIQUID DISPENSERS

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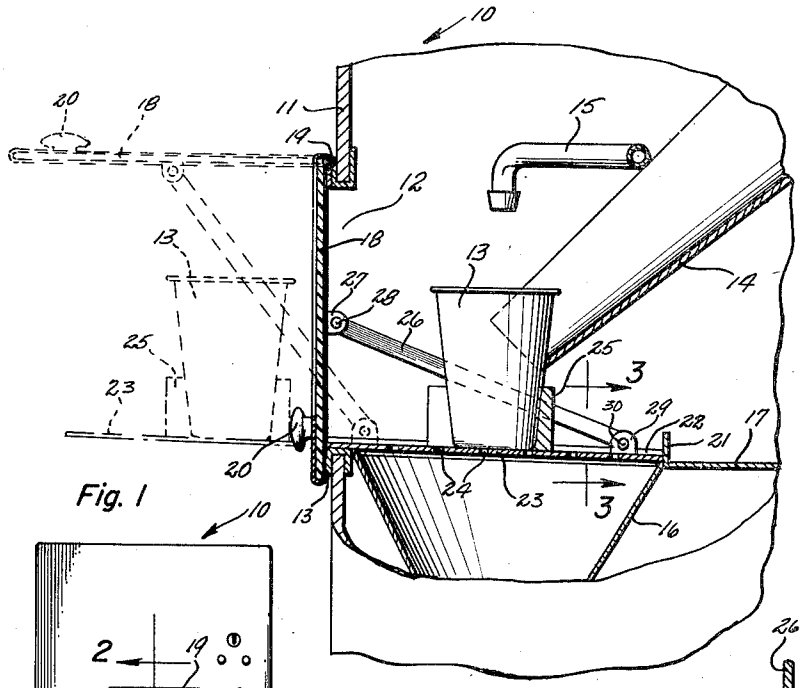


Fig. 2

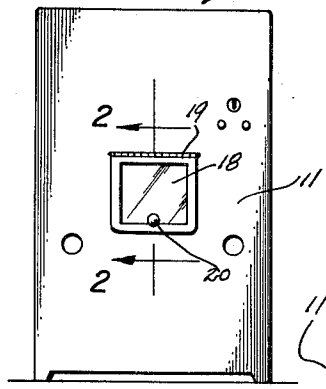


Fig. 1

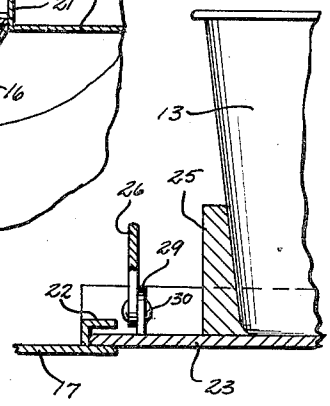


Fig. 3

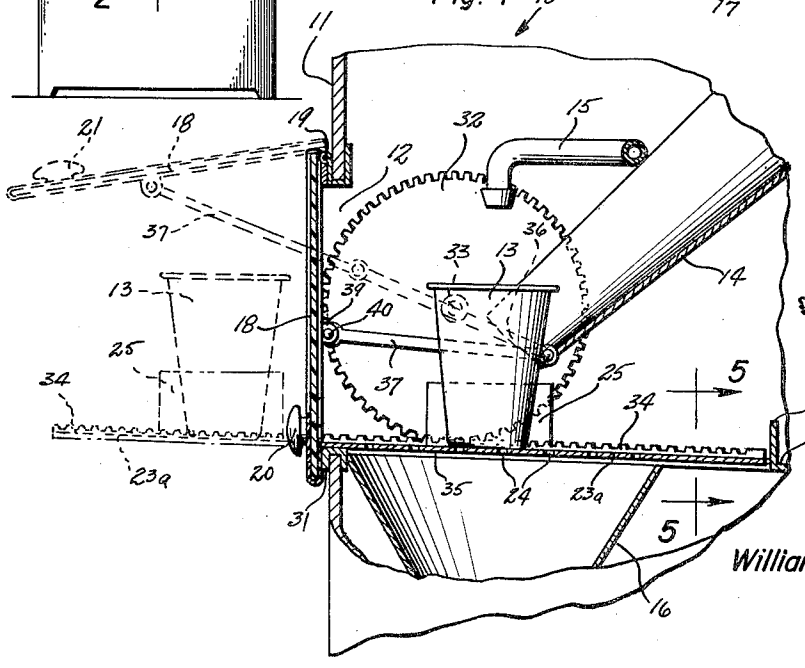


Fig. 4

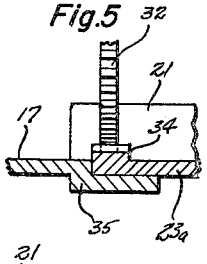


Fig. 5

INVENTOR

William S. Ferdon

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SANITARY DOOR AND SHELF FOR LIQUID DISPENSERS

William S. Ferdon, Birmingham, Ala.

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4 Claims. (Cl. 141—88)

This invention relates to vending machines of the type which dispense liquid and more particularly to sanitory doors therefor.

It is an object of the present invention to provide a sanitary door and shelf for liquid dispensing vendors which will materially improve the sanitation features of such machines by preventing undue exposure to outside elements and by making the material in the container as well as the machine itself more accessible.

It is still another object of the present invention to provide a sanitary door and shelf for liquid dispensing vendors of the above type which will facilitate the handling of hot liquids in paper cups without physical inconvenience to the consumer in handling such hot liquids.

Other objects of the invention are to provide a sanitary door and shelf for liquid dispensing vendors bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation and use.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is front elevational view of a preferred embodiment of the present invention shown in operative use;

Fig. 2 is an enlarged vertical sectional view thereof taken along the line 2—2 of Fig. 1 and illustrating in phantom the open position of the door and the extended position of the shelf;

Fig. 3 is a fragmentary vertical sectional view taken along the line 3—3 of Fig. 2;

Fig. 4 is a view similar to Fig. 2 of a modified form of the present invention; and

Fig. 5 is a fragmentary vertical sectional view taken along the line 5—5 of Fig. 4.

Referring now more in detail to the drawing, **10** indicates generally a vending machine for dispensing liquid beverages such as coffee or the like, having the usual front wall **11** and window opening **12** behind which the paper cups **13** are dispensed from the chute **14** and into which the beverage is dispensed from the dispenser nozzle **15**, the usual sump **16** being located below the dispenser **15**. The upper end of the sump **16** is positioned within the opening provided therefor in the floor member **17**.

In the practice of my invention, a transparent door **18** is hingeably mounted at its upper end at the top of the window **12** by means of the hinge assembly **19** and is provided near its lower end with the knob **20** to facilitate the raising and lowering of the same.

The floor member **17** at the inner end of the sump opening is formed with the upwardly extending stop **21**. The sump opening in this case is rectangular and the floor member **17** along the opposite longitudinal sides of said rectangular opening is integrally formed with the track members **22** of U-shaped cross section (Fig. 3).

A horizontal rectangular shelf **23** is slidably positioned along its opposite longitudinal edges within the tracks

22 and closes off the top of the sump **16** being provided with perforations **24** for drainage purposes as will be obvious. A three-sided cup receiving member **25** is fixedly positioned on the upper surface of the shelf **23** and receives therewithin the lower end of the cup **13** and will carry the cup outwardly on outward movement of the shelf.

Means are provided for moving the shelf **23** (and the cup **13**) to an extended position upon upward movement of the door **18** and include a link **26** pivotally connected to the center of the door **18** at one side by means of the lug **27** and the pin **28**, the lower end of the link **26** being pivotally connected to the rear end of the shelf **23** at one side by means of the lug **29** and pin **30**.

A channel-shaped member **31** is secured across the lower edge of the window opening **12** and has a rounded upper surface to reduce friction with the sliding shelf **23**.

In operation, as the door **18** is raised, the shelf **23** will move outwardly to the extended position to provide convenient access to the cup **13** which moves outwardly with the shelf. Upon lowering the door **18**, the shelf will return to its retracted position ready to receive the next cup which is dispensed. The door **18** will protect the interior of the machine from under-exposure to weather when normally closed.

Other lever means may be used for moving the shelf outwardly upon opening the door, for example as shown in Figs. 4 and 5, a gear **32** is rotatably mounted on the shaft **33** at one side of the slidable shelf **23***a*, the teeth of the gear **32** being in mesh with the rack gear **34** integrally formed along the edge of the shelf, the opposite longitudinal edges of the shelf resting upon the L-shaped track **35** integrally formed in the member **17** along the opposite sides of the sump opening. The shaft **33** is rotatably mounted and has fixedly connected thereto a lever **36** extending radially thereof, the outer end of which is pivotally connected to a link **37** by means of a pin **38**, the other end of the link **37** being pivotally connected to the door **18** by means of the lug **39** and the pin **40**. Therefore, upon raising the door **18**, the link **37** will pull the link **36** in a clockwise direction to rotate therewith the gear **32** which latter will move the shelf out to the extended position by engagement with the rack gear **34**.

In other respects the form of the invention shown in Figs. 4 and 5 is the same as that shown in Figs. 1 through 3 and like reference numerals identify like parts throughout the several views. The link **37** could be pivotally connected directly to the gear **32**, to eliminate the intermediate link **36**.

Upon lowering the door **18**, the gear **32** will be caused to rotate in the opposite direction, thus retracting the shelf **23***a*.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. The combination with a beverage dispensing machine having a cup delivery chute, a beverage dispensing nozzle, a bottom wall below said chute and a sump having its open upper end positioned within the bottom wall below the nozzle and a front wall having a window opening providing access to the cup, of a shelf, means for slidably mounting said shelf above the sump opening and adapted to permit the shelf to move outwardly to an extended position forwardly of the front wall, a transparent door hingeably mounted across the window opening, said shelf having drainage openings, an upstanding member positioned on said shelf adapted to carry the cup outwardly therewith and to receive the cup downwardly

therewithin as it is dispensed, and lever means interconnecting said door and shelf whereby to move the shelf outwardly as the door is opened and to return the shelf inwardly as the door is closed, said lever means comprising a first link pivotally mounted at its outer end near the central portion of said door at one side thereof, the other end of said link being pivotally connected to the inner end of said shelf at one side thereof whereby to draw said shelf upwardly and outwardly as said door is raised.

2. The combination with a beverage dispensing machine having a cup delivery chute, a beverage dispensing nozzle, a bottom wall below said chute and a sump having its open upper end positioned within the bottom wall below the nozzle and a front wall having a window opening providing access to the cup, of a shelf, means for slidably mounting said shelf above the sump opening and adapted to permit the shelf to move outwardly to an extended position forwardly of the front wall, a transparent door hingeably mounted across the window opening, said shelf having drainage openings, an upstanding member positioned on said shelf adapted to carry the cup outwardly therewith and to receive the cup downwardly therewithin as it is dispensed, and lever means interconnecting said door and shelf whereby to move the shelf outwardly as the door is opened and to return the shelf inwardly as the door is closed, said door being hingeably mounted at the top edge thereof within said window

opening, a gear rotatably mounted at one side of the sump opening, a rack gear along one longitudinal edge of said shelf in mesh with said gear whereby to move the shelf outwardly as the gear is rotated and link means interconnecting said gear with said door whereby to rotate the same when the door is raised and to rotate the same in the opposite direction when the door is closed.

3. The combination according to claim 2, said link means comprising a first link pivotally connected at its outer end to the central portion of the door at one side thereof, the other end of said link being pivotally connected to said gear eccentrically thereof.

4. The combination according to claim 1, said means slidably mounting said shelf comprising said bottom wall at opposite sides having a pair of tracks of U-shaped cross section slidably receiving therewithin the opposite longitudinal edges of said shelf, and stop means at the inner end of the sump opening for limiting the inward movement of said shelf.

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