F. I. JUDSON.

VENDING MACHINE.

APPLICATION FILED MAY 12, 1910.

982,431. Patented Jan. 24, 1911.

4 SHEETS—SHEET 1.

Fig. 1.

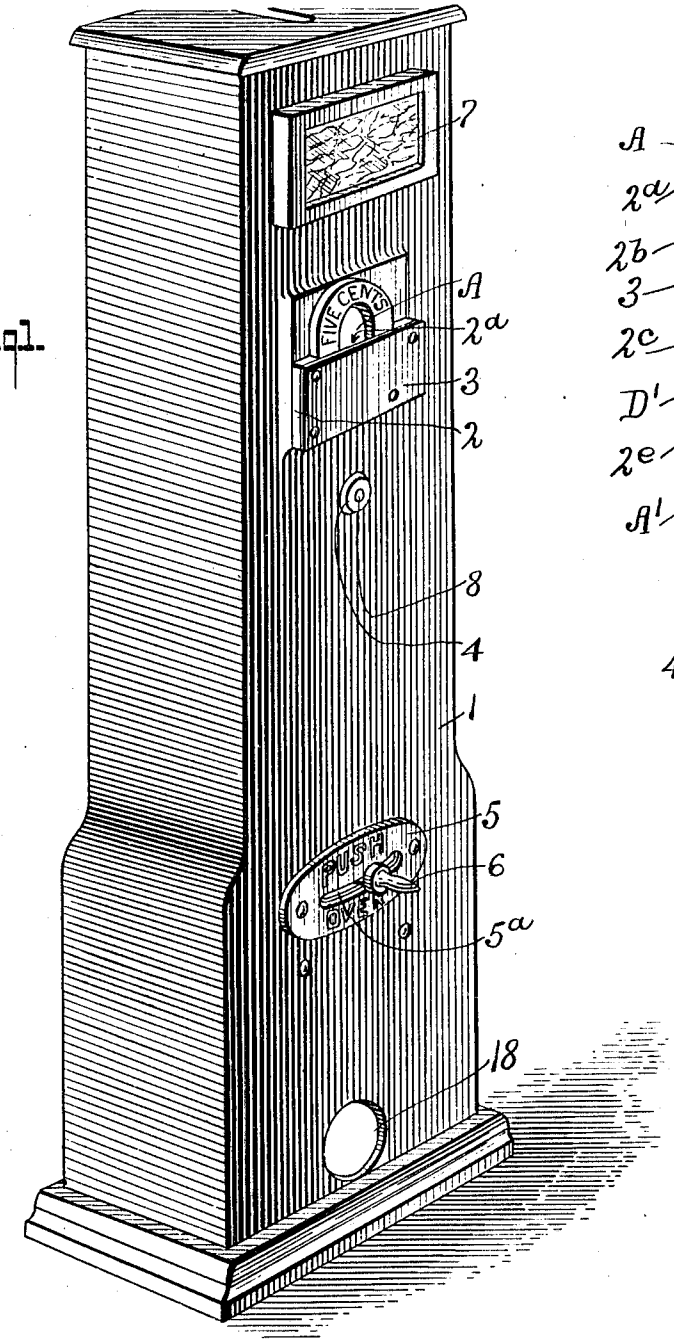
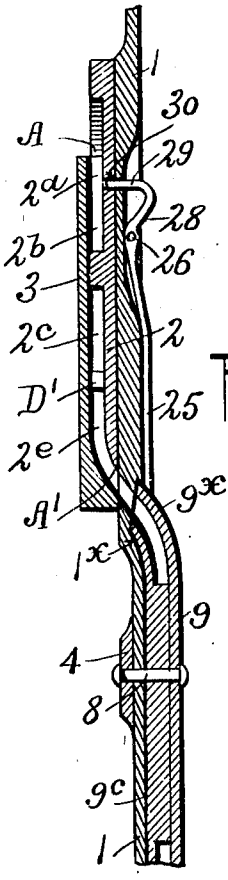


Fig. 6.



WITNESSES:

Hayward Woodard

John T. Schrott

INVENTOR

Fred I. Judson

BY

Fred G. Dieterich & Co

ATTORNEYS

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4 SHEETS—SHEET 2.

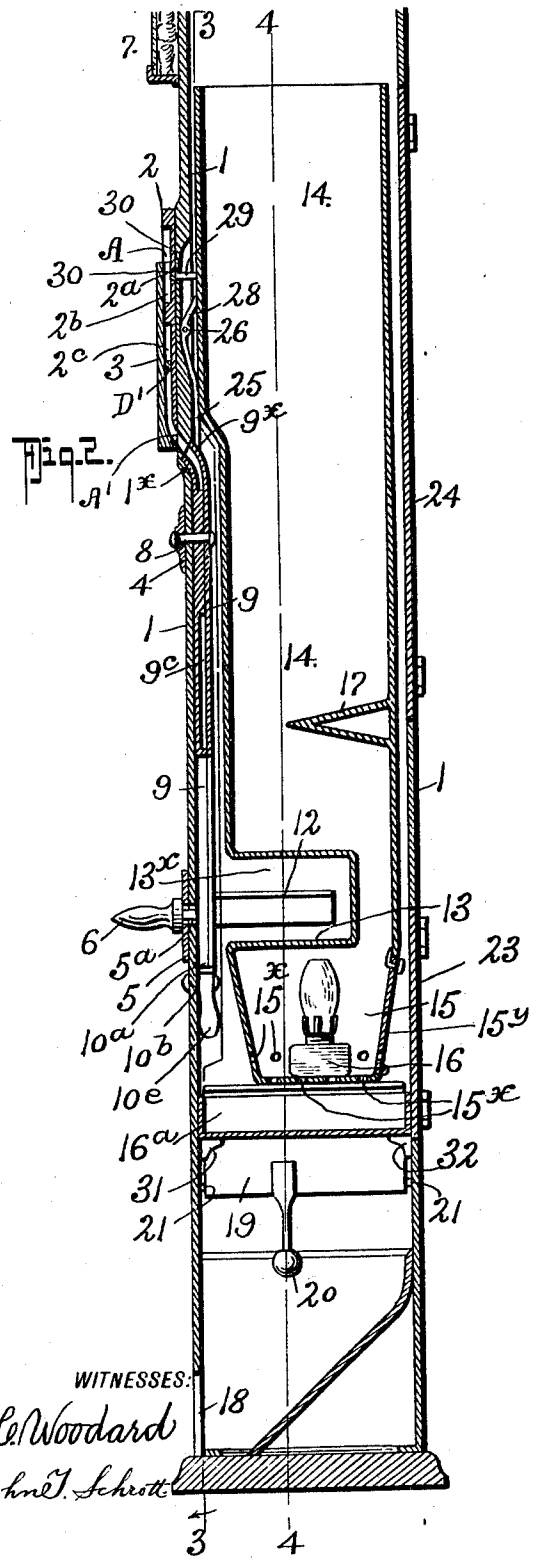

Fig. 2.

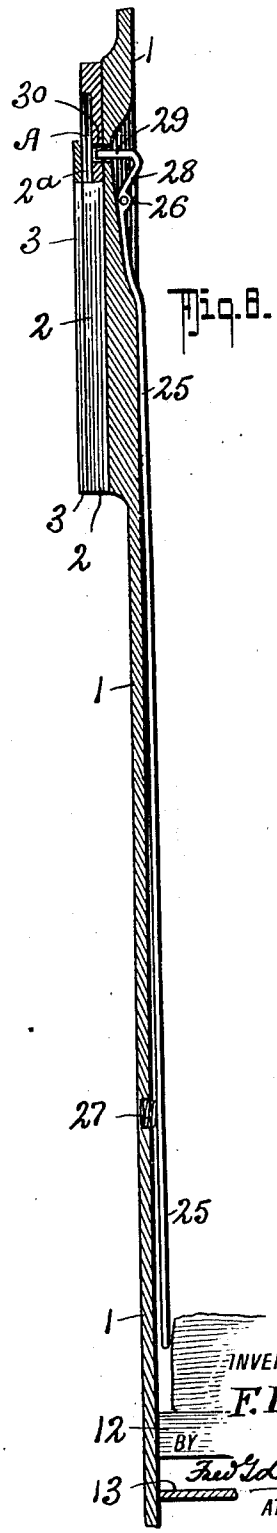

Fig. 8.

WITNESSES:

H. C. Woodard

John T. Schrott

INVENTOR

F. I. Judson

BY

Fred G. Peterson & Co

ATTORNEYS

F. I. JUDSON.

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4 SHEETS—SHEET 3.

Fig. 4.

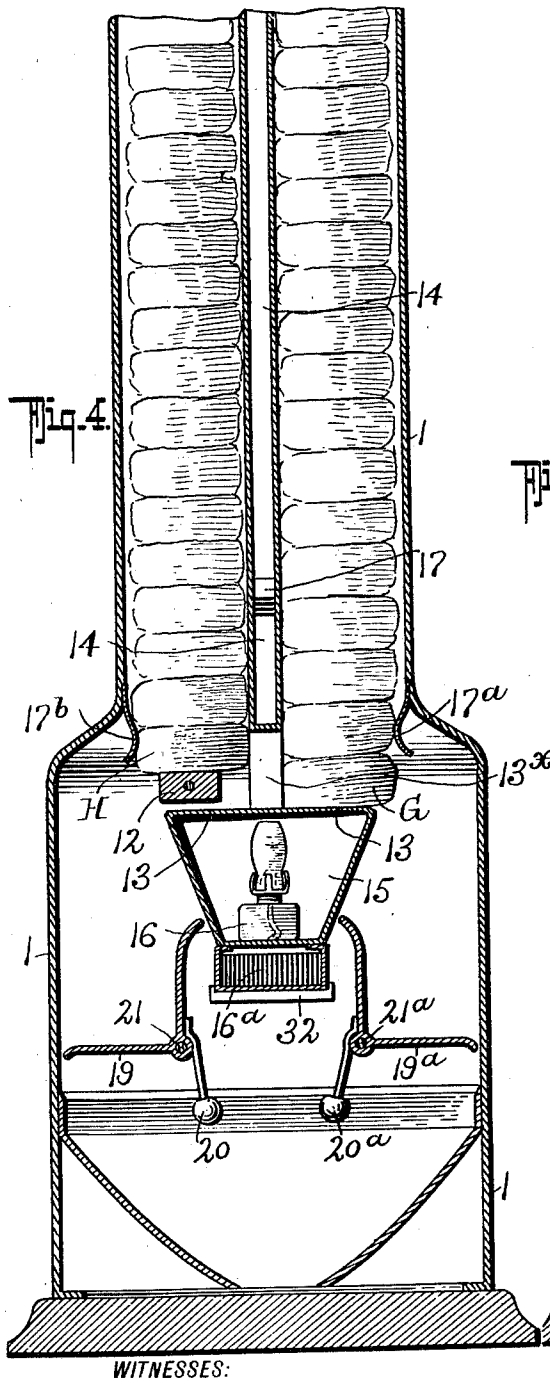
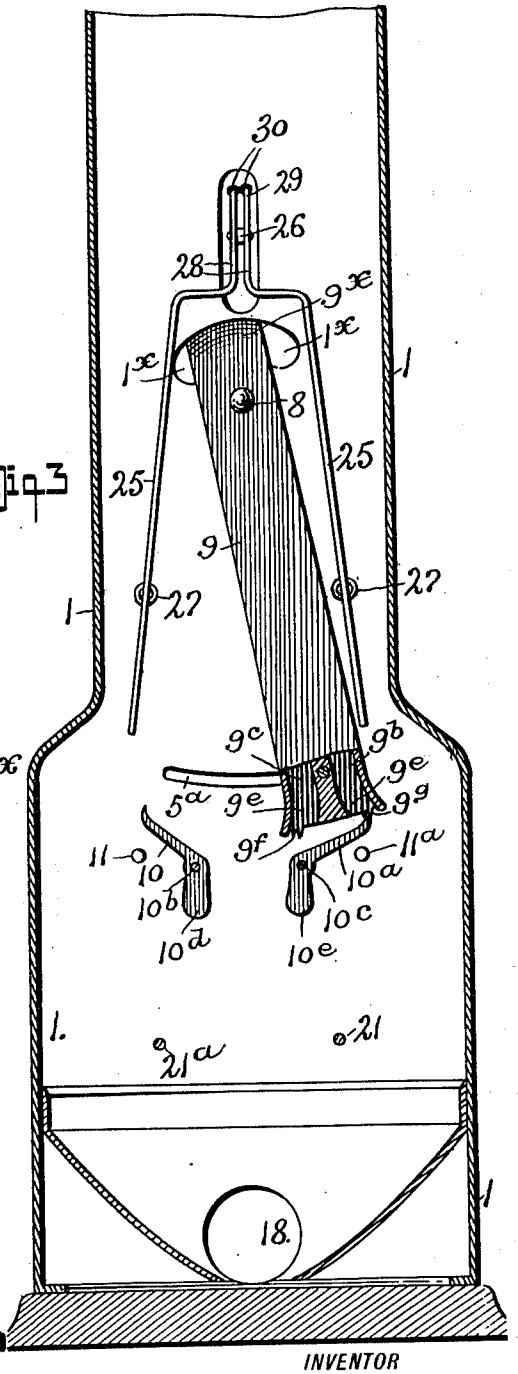


Fig. 3



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Hayward Woodard

John J. Schrott

INVENTOR

Fred I. Judson

BY

Fred J. Dieterich & Co.

ATTORNEYS

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4 SHEETS—SHEET 4.

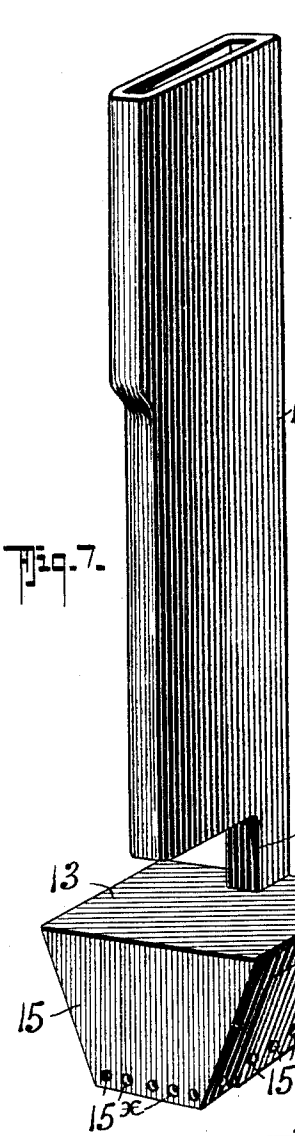

Fig. 7.

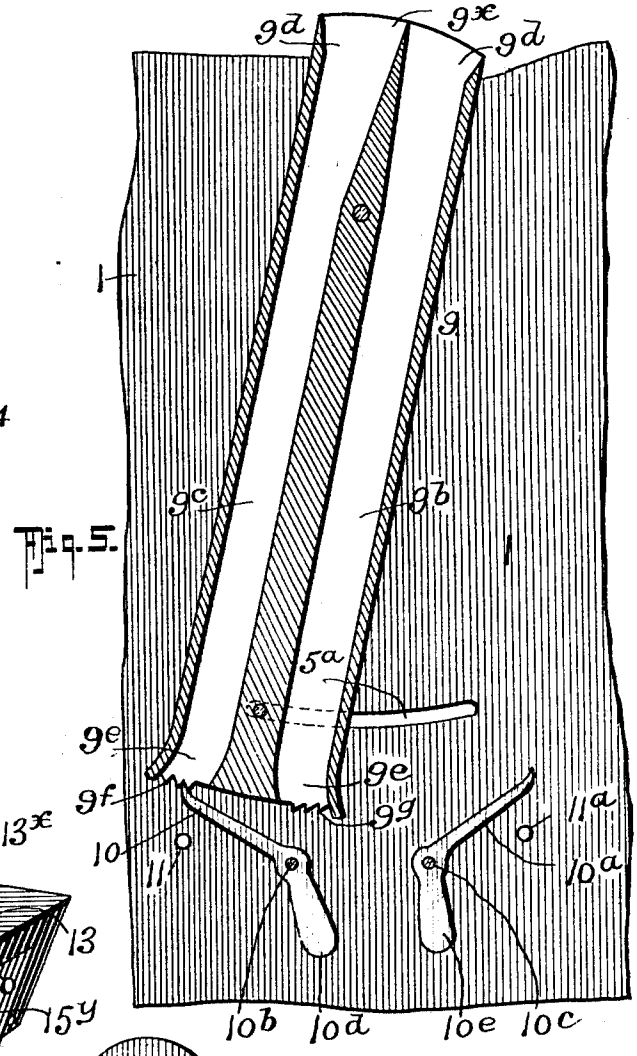

Fig. 5.

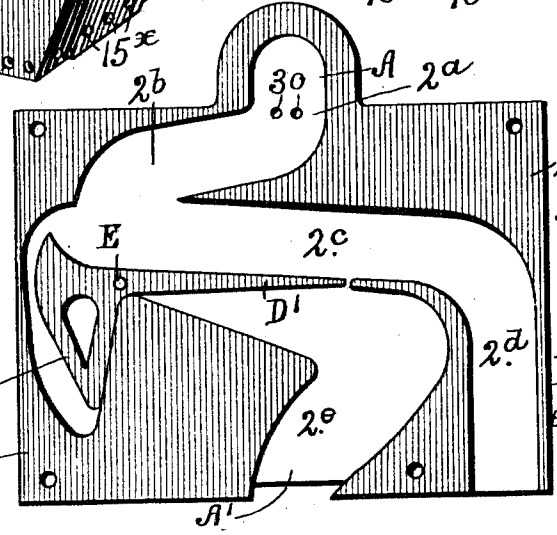

Fig. 9.

WITNESSES:

H. Woodard

John T. Schrott

INVENTOR

F. I. Judson

BY

Fred Gotterich & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRED I. JUDSON, OF FULLERTON, NEBRASKA.

VENDING-MACHINE.

982,431. Specification of Letters Patent. Patented Jan. 24, 1911.

Application filed May 12, 1910. Serial No. 560,767.

To all whom it may concern:

Be it known that I, FRED I. JUDSON, residing at Fullerton, in the county of Nance and State of Nebraska, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention is a machine for vending peanuts or the like in sacks, and it primarily has for its object to provide a machine for the purpose stated wherein there will be only one major moving part that simultaneously discharges the releasing coin and the vended package, and in which means are provided for keeping the contents of the machine warm.

Briefly stated the invention provides a machine that is very simple and positive in its action.

Peanuts when placed in small sacks make a very irregularly shaped package and are hard to control in their passage through a vending machine. I have therefore provided what I term tension springs in the magazines that engage the sacks in a manner that will enable them to be controlled in their passage through the machine to prevent clogging or premature discharge from the machine. A lever is formed with the coin chutes, of which there are two, and this lever is oscillated by a knob exposed at the front of the machine. It is locked in its different positions by pawls which are released by the coin that permit the lever to be moved from one position to another. The lever has a pusher block so that when it is moved from one position to another it will push a sack off of the rest table into the discharge passage of the machine to effect the sale.

The invention includes a special construction of article magazine and a heater therefor and it further includes certain devices to protect against the use of spurious coins and also attempts to rob the machine through the article outlet.

The invention furthermore resides in those novel details of construction, combination and arrangement of parts, all of which will be first fully described, then be specifically pointed out in the appended claims and illustrated in the accompanying drawings, in which:

Figure 1, is a perspective view of the machine. Fig. 2, is a central, vertical, longitudinal section thereof. Fig. 3, is a central, vertical, cross section on the line 3—3 of Fig. 2, looking in the direction of the arrow. Fig. 4, is a central, vertical, cross section on the line 3—3 of Fig. 2, looking in the opposite direction to the arrow. Fig. 5, is an enlarged detail vertical, longitudinal section of the lever and its locking device. Fig. 6, is an enlarged detail, sectional view of the upper end of the lever and the coin slot of the casing. Fig. 7, is a detail, perspective view of the article table the lamp carrier and the heater partition. Fig. 8, is a detail view of the coin slot closer. Fig. 9, is a detail elevation of the coin detector device and its contents.

Referring now to the accompanying drawings in which like letters and numerals indicate like parts in all of the figures, 1 designates the front of the casing which has doors 23—24 in its back and a coin slot or opening A in its front.

2 designates the bed plate that supports the coin detector mechanism and is covered by a removable cover plate 3, as shown.

A casting 4 is secured on the front of the machine to hold the pivot 8 on which the combined coin chute and pusher lever is mounted. The coin chute and pusher lever 9 forms one of the essential features of my invention. The lever 9 is oscillated for a purpose hereinafter to appear, by a knob 6 that projects through a slot 5^a in the front wall of the machine, the slot being guarded by a plate 5. The lever 9 which is best shown in Figs. 5 and 6 comprises a flat body having two parallel coin chutes 9^b—9^c running from end to end, the entrance to such chutes 9^b—9^c being enlarged as at 9^d, while the lower or exit ends thereof diverge as at 9^e. The lever 9 has two sets of ratchet teeth 9^e—9^f to coöperate with the respective pawls 10—10^a that are pivoted at 10^b—10^c and have weighted ends 10^d—10^e to hold them in their ratchet teeth engaging positions. Stops 11—11^a are provided to limit the movement of the pawls 10—10^a when under the influence of a coin. The upper end of the lever 9 is bent over at 9^x to enter a channel way 1^x in the casing wall to insure the proper entry of the coin into the chute. The lever 9 carries the pusher block 12 which is secured to the rear side of the lever 9 near its lower end.

Within the casing 1 is a receptacle 15 containing a heater 16 of any approved type and having a flat top to form tables 13—13.

A flat tube 14 projects centrally upwardly from the receptacle 15 and divides the casing 1 into two article magazines or spaces. The tube 14 is provided with a passage 13^x above the tables 13 to permit movement of the pusher 12. A heat deflecting table 17 is held within the tube 14 to distribute the heat, as will be clearly understood by reference to the drawings.

A coin box 16 is supported on cleats 31—32 and a receptacle 15 is held above the same in any suitable manner. Suitable air inlets 15^x are provided for the receptacle 15 and a door 15^y may be also provided therefor to permit of conveniently entering and removing the heater 16.

In order to hold the sacks on the table 13, tension springs 17—17^a are provided and the springs prevent the premature moving of the sacks from the tables. Trap doors 19—19^a of L-shape in side elevation are hinged at 21—21^a and have counter weights 20—20^a to prevent any one reaching up through the discharge outlet 18 and removing the sacks G or H from the respective tables 13.

The coin detector mechanism is best shown in Fig. 9 of the drawings, by reference to which it will be noticed the plate 2 has a coin entering pocket 2^a which merges with and delivers the coin into a runway portion 2^b that in turn merges with another runway portion 2^c having a movable bottom formed by a balanced lever D that is pivoted at E and has a long arm D′ along which the coin travels toward the discarding chute 2^d if it be too light in weight. A coin of the proper weight, however, will overbalance the weight of the lever D and drop into the passageway 2^e that leads to the slot A in the casing of the machine.

A sample holder 7 is provided on the face of the machine in which a sample of the goods the machine is designed to vend, may be exposed to the view of the purchaser.

In operation, assume the mechanism to be filled with sacks of peanuts or the like (the mechanism being filled through the back door 24) and the lamp or heater 16 burning; the sacks on the table 13 being exposed to the hottest part of the receptacle 15 will be kept warm thereby while those above in the magazines are heated to a lesser degree by the passage of the heated air and gases through the tube 14. The operator next places a proper coin in the pocket 21 whereupon it gravitates downwardly into the passageway 2^e and through the slot A into that one of the lever chutes B—B′ whose entrance is in alinement therewith. The coin passes down the chute B or B′, as the case may be, and rests on the corresponding pawl 10—10^a to move it from engagement with the ratchet teeth on the lever 9 whereupon the operator may move the lever to cause the pusher 12 to push a sack off the table 13 which thereupon drops onto and passes by the trap door 21—21^a as the case may be and falls into the discharge hopper from whence it may be removed through the opening 18 in the front of the casing. As the lever 9 is moved from one position to another the coin will be carried along the respective pawl until it drops between the pawls into the coin box 22, it being understood that the stops 11—11^a prevent the discharge of the coin until the lever 9 has been pushed over.

In order, when an article chute becomes empty, that the operation of the machine may be stopped, I provide a coin chute closer mechanism which is composed of a lever 25 pivoted at 26 and having its short arm 28 bent over to form a pin 29 that projects through a hole in the front wall of the casing and in the plate 2 to prevent a coin dropping from the pocket 2^a into the passage 2^b, the plate 2 having an opening 30 to permit the pin portion 29 to project therethrough. The long arm of the lever 25 projects down to the bottom sack in the chute and a spring 27 is provided which continuously tends to move the lever in a position to project the pin 29 into the path of a coin, it being understood that so long as the article magazines contain a package the pin 29 will be withheld from the path of the coin, as will be clearly understood by reference to Figs. 6 and 8 of the drawings. It should be understood that there is one coin chute closer for each magazine.

From the foregoing it will be seen that by my construction of machine a sack which is next to be delivered is always kept the hottest by virtue of its resting on the table or platform 13, while the remaining sacks are kept warm by the hot air flue or tube 14, as before described.

The tension springs 17—17^a I consider an important improvement in machines of this type as peanuts in small sacks make a very irregularly shaped package and it has always been a hard matter to control them in a vending machine and insure certain delivery without tearing the sacks or clogging the machine. By using the springs 17—17^a, the sacks will reach the platform 13 in the correct position. When the lever 9 is in one position one column of sacks is resting on the pusher block 12, which when the lever is pushed to the opposite side is released, but the edge of the bottom sack rests on the edge of the block 12 until its block is clear out of the chamber. If the springs 17—17^a were not in place the bottom sack would have a tendency to tip down edgewise, that is the outer edge would tip down before the inner edge was released from the block 12. The springs 17—17^a hold the sack level and prevent it from falling off the platforms until

the sacks are pushed off. When the sacks are pushed off the platform 13 they drop down to the bottom and are taken out through the opening 18, as before mentioned.

Should it be attempted to remove the contents of the machine through the opening 18 by reaching the arm therein and attempting to take the sacks off the respective tables 13, it will be observed that weighted doors 19—19ª will be encountered and if the lower plate of such door is held down, then that one which is normally held vertical will assume the horizontal position and vice versa, so as to always keep the passage closed against some one who may attempt to rob the machine.

From the foregoing description taken in connection with the accompanying drawings it is thought the complete construction, operation and many advantages of my invention will be readily understood by those skilled in the art to which the invention appertains.

What I claim is:

1. In a vending machine, a casing, a combined coin chute and pusher lever pivotally mounted within said casing, means projecting through said casing in virtue of which said lever may be moved on its pivot, coin controlled means for locking said lever in its several positions, and means for conveying a coin to said lever, said lever having coin passages within the same.

2. In a vending machine, a casing having a coin slot opening, a lever pivoted within said casing, means carried by said lever and projecting through said casing in virtue of which said lever may be oscillated, coin releasable means for locking said lever in its various positions, said lever having coin passageways to convey the released coin to said locking means and receive said coin through said casing coin slot.

3. In a vending machine, a casing having a coin slot opening, a lever pivoted within said casing, means carried by said lever and projecting through said casing in virtue of which said lever may be oscillated, coin releasable means for locking said lever in its various positions, said lever having coin passageways to convey the releasing coin to said locking means and receive said coin through said casing coin slot, a coin detector carried by said casing, said coin detector having a discarding chute and a passage in communication with the coin slot in said casing, and including means for directing a coin into said discarding chute or into said passage dependent upon the weight of the coin.

4. In a vending machine, a casing having a coin slot opening, a lever pivoted within said casing, means carried by said lever and projecting through said casing in virtue of which said lever may be oscillated, coin releasable means for locking said lever in its various positions, said lever having coin passageways to convey the releasing coin to said locking means and receive said coin through said casing coin slot, a coin detector carried by said casing, said coin detector having a discarding chute and a passage in communication with the coin slot in said casing, including means for directing a coin into said discarding chute or into said passage dependent upon the weight of the coin, said coin detector having a coin entrant pocket and article controlled means for closing said pocket when the contents of the machine have been vended.

5. In a vending machine having article magazines, a lever for moving articles from said magazines, said lever having a pair of separate coin passageways, a pair of locking pawls for engaging said lever to lock it in its different positions, said coin passageways adapted to direct a releasing coin to said pawls, said casing having a coin slot and said lever having one end held adjacent to said coin slot whereby a coin when entered through said slot will pass into one of the coin passages of said lever and be conveyed to the respective pawl, and means carried by said lever and projecting through an opening in said casing in virtue of which said lever may be moved from one position to another.

6. In a vending machine, a casing having a coin slot, a coin controlled vending mechanism within said casing, said vending mechanism including a coin chute to receive coins that are entered through said casing slot, a coin detector mounted on said casing and having a passage in communication with said slot and having a discarding passage, said detector having a coin receiving pocket and a runway connecting said pocket with said passages, and means forming a part of said runway for selectively projecting a coin into one or the other of said passages.

FRED I. JUDSON.

Witnesses:
Mrs. Irving Fuller,
Mary Johnson.