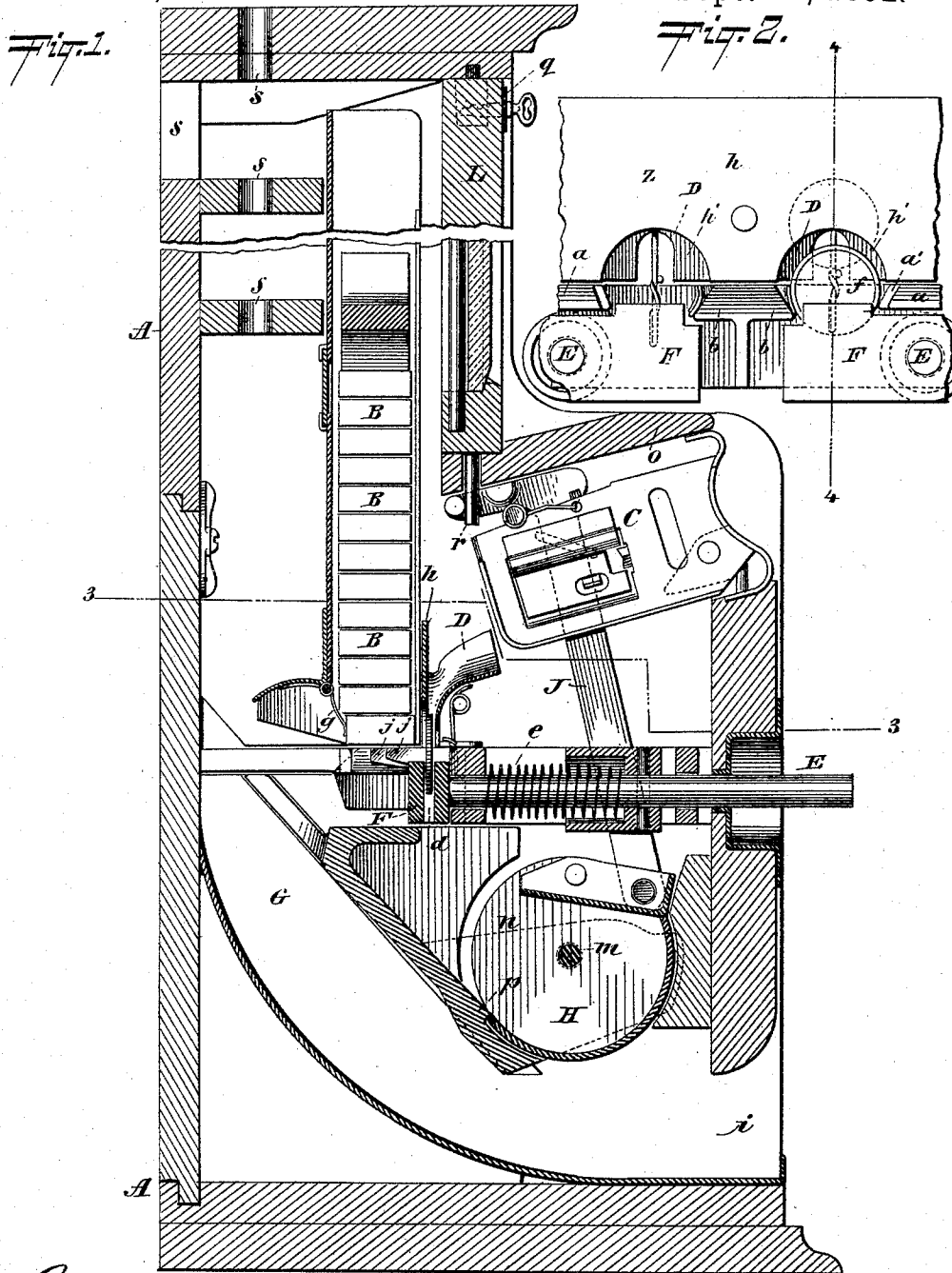


B. ADRIANCE & J. H. VOLKMANN.
VENDING APPARATUS.

No. 483,199.

Patented Sept. 27, 1892.



WITNESSES:
Gustav Dietrich
L. M. Hacheltager

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Fig. 3.

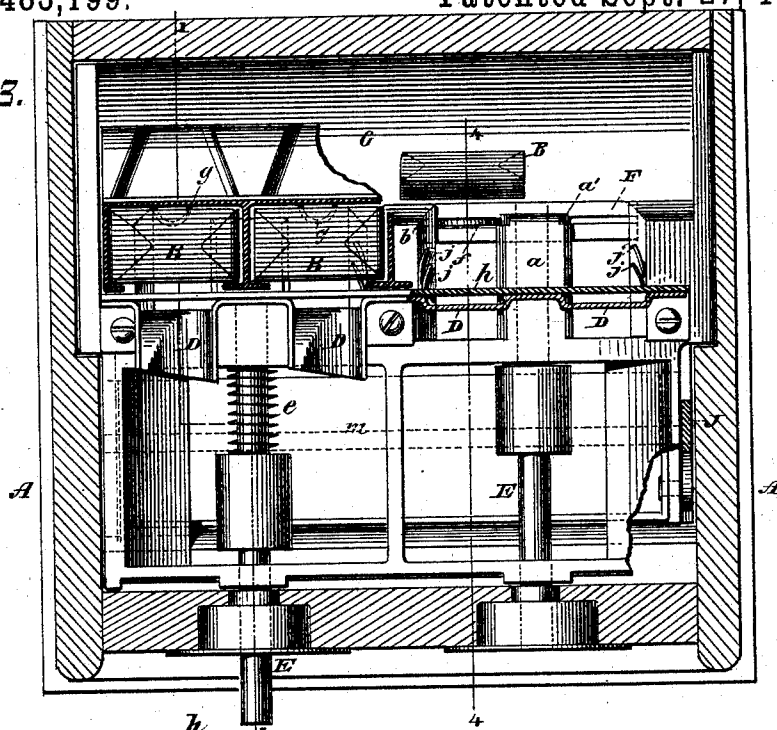


Fig. 4.

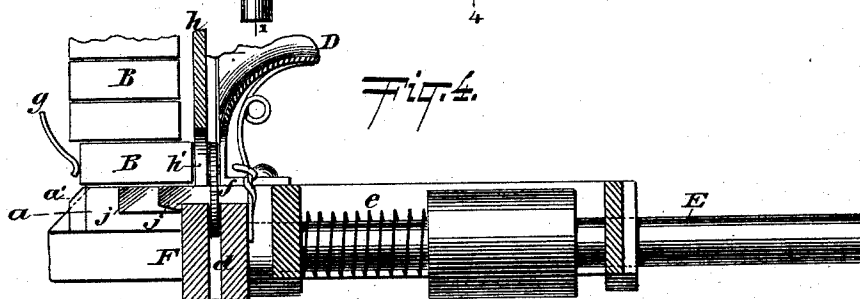
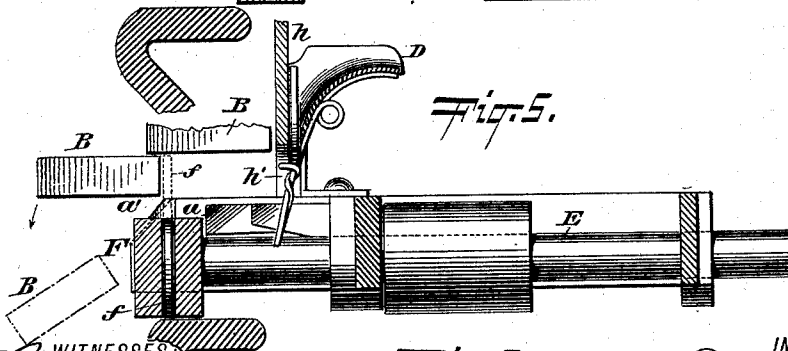
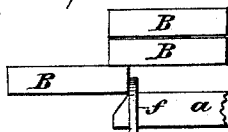


Fig. 5.



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Fig. 6.



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UNITED STATES PATENT OFFICE.

BENJAMIN ADRIANCE, OF BROOKLYN, AND JOHN H. VOLKMANN, OF NEW YORK, N. Y., ASSIGNORS TO SAID VOLKMANN.

VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 483,199, dated September 27, 1892.

Application filed April 19, 1892. Serial No. 429,737. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN ADRIANCE, residing in Brooklyn, Kings county, and State of New York, and JOHN H. VOLKMANN, residing in the city, county, and State of New York, have invented an Improved Vending Apparatus, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 represents a vertical section of our improved vending apparatus, the line 1 1, Fig. 3, indicating the plane of section. Fig. 2 is a back view of the coin and package conveyer. Fig. 3 is a horizontal section on the line 3 3, Fig. 1. Figs. 4 and 5 are vertical sections on the lines 4 4, Figs. 2 and 3. Fig. 6 is a diagram hereinafter more fully referred to.

This invention relates to sundry improvements in vending apparatus, being apparatus calculated to deliver packages of merchandise in return for inserted coins, its object being to so arrange the parts that they are not liable to be brought out of order and so that a proper coin once inserted will under all circumstances effectuate the desired purpose.

The invention consists of the new arrangements and combinations of parts that are hereinafter more fully described,

In the drawings the letter A represents the outer case of our apparatus, the same being adapted to receive one or more vertical columns of packages B B to be sold. These packages in each column are superposed one above the other, the arrangement being such that the lowest package of the column will be ejected by the proper coin and the remainder of the column caused to descend so as to bring another package into the place previously occupied by the one ejected. The lowermost package of each column rests on two stationary rails *a b*, which are placed in a substantially horizontal position into the casing or shell A. The edges of these rails *a b* are made sloping, as indicated in Fig. 2, so that they may constitute supports for the coin which is used to eject the lowermost package. The coin is through a suitable testing apparatus (which is indicated at C in Fig. 1) brought into a chute D, from which it drops into the vertical slot *d* of removable coin-conveyer F,

which conveyer connects with a pusher-rod E, that extends through the apparatus, so that when said pusher-rod is moved the conveyer itself will be moved, a spring *e* holding the conveyer and its pusher-rod in the desired normal or receiving position. When the coin (which is indicated at *f* in Fig. 4) drops from the chute D into the slot *d* of the conveyer, it is prevented from passing through that slot by the inclined edges of the stationary rails *a b*, which edges are nearer together than the diameter of the coin, as is clearly indicated on the right-hand side of Fig. 2, where the coin *f* is represented as being partly inserted in the slot of the conveyer F, and yet, nevertheless, supported on the rails *a b*. In this particular position the coin—that is to say, after it has just arrived in the conveyer—is taken hold of by the conveyer, so that it will be able to follow the conveyer in its longitudinal motion, and yet, nevertheless, the coin cannot drop through the conveyer so long as it rests on the rails *a b*. In this particular position, furthermore, the coin is directly in front of the lowermost package B, as in Fig. 4, which package is by a spring *g* crowded toward a stationary partition *h*, so that its normal position is exactly defined, the said spring also preventing the lowermost package from being shaken out of its place by agitation of the entire contrivance. When now the pusher-rod E is moved to push the conveyer and the coin which it holds in its grasp toward the package B, the said package will be gradually moved along the upper edges of the rails *a b* by the coin until finally the lowermost package will find no further support on the rails *a b* and will drop off them into a discharge-chute G toward the delivery-opening *i*. The coin traveling along the rails during the motion imparted to it by the pusher E serves to eject the package in the manner stated; but as the motion of the conveyer is greater than the length of rails *a b* or one of them, or, in other words, as the motion of the conveyer is such that it pushes the coin beyond the end of one of said rails or of both, it follows that slightly before the motion of the conveyer is arrested the coin loses its support on said rails and drops through the slot *d* of the conveyer into a cash-box H, which is pro-

vided for its reception and from which it may be removed whenever the apparatus is unlocked.

It happens at times that after the conveyer 5 has been pushed part way and is then let go it will come back to its primary or normal position, together with its coin, without having discharged a package, and if thereafter another coin is inserted it will find the first 10 in its way, thereby creating considerable confusion, the first purchaser, moreover, getting no return for his money, or else if the stroke imparted to the pusher is sufficiently sharp and short the coin will be liable to expel a 15 package by impetus without the coin leaving the conveyer, so that when brought back by the conveyer-spring it will be in position to expel other packages. To guard against this, we have placed spring-detents *j j* against the 20 inner edge of one of the rails *a b*, as shown in Fig. 3. As the coin passes one of these spring-detents during its pushing action, it will be unable to return to its starting position, and will therefore also prevent the conveyer from 25 returning to the starting or normal position, and so on after passing each spring-detent the coin will make sure that none of the parts can go back to the normal position until that particular coin shall have first been discharged and with it the package ejected to which the 30 coin is intended to pertain.

Figs. 3 and 5 of the drawings indicate that the packages *B B* are wider as they rest on the rails *a b* than said rails are long, so that 35 each package overhangs the rail or rails beneath. It follows from this that the expelled package will still be beneath the packages above, in manner indicated in the diagram Fig. 6, at the time the coin drops away from 40 behind said package, and that consequently all the upper series of packages will be properly supported in their raised position until the lowermost package and actuating-coin are gotten out of the way and will drop plump 45 upon the rails and not in disorder, as frequently happens in other constructions of such machines.

We have heretofore stated that the two rails *a b* have inclined sides, (and they are so represented in Fig. 2;) but it is not necessary for the purpose of this invention that the edges 50 should be inclined. They might be rounded or even square and yet answer the desired purpose.

In order to enable the coin to drop off the 55 rails and entirely into or through the slot *d* at the time the lowermost package loses its last bit of support on the rails *a b*, we have preferred to notch the extreme end of the rail *a*, as indicated at *a'* in Figs. 2 and 3. These notches are of such extent that the 60 coin as soon as it gets into alignment with them can drop down, and the package at the same time leaves the rails. This arrangement is important, as the upper packages, 65 resting on the lowermost package throughout the time the coin pushes the latter, prevent

the coin from being expelled upwardly, assuring its downward discharge before the uppermost packages descend. 70

The partition *h*, against which the lowermost package is crowded by the spring *g*, is cut away, as at *h'*, for the purpose of allowing the upper part of the coin *f* to pass through. This is clearly apparent from Figs. 4 and 5. 75

The cash-box *H*, into which the coin is dropped from the conveyer at the end of the latter's return-stroke, is swiveled at *m* in the case *A*, being, in fact, an about-semicylindrical shell with rigid end plates *n*, which receive the swivel-pins *m*. From this cash-box 80 projects a lever *J* toward the upper part of the casing, as shown in Fig. 1, and under a removable shelf *o*. As long as this shelf is in its position the lever *J* will be unable to move 85 upward, and hence the swiveled cash-box *H* will be unable to be turned in one direction, its motion in the opposite direction being stopped by a stationary shoulder *p*. (See Fig. 1.) The front door *L* of the casing *A*, which 90 is held in position by a lock, as at *q*, has, by preference, a downwardly-projecting pin *r*, which helps to lock the lever *J*, as shown; but this said pin as long as it merely passes through the shelf *o* prevents the removal of 95 that shelf. Hence as long as the front door is locked and in place the cash-box cannot be opened; but the moment the front door is taken out the shelf will be unlocked and can be taken out also, and thereupon the cash-box 100 can be freely swung around its pivot and its contents removed.

As these vending-machines are largely used for selling chocolates or candies, and as articles of that character are liable to be injured by heat, and as these vending-machines 105 are frequently exposed to the rays of the sun, we have provided an air-circulating chamber in the vending apparatus, which will enable the packages within to remain comparatively 110 unaffected by excessive heat. It will be seen that the casing *A* is perforated, as at *s*, at the upper part; that the partitions which may be in the way of a direct air-passage from the package-outlet *i* are likewise perforated, and 115 that consequently a flue for the free circulation of air is created in the apparatus directly adjoining the packages, thereby preventing hot air from being confined in the apparatus and from injuring the contents 120 thereof.

We desire it distinctly understood that the coin-conveyer *F*, instead of being pushed, as described, may be pulled or otherwise moved longitudinally without that being a departure 125 from our present invention.

Having described our invention, what we claim is—

1. The combination of the slotted coin-conveyer *F* with stationary rails *a b*, placed closer 130 together than the diameter of the coin, and with means for imparting longitudinal motion to the slotted conveyer along and beyond the rails *a b*, or either of them, and by the coin

to a package resting on said rails, substantially as herein shown and described.

2. The combination of the slotted coin-conveyer F with the rails *a b*, having notches *a'*, substantially as and for the purpose herein shown and described.

3. The combination of the slotted coin-conveyer F with the rails *a b*, said rails being nearer together than the coin which the conveyer is adapted to carry, and with the spring-detents *j* along the edge of one of said stationary rails, substantially as herein shown and described.

4. The combination of the slotted coin-conveyer F with the stationary rails *a b*, stationary plate *h*, and spring *g*, substantially as and for the purpose herein shown and described.

5. The combination of the slotted coin-conveyer F with the stationary rails *a b*, which are adapted to support a package above them and also to support the coin behind said package, and with means, substantially as described, for moving said package and said coin, substantially as and for the purpose specified.

6. The combination of the swiveled cash-

box H with the lever J, jointed thereto, and with the front door L of the casing A, all arranged so that said front door when in place holds the cash-box locked, as and for the purpose specified.

7. The combination of the swiveled cash-box H and its projecting lever J with the removable shelf *o* and with the door L, having pin *r*, all arranged so that said door shall lock the removable shelf and also the cash-box, substantially as and for the purpose specified.

8. In a vending apparatus containing packages in vertical column, the combination of a coin-conveyer, a set of rails adapted to support the lowermost package, and means, substantially as described, for moving the coin-conveyer and for discharging the coin at a place vertically underneath the column of packages and substantially in line with the ends of the said rails, substantially as herein shown and described.

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