Jan. 2, 1968 J. MARCHANT 3,361,295

SELECTIVE CARD DISPENSER HAVING SUCTION MEANS

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Fig. 1

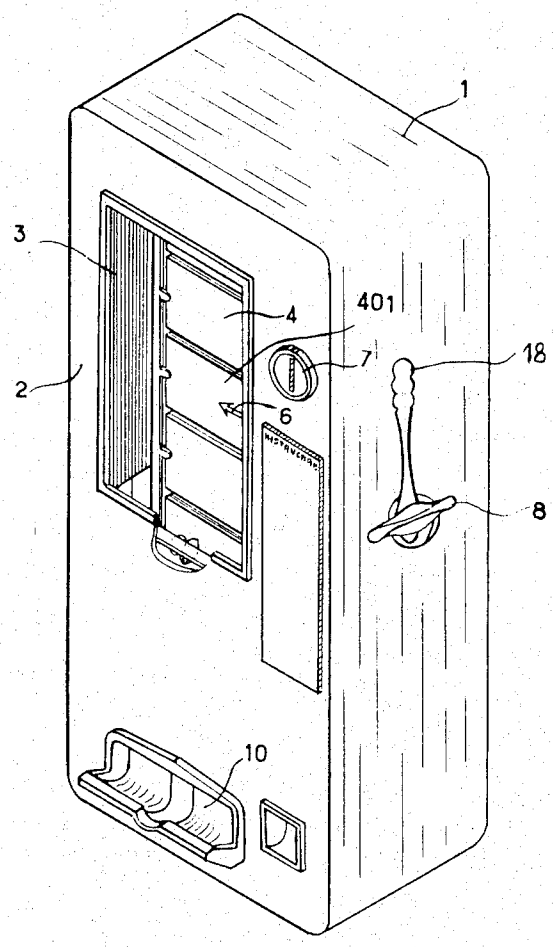
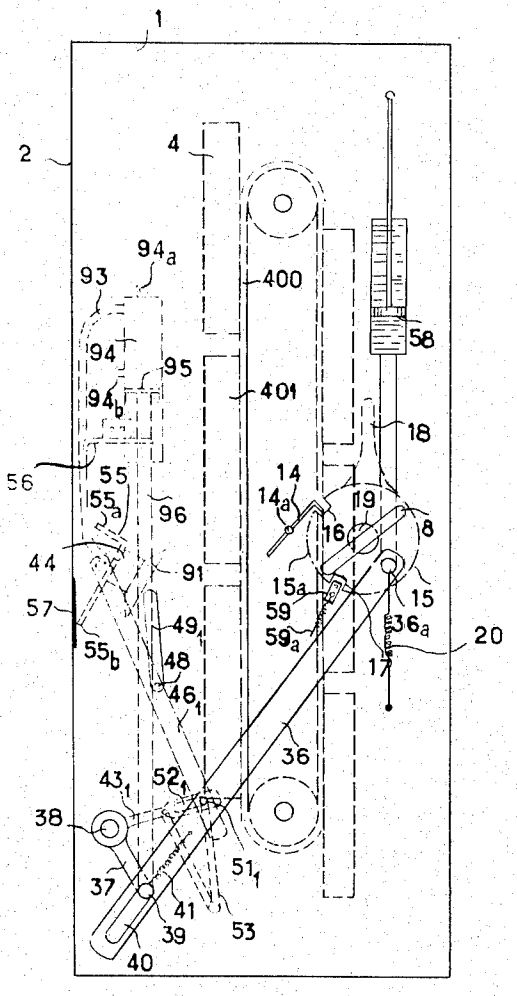


Fig. 2

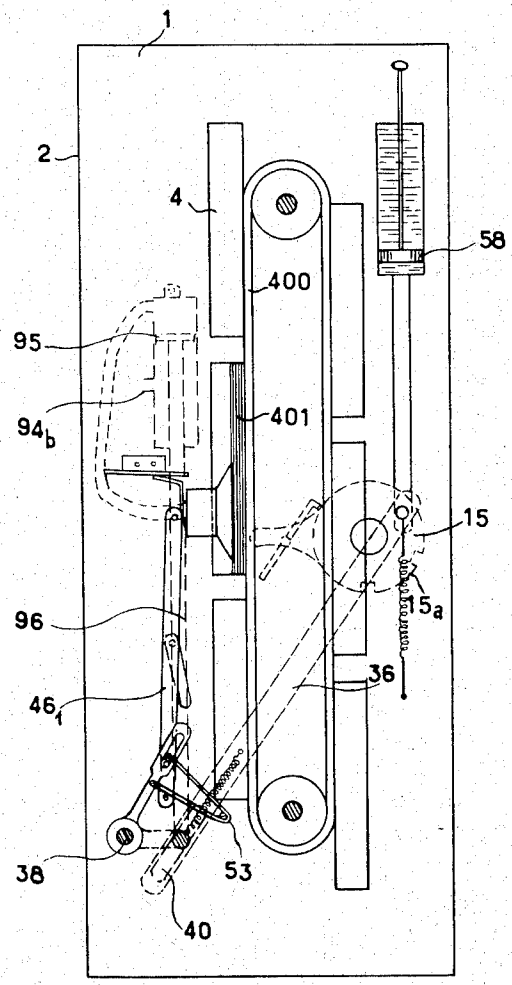


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SELECTIVE CARD DISPENSER HAVING SUCTION MEANS

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Fig. 3



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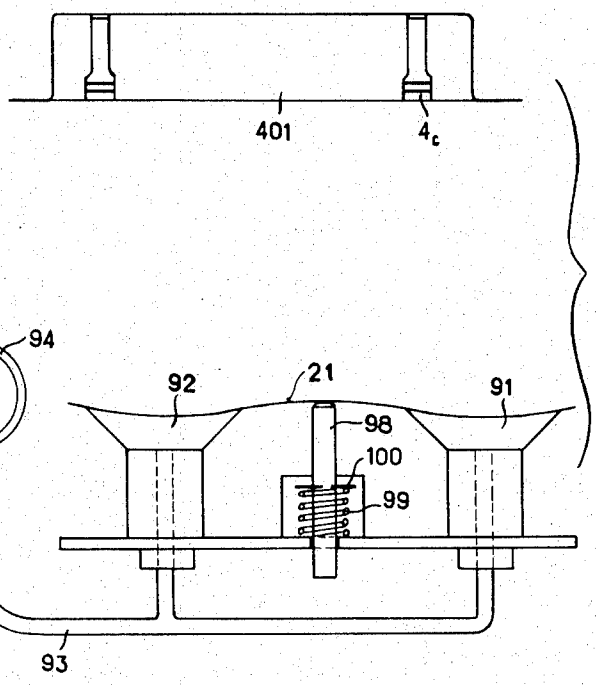


Fig. 5

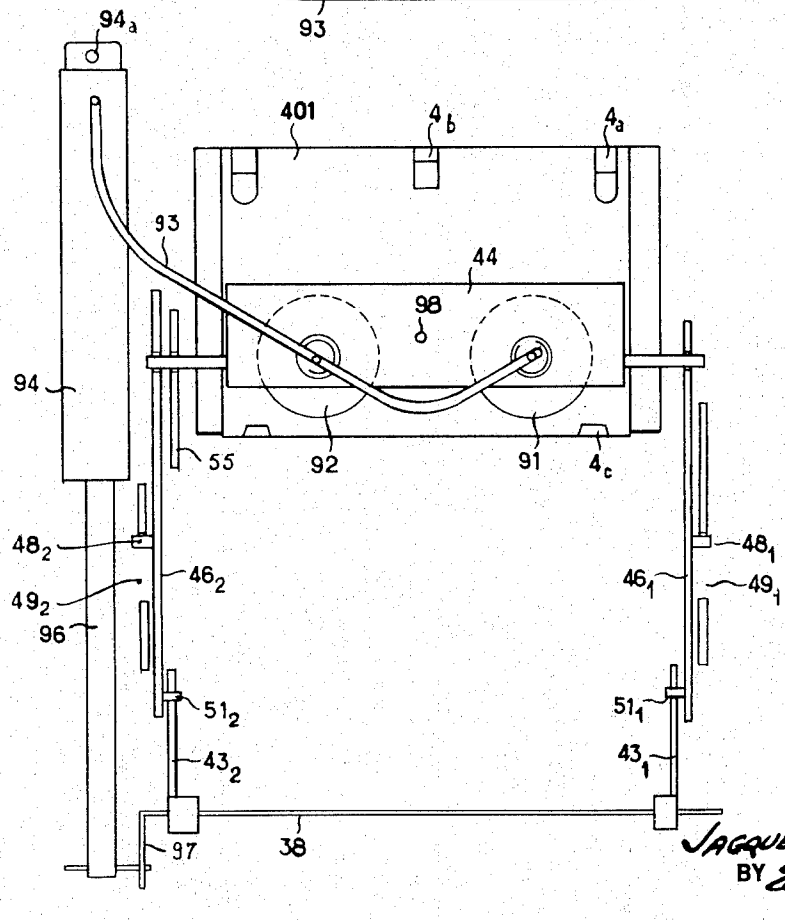


Fig. 4

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SELECTIVE CARD DISPENSER HAVING SUCTION MEANS

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Fig. 6

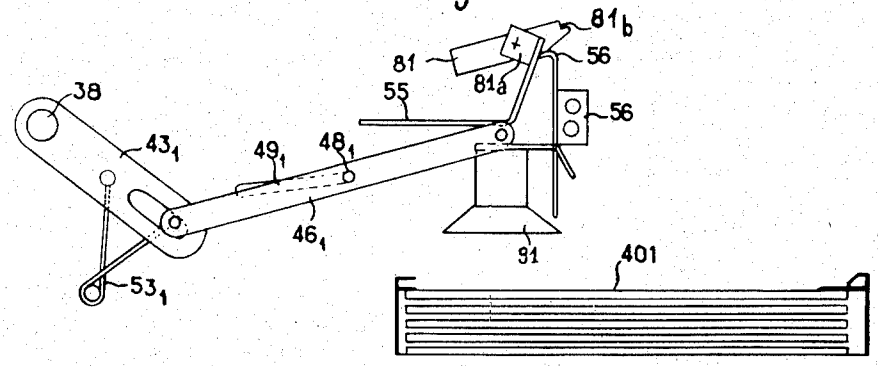


Fig. 7

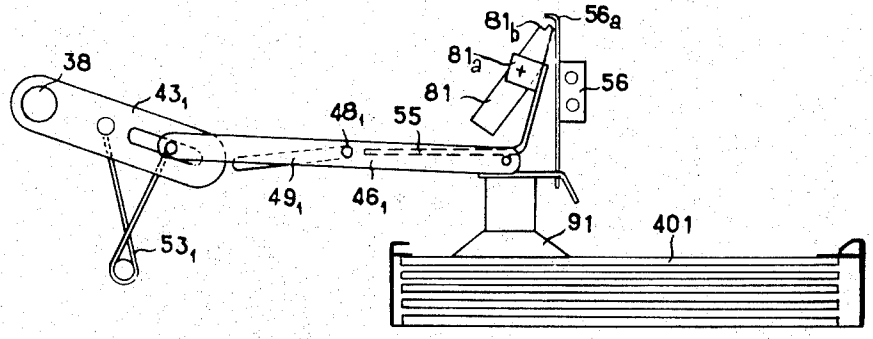
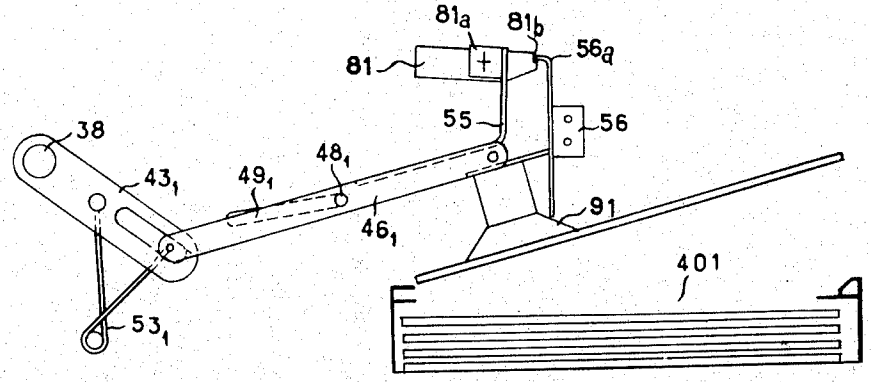


Fig. 8



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3,361,295

SELECTIVE CARD DISPENSER HAVING SUCTION MEANS

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2 Claims. (Cl. 221—122)

ABSTRACT OF THE DISCLOSURE

A distributor for phonograph records and postcards with an endless chain for positioning the cards or phonograph records and suction cup device for gripping the cards or phonograph records in response to the tripping of a lever occasioned by the insertion of coins.

My invention relates to an automatic distributor for phonograph records or post cards.

The principal object of my invention is to provide a device for distributing flat objects such as phonograph records or post cards from within a cabinet having a continuous drive along with a selecting device.

Another object of my invention is the provision of a mechanism for bringing one of a series of racks to a predetermined position and then unlocking the device so that the particular selected record or other object may be dispensed from the machine.

Another object of my invention is to provide for a suction cup which is operable in response to the withdrawal of air with a pump to remove a selected object from a rack to a depository.

Another object of my invention is the provision of a suction cup which is constructed and operated to remove only one object from a selected rack.

This invention resides in certain constructions and combinations and arrangements of parts, and further objects and advantages of the invention will be apparent to those skilled in the art to which it relates from the following description of the preferred embodiment described with reference to the accompanying drawings forming a part of the specification, and in which:

FIGURE 1 is a perspective view of my machine;

FIGURE 2 is a side view of my invention, showing the gripping mechanism at rest;

FIGURE 3 is a side view showing the gripping mechanism in a position ready to grip a record or post card;

FIGURE 4 is a detailed side view of the mechanism for distributing post cards at the start of withdrawal of a post card;

FIGURE 5 is a detailed plan view of the mechanism shown in FIGURE 4;

FIGURE 6 is a detailed, right side view of the record distributor device at the start of rotation of the suction cup;

FIGURE 7 is a detailed view of the mechanism illustrated in FIGURE 6 in its gripping position; and

FIGURE 8 is a detailed view showing the gripping mechanism removing a record.

In the drawings, the same reference numerals refer to the same parts throughout the several views.

In general, my invention comprises a distribution device which has as its primary object the sale of post cards and phonograph records from a vending machine. This device consists of an endless chain or belt which have brackets or frames or racks secured in spaced relation thereto and which are rotatable to a selection position by manipulation of a lever mounted at the side of the device.

The lever is rendered operable when a coin is inserted into the machine. After the selection is made by the operator, the gripping of the selected item is made in response to the manipulation of another lever which subsequently deposits the item in a receptacle when it is received by the purchaser.

In the drawings, I show a cabinet **1** which has a front portion **2** provided with a glass window **3** behind which a series of selected racks **4** are visible. The racks **4** are mounted on a continuous chain **400** (FIGURE 2) and are adapted to carry stocks of a particular kind of post card or phonograph record.

On the right side of the cabinet **1**, I provide two coaxial handles such as **8** and **18** which protrude from the cabinet and permit control of the internal mechanism subsequently to be described. The internal mechanisms which I am about to describe comprise one for selection and one for gripping.

The selection mechanism is controlled by the handle **8** fastened to coaxial shaft **19***a* which in turn is fastened to sprocket wheel **19** meshing with chain **400**; and has as its purpose a means for exhibiting the racks **4** behind the window **3** until one rack such as **401** is chosen and is positioned adjacent to an arrow **6**. The gripping mechanism is engaged by a lever **18** which is operable only after coins have been inserted in a slot such as **7**. After the coins have been inserted and accepted being trip type coin mechanisms of standard design (not shown), the gripping mechanism is operable to withdraw a card or record from the rack **401** and deposit it in a receptacle **10**, where it may be withdrawn by the purchaser.

The gripping mechanism comprises a wheel **15** which has a pair of notches **16** and **17** (FIGURE 2) on its outer perimeter and is rotated by manipulating hand lever **18**. The wheel **15** in its normal position is blocked by a latch-lever **14** having an arm **14***b* which engages itself in a notch such as **16** and which comprises the bent end of a lever **14** which pivots about an axle **14***a*. The wheel **15** is freed for rotation when the coin mechanism actuates lever **14** to disengage the bent arm **14***b* out of notch **16**. When the wheel **15** is free due to the removal of the bent end of lever **14** about its pivot **14***a* from the notch **16**, the hand lever **18** may be moved in a counterclockwise direction through 90 degrees against the tension of a return spring **20**. A detent catch **59** with a compression spring **59***a* slides out of notch **17** and operates around the periphery of wheel **15** until it reaches the notch **16** and acts to stop further rotation of the wheel **15** in a counterclockwise direction. When the handle **18** is released the wheel **15** is returned to its initial position and the detent catch **59** returns from notch **16** to notch **17**. The purpose of this detent catch **59** is to limit rotational movement of wheel **15**. On the return rotation of wheel **15** under the influence of return spring **20** the shock of latch end **14***b* reengaging in notch **16** is minimized through the action of hydraulic dash-pot **58** which has its piston rod anchored at pivot **58***a*.

I provide in my invention a connecting rod **36** which moves at one of its ends **36***a* (FIGURE 2) near the outer edge of the wheel **15**. The other end is provided with an elongated slot **40** in which a stud **39** secured to crank **37** may slide in slot **40** against a spring **41**. Secured to the shaft **38** are two cranks 43_1 and 43_2 (FIGURE 4). The frame **44** holds two suction cups **91** and **92**. Rocker arms 46_1 and 46_2 are each provided with a stud such as 48_1 and 48_2 which is slidable within the respective openings 49_1 and 49_2 and is also provided with second studs such as 51_1 and 51_2 which are slidable in the opening 52_1 and 52_2. Each of the studs 51_1 and 51_2 is controlled by a V-shaped spring such as **53**.

I provide a cam member **55** (FIGURES 2 and 4) which has a bent edge **55***a* and which cooperates with a bracket **56** and has a stem **55***b*. The inner surface of the suction

cups 91 and 92 (FIGURE 5) are connected to a pump 94 through a hose 93. The pump 94 pivots about a pin 94*a* (FIGURE 4) and has an aperture 94*b* (FIGURE 3). The pump 94 is provided with a leather piston 95 secured to a piston rod 96 which is secured at its lower end to a crank 97 connected to shaft 38 (FIGURE 4). The frame 44 is provided midway between the suction cups 91 and 92 with a rod 98 actuated by a spring 99 bearing against a plate 100 to break any cohesion between the outermost object and the one immediately adjacent to it in the stack.

The rack 401 is provided with fasteners such as 4*a*, 4*b* and 4*c* to hold the records or cards in position. In my invention, after the lever 18 has been manipulated, wheel 15 rotates 90 degrees in a counterclockwise direction, the connecting rod 36 is pulled by pivot pin 35*a* attached to wheel 15 causing cranks 37 and 43 to be rotated. Rotation of crank 43 causes arms 46_1 and 46_2 to lift until studs 48_1 and 48_2 are raised to the upper end of slots 49_1 and 49_2. In the first phase the rocker arms 46_1 and 46_2 move to bring the studs 48_1 and 48_2 to the upper ends of the slots 49_1 and 49_2. In the second phase studs 48_1 and 48_2 act as pivots for arms 46_1 and 46_2 and the suction cups are brought into contact with cards or records at position 401. Simultaneously therewith, through the cooperation of the cam 55 and member 56, the longitudinal axis of the suction cups take a horizontal position. When this motion has been completed, the suction cups 91 and 92 come into contact with the cards or records in the rack 401 and the pin 51 moves in the slot 52 on arm 43 against spring 53, depending upon the number of cards or records or the thickness of the stock of cards or records. At this time the piston 95 of the air pump 94 through crank 97 has reached its high point. As the wheel 15 moves clockwise to return to its original position after release of lever 18, the piston 95 of the pump 94 moves down causing air to be withdrawn from the suction cups 91 and 92 and under the combined action of the suction cups 91 and 92 and the rod 98, the card assumes a W shape (FIGURE 5) to remove it from the one immediately adjacent to it. The removal is assisted by the claw members 4*c*. When the piston 95 of the pump 94 passes beyond the aperture 94*b*, the action of the suction cups cease and the card is released and falls into a receptacle 10.

In FIGURES 6, 7 and 8 of the drawings, I show a pivoted bracket 55 which pivots around a shaft 55*a*. A finger 81 pivots on shaft 81*a* which is supported on the tab end of bracket 55. Finger 81*a* has a notched end such as 81*b* to cooperate with the edge 56*a* of the member 56. The record is not lifted at its center, but at the lower part so that the finger 98 does not press against the center opening in the record. In practice the gripping has been begun as soon as the studs 48_1 and 48_2 have moved to the end of the slots 49_1 and 49_2 and at that time the suction cups move when the finger 81 catches the bent tip 56*a*. When notch 81*b* catches bent tip 56*a* it causes the suction cups assume a different angle with respect

to the stack 401 for removing the cards or records on a slant to facilitate the removal of the records or cards from the clips.

From the foregoing, it is apparent that the objects heretofore enumerated have been accomplished by my invention.

While the preferred form of my invention has been described in considerable detail, it will be apparent that the invention is not limited to the construction shown and it is my intention to cover hereby all adaptations, modifications and changes therein which come within the practice of those skilled in the art to which the invention relates and the scope of the appended claims.

Having thus described my invention, I claim:

1. A card dispenser comprising an endless chain equipped with racks containing the cards, a mechanism for selecting and bringing to a predetermined position one of said racks, the combination of a frame having a pair of suction cups horizontally separated, one from the other, and a spring actuated member located between the suction cups mounted perpendicularly to the frame, for applying the suction cup against the first card on said rack, means to remove air from said suction cups, means for withdrawing said suction cups and retaining a record or cards with said suction cup after gripping, means for releasing said cards from said suction cups and means to return said suction cups to their normal position with release of the postcard or record.

2. The device described in claim 1 in which the means for applying the suction cups comprises a drive shaft, two levers mounted on said shaft, two connecting rods joined respectively to said levers and the frame holding said suction cups, an air pump provided with an aperture for release of suction at a predetermined position, a lever on the drive shaft for actuating the pump, said pump having a rod joined to said lever, a hose connecting the pump to the suction cups, a bracket and member mounted on said machine and cooperating with said bracket to provide for the positioning of the suction cups on the objects to be withdrawn.

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