F. Q. RAST.

VENDING MACHINE.

APPLICATION FILED JULY 9, 1912.

1,066,753.

Patented July 8, 1913.

2 SHEETS—SHEET 1.

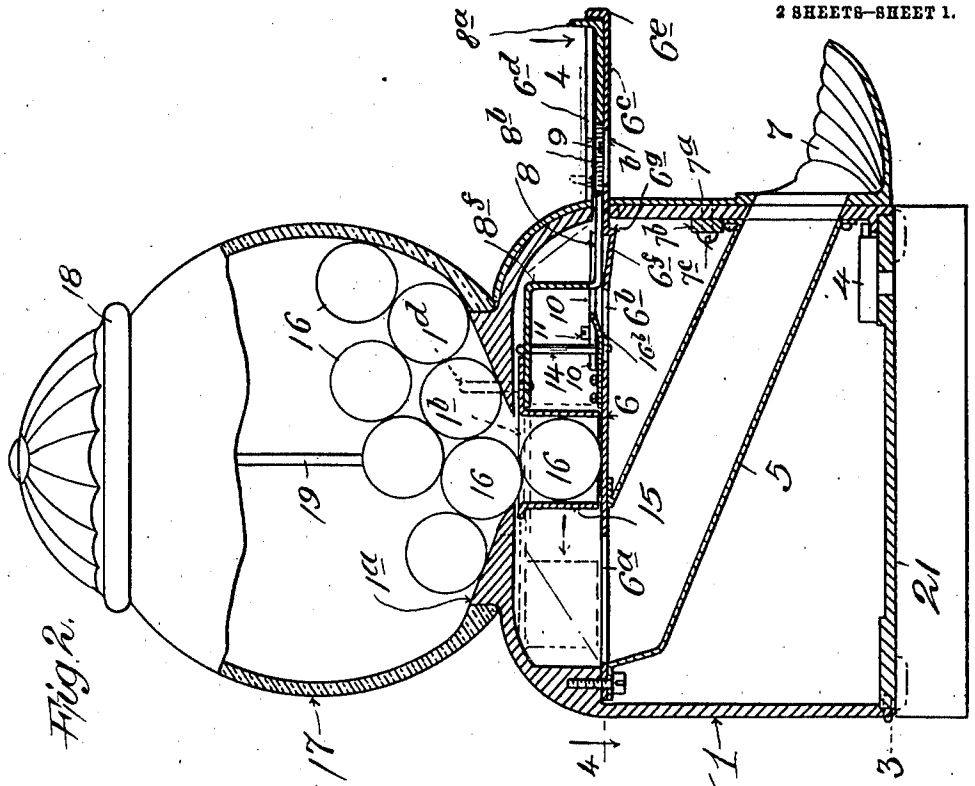


Fig. 2.

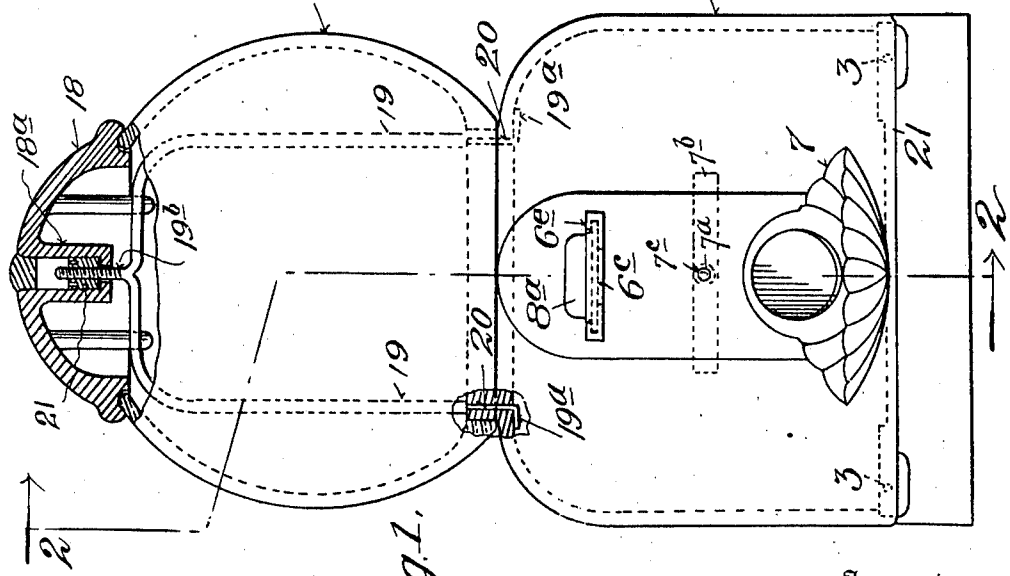


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 3.

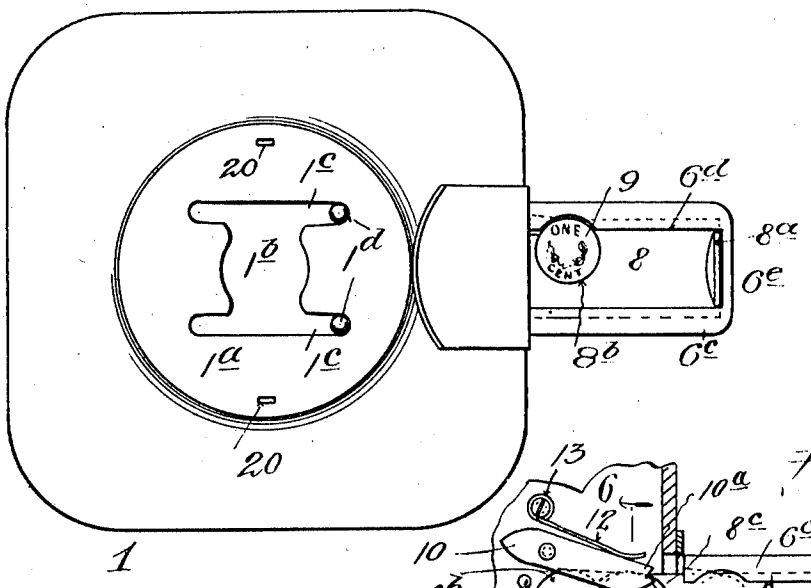


Fig. 5.

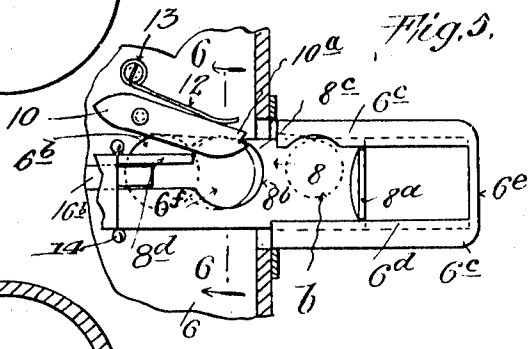


Fig. 4.

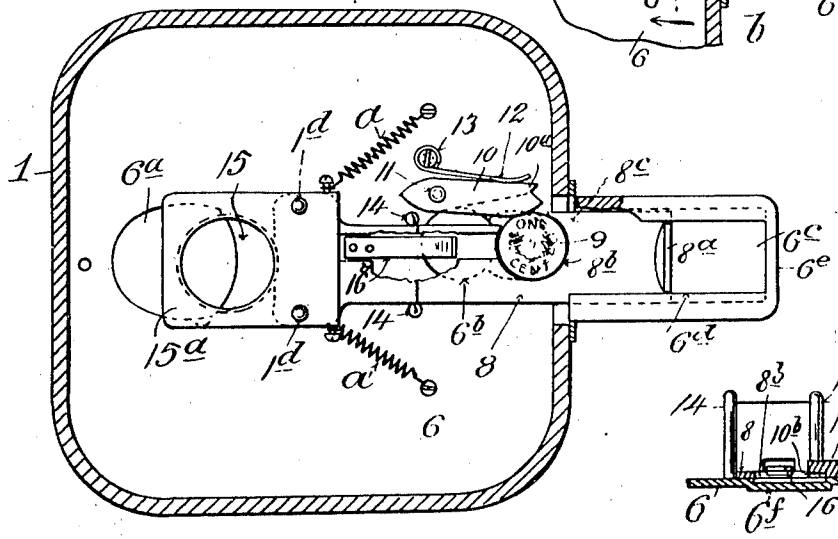


Fig. 6.

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UNITED STATES PATENT OFFICE.

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VENDING-MACHINE.

1,066,753. Specification of Letters Patent. Patented July 8, 1913.

Application filed July 9, 1912. Serial No. 708,420.

To all whom it may concern:

Be it known that I, FELIX Q. RAST, a citizen of the United States, and resident of New York city, borough of the Bronx, in the county of New York and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to improved coin controlled means for dispensing articles of merchandise, and objects of my invention are to prevent operation of the machine in the absence of a proper coin; to prevent the return or withdrawal of the coin controlled goods ejector or plunger when it has been partially pushed into the machine in conjunction with a coin, and generally to simplify the construction in the class of coin controlled devices herein referred to.

My invention comprises novel details of improvements and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein, Figure 1 is a partly broken front view of a vending machine embodying my invention; Fig. 2 is a section substantially on the line 2, 2, in Fig. 1; Fig. 3 is a plan view, the globe or casing for the goods being removed; Fig. 4 is a section substantially on the irregular line 4, 4, in Fig. 2; Fig. 5 is a detail of a portion of Fig. 4 showing the parts in the locked position, and Fig. 6 is a section on the line 6, 6, in Fig. 5.

Similar numerals of reference indicate corresponding parts in the several views.

The numeral 1 indicates a casing or frame, which may be of any suitable construction, having a removable bottom 2, shown held in place by a pin 3 and a suitable lock 4. Within the casing is a chute or delivery tube 5, leading from plate 6, to an exterior receptacle 7, secured upon the casing. Receptacle 7 is shown provided with a wall 7^a in front of the casing, and held in place by a bar 7^b receiving the screw 7^c passing through said bar and casing and screwed into wall 7^a whereby said receptacle and wall are secured in the casing. Plate 6 is shown provided with an opening 6^a communicating with chute 5 and with an opening 6^b for the delivery of coins into the casing. All of the above parts may be of any suitable or usual construction. The plate 6 has an extension 6^c projecting through the casing and having its edges outside of the casing folded or grooved at 6^d to receive and guide the coin controlled ejector or plunger 8. Ejector 8 slides upon plate 6 and extension 6^c, and the outward movement of said ejector is limited by the upturned edge 6^e of extension 6^c, the ejector 8 being shown provided with a finger piece 8^a for manipulating the ejector. Ejector 8 is provided with a recess or opening 8^b adapted to receive a coin 9 to permit the coin to slide upon plate 6 and its extension 6^c. The opening 8^b leads through one edge of ejector 8 (Fig. 5) and the edge or stop portion 8^c of said ejector projects laterally beyond the edge portion 8^d of the ejector, in position to encounter a latch or dog 10, shown pivoted at 11 upon plate 6, said latch being shown provided with a notch 10^a adapted, in the absence of a coin, to engage the stop portion 8^c of ejector 8 to prevent the full inward sliding of the latter except when a coin holds latch 10 out of the path of the ejector as in Fig. 4. The reduced edge part 8^d of the ejector permits the latch to move toward the ejector and enter opening 8^b to act as a stop for the ejector as in Fig. 5. A spring 12, interposed between the latch 10 and plate 6, shown bearing against the latch and a stop 13 on plate 6, serves to normally press the latch toward ejector 8.

Within the casing ejector 8 is shown guided by pins 14 spaced on opposite sides of the ejector and carried by plate 6. The ejector is provided with a receptacle 15 for the articles 16 to be delivered, which receptacle is shown open at the top and bottom, and overlying plate 6 normally at one side of opening 6^a (Fig. 2), and adapted to overlie said opening when the ejector is pushed inwardly with a coin to permit the passage of an article 16 into chute 15. The receptacle 15 is shown provided with an upper flange portion 15^a from which the receptacle depends, which flange portion is shown secured to the upturned portion 8^f of ejector 8. A finger or spring 16^b beneath part 8^f of the ejector is secured on plate 6 and its free bent end projects over opening 6^b to cause coins to drop through said opening.

The top of casing 1 is shown provided with an inwardly beveled seat 1^a upon which the articles 16 rest, and the opening 1^b of which seat is above receptacle 15 when the

ejector is pulled outwardly to the coin receiving position, either by hand or by springs a connected with the ejector and with plate 6, Fig. 4. Seat 1^a is shown provided with spaced slots 1^c receiving pins 1^d which project above the seat and serve to aid in guiding the ejector as well as to stir the goods 16. Over seat 1^a is placed a suitable housing to contain the goods 16, which may be in the form of a globe 17 of well-known arrangement, upon which is a cap 18. To detachably hold the cap and globe in place I have shown wires 19 passing through openings 20 in seat 1^a, and having their lower ends bent laterally at 19^a, the upper ends of the wires being united and threaded at 19^b to enter a seat 18^a in cap 18, within which seat a locking nut 21 fits upon the threaded part 19^b. By this means the cap and globe may be readily removed to replace the supply of articles in the machine.

In accordance with my invention when the articles are placed in globe or housing 17 and ejector 8 is pulled outwardly so that its coin opening 8^b is outside of the casing, as in Fig. 3, the receptacle 15 will be beneath opening 1^b, and one of the articles 16 will enter said receptacle and rest upon plate 6. If the ejector should now be pushed inwardly without a coin being in its opening 8^b, the inner end of latch 10 will partially enter opening 8^b and encounter the stop or edge 8^c of the ejector and prevent the ejector from being pushed farther into the casing (Fig. 5), at which time the receptacle will not be pushed sufficiently far over opening 6^a of plate 6 to permit the article 16, that is within the receptacle, to pass through opening 6^a, and ejector 8 will be thus locked from further inward movement. With the parts in the position shown in Fig. 3, however, and a proper coin 9 placed in opening 8^b and resting upon extension 6^c, the ejector, when pushed inwardly, will carry the coin along over extension 6^c and into engagement with the inner end of latch 10, thus pushing said latch outwardly and permitting the ejector to be pushed inwardly the proper distance to bring the ejector 15 over opening 6^a of plate 6, and permit the article 16 in the ejector to drop through chute 5 to receptacle 7, and the coin will then drop from opening 8^b of the ejector through opening 6^b of plate 6, the openings 6^a and 6^b being so spaced as to permit article 16 and the coin to drop into the casing at the same time the ejector is properly pushed inwardly, and at such time the top portion 15^a of receptacle 15, by sliding under opening 1^b of seat 1^a, will prevent any of the articles 16 from descending. When ejector 8 is next pulled outwardly to the outward position, one of the articles 16 will again pass into receptacle 15 and so on. To prevent the ejector 8 from being withdrawn when it has been pushed inwardly a suitable distance with a coin in opening 8^b, I provide in plate 6 a depression 6^f that inclines outwardly, forming an abutment 6^g, Fig. 2, into which depression the coin will enter, whereby the outer edge of the coin will engage abutment 6^g and the inner edge of the coin will engage the inner edge of opening 8^b and thus block the outward movement of the ejector. To prevent operation of latch 10 by a counterfeit of less thickness than a proper coin, I provide the inner edge of latch 10 on its under side with a recess 10^b (Fig. 6) so that a counterfeit resting upon plate 6 will not operate the latch and the latter will prevent the ejector from being pushed inwardly sufficiently far to carry the counterfeit over the depression 6^f, the outer edge of the latter being outwardly beyond the outer end of latch 10, so that the counterfeit rests on plate 6 when the inward movement of the ejector is stopped by latch 10, the counterfeit then being withdrawn with the next outward movement of ejector 8. An opening b in extension 6^c, beneath coin opening 8^b of the ejector, when the latter is in the coin receiving position, permits the rejection of a coin smaller than that intended to operate the machine.

From the foregoing it will be understood that the coin slides upon plate 6 and its extension 6^c when placed upon the same through the opening 8^b of the ejector, and that the coin is retained in such position by the walls of said opening, whereby the coin is free to drop through opening 6^b when the ejector has been pushed inwardly the proper distance to cause an article 16 to drop from receptacle 15 into chute 5, and the ejector serves to push the coin inwardly as it slides upon extension 6^c and plate 6 as distinguished from mounting a coin upon the ejector, and the coin is delivered downwardly through the ejector and not at one side thereof, thereby permitting the latch 10 at its free end to quickly pass in line with the stop 8^c of the ejector as the latter is pulled outwardly.

Changes may be made in the details of construction and relative arrangements of parts shown and described, within the scope of the appended claims, without departing from the spirit of the invention.

Having now described my invention what I claim is:—

1. A vending machine provided with an ejector having a coin opening leading through one side thereof and adapted to receive a coin, a plate upon which the ejector slides to push a coin thereon, said ejector having a stop adjacent said opening, and a latch at one side of the ejector to engage said stop in the absence of a token or coin from said opening, and to be moved out of operative relation to said stop by a coin in

said opening, said ejector having a reduced edge portion within the plane of said stop against which the latch bears, and means to prevent the latch from swinging into the coin opening of the ejector in the absence of a coin or token from said opening.

2. A vending machine provided with an ejector having a coin-opening leading through one side thereof and adapted to receive a coin, a plate upon which the ejector slides to push a coin thereon, said ejector having a stop at an edge of said opening, and a latch at one side of the ejector to enter said opening and engage said stop in the absence of a token or coin from said opening, and to be moved out of operative relation to said stop by a coin in said opening, and means to limit movement of said latch when it engages said stop to check inward movement of the ejector in the absence of a coin or token from said opening in the ejector.

3. A vending machine provided with an ejector having a coin-opening leading through one side thereof and adapted to receive a coin, a plate upon which the ejector slides to push a coin thereon, said ejector having a stop adjacent said opening, and a latch at one side of the ejector to engage said stop in the absence of a token or coin from said opening, and to be moved out of operative relation to said stop by a coin in said opening, and means to limit movement of said latch when it engages said stop to check inward movement of the ejector in the absence of a coin or token from said opening in the ejector, said ejector having a receptacle for articles, said plate having an opening for the passage of said articles from the receptacle when the latter is pushed inwardly, said plate having an opening to permit the deposit of a coin from the ejector when the article passes through the plate from said receptacle.

4. A vending machine provided with an ejector having a coin-opening leading through one side thereof and adapted to receive a coin, a plate upon which the ejector slides to push a coin thereon, said ejector having a stop adjacent said opening, and a latch to engage said stop and to be moved out of operative relation to said stop by a coin in said opening, means to prevent said latch from swinging into said coin-opening to check inward sliding of the ejector in the absence of a coin or token from said coin-opening, said plate having a depression below the plane of the ejector providing an abutment to engage a coin to prevent return movement of the ejector when it has been partially pushed into the machine.

5. A vending machine provided with an ejector having a coin-opening leading through one side thereof and adapted to receive a coin, a plate upon which the ejector slides to push a coin thereon, said ejector having a stop adjacent said opening, and a latch to engage said stop and to be moved out of operative relation to said stop by a coin in said opening, said plate having a depression below the plane of the ejector providing an abutment located at a point outside of the outer end of said latch to engage the outer edge of a coin when the ejector has been partially pushed into the machine.

6. A vending machine having a plate provided with an opening for delivery of articles and an opening for the deposit of coins, an ejector having a receptacle to receive articles to move them over the first named opening, said ejector having a coin-opening leading through one side to receive coins, said plate having a portion beneath said opening in the ejector upon which coins may slide, and a latch, said ejector having an edge along which the latch slides and also having a stop disposed laterally of said edge to engage said latch, and means to prevent the latch from swinging into said coin-opening to limit inward movement of the ejector in the absence of a coin from its coin opening.

7. A vending machine having a plate provided with an opening for delivery of articles and an opening for the deposit of coins, an ejector having a receptacle to receive articles to move them over the first named opening, said ejector having a coin-opening to receive coins, said plate having a portion beneath said opening in the ejector upon which coins may slide, a latch, the coin opening in said ejector leading through one side thereof, and a stop adjacent the open side of said coin-opening to engage the end of said latch to limit inward movement of the ejector in the absence of a coin and means to limit movement of the latch when it engages said stop.

8. A vending machine comprising a casing having an interior plate provided with a coin depositing opening, a finger projecting in line with said opening and having a portion arranged in an inclined position in the path of a coin to engage the edge of an advancing coin, an ejector slidable upon said plate, said ejector having a coin-opening to receive coins to slide them along said plate into engagement with said finger, a latch, and a stop upon the ejector to engage said latch in the absence of a token or coin from said coin-opening.

9. A vending machine comprising a casing having an interior plate provided with a coin depositing opening, a finger projecting in line with said opening and having a bent portion to engage and downwardly deflect an advancing coin, an ejector slidable upon said plate, said ejector having a coin-opening to receive coins to slide them along said plate into engagement with said finger,

a latch, the coin-opening in said ejector leading through one side thereof providing a stop to engage said latch in the absence of a token or coin from said coin-opening, said latch being in position to be pushed out of operative relation to said stop by a coin in the coin-opening of said ejector.

10. A vending machine provided with an ejector having a coin opening leading through one side thereof and adapted to receive a coin, a plate upon which the ejector slides to push a coin thereon, said slide having a stop adjacent said opening, and a latch to engage said stop and to be moved out of operative relation to said stop by a coin in said opening, said latch at its free end having a recess on its under side opposed to the ejector to receive a counterfeit to prevent operation of the ejector, said latch being adapted to engage a coin of proper thickness in the coin-opening of the ejector to permit movement of the latter.

Signed at Wilmington, in the county of Newcastle, and State of Delaware, this sixth day of July, A. D. 1912.

FELIX Q. RAST.

Witnesses:
ANNA S. ENGLAND,
MILDRED P. CARPENTER.