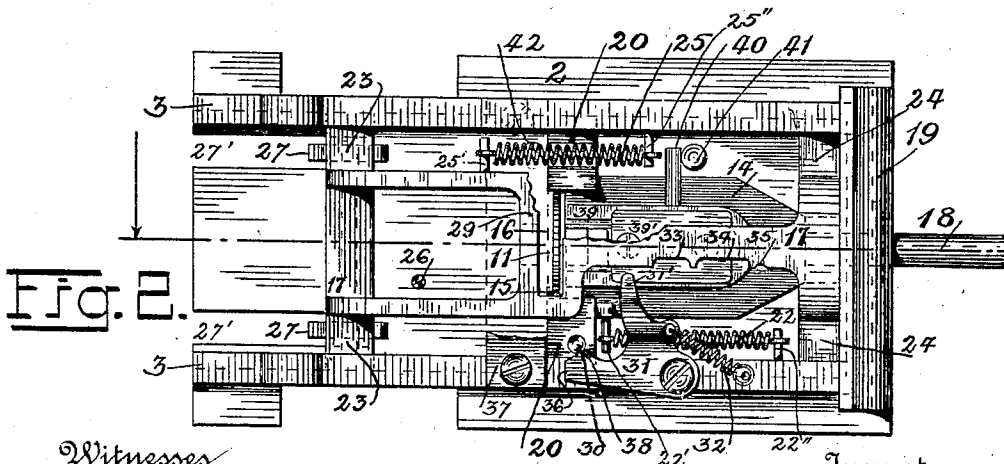
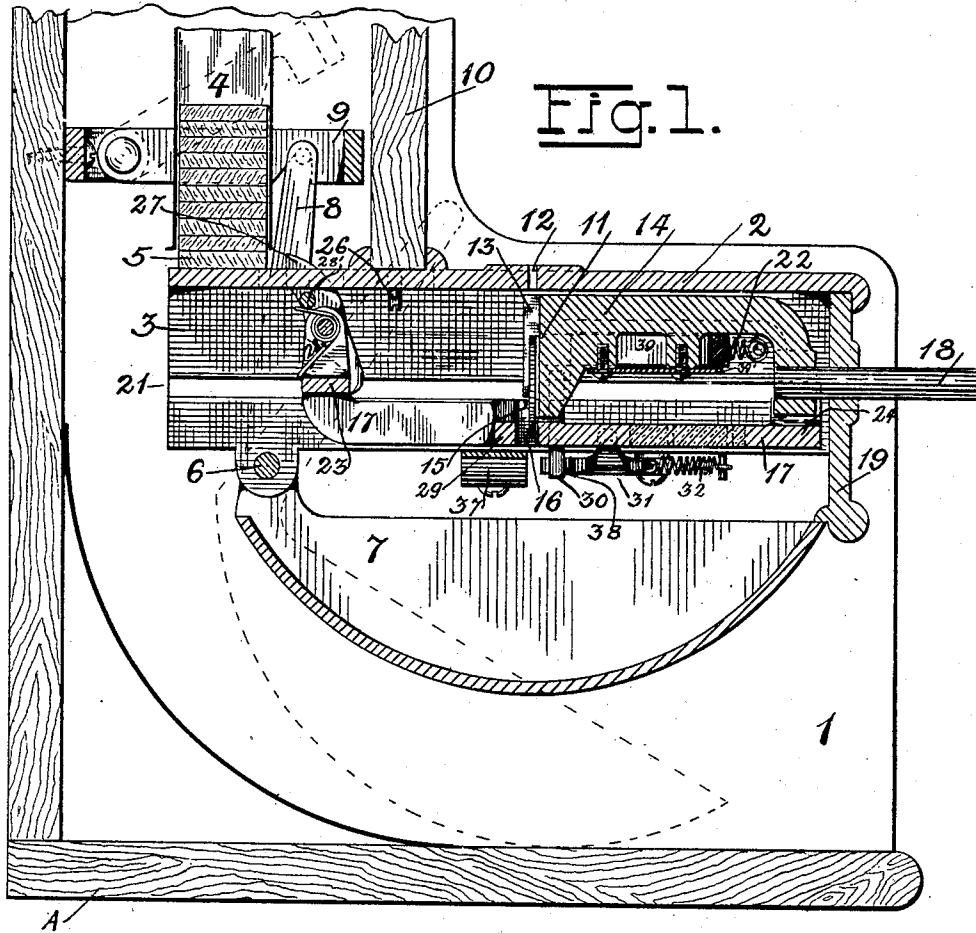


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W. F. MESCHENMOSER.
COIN OPERATED VENDING MACHINE.

APPLICATION FILED DEC. 19, 1904.



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COIN-OPERATED VENDING-MACHINE.

No. 832,144.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed December 19, 1904. Serial No. 237,444.

To all whom it may concern:

Be it known that I, WILLIAM FRANK MESCHENMOSER, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Coin-Operated Vending-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in vending-machines, and more particularly belongs to that general type of machines which are used to vend small packages of confections, peanuts, cigarettes, and the like.

The various elements comprising the invention are so assembled as to form a machine simple and effective in operation and cheap to manufacture.

My invention further contemplates a device in which the coin cooperates with the mechanism to aid the latter in ejecting the article to be vended and in which a slug or spurious coin is kept from engagement with the element comprising the operating mechanism, so that the latter will be moved to no purpose by any one attempting to defraud the machine.

My invention further contemplates a novel means for locking the cash-box and for having access thereto to remove the coins, whereby it is not necessary to remove the said box from the machine, but merely by releasing a pivoted catch to lower the said box into the path of the article-delivery chute and to remove the coins therefrom.

Other advantages will be apparent as the description proceeds, reference being had therein to the accompanying drawings, forming a part of this specification, like characters designating like parts throughout, in which—

Figure 1 is a central vertical section showing the mechanism with the various elements in position to be operated, the coin forming the connector. Fig. 2 is a bottom plan view of the mechanism with the cash-box removed and one of the elements partly broken away to show the construction.

Referring now specifically to the accompanying drawings, A designates the usual casing, having the article-delivery chute 1 extending from the rear thereof. Mounted in the casing A in any desired manner is a plate 2 for supporting the mechanism, this plate 2 being provided with downwardly-extending side walls 3 3, the plate 2, side walls 3 3, and front wall 19 forming a casing or housing for

the mechanism. An article-feed chute or magazine 4 is located in the casing A above the plate 2, the latter serving as a base for the packages 5 as they are fed from the chute or magazine 4. The cash-box 7 is pivotally mounted, as at 6, in bearings formed in the side walls 3 and is provided with a pair of approximately vertical arms 8, one arm adjacent each side wall 3. These arms 8 are engaged and held by a yoke or catch 9, pivotally mounted in the casing A, to which casing access is had by the removable door 10, located in the front thereof. By this means the cash-box incloses the lower portion of the operating mechanism and is supported in a position inaccessible from the outside, whereby it will be necessary to open the door 10 with the proper key and to raise the catch or yoke 9 from engagement with the arms 8, causing the cash-box to drop upon its pivot 6 into the chute 1 in order to have access to the contents of the same. The box is then raised and the catch lowered to engage the said arms in the manner described.

The numeral 12 designates a slot in the plate 2, communicating with a channel 13 in the plunger 14, the latter being provided with abutments 15 in the channel 13 to engage and hold the coin 11 from prematurely dropping into the cash-box 7. A sliding bar 17 is mounted in the side walls 3 beneath the plunger, and this bar 17 is provided with a transverse slot 16, normally registering with the channel 13, a portion of the coin being in the said channel and a portion in the said slot, so that any motion of the plunger 14 imparted from the outside through the handle 18 will necessarily be transmitted to the sliding bar 17 through the coin 11, which normally connects the said plunger and bar. The handle 18 slides in bearings in the front wall 19 of the mechanism-supporting plate 2. The side walls 3 3 of the said plate are each provided with a longitudinal groove 21, in which grooves 21 the lateral guide-pieces 20 of the plunger 14, located on each side thereof, and the lateral guide-pieces 23 of the sliding bar 17, located on each side thereof, are reciprocated. The sliding bar 17 is of a substantial U shape, and in addition to the guide-pieces 23, located on its rear end, it is provided with lateral guide-pieces 24, located on the front end thereof and also sliding in the grooves 21. The plunger 14 is retained in a normal position—that is, with its channel 13 in registry with the slot 12—by a retractile

spring 22, located on one side of the casing, (shown in Fig. 2,) the said spring 22 having its ends secured to pins 22' and 22'', carried by the plunger and side wall 3 of the casing, respectively. The sliding bar 17 is retained in a normal position—that is, with the slot 16 in registry with the channel 13 of the plunger 14—by a retractile spring 25, located on the opposite side of the casing to the spring 22, previously described, the said spring 25 having its ends secured to pins 25' and 25'', carried by the bar 17 and side wall 3 of the casing, respectively. The rearward motion of the plunger 14 is limited by a pin 26, projecting downwardly from the under side of the plate 2. Pivoted in the bar 17 just above the guide-pieces 23 are a pair of dogs 27 27, one adjacent each guide-piece 23, each of the said dogs being normally pressed upwardly by a spring 28, one end of which bears against the guide-piece 23 and the other against a pin 28', carried by said dog. The end of each dog 27 projects through a recess 27', cut from the edge of the plate 2, the said dog thereby being normally in the path of the lowermost package 5, supported upon the plate 2, as fed from the chute or magazine 4. The bar 17 is provided with a transverse bridge 29 adjacent the slot 16, against which bridge the coin bears when connecting the plunger and the said bar in the stroke of the former. When the stroke of the plunger is completed, the bar 17 is temporarily locked until the plunger is returned to its normal position, thereby permitting the coin to be freed from the abutments 15 on the plunger 14 and to drop through the slot 16 into the cash-box 7.

A dog 31 is pivoted in the base of one of the side walls 3 to swing horizontally, this dog 31 comprising a laterally-extending pawl 31' and an extension adjacent thereto formed with a straight face 36 and a beveled face 38. The plunger 14 carries a pin 30, extending downwardly from the guide-piece 20 adjacent the dog 31, said pin normally engaging the beveled face 38 of the dog 31, thereby holding the latter from engagement with the grooves provided therefor in the bar 17. When the pin 30 is released from engagement with the dog 31, the latter is swung on its pivot by a retractile spring 32, having its respective ends secured to the said dog and to the adjacent side bar 3. The bar 17 has its forward portion adjacent the dog 31 formed with grooves 33, 34, and 35. The grooves 33 and 34 are of equal size and are longer and of greater depth than the groove 35, which is the last groove engaged by the pawl 31' in the pivotal travel of the dog 31, the said groove 35 being made smaller in order that the said pawl may the more easily be freed therefrom. The operation of the pawl with relation to the groove will be more fully described hereinafter.

A transverse bar 37, having its ends connected to the side pieces 3, is provided below the sliding bar 17 in order to prevent the coin from dropping into the cash-box before the completion of the stroke of the plunger through any accident or inoperativeness of the mechanism.

The means for detecting spurious coins or slugs comprises a horseshoe-magnet 39, slidably supported upon the under side of the plunger 14 by a metallic plate 39', and the magnet 39 carries on one side a laterally-extending stud 40, which is engaged by downwardly-extending pins 41 and 42, carried upon the under side of the plate 2, the pin 41 limiting the forward travel of the magnet and the pin 42 limiting the rearward travel thereof, the pin 42 being so positioned that the relative travel of the magnet is considerably less than the travel of the plunger 14, upon which the said magnet is mounted, whereby the said plunger having the enlarged face 43 forces the spurious coin away from the magnet to a position where it can drop by gravity into the cash-box 7.

The operation is as follows: A coin 11 is deposited in the slot 12, falling into the channel 13 of the plunger 14 and the slot 16 of the sliding bar 17, the coin instantly connecting the two parts and being supported by abutments 15, carried by the plunger. The handle 18 being pushed inwardly to the limit of the stroke of the plunger as controlled by the pin 26, the sliding bar 17, through the medium of the coin, is forced rearwardly until the pair of dogs 27 engage and dislodge the lowermost package 5 from its position upon the plate 2, discharging same into the article-delivery chute 1. As the plunger 14 is pushed rearwardly the pin 30 disengages the beveled face 38 of the dog 31, and the latter, through the influence of the spring 32, is swung around, the pawl 31' engaging successively the grooves 33, 34, and 35 in the bar 17. When the pawl 31' engages the groove 35, the bar 17 is held at the limit of its rearmost travel, and the stroke being completed and pressure released from the handle 18 the spring 22 returns the plunger 14 to its normal position, the coin 11 being freed from the abutments 15 on said plunger by engagement with the side of the slot 16 in the said bar, the said coin then dropping by gravity into the cash-box, as shown in Fig. 3. In the meantime, the plunger 14 having been returned to normal position, as already described, the pin 30 again engages the beveled face 38 of the dog 31 and forces the latter from engagement with the groove 35 back to its normal position, thereby permitting the bar 17 to be returned to its normal position by the retractile spring 25, the mechanism then being in position for another operation. Should the plunger 14 not travel the full stroke, the pawl 31' will engage in one or the other of the grooves 33

or 34, and in this position the dog 31 will have its flat face 36 in the path of the pin 30, so as to engage the latter and prevent the return of the plunger to normal until the stroke is completed. This arrangement of mechanism prevents "coaxing" the packages from their position. On the forward stroke of the plunger the dog 27 has the position shown in Fig. 1; but after the package has been ejected the weight of the remaining packages in the chute or magazine 4 is sufficient to cause the said dog to assume a more inclined position while passing under the said chute, the spring 28 returning the said dog to its normal position at the completion of the stroke.

The fraud-preventing mechanism comprises a size and a material tester. A slug of insufficient diameter will drop through the channel 13 past the abutments 15 (which are of necessity very small) into the cash-box without affecting the mechanism. A slug of the right size, but of extremely soft metal, will not have strength enough to resist the combined action of the springs 22 and 25 and will be bent between the enlarged face 43 of the plunger and the bridge 29 of the bar 17 and after being forced past the transverse bar 37 will drop into the cash-box without affecting the mechanism. When an iron washer or slug is dropped through the slot 12, it is instantly attracted by the magnet 39, and pressure is exerted upon the plunger 14 without affecting the operating mechanism, as the magnet prevents the coin from engaging the slot 16 in the bar 17 and connecting the plunger and bar in the manner described. The travel of the magnet ceases when the pin 40 carried thereby contacts with the pin 42; but the plunger completes the stroke, the flat face 43 thereof engaging the slug and freeing it from the magnet, when it drops by its own weight into the cash-box 7.

Having fully described my invention, I claim—

1. In a vending-machine, the combination with a plunger, and a sliding article-ejector connected therewith by a coin, and having notches of different depths located at successive points in the line of travel in its edge, of means for returning the plunger to a normal position, means for returning the sliding article-ejector to a normal position, a dog pivotally mounted on the casing and adapted to

engage the notches in the sliding article-ejector said dog having a beveled surface and a flat surface and a pin carried by the plunger and adapted to engage the flat surface on the dog, to stop the plunger and prevent the return of the plunger to normal position or to engage the beveled surface on the dog and release the dog from engagement with the notches in the sliding article-ejector and permit of the return of the latter.

2. In a vending-machine, the combination with a plunger, and a sliding article-ejector provided with a plurality of notches disposed successively along one edge of the article-ejector, one of the said notches being of less depth than the other notches, the notch of less depth being disposed at the rear of the other notches, means for returning the plunger to a normal position, a dog pivotally mounted on the casing, said dog having a beveled face and a straight face, and a pin carried by the plunger and adapted to engage the beveled face when the dog is engaged with certain of said notches or the straight face when the dog is engaged with certain other of said notches whereby to stop the plunger when the pin is engaged by the straight face of the dog or disengage the dog from the notches, and permit the sliding article-ejector to return to normal position when the pin engages the beveled face of the dog, substantially as described.

3. In a vending-machine in combination with the plunger and sliding article-ejector connected therewith by a coin, means for returning the plunger to a normal position at the completion of its stroke, means for locking said sliding ejector until the plunger is returned to its normal position at the completion of the stroke of the latter, said means comprising a spring-held dog pivoted on one side of the casing, and a plurality of teeth of varying depths formed in the said sliding ejector, the said dog engaging said teeth and a pin carried by the plunger for engagement with said dog to throw the latter into or out of engagement with the teeth in the said sliding article-ejector.

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

WILLIAM FRANK MESCHENMOSER.

Witnesses:

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V. BLOOM.