R. T. HOSKING.

COIN STACKER AND VENDING MACHINE.

APPLICATION FILED JULY 17, 1913.

1,234,029.

Patented July 17, 1917.

2 SHEETS—SHEET 1.

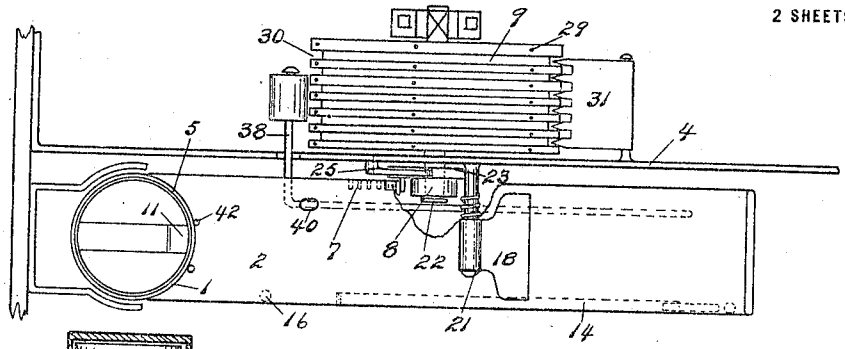


FIG. 1

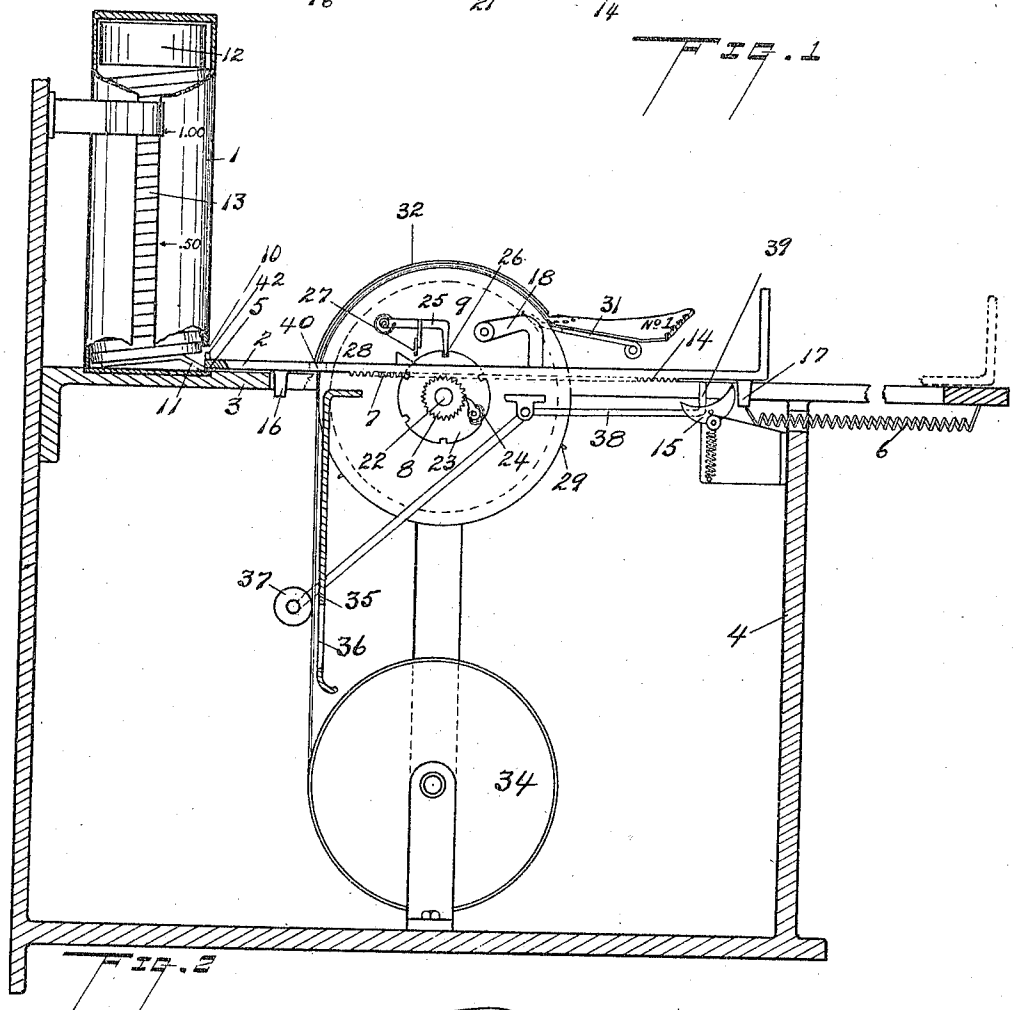


FIG. 2

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2 SHEETS—SHEET 2.

Fig. 3

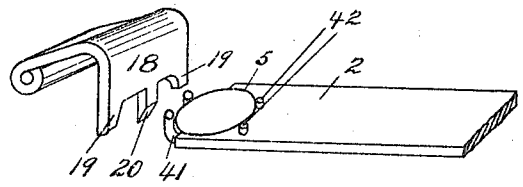
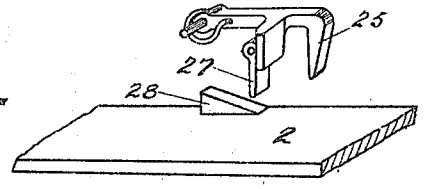


Fig. 4



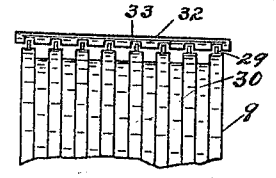


Fig. 5

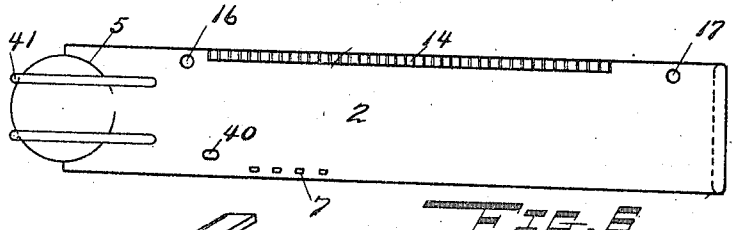


Fig. 6

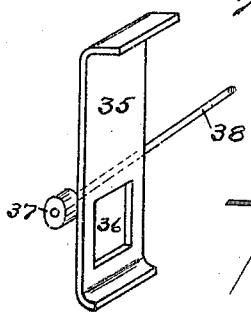


Fig. 7

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UNITED STATES PATENT OFFICE.

RICHARD T. HOSKING, OF SAGINAW, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN BANKING MACHINE CORPORATION, A CORPORATION OF DELAWARE.

COIN-STACKER AND VENDING-MACHINE.

1,234,029. Specification of Letters Patent. Patented July 17, 1917.

Application filed July 17, 1913. Serial No. 779,420.

To all whom it may concern:

Be it known that I, RICHARD T. HOSKING, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Coin-Stacker and Vending-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is a coin stacker and vending device and the improvement relates more particularly to vending devices in which the coins are forced to stack, and in which means is provided for identifying the article vended with the particular coin that purchased it.

My improved device may be adapted to the vending of various articles, but in the form in which I shall illustrate and describe it in this application, it is adapted for the vending of stamps. More specifically, the machine selected for purpose of illustration is adapted to vend savings stamps, or certificates adapted to be used as vouchers for the coins that have been deposited in the machine. In this case the stamps may bear consecutive numbers or other identification marks by which the particular coin that purchased any individual stamp may be located in the coin receptacle, so that if a bogus coin is discovered in the receptacle the stamp corresponding to that coin can be identified so that redemption of the stamp can be refused.

Machines of the type described are adapted to be deposited in schools and like places so that numbers of people may make deposits of coins in the one machine, each person receiving a corresponding stamp which later on is honored at its face value by the bank in which the collected coins are deposited.

The invention consists in the devices described and claimed and the equivalents thereof.

In the drawings, Figure 1 is a top plan view broken away in part, showing the working parts of the machine; Fig. 2 is a part sectional side elevation; Fig. 3 is a perspective detail, of the device by which the feeding-in slide is prevented from operating unless it carries a coin; Fig. 4 is a detail of the device for releasing the stamp vending wheel when the coin is deposited in the stack; Fig. 5 is a detail broken away in part showing the rim of a stamp feeding wheel and its stamp-retaining guard; Fig. 6 is a bottom plan view of the feeding-in slide; Fig. 7 is a perspective detail of the device for locking the machine when the stamps are exhausted.

As is clearly shown in the drawings, the embodiment of the machine which I have selected for purpose of illustration, consists in a suitable coin receptacle such as the tube 1 into which the coins are forced to stack, and a feeding-in slide 2 by which the coins are inserted in the tube.

The slide 2 is adapted to move back and forth on the plate 3 of the case 4.

One end of slide 2 is suitably recessed as at 5 to receive the coin. The slide 2 is normally retracted by a suitable spring 6.

When a coin is placed in the recess 5 and the slide 2 is pushed forward, the coin is fed into the bottom of the tube 1, and when the slide is released spring 6 returns it to its original position.

On the return movement of the slide the vending device is actuated. This vending device comprises a short toothed rack 7 secured to the under side of slide 2, a pinion 8 adapted to be actuated by rack 7 on the return stroke of slide 2, and a vending wheel 9 operated by the pinion to deliver a stamp or other article as will be more fully described later.

The coin stacking device is so arranged that the coins successively fed into the bottom of tube 1 will be forced to stack consecutively as they are taken into the tube. To accomplish this result I provide a coin slot 10 near one end of the tube, and an inclined guide member 11 formed with an upwardly inclined coin-guiding face extending part way across the tube and adapted to support the coin that was last inserted, in an upwardly inclined position, with the edge that is nearest the slot 10 in a raised position as shown in Fig. 2, to permit the edge of the next coin to be inserted between it and the inclined guide 11, so that the incoming coin will act as a wedge to lift the stacked coins into the tube and when completely inserted will lie in position to enable the next coin to be inserted beneath it.

To prevent the sequence of the coins in the tube being disturbed by a too sudden operation of the feeding-in slide, I provide a suitable resistance device, as a plug or

weight 12, to prevent the upper coins of the stack being suddenly jolted out of position.

I also provide a slot 13 in the side of tube 1 to permit inspection and counting the coins before they are removed from the tube.

To prevent a return movement of the feeding-in slide until it has completed a stroke once started, either forward or back, I provide on the under edge of slide 2 a series of serrations or ratchet teeth 14 adapted to be engaged by either of the horns of a double spring-actuated pawl 15. The arrangement of the pawl is such that when it is in the position shown in Fig. 2 and slide 2 is partly drawn out, the slide will be prevented from being pushed in until it has been first drawn out far enough to cause the pawl to be tilted to its opposite position, the tilting of the pawl being accomplished by contact with a downwardly projecting pin 16 fixed to the under side of slide 2.

Similarly when the slide 2 is clear in, as shown by the full lines in Fig. 2, pin 17 will tilt the pawl to its opposite position so as to permit the slide to be drawn out, but to prevent its being pushed in until it has first been drawn out to the full extent of its travel.

I also provide a device to prevent the slide 2 being pushed in far enough to actuate the vending wheel 9 unless a coin is being carried by the slide.

For this purpose I provide a hooked latch 18, pivotally mounted upon a stationary member of the frame 4. This latch, as shown in Fig. 3, has its lower edge provided with prongs 19, and a downwardly projecting central beveled tooth 20, which is slightly longer than the prongs 19.

The latch 18 is preferably supported by the pin 21 and is preferably spring pressed downwardly.

When a coin is being carried by slide 2, as shown in Fig. 3, the advancing edge of the coin will engage the beveled end of tooth 20 and lift the latch 18, the coin and slide 2 passing under the lower edge of tooth 20. When there is no coin in slide 2, the tooth 20 will not be engaged and the ends of slide 2 will strike against the prongs 19 which act as stops to prevent further forward movement of the slide.

The vending mechanism, as has previously been noted, comprises the vending wheel 9, the pinion 8, by which the wheel is intermittently actuated, and the short rack 7 that meshes intermittently with the pinion as the slide 2 moves forward and back.

Pinion 8 is revoluble on its shaft, and on the feeding-in movement of slide 2 pinion 8 revolves freely as the rack 7 passes over it. On the return stroke of slide 2, the pinion turns with the shaft 22 and with the vending wheel 9. A notched locking disk 23 is fixed to wheel 9 and carries on its face a spring-pressed pawl 24 adapted to engage pinion 8 when the latter revolves during the outward stroke of slide 2, and permits the pinion to revolve without turning disk 23 when the slide 2 is pushed in.

The length of rack 7 is just sufficient to move vending wheel 9 the distance required to deliver one stamp.

A spring-pressed detent 25 engages the notches 26 of disk 23, as shown in Fig. 2. This detent carries a hinged wiper 27 arranged in the path of an upwardly-projecting beveled lug 28 fixed to slide 2. When slide 2 is pushed in lug 28 passes the wiper 27 without lifting the detent 25, but on the outward movement of slide 2 the beveled face of the lug engages the wiper and lifts the detent to release it from engagement with disk 23. As soon as the disk has commenced to revolve by the action of rack 7, lug 28 releases the detent, which rides upon the periphery of disk 23 until it drops into the next notch of the disk and prevents further rotation of the vending wheel.

I prefer to construct the vending wheel as follows: Rows of projecting pins 29 are secured to the face of the wheel, and between the pins are grooves 30, within which are received the fingers of a stripping plate 31. The prongs engage the perforations of the stamps, and the fingers of the stripping plate remove the stamps as they are fed out by the wheel 9.

To prevent the stamps from buckling and becoming accidentally detached from the pins, I surround the upper part of the vending wheel 9 by a stamp retaining guard 32 shown in Figs. 2 and 5, the guard being a curved plate with circumferential grooves 33 on its inner face, the ends of the pins 29 projecting slightly into the grooves to hold the stamp in position between the wheel and the guard.

The stamps are supplied to the wheel 9 from a roll of stamps 34, passing along the face of a guide plate 35. This plate is provided with an opening 36 adapted to receive a roller 37 mounted on a bent arm 38 which is pivoted in any suitable manner to the frame of the machine. The end of the roller arm is provided with an upwardly-projecting pin 39, which is thrust upward through an opening 40 in slide 2 when roller 37 is permitted to drop into the opening 36 when the supply of stamps is exhausted and the opening 36 is no longer covered by a stamp.

To enable the coin to be recovered in case it does not feed into the tube 1, I provide a pair of hooks 41 secured to slide 2 and adapted to pass through the opening between the prongs 19 and the tooth 20 of latch 18. If the coin is not received in the tube it will be drawn back upon the return movement of the slide.

To insure proper feeding in of the coin,

I also provide a pair of upwardly projecting pins 42 fixed to the upper face of the slide as shown in Fig. 3.

By the means above described I have produced a vending device in which the coins are forced to stack in consecutive order, and the articles vended, being in consecutive order and supplied with identification marks or equivalent devices, may easily be identified with the respective coins that purchased them.

While I have shown and described a specific embodiment of my invention and have set forth various incidental devices that may be employed when my invention is used as a stamp vending machine, it will be understood that I do not desire to limit myself to the specific construction illustrated, since the invention is capable of embodiment in many different forms and is adapted to various uses.

Having described my invention, what I claim and desire to secure by Letters Patent is:

In a vending machine, a coin tube having a coin-receiving slot near its lower end, a guide member in said tube, said guide member formed with an upwardly inclined coin-guiding face extending part way across said tube, said member adapted to support a coin with the edge that is nearest the slot of the tube in an inclined position, to permit the edge of the next coin to be inserted between the previously inserted coin and the inclined guide, said tube formed with a continuous longitudinal slot extending from top to bottom of said tube to partially expose to view the edge of each coin contained in said tube, a weight vertically movable in said tube and adapted to rest on the coins being stacked, and means adapted to force coins one at a time into said receiving slot and beneath the coins in said tube to lift said coins and said weight, for the purposes set forth.

In testimony whereof, I affix my signature in presence of two witnesses.

RICHARD T. HOSKING.

Witnesses:
JOSEPH V. CARPENTER,
NELLIE M. ANGUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."