May 8, 1934. O. J. HAWLEY 1,958,270

VENDING MACHINE

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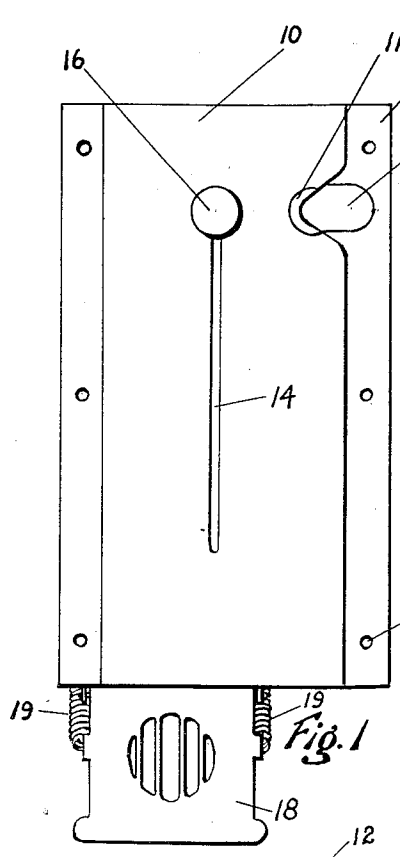


Fig. 1

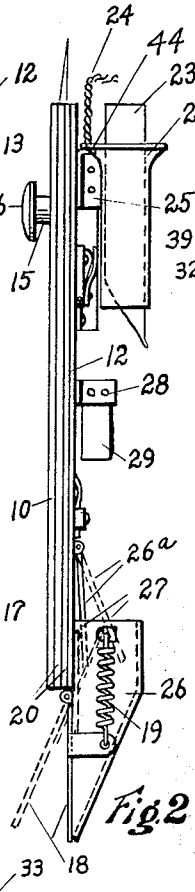


Fig. 2

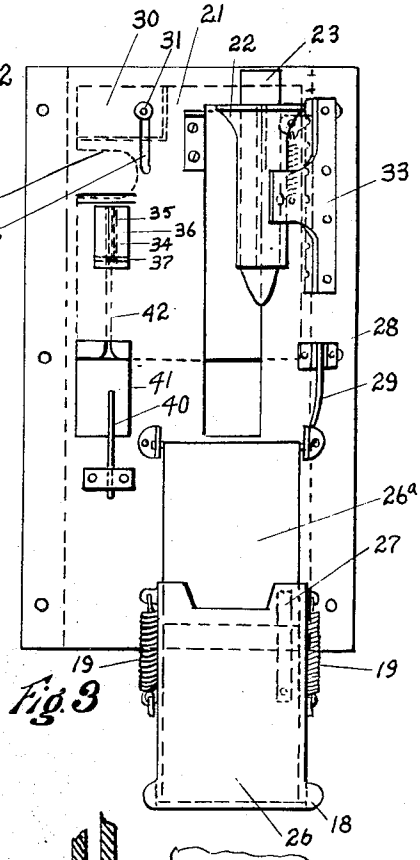


Fig. 3

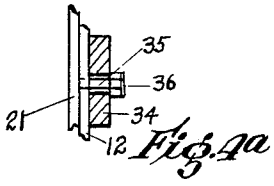


Fig. 4a

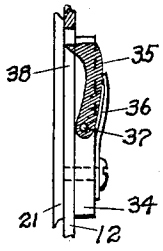


Fig. 4

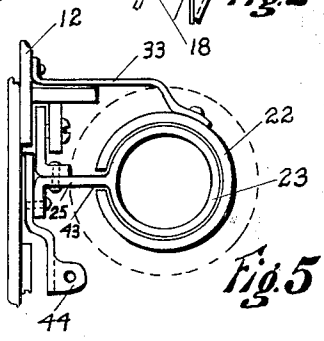


Fig. 5



Fig. 6a

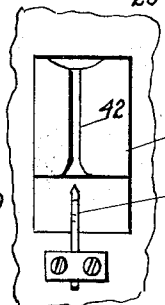


Fig. 6

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VENDING MACHINE

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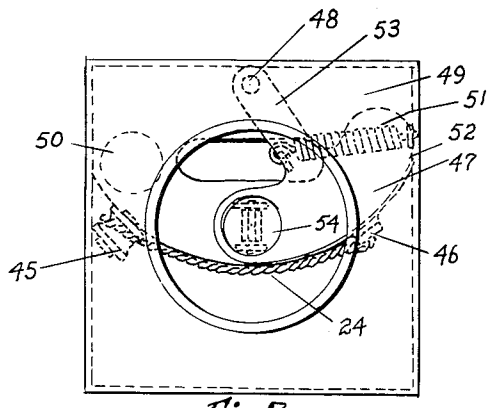


Fig. 7

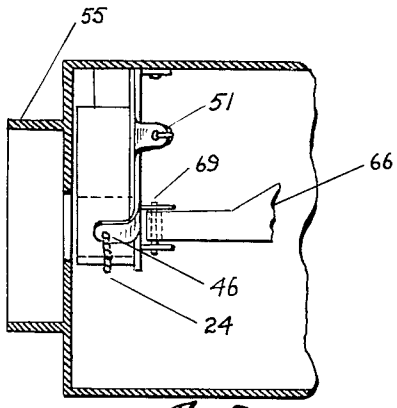


Fig. 8

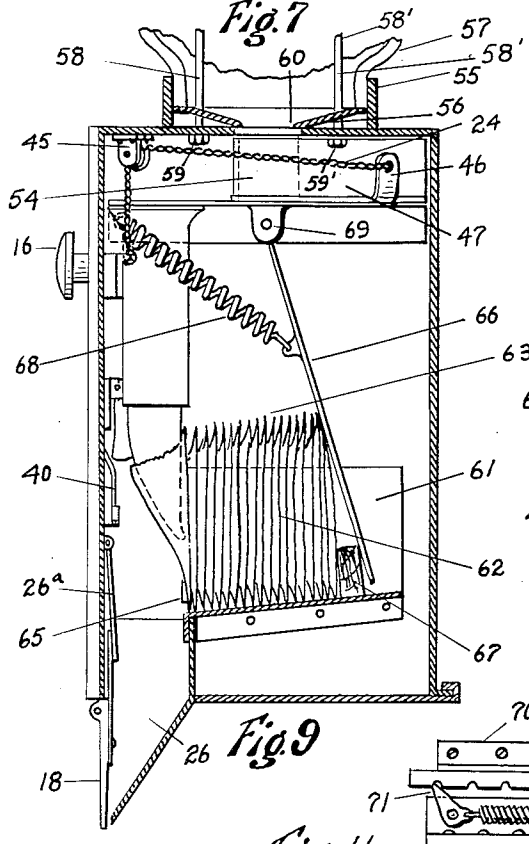


Fig. 9

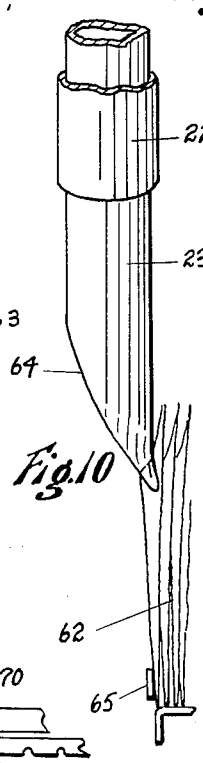


Fig. 10

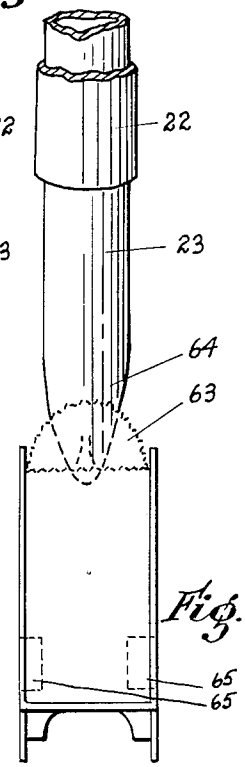


Fig. 10a

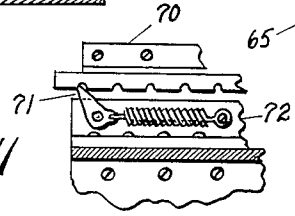


Fig. 11

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Patented May 8, 1934

1,958,270

UNITED STATES PATENT OFFICE

1,958,270

VENDING MACHINE

Oscar J. Hawley, Milwaukee, Wis.

Application February 2, 1933, Serial No. 654,903

7 Claims. (Cl. 226—49)

The present invention relates to vending machines and more particularly to a vending machine having novel bag filling and dispensing features.

An object of the invention is to provide a novel vending machine which will deliver a portion of a commodity enclosed in a suitable bag or envelope.

Another object is to provide a vending machine which will display a commodity in bulk and upon the insertion of a coin and the employment of manual means of operation, will deliver a portion of its contents enclosed in a bag.

Another object is to provide a device of the class specified having a minimum of parts and a simplicity and uniform efficiency of operation not had in similar machines heretofore made.

Another object of the invention is to accurately measure and maintain uniform as to quantity the portions of a commodity dispensed as they are deposited in the containers provided.

The invention consists in the novel construction, arrangement and combination of parts, as will be more fully described in the following specification, illustrated in the accompanying drawings and pointed out in the appended claims.

In the accompanying drawings, Fig. 1 is a front view in elevation of the front wall of a vending machine embodying my invention.

Fig. 2 is a side view in elevation of the front wall of the machine.

Fig. 3 is a rear view in elevation of the front wall of the machine showing the telescoping tubes in normal position.

Fig. 4 is a fragmentary side view of the dog adapted to arrest the movement of the panel unless a coin of the proper dimensions is inserted.

Fig. 4*a* is a fragmentary end view of the dog shown in Fig. 4.

Fig. 5 is a fragmentary plan view in elevation of the telescoping tubes, showing the manner of their attachment to the machine.

Fig. 6 comprises a fragmentary front view in elevation of the coin slide and coin expeller.

Fig. 6*a* is a fragmentary side view partly in section and partly in elevation of the coin slide and coin expeller.

Fig. 7 is a plan view in elevation of the top of the casing with the bowl and sub-hopper removed.

Fig. 8 is a fragmentary rear view in elevation of the inside of the machine shown with a wall removed and resting on its side with the top portion thereof at the left.

Fig. 9 is a side view in elevation of the machine with the outer side wall removed showing the bag magazine with the telescoping filler tube partly inserted into the foremost bag held therein.

Fig. 10 comprises a fragmentary side view, in elevation, of the telescoping tubes, showing the skewed point on the lower end of the filler tube.

Fig. 10*a* is a fragmentary rear view, in elevation, of the telescoping tubes.

Fig. 11 is a plan view of the rack and ratchet mechanism.

Referring to the drawings more in detail, the numeral 10 refers to the outer front wall of the vending machine, which is notched at 11 to facilitate the insertion of a coin into a similar notch in the movable panel, to be described. The inner front wall 12 has a concave depression at 13, also to assist in facilitating the insertion of a coin. The outer wall 10 is slotted at 14 to accommodate the arm 15 of the operating handle 16. Threaded means at 17, secure the front wall to angle portions of the side walls, or other usual framing. The hinged delivery door 18 is normally kept in closed position by the tension springs 19.

The metallic strips 20, shown in Fig. 2, space the outer front wall 10 from the inner front wall 12, to accommodate between them the reciprocable panel 21, shown in Fig. 3 in dotted lines.

In Fig. 2 the filler tubes are shown telescoped in normal position. The outer tube is stationary, and is secured to the inner front wall 12, by means of the bracket 33. The inner tube 23 slides freely in the outer tube 22 and is connected by means of cable 24 and bracket 25 to the measuring mechanism to be later described. The inner reciprocable tube 23 is secured to the reciprocable panel 21, by means of the bracket 25. The delivery chute 26 is normally closed at its lower opening by gate 18, and is fitted near its top with the trap door 26*a* which is normally open, but which closes to prevent access into the machine from the outside when the gate 18 is opened. The closure is synchronously effected by means of the lever 27 fixed to gate 18 and extending across the hinged edge of the latter to brush the trap 26*a* into closed position whenever the gate is opened.

The bracket 28, fixed to the inner front wall 12, carries a wiper 29, preferably of rubber or fibrous material.

The reciprocable panel 21 has a corner cut-out portion 30, provided with a pin 31 adapted to move freely in the slot 32, which is formed in the inner front wall 12. The cut-out portion 30 is adapted to close the opening at 11, when the panel 21 is lowered, inasmuch as the portion 30 will descend

only until the pin 31 reaches the lower end of the slot 32.

A block 34, fixed to the inside of the inner wall 12, is slotted from its upper end centrally thereof and carries a dog 35, backed by the pressure spring 36.

The dog 35 is fulcrumed on the pin 37, and is adapted to protrude through a slot 38 in the inner wall 12, and arrest the movement of the panel 21 by catching the upper edge of the notch formation 39 in the latter, unless said notch has been filled by the insertion therein of a coin of proper dimensions.

The coin ejector pin 40 is secured on inner plate 12 and projects upwardly from the point of fastening and through an opening in plate 12 at 41. Its end is pointed and projects into the groove 42 in plate 21. A coin adhesively secured to panel 21 by an unscrupulous patron, will strike the pin 40 when said panel is lowered, and will be promptly dislodged.

The outer tube 22 is slotted longitudinally and centrally adjacent the inner wall 12 for its entire length as at 43 of Fig. 5, to accommodate the bracket 25, which connects panel 21 with the inner filler tube 23. The cable 24 is secured to eye 44 and acts as a link between the reciprocable panel 21 and attached tube 23 and the measuring mechanism shown in Fig. 7.

The cable 24 runs over a pulley 45 and is secured to the eye 46 on the baffle plate 47 pivoted at 48 to the substantially semi-circular ground plate 49.

The ground plate is provided with an aperture at 50, exactly above the filler tubes 22 and 23. A tension spring 51, secured to the rear wall 52 of the machine, is attached to the baffle plate arm 53. The baffle plate 47 has a perforation at 54 and is of such thickness that said perforation when bottomed by ground plate 47 will form a cup or measure for portions of the commodity to be vended.

A collar, 55, is mounted centrally on the top of the machine, in which is seated the sub-hopper 56, with the usual bottomless bowl or hopper 57 resting with its circular lower edge on the periphery of said sub-hopper. The bowl or hopper 57 and the sub-hopper 56 are held securely within the collar by means of the rods 58 and 58′ and the nuts 59 and 59′. The cup perforation 54 in baffle plate 47 is normally positioned directly beneath the opening at 60 of sub-hopper 56.

An inclined bag magazine 61, shown in Fig. 9, adapted to hold a plurality of bags 62, is fixed rearwardly of the lowered or extended position of the reciprocable filler tube 23. The bags 62 are placed in magazine 61 with their flaps 63 in upright position, whereby they will successively impinge with said flaps against the rear side of the obliquely formed spout 64 of tube 23, and with their lower ends against the retaining lugs 65 disposed at the frontal discharge opening of magazine 61. A follower arm 66, a follower block 67, and the tension spring 68 serve to urge the bags forwardly in magazine 61. The follower arm 66, pivots at 69, depending from the under side of the ground plate 49. The lower opening of the spout 64 is cut obliquely, and the lowermost point thereof is skewed for more effective opening of the bags to facilitate the entrance therein of said spout.

A rack 70 and ratchet 71, shown in Fig. 11, are provided to compel a complete movement of the panel 21 and connected parts either upwardly or downwardly, and in consequence to prevent partial movement and return of the mechanism in an attempt to misuse the machine.

The rack 70 is fixed on the stationary bracket 33, and the ratchet 71 is mounted on plate 72, which latter is attached to the reciprocable panel 21.

In use, a portion of the contents of the hopper 57 gravitate into the cup or perforation 54 of baffle plate 47, thus normally keeping available a vendible portion of the commodity. The introduction of a coin into slot 39 of panel 21 and the depression of the latter by means of operating handle 16, renders inoperable the dog 35 and permits full downward travel of said panel. The filler tube 23 travels downwardly with said panel, its spout 64 entering the foremost of the bags 63 in magazine 61. Synchronously with the downward movement of these elements, the cable 24 connected to tube 23 by means of eye 44 and bracket 25, and running over pulley 45, pulls the baffle-plate 47 horizontally and pivotally until perforation or cup 54 registers with aperture 50 of ground plate 49. The commodity falls through aperture 50, the stationary tube 22 and the extended tube 23 into bag 63. The baffle-plate 45 closes the opening 60 during the lateral travel of the former, and coincidently the perforation 54 is bottomed by ground plate 49 until it registers with aperture 50. The tube continues downwardly until it forces the bag 63 out from the magazine 61. The oblique point of spout 64 tends to pull the bag 63 forwardly away from the lugs 65 and the magazine 61.

When the operating handle 16 is released, the spring 51 returns the mechanism to normal position with perforation 54 underlying the sub-hopper opening 60. The wiper 29 serves to dislodge the bags from the tube 23 as it returns upwardly, precipitating the bag and contents into delivery chute 26.

It will be understood that the device is capable of various modifications and changes in construction without departing from the spirit of the invention, in the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. An automatic vending machine comprising a hopper, a supporting casing, a panel reciprocable in a wall of said casing, a magazine for bags to be filled, measuring means communicating with said hopper, means to operate said measuring means by movement of the panel, and means on said panel to connect the measuring means with a bag in said magazine.

2. An automatic vending machine comprising a hopper, a supporting casing, a panel reciprocable in a wall of said casing, a magazine for bags to be filled, measuring means communicating with said hopper, means to operate said measuring means by movement of the panel, and tubular means on said panel to connect the measuring means with a bag in said magazine.

3. An automatic vending machine comprising a hopper, a supporting casing, a panel reciprocable in a wall of said casing, a magazine for bags to be filled, measuring means communicating with said hopper, means to operate said measuring means by movement of the panel, tubular means mounted on the panel operable by movement of said panel to connect the measuring means with a bag in said magazine.

4. An automatic vending machine comprising a hopper, a supporting casing, a panel reciprocable in a wall of said casing, a magazine for bags to be

filled, measuring means communicating with said hopper, means to operate said measuring means by movement of the panel, telescoping tubular means mounted on the panel operable by movement of said panel to connect the measuring means with a bag in said magazine.

5. An automatic vending machine comprising a hopper, a supporting casing, a panel reciprocable in a wall of said casing, a magazine for bags to be filled, measuring means communicating with said hopper, means to operate said measuring means by movement of the panel, a stationary vertical tube affixed to said casing communicating with said measuring means, a vertically reciprocable tube sliding in said stationary tube fixedly secured to said panel and adapted to enter and fill successively the bags in said magazine.

6. An automatic vending machine comprising a hopper, a supporting casing, a panel vertically reciprocable in a wall of said casing, a magazine for bags to be filled, and telescoping tubular means mounted on said panel adapted when extended by movement of the panel to connect the hopper with a bag in said magazine.

7. An automatic vending machine comprising a hopper, a supporting casing, a vertically reciprocable panel in a wall of said casing, a measuring device, a magazine for bags to be filled, means on said panel to connect said measuring device with a bag in said magazine whereby said bag may be filled and removed from said magazine to a delivery chute by movement of the panel, and means connecting said panel with said measuring device whereby the latter may be operated coordinately.

OSCAR J. HAWLEY.