E. W. FLINT.

VENDING MACHINE.

APPLICATION FILED SEPT. 23, 1911. RENEWED DEC. 12, 1912.

1,067,870. Patented July 22, 1913.

3 SHEETS—SHEET 1.

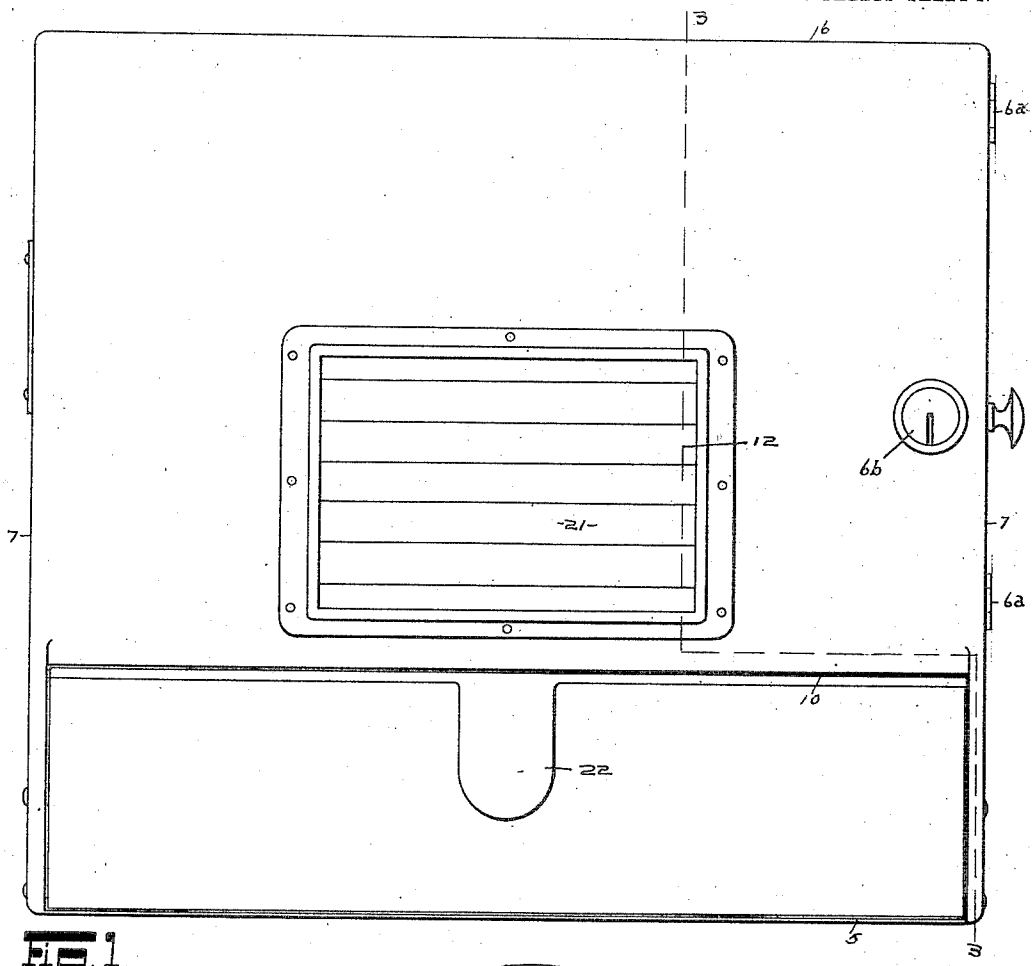


Fig. 1.

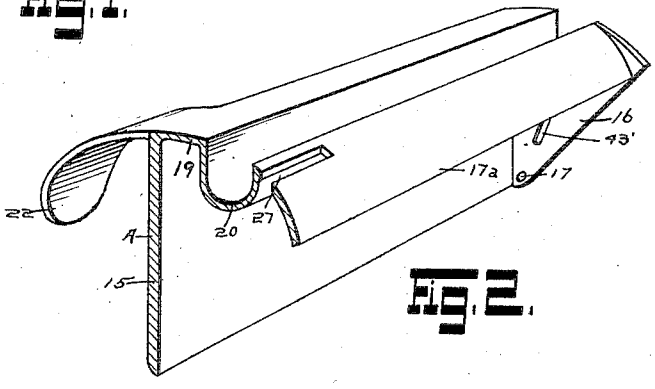


Fig. 2.

Witnesses

A. C. Foley,

George Tate.

Inventor

E. W. Flint,

By Cushman Darby & Cushman

Attorneys

E. W. FLINT.

VENDING MACHINE.

APPLICATION FILED SEPT. 23, 1911. RENEWED DEC. 12, 1912.

1,067,870. Patented July 22, 1913.

3 SHEETS—SHEET 2.

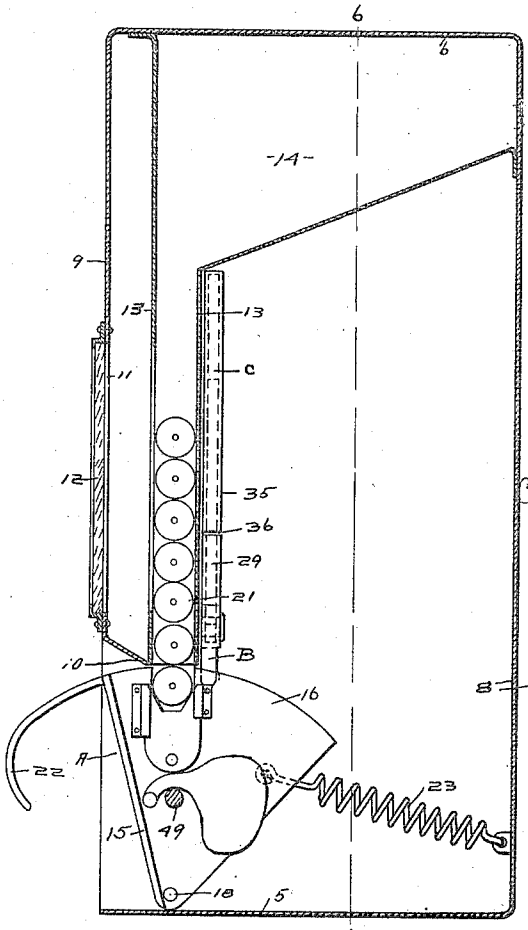


Fig. 3.

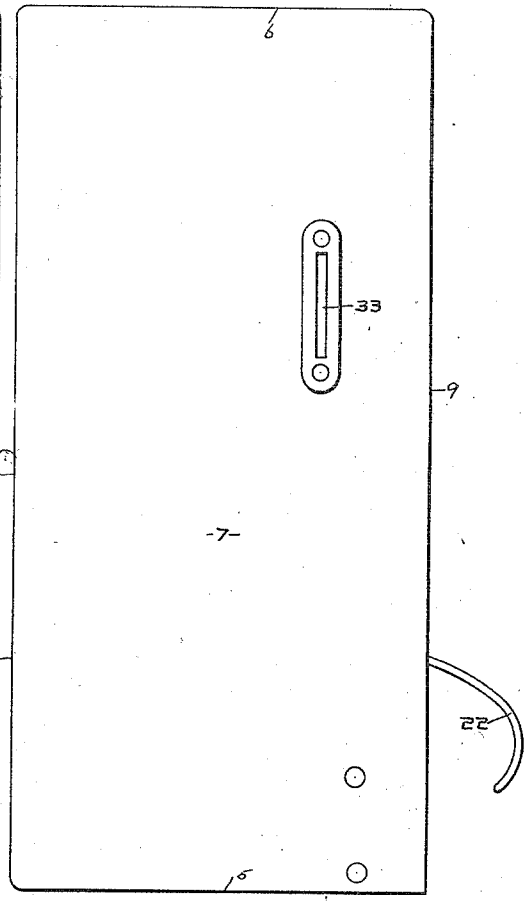


Fig. 4.

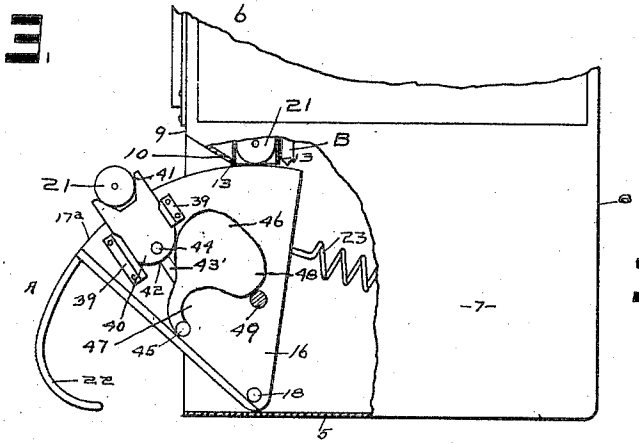


Fig. 5.

Witnesses

H. C. Foley.

George Tate.

Inventor

E. W. Flint

By Chandlee & Chandlee

Attorneys

E. W. FLINT.

VENDING MACHINE.

APPLICATION FILED SEPT. 23, 1911. RENEWED DEC. 12, 1912.

1,067,870. Patented July 22, 1913.

3 SHEETS—SHEET 3.

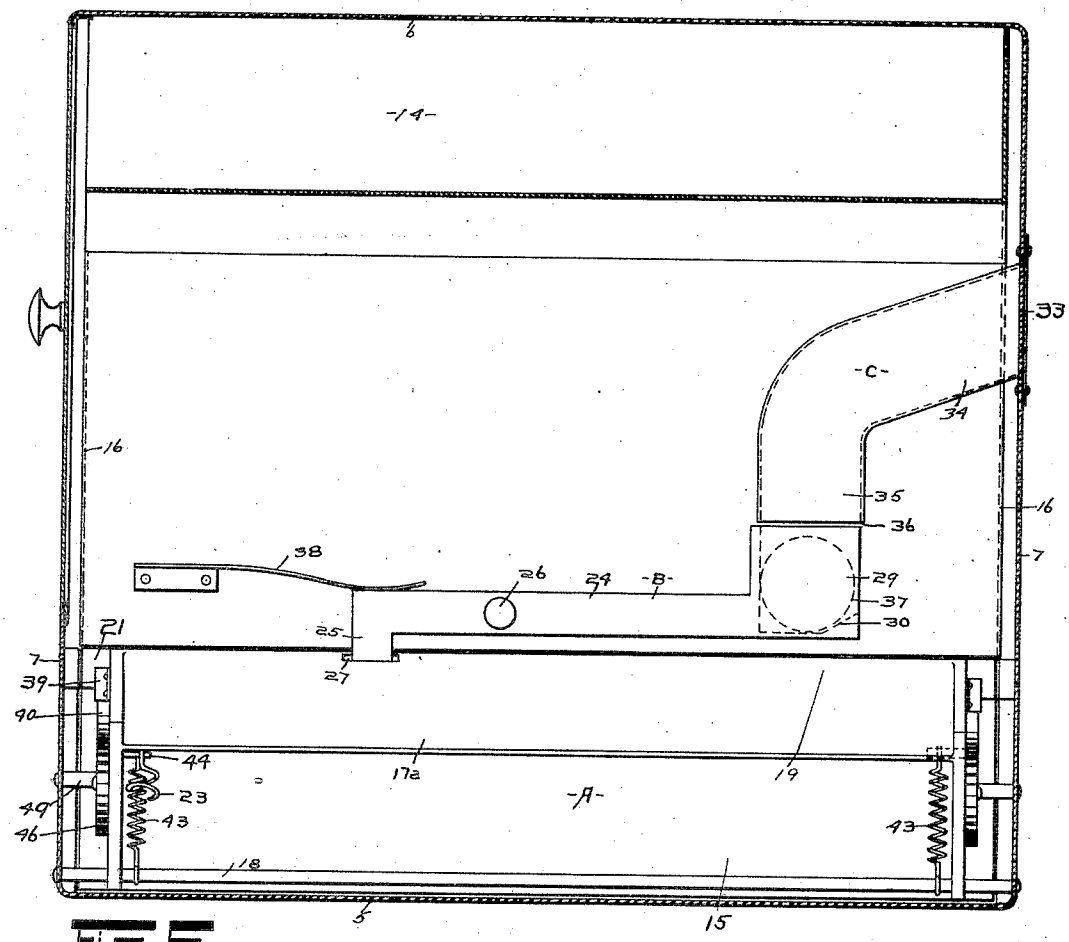


Fig. 6.

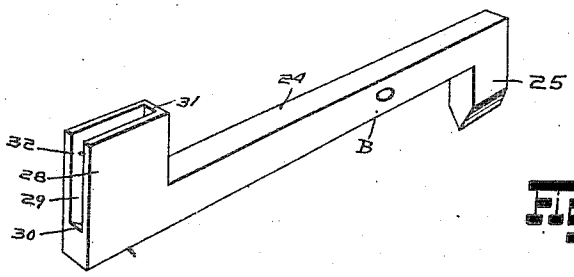


Fig. 7.

Witnesses
A. C. Foley.
George Sale.

Inventor
E. W. Flint

By Dowell & Dowell

Attorneys

UNITED STATES PATENT OFFICE.

EUGENE W. FLINT, OF ORANGE, CALIFORNIA, ASSIGNOR TO THE HOME NOVELTY COMPANY, OF SANTA ANA, CALIFORNIA, A CORPORATION OF CALIFORNIA.

VENDING-MACHINE.

1,067,870. Specification of Letters Patent. Patented July 22, 1913.

Application filed September 23, 1911, Serial No. 650,882. Renewed December 12, 1912. Serial No. 736,431.

To all whom it may concern:

Be it known that I, EUGENE W. FLINT, a citizen of the United States, residing at Orange, in the county of Orange, State of California, have invented certain new and useful Improvements in 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 relates to an improvement in vending machines of that class especially adapted for vending pencils or other like articles.

The principal object of the invention is to provide a coin controlled dispensing mechanism for discharging one or more pencils in each operation.

A further object of the invention is to provide a dispensing mechanism of the character described, in which there is provided a novel construction of ejector means for raising the pencil from the dispensing mechanism to permit of the same being readily grasped by the hand of the operator.

A still further object of the invention is to provide a vending machine of the character described which is extremely simple in construction, it being composed of a minimum number of parts and is therefore cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Figure 1 is a front elevation of a vending machine constructed in accordance with my invention, Fig. 2 is a detail perspective view of the swinging article delivery means, Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1, Fig. 4 is an end elevation of the machine, Fig. 5 is a view, partly in section, showing the article delivery element in its outermost position, Fig. 6 is a longitudinal sectional view through the machine taken on the line 6—6 of Fig. 3, and Fig. 7 is a detail perspective view of the gravity latch.

Like reference numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, there is provided a cabinet which consists of a bottom 5, a top 6, side walls 7—7, and a back 8. The cabinet further comprises a front wall 9, the lower edge 10 thereof being spaced from the bottom 5 of the cabinet, and centrally formed in said front wall and communicating with the bottom edge 10 thereof, is an opening 11 wherein is held a glass 12.

One side 7 of the cabinet is connected by hinges 6^a—6^a, and also associated therewith is a lock 6^b of any suitable construction.

Disposed within the cabinet and arranged parallel to the front wall 9 thereof is a pair of spaced partitions 13—13 forming a resultant chute which communicates with a hopper 14 disposed within the cabinet directly below the top thereof.

The invention further comprises a dispensing mechanism, and this mechanism includes a dispensing element A consisting of a front wall 15, which is disposed directly below the front 9 of the casing and between the side walls 7 thereof. This wall 15 is preferably formed of metal, and has its ends 16—16 bent inwardly to form substantially quadrential-shaped ears, each of said ears being formed with a perforation 17 near its lower end for receiving a shaft 18 carried by the adjacent side wall 7 of the cabinet. The upper edge 17^a of each ear is curved eccentric to the perforation 17, in such a manner that the distance between the perforation 17 and the top edge of the ear adjacent the wall 15 is greater than the distance between the perforation and the inner portion of said top edge. Secured to the upper edge of the wall 15 and the edges 17^a of the ears 16, is a curved plate 19, constituting a top for the dispensing element. This top is formed near the wall 15 with a longitudinal depression 20, which is adapted when the element is in its normal or closed position, to be disposed directly below the lower end of the chute for receiving one of the pencils 21 which are fed down the feed chute from the hopper. Centrally and outwardly extending from the top 19 is a finger-piece 22, by means of which the dispensing element may be swung outwardly on the shaft 18. A coil spring 23 has one end connected to the top 19 and the other

end to the bottom 5 of the cabinet for automatically returning the said dispensing element to its normal position.

In order to positively lock the dispensing element in its normal or closed position, there is provided an L-shaped gravity lock B, which consists of a long arm 24 and a short arm 25. The long arm 24 is centrally pivoted to the partition 13 above the dispensing element A by a pivot pin 26, and the short arm 25 projects downwardly, and is adapted to normally be positioned within an opening 27 formed in the top 19 of said dispensing element. A cup 28 is formed on the end of the long arm 24 opposite the short arm 25, and is formed with a vertical pocket 29 having a concaved bottom 30, an inner end wall 31 and an open outer end 32. Formed in the upper end of one of the side walls 7 of the casing is an opening 33 of a size to freely admit any suitable coin. Communicating with this opening is a coin chute C. This chute includes a downwardly inclined portion 34 which communicates with the coin opening 33, and a downwardly extending portion 35, the lower end 36 thereof being disposed directly over the pocket 29 of the gravity lock B. It will thus be observed that when a coin, such as is indicated by 37, is inserted through the opening 33, the said coin will drop down the chute C and enter the pocket 29 of the gravity lock. This lock is so fulcrumed upon its pivot that upon receiving the coin that end of the lock will drop by gravity, at the same time raise the short arm 25 of said lock from the slot 27 of the dispensing element A. The coin will cause that end of the lock to drop until the same rests upon the top 19 of said dispensing element. The said element is now free to be swung outwardly. It will be observed in this connection that when said element is swung outwardly the weighted end of the arm 24 will ride upon the curved top 19 of said element, and by reason of the fact that said top is eccentric to the pivot 17, the said end of the lock will be further lowered, and as a result, the coin will be caused to fall out through the open end 32 of the pocket 29, it being understood that the concaved bottom 30 is so formed as to prevent the coin moving until the dispensing element A has been moved as above described. Immediately upon the release of the coin, the short arm 25 of the lock B will be forced downwardly upon the top 19 by means of a flat spring 38, which is carried by the partition 13.

The invention further comprises a novel form of mechanism for automatically ejecting the pencil delivered after the dispensing element A has been swung outwardly. This mechanism consists of two or more pairs of spaced guide lugs 39, which are respectively mounted on each end wall 16 of the dispensing element A and below the depression 20. Slidably mounted within the sets of guide lugs 39 on each end of the element A is an ejector finger 40, which is preferably formed of flat metal, and has its upper end formed with a V-shaped notch 41, and its lower end rounded, as indicated by 42. Formed in each end of the element A is a longitudinal slot 43′, and projecting from the adjacent finger is a pin 44 which projects into said slot, and thereby limits the upward movement of said finger. Springs 43 each have one end connected to the respective pin 44 and the other end connected to the shaft 18 for returning the finger to its normal position. In order to project said fingers, there is pivotally mounted as at 45, upon each end wall 16 of the element A, a cam 46 one edge thereof engaging the adjacent curved edge 42 of the finger. The lower portion of the cam 46 is recessed, as at 47, to form a consequent head 48 at the free end of said cam. Carried by the end wall of the casing are pins 49, each pin being adapted to be engaged by the edge of the recess 47 and the head 48 of the cam 46 when said element A is swung outwardly. As a result of such engagement, the cams 46 will act upon the fingers 40 to raise the same so that the notches 41, and consequently the pencil 21, will be projected above the top 19 of said element A, whereupon the said pencil may be easily grasped by the operator. In this connection it is to be observed that when the element A is returned or swung inwardly to its normal positon, the cams 46 will ride over the pins 49 and permit the springs 43 to retract the fingers 40 to their normal positions.

What is claimed is;

1. In a vending machine, a dispensing mechanism including a swinging article delivery element, a stationary pin, an ejector finger for the article carried by said element, and a cam carried by the element and engageable with the pin when the former is swung outwardly to actuate said finger.

2. In a vending machine, a dispensing mechanism including a swinging article delivery element, a stationary pin, an ejector finger for the article carried by said stationary element, a spring connecting the finger and element for retaining the former in its inoperative position, and a cam carried by the element and engageable with the pin when the former is swung outwardly to actuate said finger against the tension of said spring.

3. In a vending machine, a dispensing mechanism comprising a swinging article delivery element, said element being formed of sheet metal and consisting of a front wall having its ends bent inwardly to form ears, a top connecting said ears and front wall

and formed with a longitudinal article receiving depression, article ejector means carried by the ears, and a gravity actuated lock for the element.

4. In a vending machine, a dispensing mechanism comprising a swinging article delivery element including a front wall, inwardly extending ears, and a top having a longitudinal article receiving depression formed therein, and an article ejector mechanism carried by said ears.

5. In a vending machine, a dispensing mechanism comprising a swinging article delivery element including a front wall, inwardly extending ears, and a top having a longitudinal article receiving depression formed therein, and an article ejector mechanism carried by said ears, said ejector mechanism consisting of ejector fingers movably mounted upon the ears and disposed in alinement with the depression of the top.

6. In a vending machine, the combination with a cabinet including a hopper and a depending chute, of a dispensing mechanism disposed below the chute comprising a swinging article delivery element, ejector fingers slidably mounted on said element, and means carried by the cabinet for positively actuating said ejector fingers upon outward movement of said delivery element.

7. In a vending machine, the combination with a cabinet including a hopper and a depending chute, of a dispensing mechanism disposed below the chute comprising a swinging article delivery element, ejector means carried by said element, means carried by the cabinet for positively actuating said ejector means, and resilient means connected to the ears and to the ejector means for returning the latter upon the release of said actuating means.

8. In a vending machine, the combination with a cabinet including a hopper and a depending chute, of a dispensing mechanism disposed below the chute comprising a swinging article delivery element, ejector means carried by said element, said means consisting of ejector fingers slidably mounted on said element, pins carried by the cabinet and respectively disposed below the fingers, cam elements pivotally connected to the article delivery element between the lower ends of the fingers and the adjacent pin and engageable with both to elevate the fingers upon outward movement of said delivery element, and resilient means for returning the fingers to their normal positions upon inward movement of said dispensing element.

9. In a vending machine, the combination with a cabinet including a hopper and a depending chute, of a dispensing mechanism disposed below the chute comprising a swinging article delivery element, ejector means carried by said element, said means consisting of ejector fingers slidably mounted upon said element, said fingers being notched at their upper ends to receive the article to be ejected, pin and slot connections between the fingers and the element for limiting the movements of said fingers, pins carried by the cabinet and respectively disposed below the fingers, cam elements pivotally connected to the article delivery element between the lower ends of the fingers and the adjacent pin and engageable with both to elevate the fingers upon outward movement of said delivery element, and resilient means for returning the fingers to their normal positions upon inward movement of said dispensing element.

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

EUGENE W. FLINT.

Witnesses:
H. P. JONES,
M. A. SIMON.