C. A. BREYFOGLE.

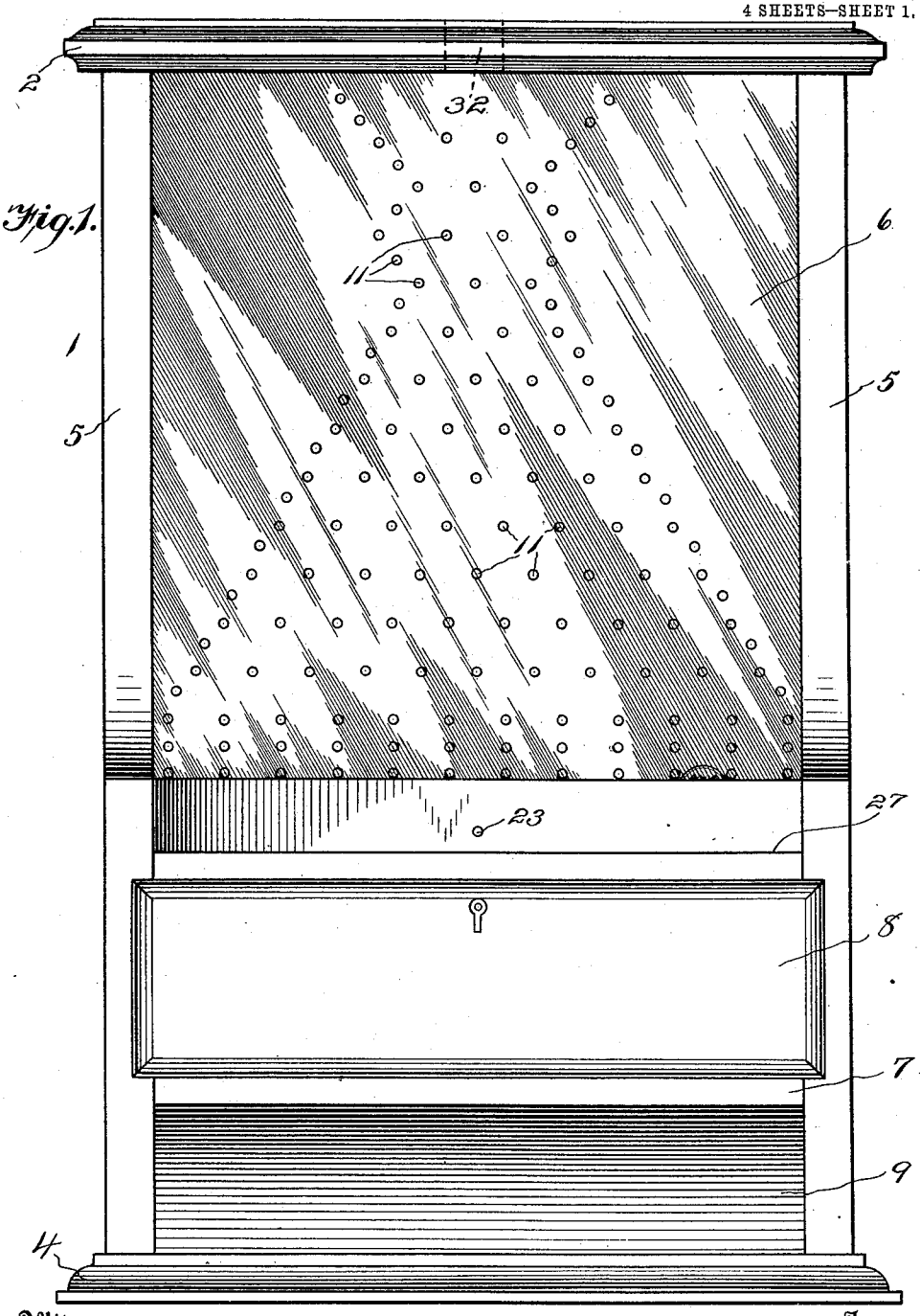
SLOT MACHINE.

APPLICATION FILED JAN. 19, 1912.

1,053,473. Patented Feb. 18, 1913.

4 SHEETS—SHEET 1.

Fig. 1.



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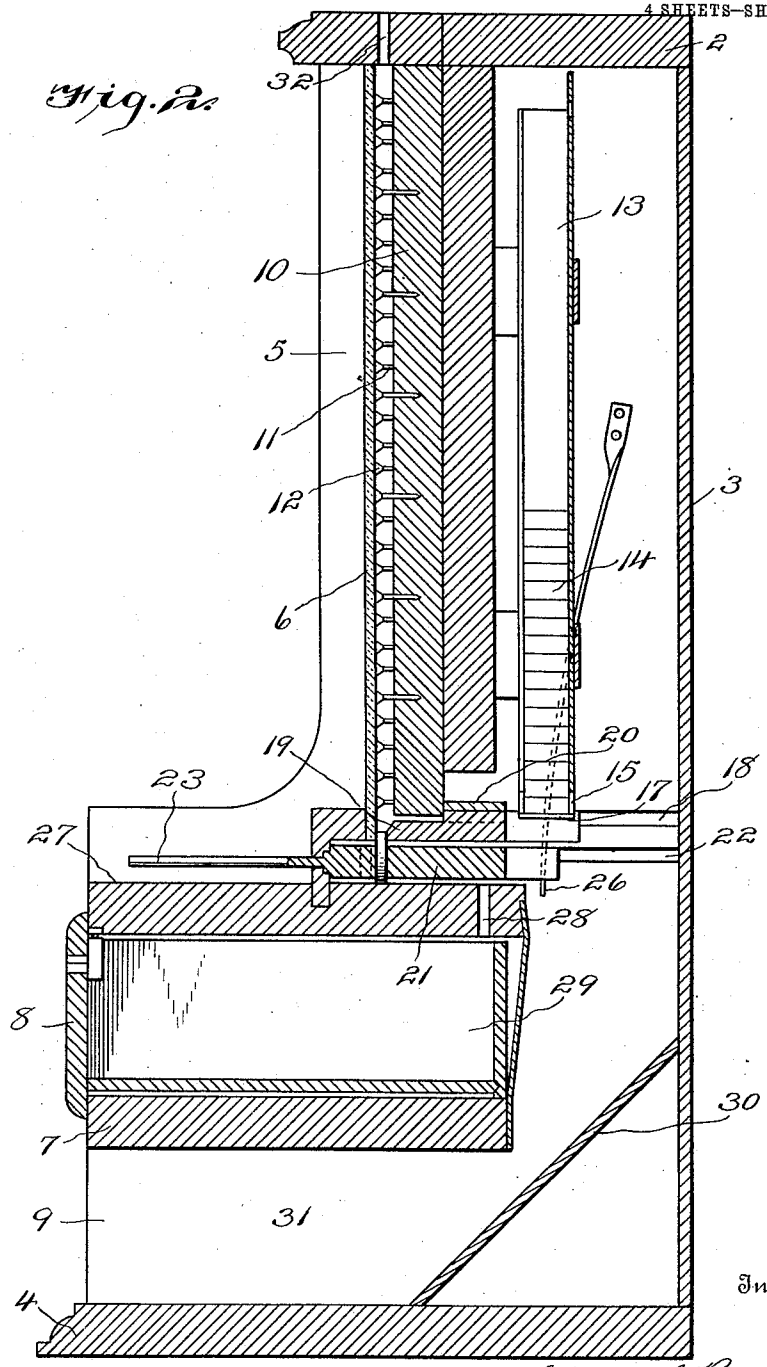
4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

Fig. 3.

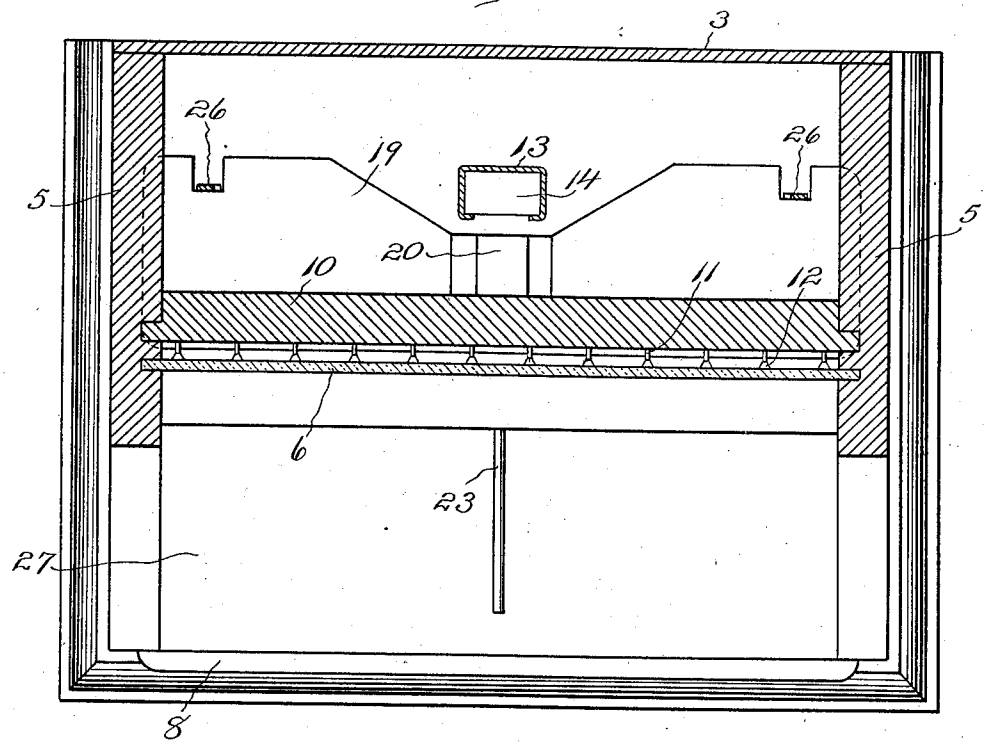
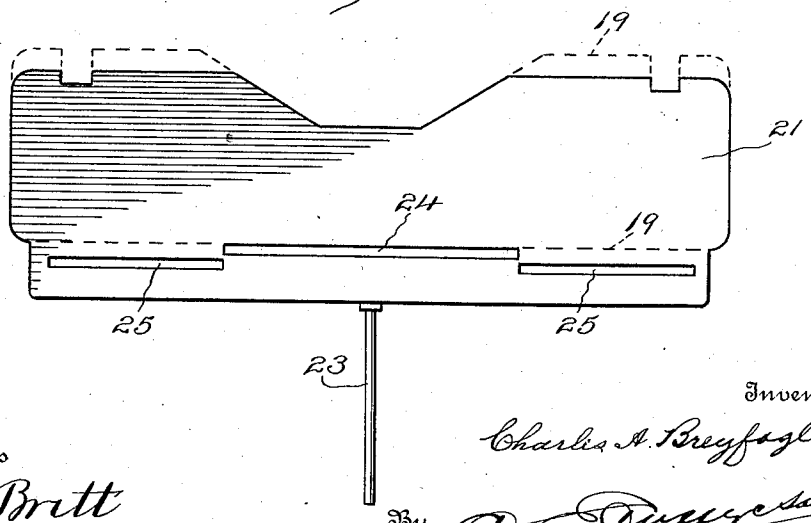


Fig. 4.



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4 SHEETS—SHEET 4.

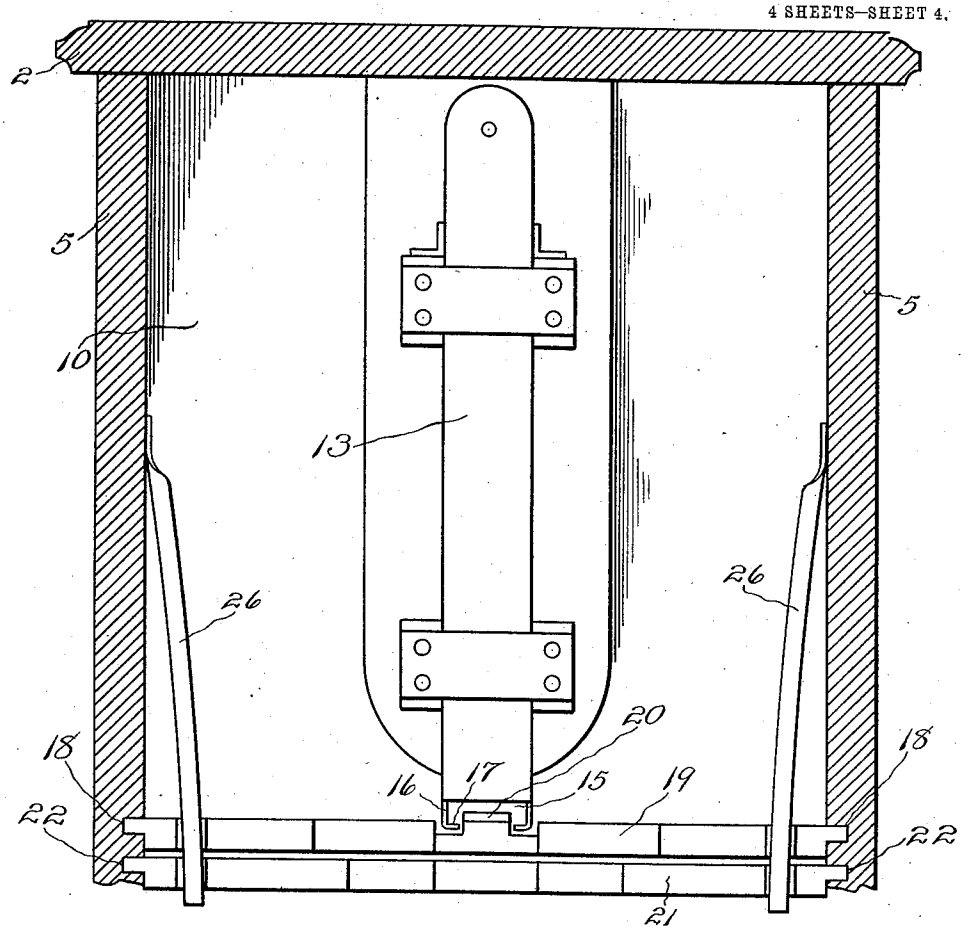

Fig. 5.

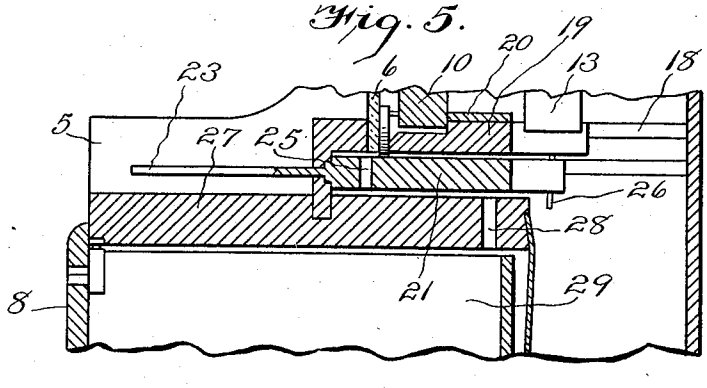

Fig. 6.

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UNITED STATES PATENT OFFICE.

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SLOT-MACHINE.

1,053,473. Specification of Letters Patent. Patented Feb. 18, 1913.

Application filed January 19, 1912. Serial No. 672,130.

To all whom it may concern:

Be it known that I, CHARLES A. BREYFOGLE, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Slot-Machines; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to coin operative slot machines and has for its object to provide a vending machine for vending small articles or objects such as candy, chewing gum and the like.

A further object of the invention is to provide a vending machine which is so constructed and arranged that a coin introduced of proper denomination can take one of a number of paths so as to deposit itself in one of a plurality of slots in such manner that the purchaser must be entitled to a prize or piece of merchandise other than that which is vended by the machine.

A further object of the invention is to provide a vending machine which is particularly simple in its construction, cheap and easy to manufacture, strong, durable and efficient.

A further object of the invention is to provide novel means for preventing the operation of the machine by a slug or spurious coin which is thicker or larger in diameter than the coin of the denomination for which the machine is constructed.

With these objects in view the invention consists in the novel construction of the machine which provides for the coin introduced in the machine taking one of a number of paths to enter one of a plurality of slots for the purpose of operating the machine.

The invention further consists in the novel construction for guarding against the operation of the machine by a slug or coin of improper denomination.

The invention further consists in certain other novel details of construction and in combinations of parts, all of which will be first fully described and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawings: Figure 1 is a front elevation of a vending machine constructed in accordance with this invention. Fig. 2 is a vertical transverse sectional view through the vending machine taken on line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional view through the machine taken on line 3—3 of Fig. 1. Fig. 4 is a plan view of the slotted plunger for actuating the machine. Fig. 5 is a fragmentary vertical sectional rear view taken on line 5—5 of Fig. 2, and Fig. 6 is a fragmentary transverse vertical sectional view taken on line 6—6 of Fig. 1.

Like numerals of reference indicate the same parts throughout the several figures in which;

1 indicates the vending machine which comprises the top 2, back 3, bottom 4 and sides 5, the upper portion of the front 6 being of glass while the lower portion 7 of the front forms a recess for a drawer 8, the extreme lower portion 9 of the front forming a repository in which the goods or packages are deposited for manual withdrawal from the machine.

Just in rear of the glass front 6 is a vertical wall 10 provided on its outer surface with a plurality of horizontally projecting studs 11, said studs being arranged on the face of the board 7 so as to allow a coin of proper denomination to pass freely between the said studs and to pursue one of a number of courses as will be clearly evident from Fig. 1. It will be noted in Fig. 2 that the heads of the studs or pins 11 are tapered at 12 so that a slug or coin which is too thick will be engaged by the tapered heads 12 of the pins or studs 11 so as not to pass into the machine. It is also apparent from Fig. 1 that the slug or coin which is too large in diameter will be engaged by the pins or studs 11 and prevented from entering the machine.

Arranged behind the vertical wall 10 is the magazine 13 in which the merchandise is carried, said merchandise therein feeding toward the bottom of the magazine 13 by

gravity as will be apparent from Fig. 2, the merchandise being indicated by the numeral 14. Referring now to Fig. 5 it will be seen that the extreme bottom 15 of the magazine 13 has its front and back open, the sides 16 having their extreme lower end bent inwardly at 17 and approaching each other so as to maintain a piece or package of merchandise at the extreme bottom of the magazine 13 and in the open portion 15 thereof. Arranged horizontally in the machine just under the magazine 13 and operating in grooves 18 in the sides 5 of the machine is a slide 19, said slide having a central upward projection 20 which passes through the open portion of the magazine 13 to engage a piece or package of merchandise contained in said open bottom and to force the same from the magazine as will be apparent from Fig. 5, the front edge of said slide 19 terminating directly under the pins or studs 11 as is clearly shown in Fig. 2.

Disposed horizontally in the machine and directly under the slide 19 is the plunger 21, said plunger being shown in plan in Fig. 4 and operates in grooves 22 in the sides 5 of the machine as shown in Fig. 5. The plunger 21 is provided with a plunger rod 23 which extends to the forward portion of the machine for convenient manual operation, and the said plunger 21 is provided with a plurality of longitudinal slots, the central slot being longest and is indicated by 24 (Fig. 4), the two end slots being shorter in length than the central slots 24 and are indicated by the numeral 25, the said slots 24 and 25 being staggered as shown in Fig. 4, the central slot 24 being directly under the projecting pins or studs 11 to receive a coin passing between the pins as illustrated in Fig. 2; while the end slots 25 are just in front of the line of said pins or studs as is illustrated in Fig. 4, the arrangement of the slots 24 and 25 in this position being for a purpose which will be presently described.

Arranged on the sides 5 of the machine and in engagement with the slide 19 and plunger 21 are two leaf springs 26 (Fig. 5) for the purpose of holding the slide 19 and plunger 21 in their normal position as indicated in Figs. 2 and 5 and to force the said slide and plunger back into their normal position after the machine has been operated.

Arranged in the table 27 just under the plunger 21 and along near the rear portion thereof is a longitudinal slot 28 into which the coin drops after passing through the slots 24 or 25 in the plunger 21, a drawer 29 being arranged to receive the coins passing through the slot 28 in the table 27.

Arranged under the magazine 13 and in the rear bottom corner of the machine is a deflecting plate 30 upon which the goods or merchandise drops from the magazine 13 and is deflected into the receptacle 31 for manual withdrawal from the machine.

Having thus described the several parts of this invention its operation is as follows: A coin of proper denomination dropped into the coin slot 32 (Fig. 2) engages the upper pins or studs 11 and is deflected from one to the other of said pins or studs until the coin finally reaches the last of the studs either in the center of the machine or to either side thereof. If the coin passes between the pins or studs 11 and maintains a central course it passes the front edge of the slide 19 and enters the long longitudinal slot 24 in the plunger 21 as shown in Fig. 2, the plunger 21 being of a height as to allow the coin to project above the said plunger and engage the slide 19 as is indicated in Fig. 2. When therefore the coin is in this position the plunger rod 23 is depressed and the plunger 21 and operating slide 19 being locked together by means of the coin said slide 19 is carried rearwardly with the plunger 21, the central projection 20 on the slide 19 engaging a piece or package of merchandise in the open portion 15 of the magazine 13 pushes said piece or package or merchandise out of the magazine and causes the same to fall upon the deflecting plate 30 and be deflected therefrom into the chamber 31 for manual withdrawal from the machine, the leaf springs 26 acting on the slide 19 and plunger 21 returning said slide and plunger to their normal position. Should, however, a coin introduced into the machine engage the pins or studs 11 and be deflected thereby so as to take a course away from the center of the machine such as is illustrated in Fig. 1 the coin will pass in front of the slide 19 but cannot enter the side slot 25 as said side slot 25 (Fig. 5) is normally out of line with the coin; consequently the coin is exposed to view through the glass front 6 and initially remains in an exposed position, said coin being subsequently released after having effected coöperation with the package removing slide 19 by suitably actuating the plunger 21, the slot 25 being thus moved under or in alinement with the coin for its reception, and said slide 19 engaging a piece or package of merchandise in the open bottom of the magazine 13 pushing the merchandise therefrom and causing the same to be deposited in the chamber 31 for manual withdrawal. By this arrangement, namely, baffling the passage of the deposited coin to its central receiving slot in the plunger actuated slide and causing it to traverse a zigzag course and providing for its reception finally by either of the lateral slots amusement is afforded for the juveniles or adult persons in connection with effecting

the release or removal of the vended article or package as will be appreciated.

By reason of the arrangement of the pins or studs on the board 10 a slug or coin larger than the proper denomination will not pass between the said pins and consequently will not operate the machine. Furthermore a slug or coin thicker than a coin of proper denomination will engage the tapered heads 12 of the pins or studs 11 and be retained thereby in such manner as not to pass farther into the machine to operate the same.

Having thus fully described the invention it is clearly apparent that certain changes and alterations may be made therein and I consider myself clearly entitled to all such changes and modifications as fall within the limit and scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. A vending machine comprising a magazine for holding merchandise, a plurality of pins or studs arranged in the path of a coin in such manner that a coin introduced into the machine may take one of several courses or directions, a slide associated with said magazine to remove successively the merchandise therein, a plunger associated with said slide and provided with a plurality of slots to receive the coin introduced into the machine, said plunger being closely associated with said slide in such manner that the coin in one of the slots of said plunger will engage the said slide to actuate the same to remove merchandise from the magazine, said slots in said plunger being staggered to receive a coin controlled by, and passing in any of several different directions or courses between said pins or studs, respectively.

2. A vending machine comprising a magazine and means associated therewith for removing merchandise therefrom, a series of pins or studs arranged in the path of a coin introduced in the machine to cause the said coin to take one of several courses, a plunger arranged under said series of pins or studs and provided with staggered slots, said slots thus being adapted to receive a coin taking different directions controlled by said pins or studs, said coin forming a connecting means between the said plunger and the means for removing merchandise from the magazine, substantially as described and for the purposes set forth.

3. A vending machine comprising a magazine and means for removing merchandise therefrom, a plunger associated with said means and provided with a plurality of slots to receive a coin introduced into the machine, said slots being staggered in such manner that all of said slots are not in line to receive a coin introduced in the machine while the plunger is at rest, and some of said slots adapted to receive a coin therein during the travel of said plunger, the coin in any of said slots forming means for engaging the said means for removing the merchandise from the magazine, substantially as described and for the purposes set forth.

4. A vending machine comprising a magazine, means for removing merchandise therefrom, a plunger associated with said means and provided with a plurality of slots to receive a coin introduced into the machine, one of said slots being arranged in the path of the coin to cause a connecting means between the said plunger and the said means for removing merchandise from the machine while the said plunger is at rest, the other of said slots being arranged out of line of the path of the said coin in such manner as to receive the said coin while the said plunger is in motion to cause a connecting means between the said plunger and the said means for removing merchandise from the machine, and means arranged in the path of the coin introduced into the machine to cause a coin to take one of several paths and to enter one of said plurality of slots in the said plunger, substantially as described and for the purposes set forth.

5. A machine of the type described, including a magazine for holding merchandise, a slidable member arranged immediately below said magazine, said magazine having its extreme lower end open at front and back, the lateral resulting portions extending inwardly toward each other and adapted to support the bottom article of merchandise, said slidable member having a coin-receiving slot and a central upwardly extending projection adapted to engage and remove said bottom article from said extreme lower end portion of the magazine, a plunger arranged immediately adjacent and underneath said slidable member and adapted to receive in conjunction therewith the coin in aiding said slidable member as it is actuated to remove said article of merchandise, and means for automatically restoring said slidable member and plunger to their initial position after dropping the article of merchandise and coin.

6. A vending machine including a magazine for holding merchandise, a slidable member arranged immediately below said magazine and having a coin-receiving slot therein, said magazine having its extreme lower end open at front and back, the lateral resulting portions extending inwardly toward each other and adapted to support the bottom article of merchandise, a plunger arranged immediately adjacent and underneath said slidable member and adapted

to receive in conjunction with said slidable member the coin in aiding said slidable member as it is actuated to remove said article of merchandise, a series of pins or studs arranged in the path of movement of the deposited coin, said studs having tapered portions for obstructing the movement or passage of a spurious coin to prevent the actuation of the machine thereby, and means for automatically restoring said slidable member and said plunger to initial position.

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

CHARLES A. BREYFOGLE.

Witnesses:

W. La Monte Gillette,

R. A. B. Hausman.

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