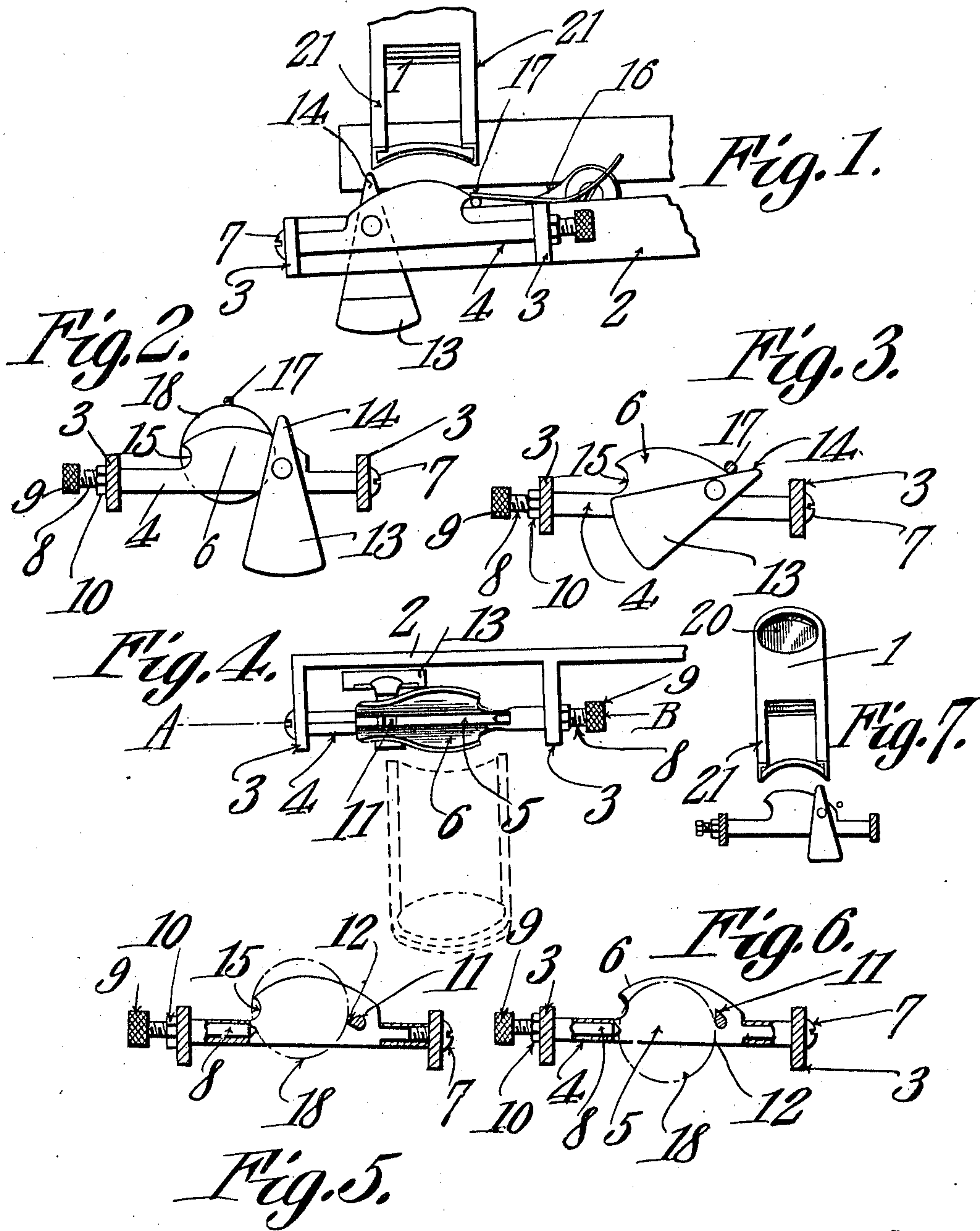


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 COIN CONTROLLED MECHANISM FOR VENDING MACHINES.  
 APPLICATION FILED NOV. 10, 1909.

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# UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED MECHANISM FOR VENDING-MACHINES.

970,280.

Specification of Letters Patent. Patented Sept. 13, 1910.

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*To all whom it may concern:*

Be it known that I, LESLIE A. VANDIVER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Coin-Controlled Mechanism for Vending-Machines, of which the following is a specification.

This invention has reference to improvements in coin controlled mechanism for vending machines and is designed to provide a simple form of coin controlling mechanism wherein the coin becomes the medium by which the vending side of the machine is unlocked and the movement of the vending side of the machine toward the vending position serves to release the coin toward a suitable receptacle.

The general construction of the coin mechanism forming the subject matter of the present invention is shown in my application No. 484,149 for cigar vending machine filed March 18, 1909, but the structure of the present invention includes some improvements in the structure shown in the said application.

The present invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings,

Figure 1 is a side elevation of the coin receiving side of the coin controlling mechanism. Fig. 2 is a view from the opposite side of the coin controlled mechanism from that shown in Fig. 1, with certain of the supporting parts shown in section and the relation of the portion of the locking member directly engaged by the coin with said coin when the locking mechanism is moving toward the unlocked position. Fig. 3 is a view similar to Fig. 2 but after the coin has escaped. Fig. 4 is a plan view of the coin controlled mechanism observed from above. Fig. 5 is a longitudinal section on the line A—B of Fig. 4 showing the position of the parts when a coin becomes lodged therein. Fig. 6 is a view similar to Fig. 5 but showing the position of the parts to permit the escape of the coin. Fig. 7 is an elevation showing the coin chute and coin controlled mechanism in operative relation.

Since the vending side of the machine forms no part of the present invention and the particular mechanism used for the vending machine also forming no part of the

present invention, these structures have been omitted from the drawings, but some parts are shown which are also shown in the aforesaid application.

Referring to the drawings there is shown a coin chute 1 properly proportioned to receive a coin of the size for which the machine is adjusted. Below this coin chute at a point where a coin may escape therefrom there is a supporting frame 2 secured to some fixed part of the machine. This frame is provided with two spaced brackets 3 between which is supported a hollow rod 4 provided at an intermediate point with a longitudinal slot 5 extending through said rod and on opposite sides of the slot on the upper side of the rod are formed diverging wings 6 below the discharge opening in the coin chute 1, and designed to direct a coin falling through said chute into the slot in the rod.

Extending into one end of the rod is a screw 7 passed through the corresponding bracket 3 and serving to support the said end of the rod and this screw may be such as to hold the rod rigidly against turning in the bracket. The other end of the rod 4 receives another screw 8 sufficiently long to have its inner end extend into the slot 5. The screw 8 may be provided at its outer end with a milled head 9 so that the screw may be readily adjusted and a lock nut 10 serves to hold the screw 8 in adjusted position. The inner end of the screw 8 may be pointed so that only coins of the proper thickness will be stopped by the screw while thinner coins will tend to drop through the slot 5 without being arrested therein.

Traversing the wings 6 near the end remote from the screw 8 is a short shaft 11 having one side tapered as shown at 12 so that this side forms substantially a knife edge presented toward the sharpened end of the screw 8. One end of the shaft 11 beyond one of the wings 6 carries a pendent weight fast thereto and this weight is so shaped as to project beyond the shaft radially therefrom on the side remote from the major portion of the weight as shown at 14. The upper edges of the two wings are rounded in the direction of the length of the shaft and at one end, the end adjacent to the screw 8, both wings are inset to form a notch 15. The locking side of the vending mechanism is provided with a rock arm 16 capable of moving longitudinally with re-



lation to the shaft 4 and this arm terminates in a pin 17 projecting laterally across the shaft 4 so that an attempt to move the vending mechanism lengthwise of the shaft 4 will result in the pin 17 lodging in the notches 15 and so becoming locked against movement to an extent sufficient to unlock the vending side of the machine. However when a coin of proper size is introduced into the machine it gravitates into the coin chute 1 and from thence drops into the slot 5 being guided therein by the wings 6 and finally becomes lodged between the knife edge 12 and the sharpened end of the screw 8. If the coin be of a smaller diameter it will fall through the slot without becoming lodged therein, or if too thin will pass through the slot failing to catch on the sharpened end of the screw 8. If the coin be too large then it will fail to cause the operation of the machine as will presently appear.

Assuming that a coin of proper size, indicated in dotted lines at 18 in Fig. 5 and in full lines in Fig. 2 has been introduced into the coin slot 1 and has dropped into the slot 5, it is arrested by the knife edge 12 and screw 8 since the distance between these two points is less than the diameter of the coin when the knife edge is in its normal position where it is held by the counter action of the weight 13. It will be observed that the coin will extend beyond the notches 15 so as to render them of no effect to the pin 17. If now the vending side of the machine be moved toward the wings 6 the coin will cause the pin 17 to move upwardly riding along the curved edge of the coin so that it will no longer engage in the notches 15. The continued movement of the vending side of the machine will cause the pin 17 to override the coin and move down the other side thereof toward the wings 6. The pin 17 finally comes into engagement with the end 14 of the weight 13 and the further progress of the pin causes the weight to swing on its axis carrying the shaft 11 therewith so that the knife edge 12 is moved upward as indicated in Fig. 6 thus increasing the distance between the said knife edge and the active end of the screw 8 so that this distance is sufficient for the coin 18 to drop there-through which it will do by gravity and from thence will fall into a suitable receptacle, the latter not being shown in the drawings. As soon as the pin 17 passes beyond the end 14 of the weight 13 the latter returns to its normal position. On the return of the locking side of the vending mechanism to normal position the pin 17 will ride freely over the curved edges of the wings 6 first engaging the end 14 of the weight 13 and again rocking the weight but in the opposite direction to the first movement. Since at this time there is no coin in

the machine this does no harm. The tendency of the weight 13 is to maintain the shaft 11 in a position where the knife edge 12 is presented toward the sharpened end of the screw 8 so that the distance between these two points is always less than the diameter of a coin of proper size to operate the machine.

If it be desired to set the machine to operate with a larger or smaller coin it is only necessary to loosen the lock nut 10 and adjust the screw 8 accordingly after which the lock nut 10 is again secured in place to clamp the screw against accidental movement.

It will be seen that the locking mechanism will not operate unless a coin of the proper size is in the slot 5 since any attempt to move the locking mechanism to the unlocked position will result in the lodging of the pin 17 in the notches 15 which are so curved that this pin cannot escape on the forward movement of the locking mechanism. When however a proper coin is lodged in the device the coin itself becomes the intermediary for causing the unlocking of the machine, and the weight 13 is sufficient to resist any force exerted on the coin 18 by the pin 17 tending to force the coin through the slot. Should this occur the machine would still unlock because of the action of the wings 6.

The weight 13 is always active and is not liable to get out of order like springs, which latter may weaken or even break.

While the coin controlled mechanism is particularly adapted for use in connection with the cigar vending machine shown in the aforesaid application it is to be understood that it is useful in connection with other vending machines and not confined to use with the particular vending machine set forth in the said application.

The coin chute 1 may be differently formed than shown, say, as indicated in the aforesaid application, but the showing of the drawings herewith is efficient. The coin chute 1 may be set at an angle and be of open construction within the casing of the machine so that a small coin will fall through the open portion before reaching the lock mechanism. The chute is formed with a round side opening 20 to receive the coin, this round opening preventing the introduction of elongated slugs. Within the casing the chute terminates in two spaced channeled legs 21 in parallel relation designed to guide a coin of proper size to the coin lock, but smaller coins will fall from between the legs before reaching the coin lock because of the inclination of the chute.

What is claimed is:—

1. In a coin controlled vending machine, a member having a coin passage there-through, a member in said passage movable therein in a direction to intercept a coin



of proper size, and a gravity member controlling the movable member and positioned with reference thereto to normally maintain the movable member in coin-intercepting position in the coin passage, said gravity member being movable against the action of gravity to cause the said movable member to release an engaged coin.

2. In a vending machine, a coin receiving member having a coin receiving slot, a rock shaft traversing said slot and provided with side extensions in the path of the coin and a counter-weight on said rock shaft in the path of the locking mechanism of the vending machine.

3. In a vending machine, a coin receiving member having a coin slot therein flanked by wings provided at one end with matching notches, a rock shaft traversing the slot at the other end of the wings and provided with a radial extension within the slot and a counter weight on said shaft exterior to the slot and positioned with relation to the radial extension to normally maintain the latter toward the other end of the slot.

4. In a vending machine, a coin controlled mechanism comprising a member with a slot extending there-through and wings on one side flanking said slot, said wings having matching notches at one end, means for adjusting the normal effective length of the slot, a shaft traversing the wings at the other end of the slot and provided with a radial side extension within the slot, and a counter-weight on said shaft exterior to the slot and having a projecting portion extending in the direction of the wings.

5. In a vending machine, a member provided with a slot adapted to receive a coin and with wings on opposite sides of said slot terminating at one end in a notch, an adjustable screw entering one end of the slot and adapted to determine the effective length of said slot, a rock shaft traversing the slot at the other end thereof, and provided with a radial extension normally directed toward the other end of the slot, and a counter-weight on said shaft having an extension beyond the shaft in a direction opposed to the body of the weight.

6. In a vending machine, a member having a through slot and wings on each side

of the slot diverging in an upward direction and each terminating at one end in a notch matching the notch in the other, the wings having their outer edges rounded, a rock shaft traversing the wings at one end of the slot and provided with a radial projection directed toward the other end of the slot, and a counter-weight on the shaft exterior to the slot and having projections extending beyond the upper edges of the wings.

7. In a vending machine, a member having a coin receiving slot with upwardly extending wings on each side thereof, said wings having their upper edges rounded and terminating at one end in a notch, the notch of one wing matching that of the other, a rock shaft traversing the wings near one end of the slot and provided with a radial projection normally directed toward the other end of the slot, a counter weight on the shaft exterior to the slot and having a projecting member extending above the upper edges of the weight, and a locking mechanism for the vending side of the machine having a member normally located to enter the notches in the wings and adapted to be diverted by a coin lodged in the slot from said notches over the top of the coin and into engagement with the upward extension of the counterweight.

8. In a vending machine, a coin operated lock and a coin chute leading thereto, said coin chute terminating in guiding legs spaced to hold a coin of proper size but permitting a coin of smaller size to escape from between them.

9. In a vending machine, a coin operated lock and a coin chute leading thereto, said coin chute terminating in guiding legs spaced to hold a coin of proper size but permitting a coin of smaller size to escape from between them, and the coin chute being provided with a lateral opening for the introduction of the coin.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LESLIE A. VANDIVER.

Witnesses:

S. WILSON VANDIVER,  
A. V. PLUMMER.