C. D. MITCHELL.

COIN CONTROLLED DISPENSING DEVICE FOR VENDING MACHINES.

APPLICATION FILED DEC. 7, 1915.

1,233,685.

Patented July 17, 1917.

3 SHEETS—SHEET 1.

Fig. 1.

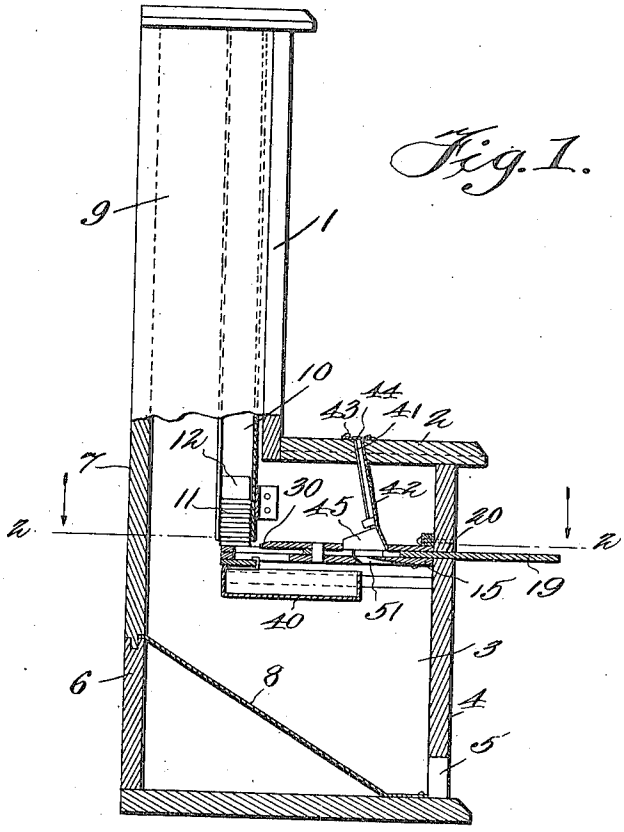
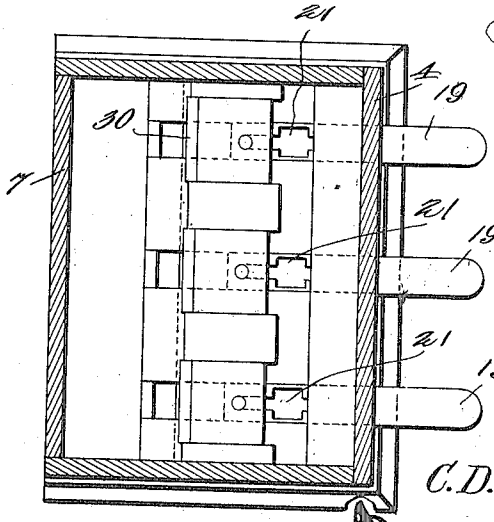


Fig. 2.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

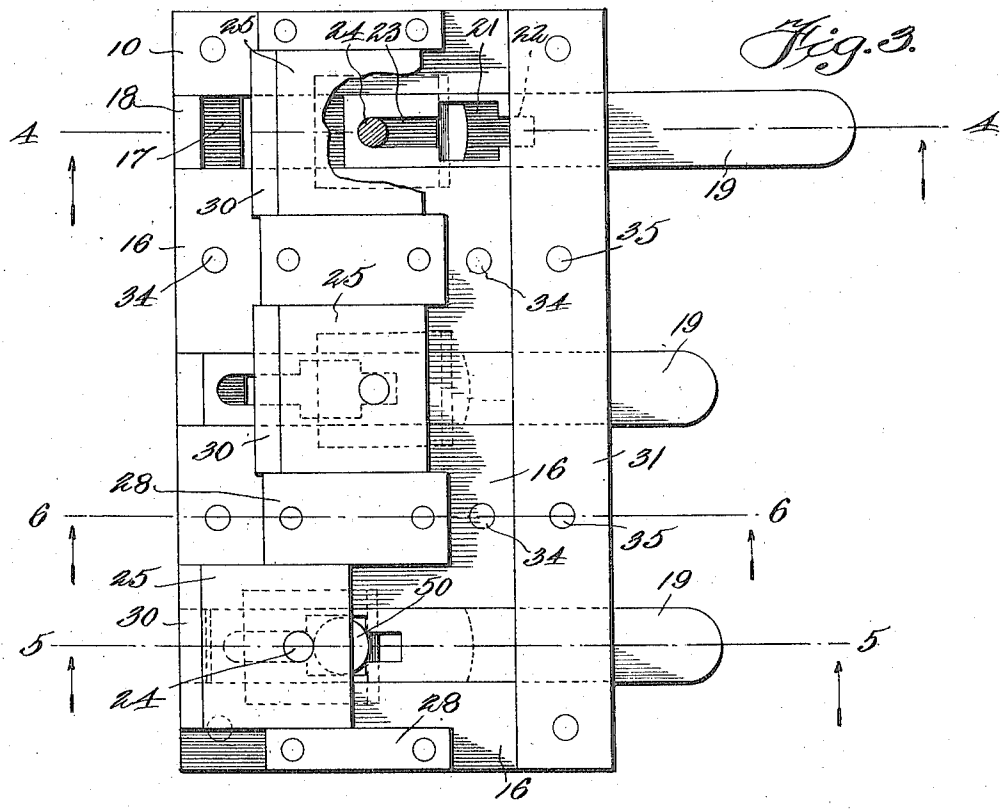


Fig. 4.

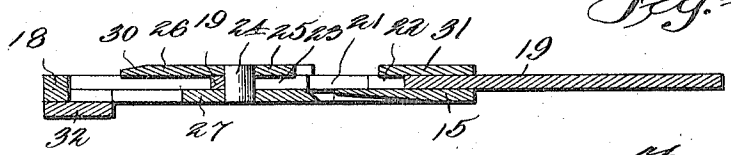


Fig. 5.

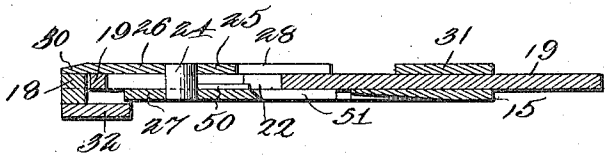
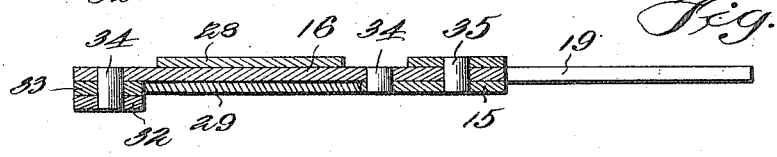


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 7.

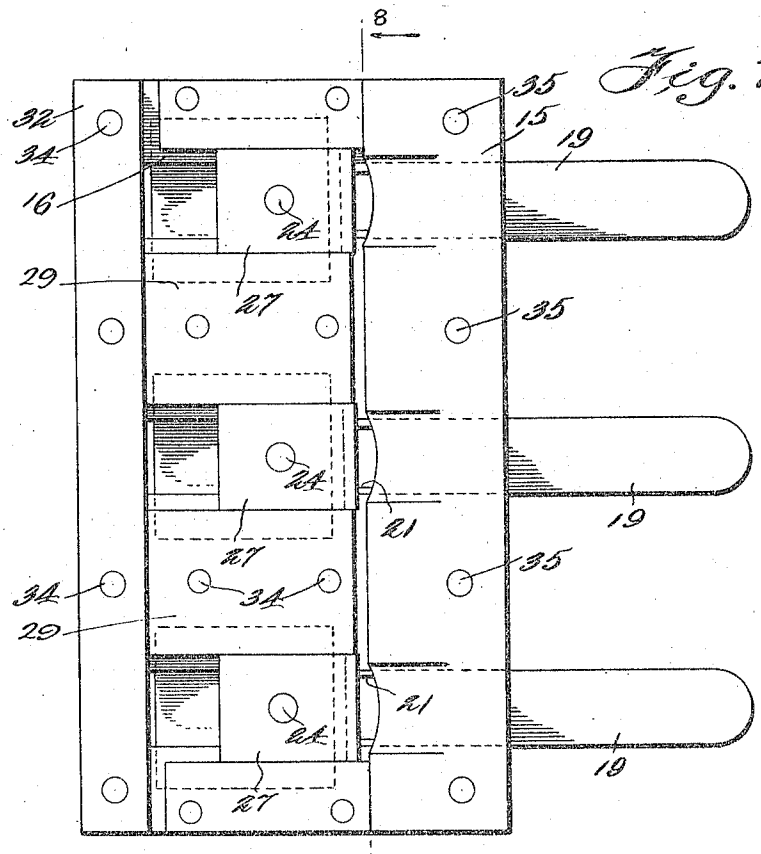


Fig. 8.

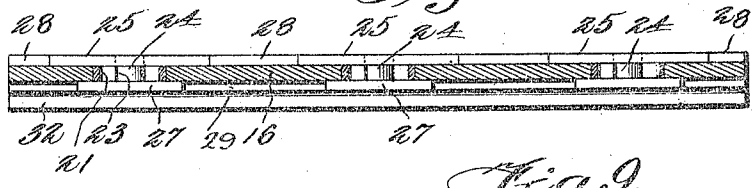
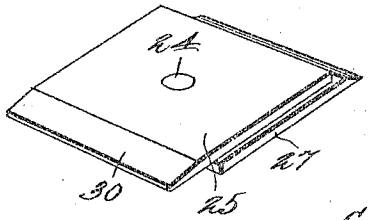


Fig. 9.



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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED DISPENSING DEVICE FOR VENDING-MACHINES.

1,233,685. Specification of Letters Patent. Patented July 17, 1917.

Application filed December 7, 1915. Serial No. 65,564.

To all whom it may concern:

Be it known that I, CLARENCE D. MITCHELL, a citizen of the United States, residing at Marshall, in the county of Clark and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Dispensing Devices for 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 vending machines, and the primary object of the invention is to provide a coin controlled mechanism for dispensing various articles from the vending machine, which mechanism is simple in construction, durable and includes a pair of sliding members, one of which is coin controlled for dispensing the packages or articles from the machine.

Another object of this invention is to provide in a vending machine construction as specified, a coin controlled dispensing structure which will return the coin to the operator of the machine, in case the supply of packages or articles to be vended has become exhausted.

With the foregoing and other objects in view this invention consists in such novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters designate like or corresponding parts throughout the several views and in which:—

Figure 1 is an end view of the vending machine showing parts of the same in section.

Fig. 2 is a sectional view on the line 2—2 of Fig. 1.

Fig. 3 is a plan view showing parts broken away of the coin controlled dispensing mechanism.

Fig. 4 is a sectional view on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view on the line 5—5 of Fig. 3.

Fig. 6 is a sectional view on the line 6—6 of Fig. 3.

Fig. 7 is a bottom plan of the coin controlled dispensing plate.

Fig. 8 is a section on line 8—8 of Fig. 7, and

Fig. 9 is a detail perspective view of the dispensing plunger.

Referring more particularly to the drawings, 1 designates the cabinet of the vending machine as an entirety, which may be constructed of any desired material, and has a horizontal table 2 and an enlarged lower section 3, the lower end of the front wall 4 of which is provided with an opening 5 extending across the cabinet, through which the articles to be vended are dispensed to the operator of the machine. The rear wall 6 of the cabinet has a removable door 7 formed therein, by means of which access may be gained to the interior of the cabinet. An inclined partition 8 is positioned interiorly of the lower compartment 3, and is inclined downwardly from the rear wall 6 to the bottom of the cabinet, a short distance inwardly of the forward side 4 for guiding the articles to be vended through the opening 5 for delivering to the operator of the machine.

The vertical portion 9 of the cabinet 1 has a plurality of article retaining chutes 10 positioned therein, in which stacks of the articles to be vended, as indicated at 11, are placed. A weight 12, which is equal in length to the packages to be vended and which is considerably thicker than the packages is placed upon the uppermost package 11, and aids in feeding the packages downwardly within the chutes 10 and also in returning the coin to the operator of the device, after all of the packages have been fed from the chute, as will be hereinafter more fully described.

The coin controlled vending construction includes a base plate 15, which extends transversely across the compartment 3 of the cabinet 1 and has a plurality of spaced plates 16 attached to its upper surface and extending inwardly into the compartment 3. The inner end of the spaces 17 which are positioned between the spaced plates 16 are closed by blocks 18 against which the inner ends of the actuating plungers 19 abut, when these plungers are forced inwardly. The actuating plungers 19 are slidably mounted in the spaces 17, and project through openings 20 which are formed in the forward sides 4 of the cabinet 1. The actuating plungers 19 are provided with

rectangularly shaped openings 21 extending therethrough, intermediate of their ends and also with slots 22 and 23, which communicate with the openings 21 and extend longitudinally of the plungers formed opposite sides of the rectangular openings 21. The slots 22 and 23 are provided for sliding over the pins 24 which are carried by the dispensing plungers 25. The dispensing plungers 25 comprise top plates 26 and bottom plates 27 which are connected by the pins 24 and which are positioned upon opposite sides of the actuating plungers 19. The edges of the top and bottom plates 26 and 27 project beyond the edges of the actuating plungers 19 and rest upon the facing edges of the plate 16, which plate forms supporting means for the dispensing plunger 25. Guiding blocks 28 are secured to the top or upper surfaces of the plates 16 and guiding plates or blocks 29 are secured to the bottom or the under surfaces of the plates 16. The edges of the guiding blocks or plates 28 engage the edges of the top plates 26, for guiding their movement, while the guiding blocks 29 engage the edges of the bottom plate 27 of the dispensing plunger 25. The inner edges of the upper surfaces of the plates 26 of the dispensing plunger are beveled as is shown at 30 for insertion below the lower edges of the article retaining chute 10 for pushing the lowermost article 11 into the compartment 3 for deposit upon the partition 8, which partition guides the package to the opening 5. The block 18 limits the inward movement of the actuating plunger 19 and the pins 24 engaging the ends of the slot 23 limit the inward movement of the dispensing plungers 25. The plate 31 extends transversely across the outer end of the plates 16 and forms a cover or top for the slots or spaces 17, aiding in guiding the movement of the actuating plungers 19. A plate 32 is secured to and extends transversely across the under surface of the plates 16. The plate 32 is spaced sufficiently below the under surfaces of the plates 16 to permit of the insertion of the inner ends of the bottom plates 27 in the space between the upper surface of the plate or bar 32 and the under surfaces of the plates 16, by suitable spacing blocks 33 to which the plate 32 is riveted as is shown at 34. The bar 31 is riveted to the plates 16 as is shown at 35 and also to the base plate 15.

A coin receiving box 40 is positioned within the compartment 3, and is positioned for receiving the coin after the package has been vended or dispensed. The table 2 of the cabinet 1 is provided with a plurality of openings 41 extending therethrough, in which the upper ends of coin guiding slots 42 are seated. Plates 43 are attached to the upper surface of the table 2 and have slots 44 positioned therein which aline with the interior of the coin guiding chutes 42. The lower end of the coin guiding chutes 42 are enlarged, as is shown at 45 for properly guiding the coins so that they will fall in the rectangular opening 21 formed in the actuating plunger 19.

In Fig. 3 of the drawings three different positions of the plunger are illustrated. The uppermost portion of the figure, a cross section of which is illustrated in Fig. 4, shows the actuating and dispensing plungers in their normal positions, prior to the deposit of a coin into the chute 42. In case the actuating plunger 19 is moved inwardly, without first dropping the coin through the slot 44, the plungers 19 and 25 will assume their respective positions as illustrated in the intermediate or central portion of Fig. 3 of the drawings wherein the pin 24 carried by the dispensing plunger 25 is seated in the slot 22 of the actuating plunger which permits the actuating plunger to move inwardly to the limit of its inward movement without moving the dispensing plunger 25. In the lowermost portion of Fig. 3, the actuating plunger 19 and the dispensing plunger 25 are shown as operated for the dispensing of one of the packages 11. When the coin is dropped into the slot 44, it travels downwardly through the chute 42 and is deposited in the rectangular opening 21 after which the actuating plunger 19 is moved inwardly. The inward movement of the actuating plunger 19 causes the coin indicated at 50 in Fig. 3 of the drawings, to engage the pin 24, which causes the dispensing plunger 25 to move inwardly with the movement of the actuating plunger 19 and engage the lowermost package 11 of the stack of packages positioned in one of the chutes 10 corresponding to the plunger 19 which has been operated. The dispensing plunger 25 will force the package 11 off the upper surface of the plate 16 into the compartment 3 causing it to fall upon the partition 8, which guides it downwardly so that it will pass out through the opening 5 to be received by the person operating the machine. After the package has been dispensed, it is necessary to draw the plunger 19 outwardly for normally positioning it for reoperation and the coin which has been deposited in the slot 41 will during the outward movement of the actuating plunger 19 and the dispensing plunger 25, fall downwardly, through the space indicated at 51 in Fig. 5 of the drawings, into the coin box 40.

In case all of the packages 11 have been dispensed from the retaining chute 10, the weight 12 will be at the lower delivery end of the chute and resting upon the upper surface of the plate 16. If a coin is deposited into the rectangular opening 21, and the plunger 19 forced inwardly, when the

weight 12 is at the bottom of the chute, the inner edge of the dispensing plunger 25 will engage the edge of the weight 12, and be prevented from further inward movement which will prevent the coin from falling into the coin pan 40 and when the actuating plunger 19 is moved outwardly, the coin will drop through the opening 51 over the outer edge of the coin box into the compartment 3, and be delivered to the opening 5, from which it may be taken by the operator, thereby returning the coin to the operator in case the machine is empty.

What is claimed is:—

1. A vending machine structure, the combination of an article carrying chute, a coin controlled dispensing mechanism positioned below the delivery end of said chute and including a base plate, a plurality of spaced plates attached to said base plate and extending at right angles thereto, blocks attached to the ends of said spaced plates between their facing sides, a dispensing plunger slidably carried by said spaced plates and including upper and lower spaced plates, a pin connecting the plates of said dispensing plunger, the upper plate of said dispensing plunger adjusted to slide over the upper surface of one of said blocks for pushing an article therefrom, an actuating plunger provided with a longitudinally extending slot and a coin receiving opening formed therein intermediate the ends of said slot, said dispensing plunger pin extending through said slot and adapted to be engaged by a coin for moving said dispensing plunger by inward movement of the actuating plunger for forcing an article off the top of one of said blocks.

2. A vending machine structure, the combination of an article carrying chute, a coin controlled dispensing mechanism positioned below the delivery end of said chute and including a base plate, a plurality of spaced plates attached to said base plate and extending at right angles thereto, blocks attached to the ends of said spaced plates between their facing sides, a dispensing plunger slidably carried by said spaced plates and including upper and lower spaced plates, a pin connecting the plates of said dispensing plunger, the upper plate of said dispensing plunger adjusted to slide over the upper surface of one of said blocks for pushing an article therefrom, an actuating plunger provided with a longitudinally extending slot and a coin receiving opening formed therein intermediate the ends of said slot, said dispensing plunger pin extending through said slot and adapted to be engaged by a coin for moving said dispensing plunger by inward movement of the actuating plunger for forcing an article off the top of one of said blocks, a coin box positioned beneath said dispensing plunger, a coin being adapted to fall through the space between the facing edges of said base plate and the lower plate of said dispensing plunger upon outward movement of said actuating plunger, and means for preventing the falling of the coin into said coin box when all of the articles have been dispensed from said chute.

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

CLARENCE D. MITCHELL.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."