Oct. 23, 1934. W. RABKIN 1,978,167

COIN CONTROLLED VENDING MACHINE

Filed Aug. 11, 1932

Fig. 1.

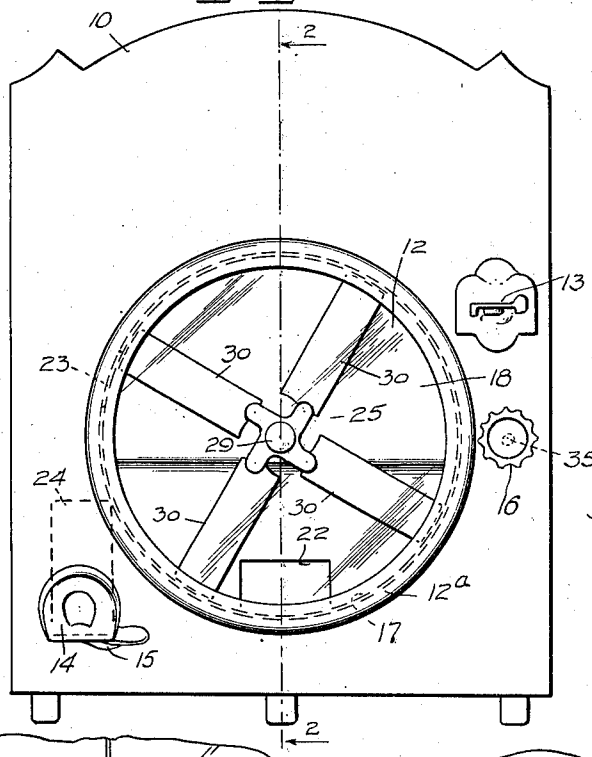
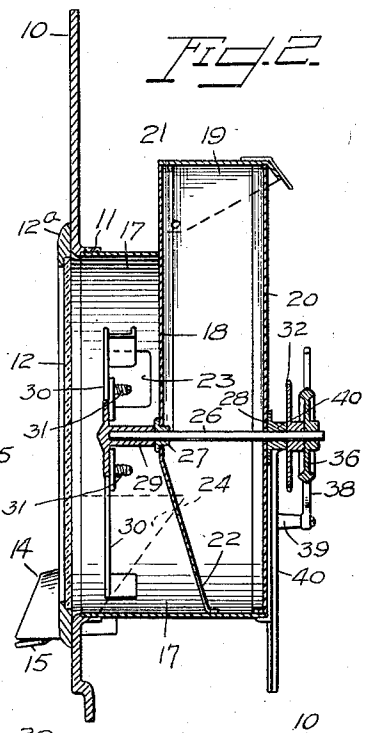


Fig. 2.



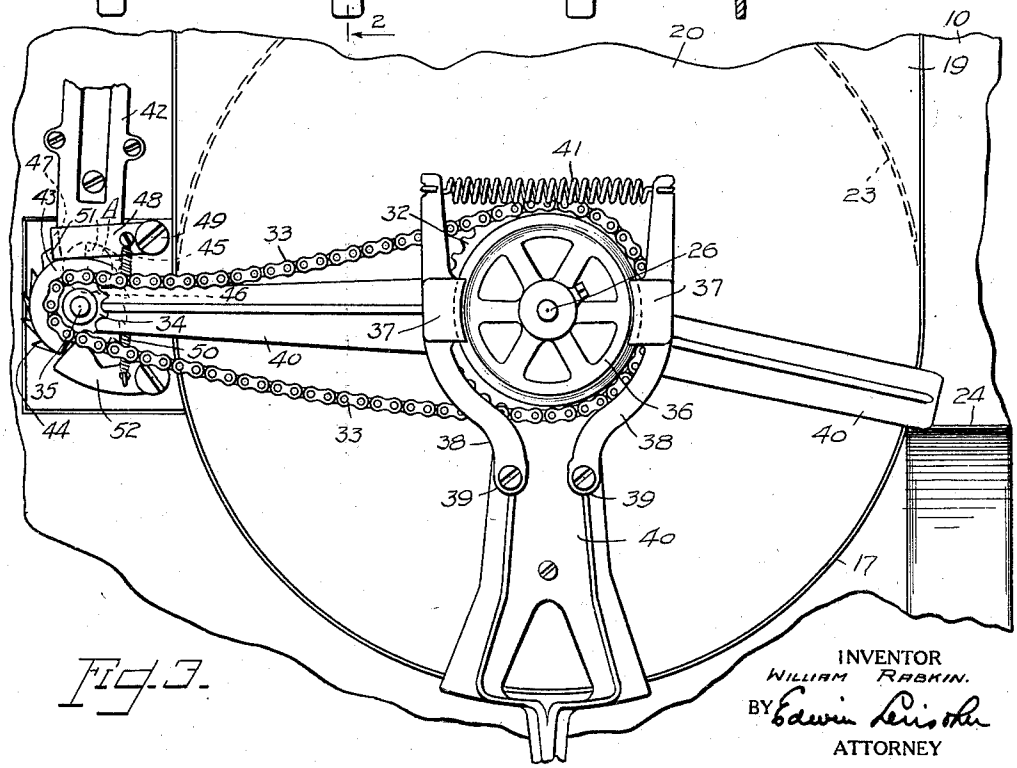


Fig. 3.

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COIN CONTROLLED VENDING MACHINE

William Rabkin, New York, N. Y.

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2 Claims. (Cl. 221—97)

My invention relates generally to coin controlled vending machines for candy or other small merchandise and has reference particularly to improvements in means adapted to prevent dishonest persons from receiving more than a certain allotted amount for each coin inserted in the machine.

The present invention is particularly applicable to vending machines of the hand operated type wherein a paddle wheel is used to gather in, elevate and thereafter discharge a certain quantity of candy to a chute which delivers the same to a pocket outside the machine and within reach of the purchaser. In this type of machine, it is the dishonest practice to spin the paddle wheel after inserting a coin to bring about several rotations of the wheel and a corresponding number of allotments of candy. With the foregoing in mind, it is the purpose of my invention to equip a vending machine of this character with a brake which automatically retards rotary movement of the hand-operated paddle wheel and prevents any successful results from an attempt to spin the wheel.

I accomplish this purpose by means of an arrangement and combination of parts described in the following specification, set forth in the appended claims, and illustratively exemplified in the accompanying drawing, in which, Figure 1 is a front elevational view of the vending machine; Figure 2 is a substantially longitudinal sectional view taken on lines 2—2 of Figure 2; and Figure 3 is a rear elevational view of the vending machine and the associated parts adapted to operate the paddle and to impart a braking action thereto for the purpose of enabling anyone to spin the same.

Referring to the drawing, the vending machine comprises a front plate or panel 10 having a circular central opening 11 covered by a glass window 12 supported in a circular frame 12a which is mounted on the front face of the plate 10. In one of the upper corners of the plate is mounted a coin slot and carrier 13 and in the opposite lower corner the plate is provided with a projecting receiver or box 14 having a trap door 15 for its under wall. Below the coin slot 13 and disposed on a line level with the center of the opening 11 is a hand wheel 16 which is turned by hand to manipulate the moving parts of the machine.

The back of the plate 10 carries a circular drum 17, which is divided in half diametrically thereof by an upright partition 18 extending upwardly to form one side of a hopper 19, the rear or opposite side being formed by the end wall 20 of the drum. A lid 21 is hinged to the upper open end of the hopper and the lower portion of the partition 18 is inclined rearwardly slightly and has an opening 22 at its lower end to admit candy from the hopper into the drum. Slightly above the horizontal axis of the drum, its side wall is provided with a discharge opening 23 through which the merchandise is passed to fall on the outside of the drum and into a chute 24 which conducts it to the box 14.

The means used to pick up the candy comprises a paddle wheel 25, which revolves within the drum 17 on a shaft 26, the latter being mounted axially of the drum and having bearings 27 and 28 in the partition 18 and back wall 20, respectively. The paddle wheel 25 comprises a hub 29 fixed on the shaft 26 and four arms 30 which are arranged parallel with the face of the window 12 and are pivotally mounted on the hub, spring members 31 being used to yieldably support them in radial positions. The outer ends of the arms 30 turn in a path in close proximity with the inner periphery of the drum 17 and are provided with cup shaped members each of which picks up a quantity of the loose candy in the bottom portion of the drum and lifts it to the opening 23 where it falls into the chute 24.

It will be clear that the four arms 30 are disposed at 90 degrees from each other and, therefore, it will require only one quarter revolution of the paddle wheel to bring each delivery end of an arm into discharge position before the opening 24.

The paddle wheel is given this quarter turn by means of a large sprocket wheel 32 fixed on the extension of the shaft 26 beyond the rear wall 20. The sprocket 32 carries one end of a continuous sprocket chain 33, the opposite end thereof being carried by a small sprocket wheel 34 which is keyed to the rear end of the hand wheel shaft 35. The paddle wheel shaft 26 is provided with a brake wheel 36 which is fixed on the shaft 26 and which has a rim of inverted V-shaped cross section to be engaged at opposite sides by shoes 37. The shoes 37 are integral with the upper ends of arms 38 and are pivotally mounted at their lower ends on bosses 39 which project rearwardly from a cast fixture 40 supporting the rear portion of the hopper and drum. A spring 41 is attached at opposite ends to the upper free ends of arms 38 above the shoes to yieldably draw the latter towards each other and the sides of the brake wheel 36.

The hand wheel 16 is fixed on the forward end

of the shaft 35 which receives its support in the plate 10 at one end and in a bearing of the fixture 40 at the other end. The shaft 35 is permitted to rotate when released by a coin which is inserted by the coin carrier 13 and conveyed downwardly at the back of the plate 10 through a coin track 42 to a coin wheel 43 turning with the shaft 36. The coin wheel 43 comprises a peripherally toothed portion 44 having a gap 45 and a slot to hold the coin A from the coin track 42. The teeth over the gap 45 receive therebetween the turned in toe 47 of a lock bar 48 which is pivotally mounted on a screw 49 projecting from the plate 10, and which is yieldably held in engagement with the wheel by a spring 50. The toe 47 of the lock bar 48, when no coin is in the slot 46, prevents the turning of the wheel 43 as it rests between the two teeth 51. When a coin is in the slot 46 its upper peripheral portion forms a cam which rides under the toe 47 and lifts the arm 48 out of engagement with the wheel and allows it to turn when the hand wheel is turned. After the slot 46 has reached a position on the under side of the wheel, it allows the coin to fall out so that as the slot reaches its top position again the toe 47 engages itself between the teeth 51. The opposite end of the spring 50 is attached to a pivoted dog 52 which is provided with a nose portion adapted to engage in a V-shaped slot in a portion of the wheel 43 inwardly of the teeth thereof. The dog is used to center the coin wheel in correct position to receive the coin. Reverse rotation of the mechanism is prevented by the toe 47 which rides over the teeth 44 which project from the portion between teeth 51.

In operation, the coin is placed in the device, as just described, and the hand wheel rotated to discharge the candy picked up by a cup at the end of one of the arms 30. Any attempt to turn the hand wheel quickly and thus cause the paddle wheel 25 to rotate beyond a quarter turn is prevented by the constant braking action exerted on the wheel 36 by the shoes 37.

Having described my invention and the manner in which the same operates, what I claim and desire to secure by Letters Patent is:

1. In a vending machine of the character described, the combination of coin released hand operated driving means, means operatively connected to the first means for picking up, elevating and discharging the material to be dispensed, and brake members for the second means to prevent free movement thereof, comprising a wheel having a braking surface, pivoted arms embracing said wheel and having shoes to engage said braking surface, and means urging the arms together to apply the shoes to the said braking surface.

2. In a vending machine having a drum to contain the material to be dispensed, a rotary member turning in said drum and adapted to pick up, elevate and discharge the material to be dispensed, a friction brake associated with the rotary member to prevent free movement thereof, said friction brake comprising a wheel having a knife edge rim, arms having grooved shoes and being pivotally mounted on opposite sides of the wheel and projecting above and below the axis of the wheel, and a spring under tension to draw the free ends of the arms together and the shoes against the rim, and coin released hand operated drive device operatively connected to the rotary member to impart rotary movement thereto against the applied braking action.

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