

No. 684,248.

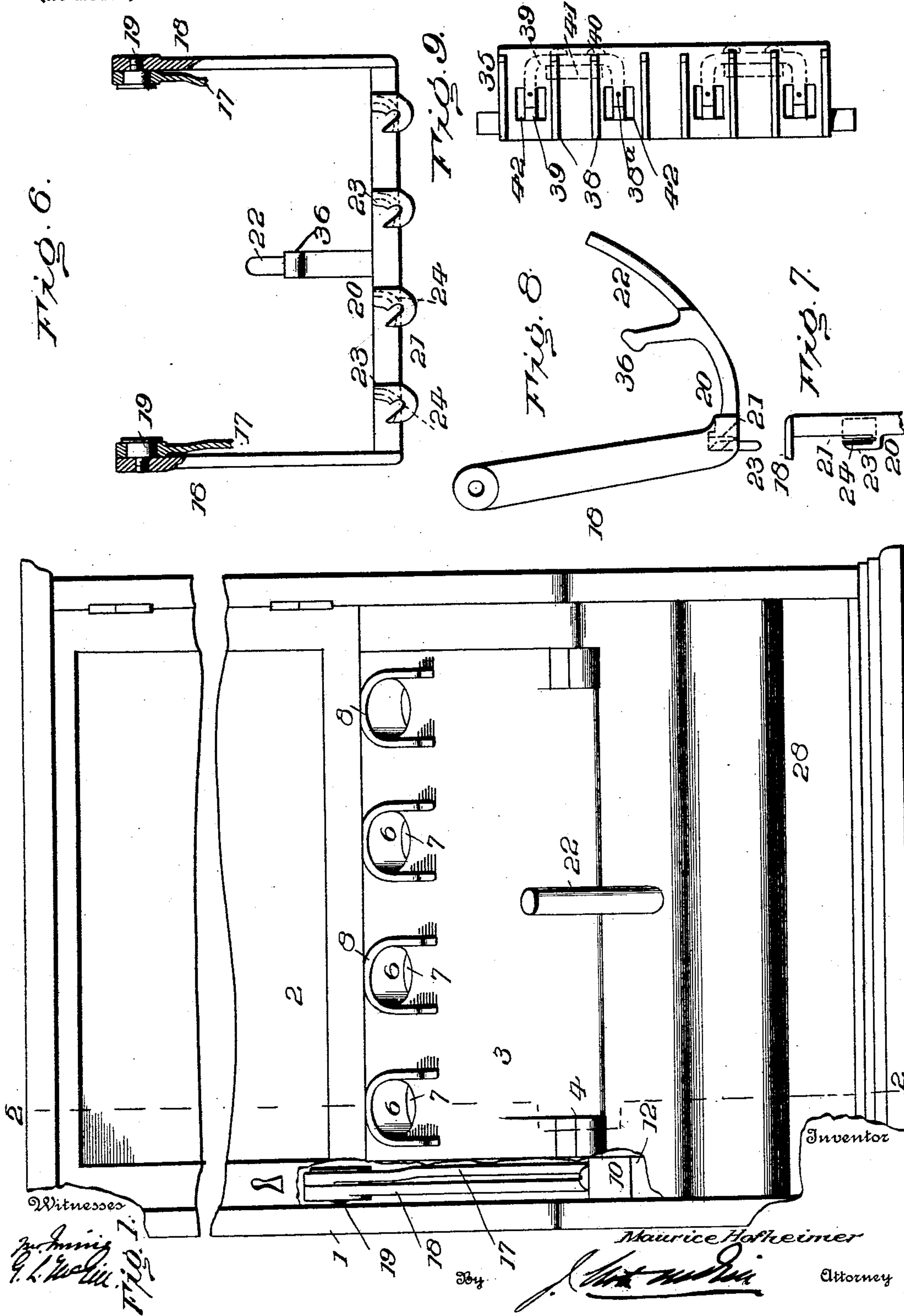
Patented Oct. 8, 1901.

M. HOFHEIMER.
VENDING MACHINE.

(Application filed Jan. 5, 1901.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses

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Fig. 1.

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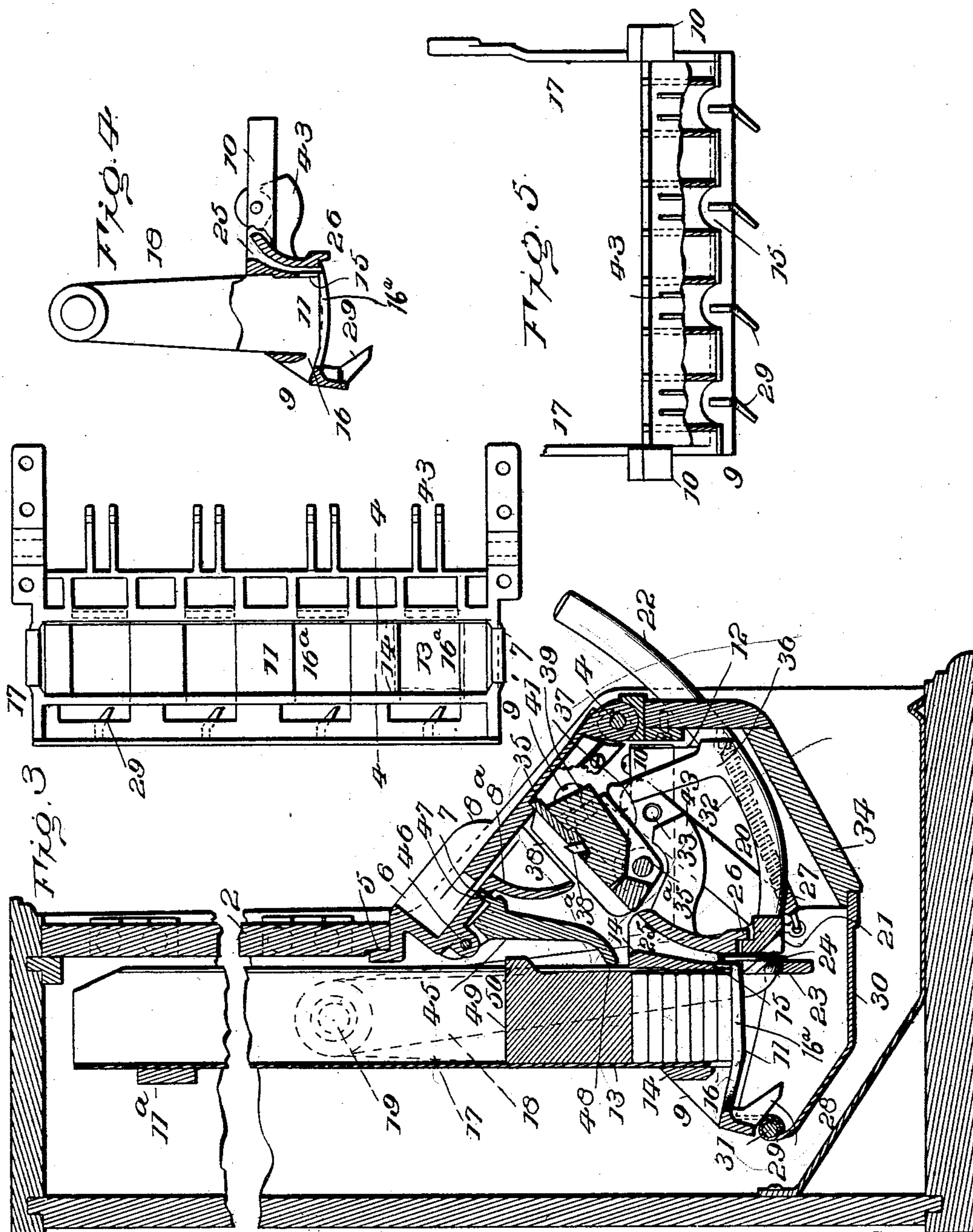
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2 Sheets—Sheet 2.



Inventor

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Fig. 2

By

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UNITED STATES PATENT OFFICE.

MAURICE HOFHEIMER, OF NEW YORK, N. Y.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 684,248, dated October 8, 1901.

Application filed January 5, 1901. Serial No. 42,187. (No model.)

To all whom it may concern:

Be it known that I, MAURICE HOFHEIMER, of New York, in the county of New York and State of New York, have invented certain
5 new and useful Improvements in 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
10 make and use the same.

This invention relates to coin-controlled vending-machines.

The primary object of the invention is to provide in a machine having a plurality of
15 vendible articles in separate compartments a single swinging ejector applicable to all of the latter, the ejection of a single article being dependent upon the presence of a previously-deposited coin, which acts bodily
20 upon the article to be ejected.

A further object is to provide a machine of this character with improved means for preventing its surreptitious operation, and also to prevent the insertion of a coin after the
25 supply of vendible articles is exhausted; and a further object is to provide a machine of this character which will be simple in construction and operation and composed of but a few parts.

30 The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation. Fig. 2 is a vertical sectional view on line 2 2, Fig. 1. Fig. 3 is a plan
35 view of the bed upon which the merchandise is supported. Fig. 4 is a cross-sectional view on line 4 4, Fig. 3. Fig. 5 is a front view of the bed-casting with parts broken away. Fig.
40 6 is a view of the ejector. Figs. 7, 8, and 9 are respectively detail, end, and plan views thereof.

Referring to the drawings, 1 designates the inclosing casing, 2 an upper front door
45 locked at one end, and 3 a coin-receiving bed set on an incline and hinged at 4, its upper flanged end 5 being engaged by the lower edge of door 2. On this bed is a series of coin-guideways 6, each of which terminates in an
50 opening 7, partly surrounded by a hood 8, and from each opening leads a protected passage 8^a, through which the coins travel. This form

of device for controlling the coin-openings, so as to guard against fraud, constitutes the subject-matter of a pending application for
55 patent, Serial No. 35,327. The number of coin guideways and passages correspond to the number of separate columns of merchandise, the deposit of a coin in any one opening insuring the discharge of an article from
60 the respective column or compartment.

9 is a casting having at its ends extensions 10, which are rigidly secured to ledges 12 of casing 1. This casting is formed with a bed
65 11, upon which is located a series of compartments 13, inclosing different kinds of merchandise, which are here shown arranged in the form of separate packages in superposed columns. These compartments are also se-
70 cured to or held by an upper cross-bar 11^a, and at their lower ends are secured to front and rear cross-pieces 14, between the bottom edges of which and the bed are front and rear
75 spaces 15 and 16, in line with bottom openings 16^a, which latter are less in width than the length of a package.

To end uprights 17 of casting 9 are pivotally secured the upper ends of arms 18 by means of screws 19, said arms forming part
80 of an ejector 20, which is designed to rock or swing transversely beneath the casting-bed to discharge a package or packages of merchandise, according as there is a single coin or a plurality of coins carried by the ejector. The two arms 18 are connected at their lower
85 ends by a cross-bar 21, from the center of which extends forwardly a curved handle-rod 22, which projects through an opening in the front of the inclosing casing. With this cross-
90 bar are formed flanges 23, in the face of each of which and the face of the bar are grooves which form a curved channel 24, designed to receive a coin guided-thereinto through a
95 passage-way 25 in the front portion of casting 9. These grooves are wide enough to accommodate a legitimate coin; but the space between them or in the bottom of the channel is less in width than the thickness of a coin, so that a thin disk will drop through before the
100 machine may be operated. The diameter of the channel is such that only a small edge of the coin will project at the top, so that a disk of less than the proper diameter will in the rearward swing of the ejector pass beneath the

lowermost package of merchandise without ejecting it. The ejector cross-bar is normally held against a flange 26 of the casting by a coil-spring 27. When the ejector is forced rearward, as against the tension of its spring, a coin previously deposited in one of the holding-flanges 23, being in line with the space 15 and the bottom openings 16^a, will engage the lowermost article of merchandise in the respective compartment and force the same through space 16 and over the rear edge of the casting, whereupon it will fall into the delivery-chute 28, the front end of which is open in line with the front of the inclosing casing. At about the same time this occurs the coin will come in contact with an angularly-bent wedge-like finger 29 at the rear of the casting, and thereby will be forced from its holder and drop into a cash-box 30. It is impossible to repeat the operation with the same coin, as the ejector cannot return to its normal position until the coin has been removed from its holder. The cash-box is hung at its rear end on a cross-rod 31 and is supported by forwardly-extended arms 32, engaging pins 33, which arms are of spring metal, so that they may be moved laterally to be disengaged from the pins. When the arms are in engagement with the latter, the forward end of the bottom of the cash-box is flush with a cross-bar 34 of the inclosing casing above the delivery-chute.

Between the several coin-passages 25 and the corresponding coin-inlets is an inclined plate 35, over which the coins must travel. This plate is pivoted at its normally-lowered side at 35^a and is normally held by a branch arm 36 of the handle-rod 22 engaging a cam-like flange 37 on the bottom of the plate, whereby when said handle-rod is pushed inward said plate will swing downwardly at its normally upper end. Projecting through holes in this plate centrally between guide-flanges 38 and in the line of passage from each coin-inlet are pins 38^a, of non-magnetic metal. To the bottom of the plate are secured magnets 39, held by screws 40 to flanges 41. The ends of these magnets project into the central portions of approximately U-shape openings 42, formed in plate 35. I preferably employ one magnet for two passage-ways. The object of the pins 38^a and the magnets 39 is to prevent the fraudulent operation of the machine by a paper disk or metal washer or iron slugs. If a disk or washer be inserted, its movement will be arrested by the pins, while if an iron slug is deposited it will be held by the magnets; but when a coin of the proper denomination falls onto the guide-plate it will pass freely to passage-way 25 and be directed to and held by the coin-holder of the ejector. The plate 35 is located in such relation to the inner end of the coin-inlet that when a coin, disk, washer, or slug reaches said plate its momentum is arrested. It must then drop over the plate and acquire a new momentum for its further progress. It is

with relation to the starting of this new movement that pins 38^a are located so that they will be engaged by the washer when its movement is such that it cannot pass by the pins. When the plate is lowered, upon the inward movement of the handle-rod a paper disk or metal washer will instantly fall therefrom, while an iron slug, arrested by the magnets, will be knocked off by the arms 43 of casting 9 entering the openings 42 on either side of the exposed end of the magnet.

45 designates one of a series of levers, each being hung at 46 to the under side of the coin-receiving bed 3 in line with one of the coin-inlets. From each lever projects a pin 47, which is normally held retracted from the line of passage of the coin by the weight of the arm 48 of the lever. As the last article of merchandise is ejected from its compartment a weight 49 within the latter, having a lug 50, engages arm 48 of lever 45 and causes the pin of the latter to project into the line of passage of the coin, thereby preventing the insertion of a coin after the supply of a compartment is exhausted.

The advantages of my invention are apparent to those skilled in the art. The ejector has a swinging or rocking movement beneath the bed of the merchandise-holder. This I have found to be most desirable, and the form of construction is simple and inexpensive and the ejector is accurate in operation, depending only upon the presence of a coin in any one or more of the holders to insure the discharge of one or more packages. It will also be observed that at each operation any fraudulent device will be removed out of the way and that the coins will be deposited in the cash-box before the ejector returns to its normal position and that otherwise such return is not possible. It will also be seen that the parts are exceedingly simple in construction and operation and that coins cannot be deposited in the inlet of any compartment the supply of which is exhausted. It is obvious that although I have shown a plurality of merchandise-holding compartments the described mechanism is applicable to a machine having but a single compartment and a single ejector.

I claim as my invention—

1. In a vending-machine, the combination with a support for the merchandise and an outlet-chute, of a swinging ejector capable of being moved transversely of said support and having a holder for a coin which latter is designed to engage the lowermost article of merchandise, and means for removing the coin from its holder as the article passes into the chute, as set forth.

2. The combination with the support having an opening in the bottom, and an outlet-chute, of a swinging ejector movable beneath said support having a coin-holder, a coin therein being designed to travel through said opening, and a projection with which the coin is designed to engage as the merchan-

dise passes into the chute, substantially as set forth.

3. The combination with the support having a plurality of merchandise-compartments open at their lower ends, and an outlet-chute, of a swinging ejector, applicable to all of said compartments, having a corresponding number of coin-holders in line with the lower ends of said compartments, and means for releasing the coins from their holders as the merchandise is discharged into the chute, as set forth.

4. The combination with the support having a plurality of merchandise-compartments open at their lower ends, and an outlet-chute, of an ejector capable of swinging beneath said support, a spring holding said ejector in its normal position, a series of coin-holders carried by said ejector in line with the lower ends of said compartments, and wedge-like fingers with which coins in said holders are designed to engage as an article previously engaged by the coin is deposited in the chute, substantially as set forth.

5. The combination with the casting having openings therein, a series of compartments above said openings, and a discharge-chute, of an ejector comprising two pivotally-hung arms, a cross-bar connecting said arms, a series of coin-holders carried by said bar in line with said openings, a single handle-rod extended from the bar, and a spring holding the ejector in its normal position, substantially as set forth.

6. The combination with the inclosing casing, having coin-inlets and passage-ways leading therefrom, of the support having openings therein, a series of compartments above said openings, guideways in the forward portion of said support in line with said passage-ways, a swinging ejector having a series of coin-holders in line with said openings and normally beneath said guideways, means for releasing the coins from the holders at the rear end of said support, and a single handle-rod projecting from the ejector, substantially as set forth.

7. In a vending-machine having a coin-inlet, an inclined guide set at an angle to said coin-inlet so as to arrest the momentum of a coin or fraudulent device falling thereon and over which the coins travel, a pin projecting upwardly from said guide in proximity to the inner end of said coin-inlet, and means for tilting the guide at each operation, substantially as set forth.

8. In a vending-machine having a coin-inlet, an inclined table pivoted at one side and over which the coins travel, a magnet in said guide for arresting spurious metallic devices,

movable means for holding said table in its normal position and allowing the same to tilt downward at one side, and means for positively engaging and releasing such devices at each operation, substantially as set forth.

9. In a vending-machine having a coin-inlet, an inclined table pivoted at one side and over which the coins travel, set at an angle to said coin-inlet so as to arrest the momentum of a coin or fraudulent device falling thereon, a pin projecting from said table in proximity to the inner end of said coin-inlet, and means for allowing said table to tilt downward at its free side at each operation, substantially as set forth.

10. In a vending-machine having a coin-inlet, an inclined pivoted table over which the coins travel, having an opening therein, a magnet fitted in a portion of said opening, stationary arms in line with said opening, and means for tilting the table, substantially as set forth.

11. In a vending-machine having a coin-inlet, an inclined pivoted table over which the coins travel having a cam-like flange, means on said table for arresting fraudulent devices, and means for positively engaging and removing said devices at each operation, in combination with a support for merchandise, an ejector, an arm carried by the latter designed to engage said flange, and a spring secured to said ejector for retaining the parts in their normal position, substantially as set forth.

12. In a vending-machine having a coin-inlet, an inclined pivoted table over which the coins travel having a cam-like flange, and formed with an opening, and a magnet in a portion of such opening, in combination with a support for merchandise having arms in line with said opening at the sides of the magnet, an ejector, an arm carried by the latter designed to engage said flange, and a spring secured to the ejector, substantially as set forth.

13. The combination with the inclosing casing having a cross-bar above its bottom, the support for the merchandise, and an ejector, of a cash-box beneath the latter pivoted at one end and having outwardly-extended spring-arms, and pins with which said arms engage, the said box being open at its front and having its bottom designed to engage said cross-bar, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MAURICE HOFHEIMER.

Witnesses:

SOLOMON EARNEST,
BENJAMIN SCHWARTZ.