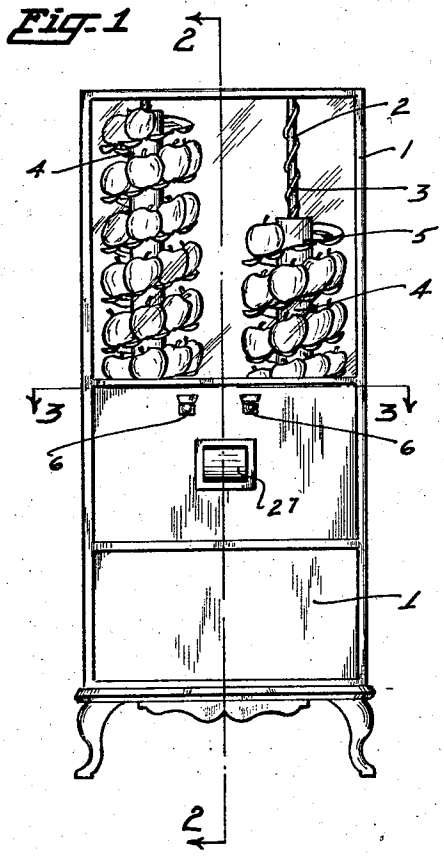
Feb. 8, 1927. 1,616,824

M. REDLINGER

FRUIT VENDING MACHINE

Filed Aug. 24, 1925 4 Sheets-Sheet 1

Fig. 1



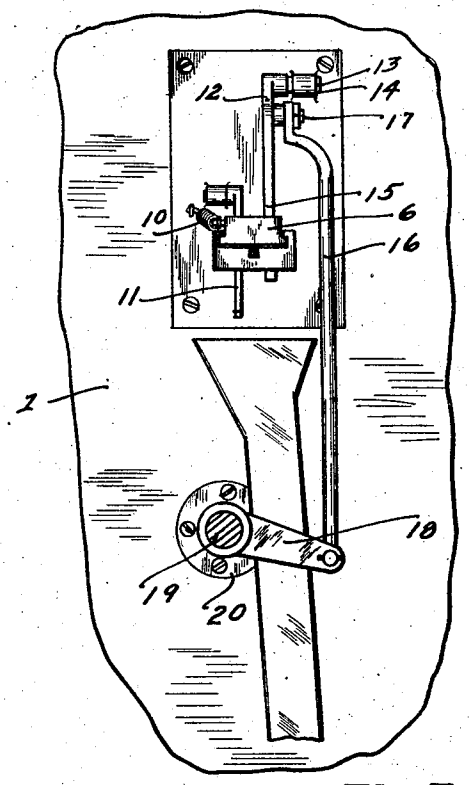




Fig. 5

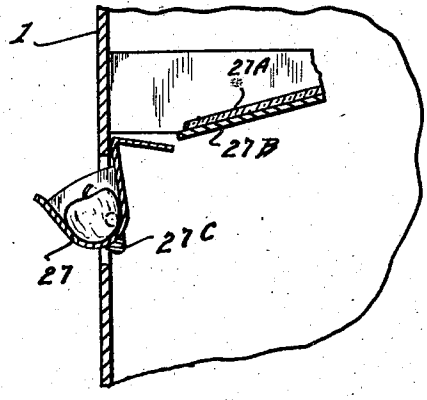



Fig. 6

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Feb. 8, 1927. 1,616,824

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FRUIT VENDING MACHINE

Filed Aug. 24, 1925 4 Sheets-Sheet 2

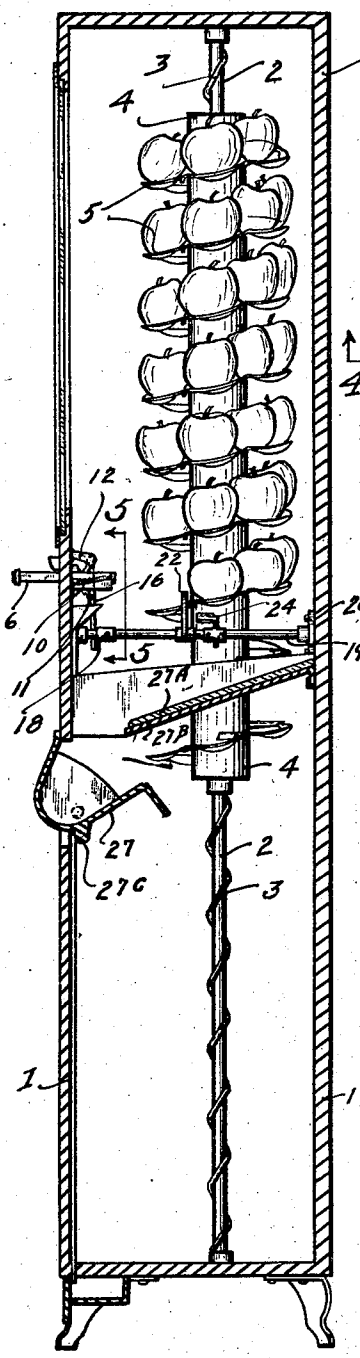


Fig. 2

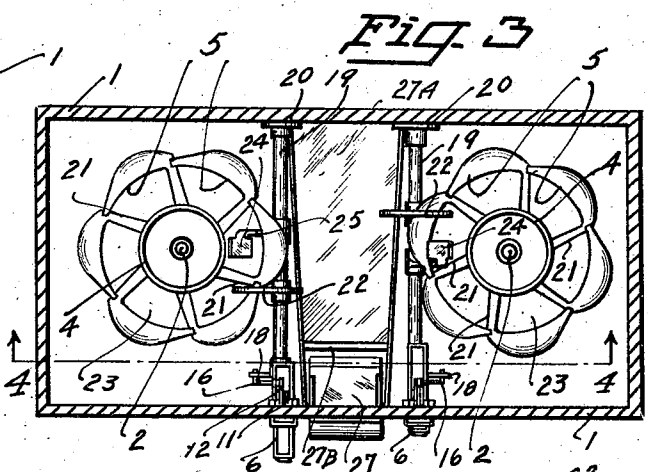


Fig. 3

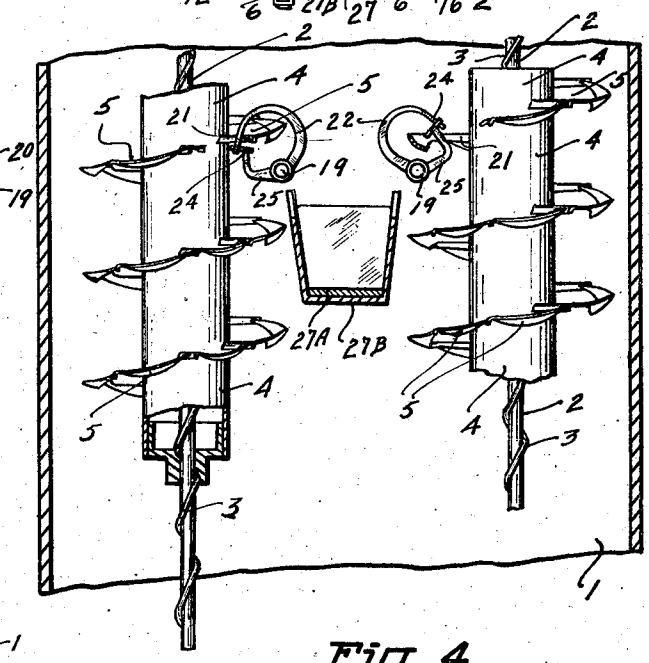


Fig. 4

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Feb. 8, 1927. 1,616,824

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FRUIT VENDING MACHINE

Filed Aug. 24, 1925 4 Sheets-Sheet 3

Fig. 9

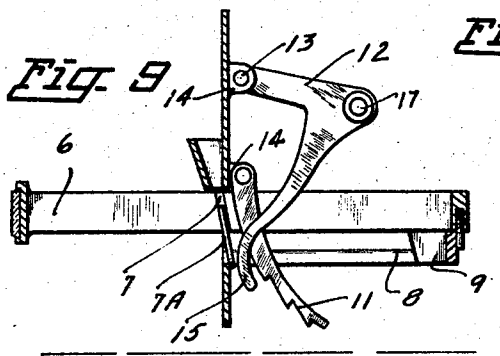



Fig. 11

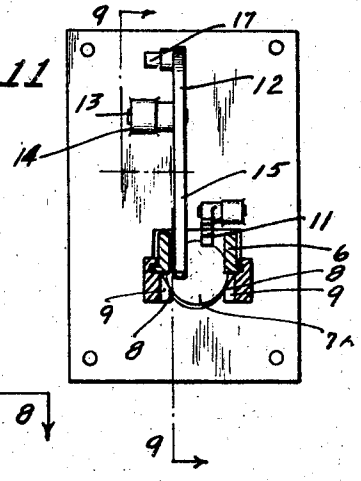



Fig. 10

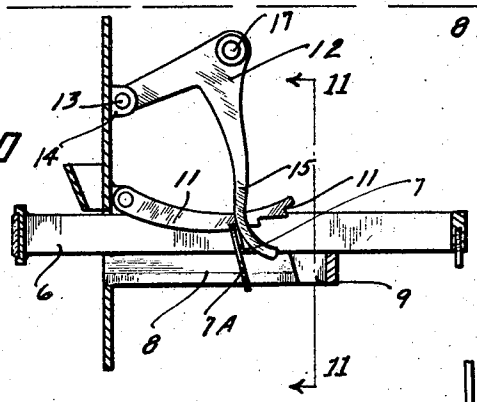



Fig. 7

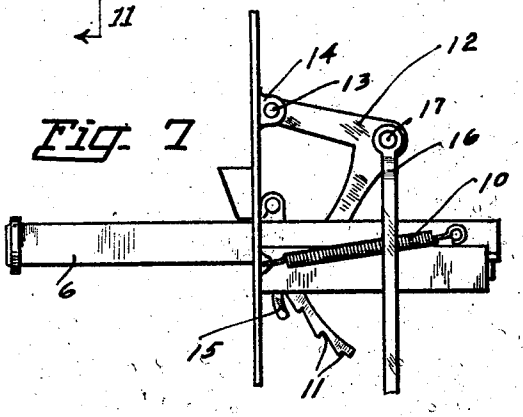
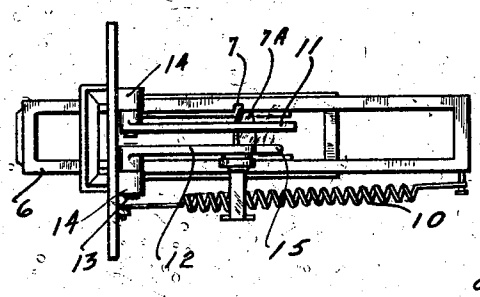



Fig. 8




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Filed Aug. 24, 1925 4 Sheets-Sheet 4

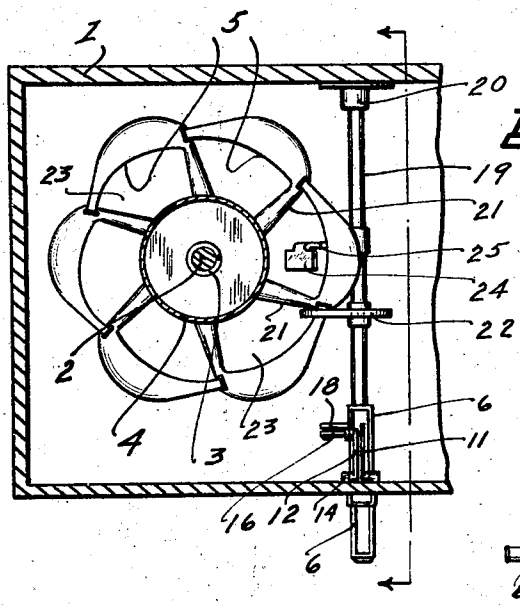



Fig. 12

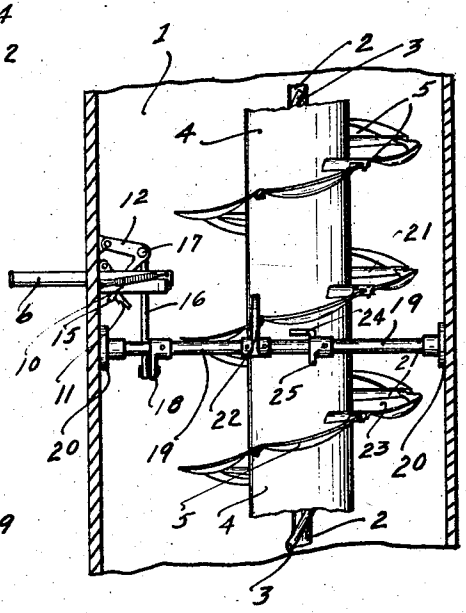



Fig. 14

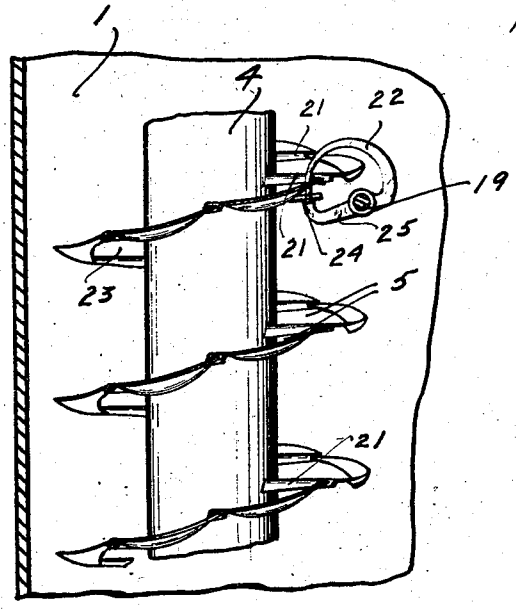



Fig. 13

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Patented Feb. 8, 1927. 1,616,824

# UNITED STATES PATENT OFFICE.

MICHAEL REDLINGER, OF PORTLAND, OREGON, ASSIGNOR TO INTERNATIONAL FRUIT VENDING CORPORATION, A CORPORATION OF OREGON.

## FRUIT-VENDING MACHINE.

Application filed August 24, 1925. Serial No. 52,025.

My invention relates to vending machines of the plunger and coin actuating type, and is primarily adapted for the vending of fruits, such as apples, oranges, peaches and the like. While I have here shown and described a machine for the vending of fruits, the same may be made to vend other articles of fruit and merchandise, by slight modifications of the supporting mechanism and a change in the shape of the supporting baskets and do not wish therefore to limit my invention for use in the vending of fruit only.

In my invention I have provided a case of the cabinet type having an actuating plunger and an entrance coin chute for the admission of a coin therein and have provided a vertical shaft having a spiral about its outer periphery and a cylinder adapted to engage in threaded relationship with the spiral and a series of supporting baskets adapted to retain the articles to be vended therein and an escapement movement adapted to be actuated by the manipulation of the plunger to permit the cylinder to move one space for each cycle of operation, and at the same time to eject the article to be vended from the basket and deposit the same in a position for acceptance on the part of the purchaser.

A further object of my invention, consists in providing cabinets wherein one or more of these devices may be installed and wherein oranges may be dispensed from one unit and apples from another, all located within the same cabinet.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims and to a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:—

Fig. 1 is a front view of the assembled device.

Fig. 2 is an enlarged longitudinal cross section, taken on line 2—2 of Fig. 1, looking in the direction indicated.

Fig. 3 is a cross section, taken on line 3—3 of Fig. 1, looking in the direction indicated.

Fig. 4 is a fragmentary front elevation of that part of the device where the article to be vended is discharged and shows the escapement and a preferred form of spiral for supporting the articles to be vended therefrom. This view is taken on line 4—4 of Fig. 3.

Fig. 5 is a rear view of the coin actuator taken on line 5—5 of Fig. 2, looking in the direction indicated.

Fig. 6 is a fragmentary sectional side elevation of the vending receptacle, basket or cup.

Fig. 7 is a fragmentary side elevation of the coin actuator.

Fig. 8 is a top or plan view of the coin actuator illustrating the same with the plunger in the actuated position.

Fig. 9 is a cross section view of the coin actuator with the plunger in its normal, or open position.

Fig. 10 is a side elevation of the coin actuator with the plunger in its full forward end of the stroke.

Fig. 11 is a cross section view, taken on line 11—11 of Fig. 10, looking in the direction indicated.

Fig. 12 is a plan view of the escapement shown in combination with the coin actuator.

Fig. 13 is a front elevation of the mechanism shown in Fig. 12, looking in the direction indicated.

Fig. 14 is a side elevation of the mechanism shown in Fig. 12, looking in the direction indicated.

Like reference characters refer to like parts throughout the several views.

The invention consists of a case 1, which is adapted to have one or more vertical shafts 2, disposed therein having a spiral 3, of a rather coarse pitch disposed thereabout. The spiral 3, has in engagement therewith, the cylinder 4, having disposed about its outer periphery a series of bottomless supporting pockets or containers 5. The series of pockets 5, are disposed about the outer periphery of the cylinder and in spiral formation. The cylinder and the supporting pockets together with the articles to be vended, are supported about the spiral upon the shaft and in threaded relationship therewith. The same is sufficiently heavy and the pitch of the spiral is sufficiently coarse to create a turning movement to the cylinder and the supporting pockets. An escapement movement is provided through

the medium of a coin actuator which as actuated through the action of a coin as a locking means permits the vending of one article at a time, the movements of which, during vending, forms a complete cycle of operation. As the article to be vended is ejected the escapement permits the cylinder to lower and rotate about the spiral screw the space of one supporting pocket.

The coin actuator consists of an actuating plunger 6, having a slot 7, disposed therethrough, through which the coin $7^a$ is passed, and as the coin is inserted and the plunger is actuated, the coin strikes the bottom of the guideway 8 and moves therealong as the plunger having reached its full stroke, the coin is permitted to drop through the opening 9, and the plunger is returned to normal position through the action of the tension spring 10. A detent 11 engages with the upper surface of the coin and prevents the return of the plunger to normal position until the plunger has completed its full forward stroke at which time the coin drops through the opening and the detent is permitted to drop down to its normal position of rest. A bell crank 12, is secured to the case in hinged relation therewith about the shaft 13. The shaft 13 is journaled within suitable bearings 14, to maintain the shaft in alignment, and the bearing upon the upper end of the bell crank is of substantial length to maintain the bell crank in alignment. The bell crank has a wing portion 15 which when in its normal position, just clears the coin when deposited in the coin actuator as shown in Fig. 9, and as the plunger is pushed forward, the coin engages the wing portion of the bell crank, is carried forward, the same is held fixed about its upper end in hinged relation with the shaft, and the escapement lever 16 is lifted as the bell crank is raised because the escapement lever 16, is secured thereto, through the pivotal pin 17, as is best shown in Fig. 7. The escapement lever 16 is connected upon its lower end to the arm 18, secured to the cross shaft 19, that is maintained in suitable bearings 20, secured to the inside of the case structure 1. The bottomless pockets or containers forming the spiral, in which the articles to be vended are maintained, are secured to the cylinder in such a manner that the wall 21, of each of the pockets are at an equal distance apart and against this wall the U-shaped arm or escapement stop 22, engages when the device is not in operation or being operated and thus prevents the cylinder from unthreading upon the screw spiral upon the shaft. When the plunger is pushed forward the shaft 19, is partially rotated through the medium of the bell crank 12, and the actuating lever 16, and the arm 18 of the shaft 19. Each of the pockets has an opening through the bottom as shown at 23, to permit the ejector hand 24, to swing upwardly therethrough for the purpose of pushing or ejecting the article to be merchandised from the pockets. A second lever 25, has the ejector hand or engaging member 24, mounted thereupon and as the shaft 19 is partially rotated the escapement stop 22, disengages the wall 21, and the cylinder is free to rotate. As the plunger is further actuated the ejector hand passes through the bottom opening in the pocket and pushes the article held thereby from and at the same time the lever arm 25 engages the wall 21, of the pocket and prevents the further rotation of the cylinder about the spiral screw. After the plunger has been forced to its full stroke and is released the spring 10 returns the plunger to its normal position and in doing so the lever 25 disengages the pocket wall, which permits the cylinder to rotate until the wall 21, engages with the escapement stop, which completes one cycle of operation. The article that has been ejected from the pocket is deposited into the cup 27, shelf or trough $27^b$, from where it rolls or slides into the cup 27. The cup 27 is normally maintained in a closed position with the front wall of the same in approximate alignment with the wall of the case, but upon the deposit of the article to be vended therein the weight of the article has a tendency to rock the cup 27 about its base support and place the same in position as shown in detail in Fig. 6. To prevent shocks and partially eliminate the noise during the vending operation I have placed a cushion member $27^a$ upon the shelf $27^b$ from where the article to be vended is delivered into the cup. To return the cup to normal position after the removal of the article to be vended, the counterweight $27^c$ will return the cup to a normally closed position with the outer side wall in alignment with the case structure.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow:

What I claim is:—

1. In a fruit vending machine, the combination of a case, a threaded shaft mounted vertically in said case, a cylinder loosely mounted on said shaft and revoluble thereabout; a plurality of bottomless pockets mounted to the outer periphery of said cylinder and extending radially therefrom; a rockable shaft mounted transversely of said case and disposed adjacent said cylinder; a lever arm mounted on said shaft and adapted to partially pass upwardly through said pockets; and means to rock said shaft.

2. In a fruit vending machine, the combination of a case, a threaded shaft mounted vertically within said case, a cylinder loosely mounted on said shaft and revoluble thereabout; a series of bottomless pockets mounted in spiral formation about said cylinder and extending radially therefrom; a rockable shaft mounted transversely of said case and disposed adjacent said cylinder; a lever arm mounted on said shaft and adapted to partially rise through said pockets; a second arm mounted on said shaft and adapted to engage the walls of said pockets; and means to rock said shaft.

3. In a fruit vending machine, the combination of a case, a threaded shaft mounted vertically within said case; a cylinder loosely mounted on said shaft and revoluble thereabout; a series of bottomless pockets mounted in spiral formation about said cylinder and extending radially therefrom; a rockable shaft mounted transversely of said case and disposed adjacent said cylinder; a lever arm mounted on said shaft and adapted to partially rise through said pockets; an engaging member mounted to the outer end of said lever arm adapted to engage with and eject articles contained in said pockets; a second arm mounted on said shaft and adapted to engage the walls of said pockets to limit the rotation of said cylinder; and means to rock said shaft.

4. In a fruit vending machine, the combination of a case, a threaded shaft mounted vertically within said case; a cylinder loosely mounted on said shaft and revoluble thereabout; a series of bottomless pockets mounted in spiral formation about said cylinder and extending radially therefrom; a rockable shaft mounted transversely of said case and disposed adjacent said cylinder; an angular lever arm mounted on said shaft and adapted to partially rise through said pockets; an ejector hand formed on the outer end of said angular lever arm; said arm adapted to engage with and eject articles contained in said pocket therefrom; a U-shaped arm mounted on said shaft and adapted to engage the walls of said pockets; and means to rock said shaft.

5. In a fruit vending machine the combination of a case; a threaded shaft mounted vertically within said case; a cylinder loosely mounted on said shaft and revoluble thereabout; a series of bottomless pockets mounted in spiral formation about said cylinder and extending radially therefrom; a rockable shaft mounted transversely of said case and disposed adjacent said cylinder; an angular lever arm mounted on said shaft and adapted to partially pass through said pockets; an ejector hand formed on the outer end of said angular lever; said arm being adapted to engage with and eject articles contained in said pocket; a U-shaped arm mounted on said shaft and adapted to engage the walls of said pockets; means to rock said shaft; a cup rockably mounted to the side wall of said case; and means to cause the articles ejected from said cups to be deposited in said rockable cup.

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