No. 741,939. PATENTED OCT. 20, 1903.

J. M. SHELTON.

VENDING CABINET.

APPLICATION FILED AUG. 18, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

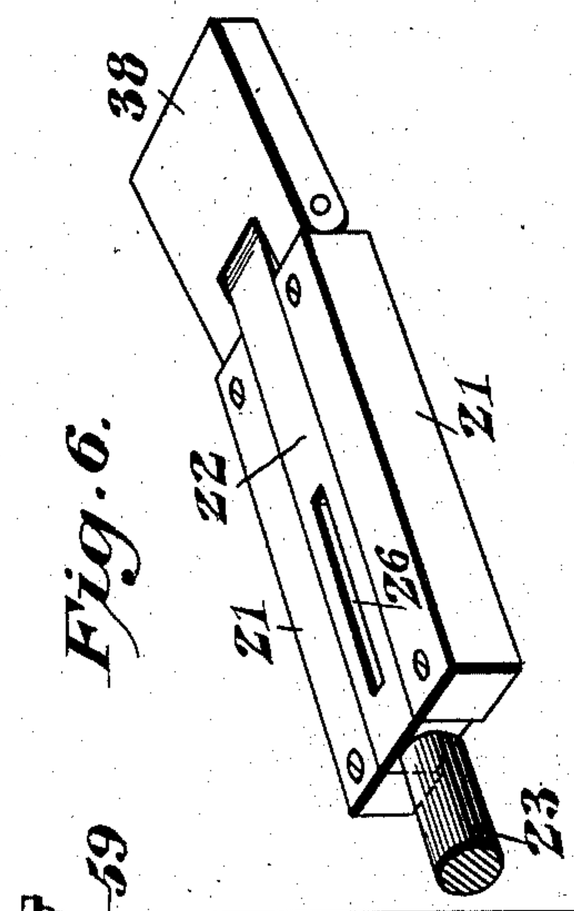

Fig. 6.

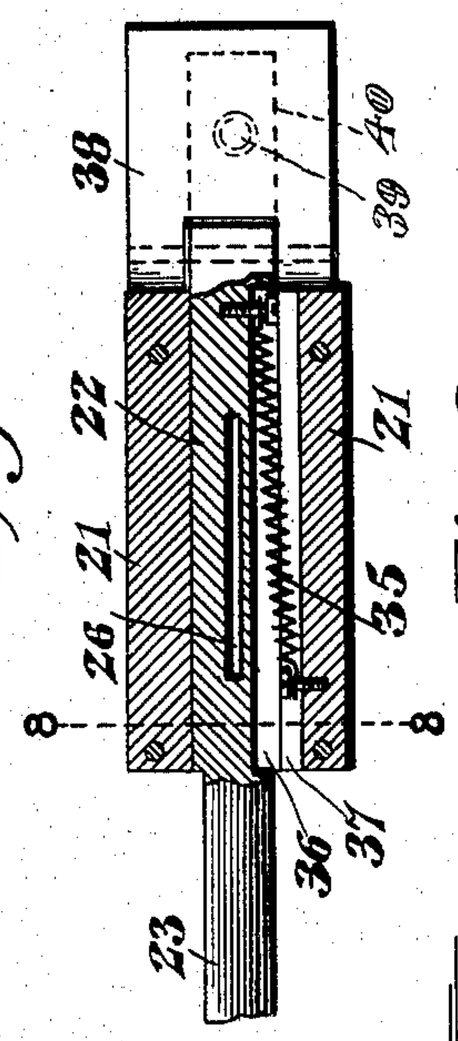

Fig. 7.

Fig. 8.

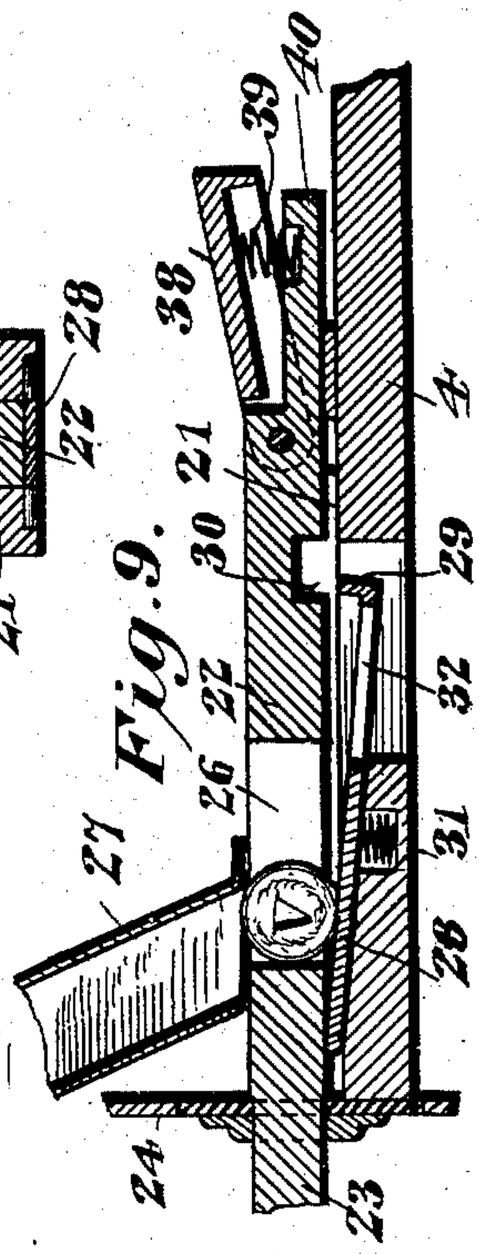

Fig. 9.

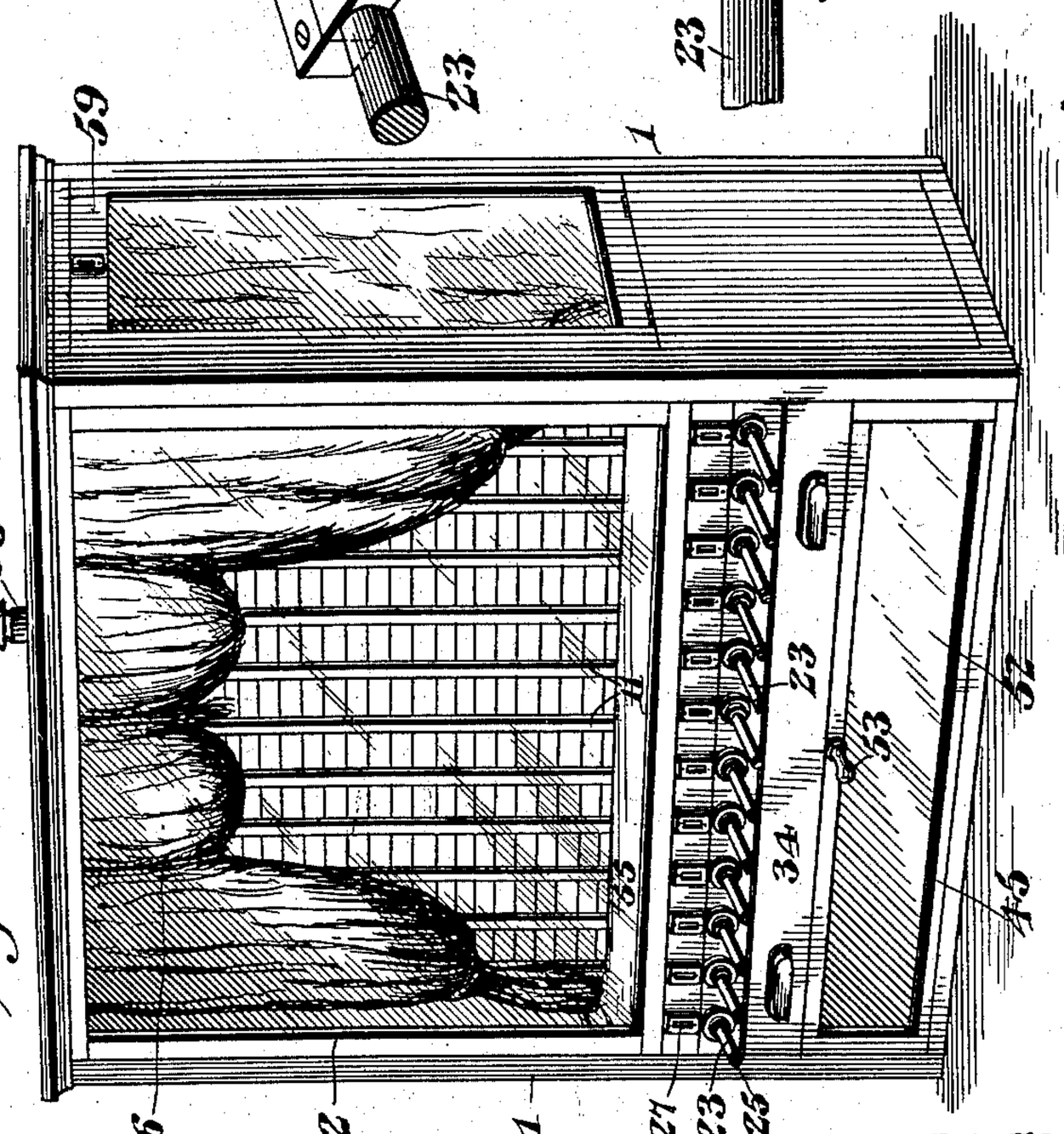

Fig. 1.

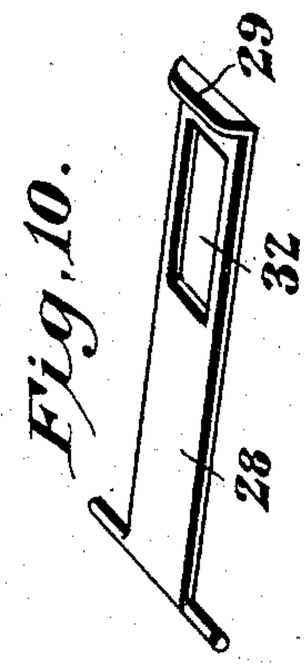

Fig. 10.

John M. Shelton, Inventor

By E. G. Siggers

Attorney

Witnesses
Jas. E. McCathran
Louis D. Julihn

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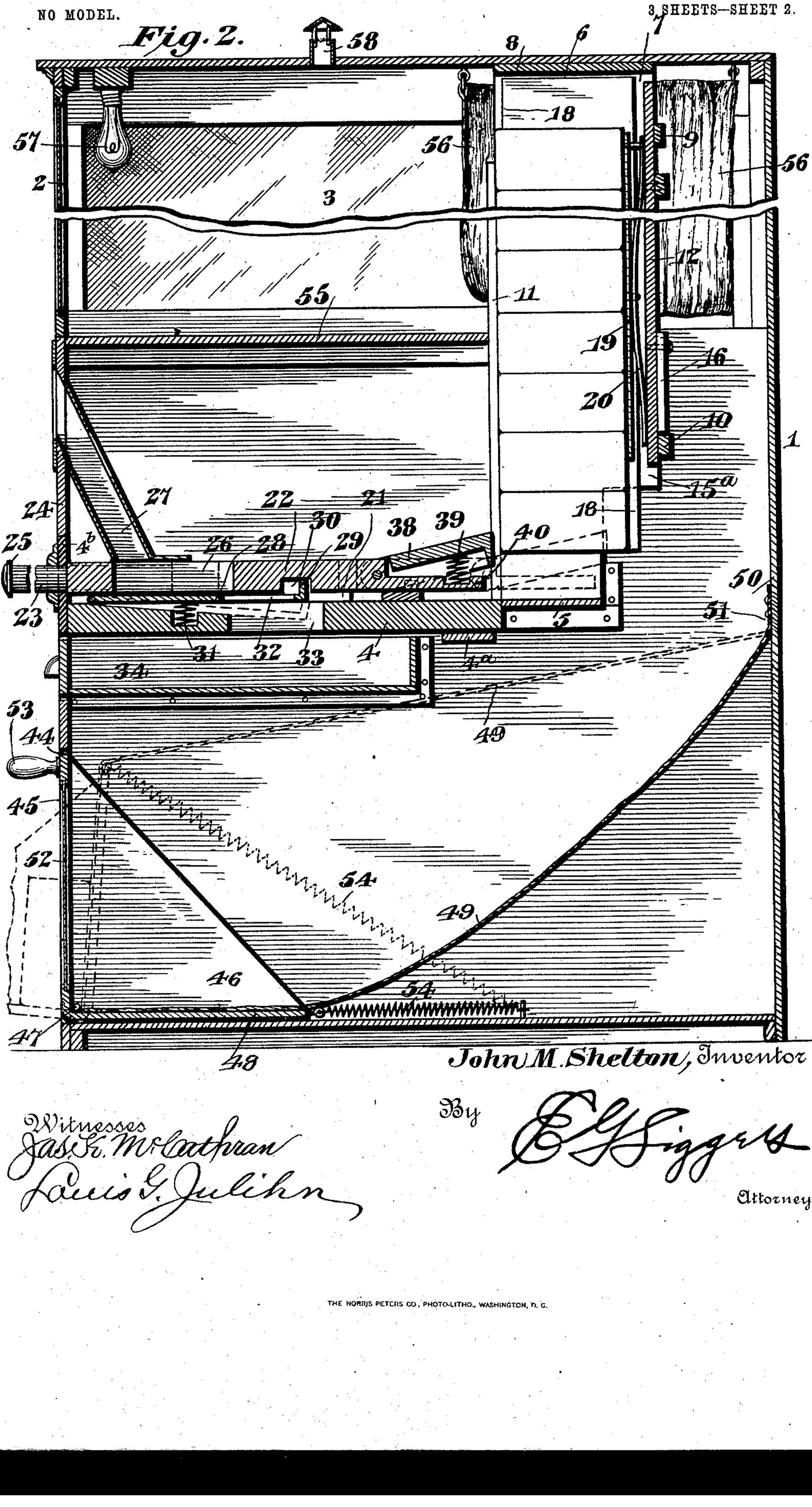
NO MODEL. 3 SHEETS—SHEET 2.

Fig. 2.



John M. Shelton, Inventor

Witnesses
Jas. K. McCathran
Louis G. Julihn

By E. G. Siggers
Attorney

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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 3.

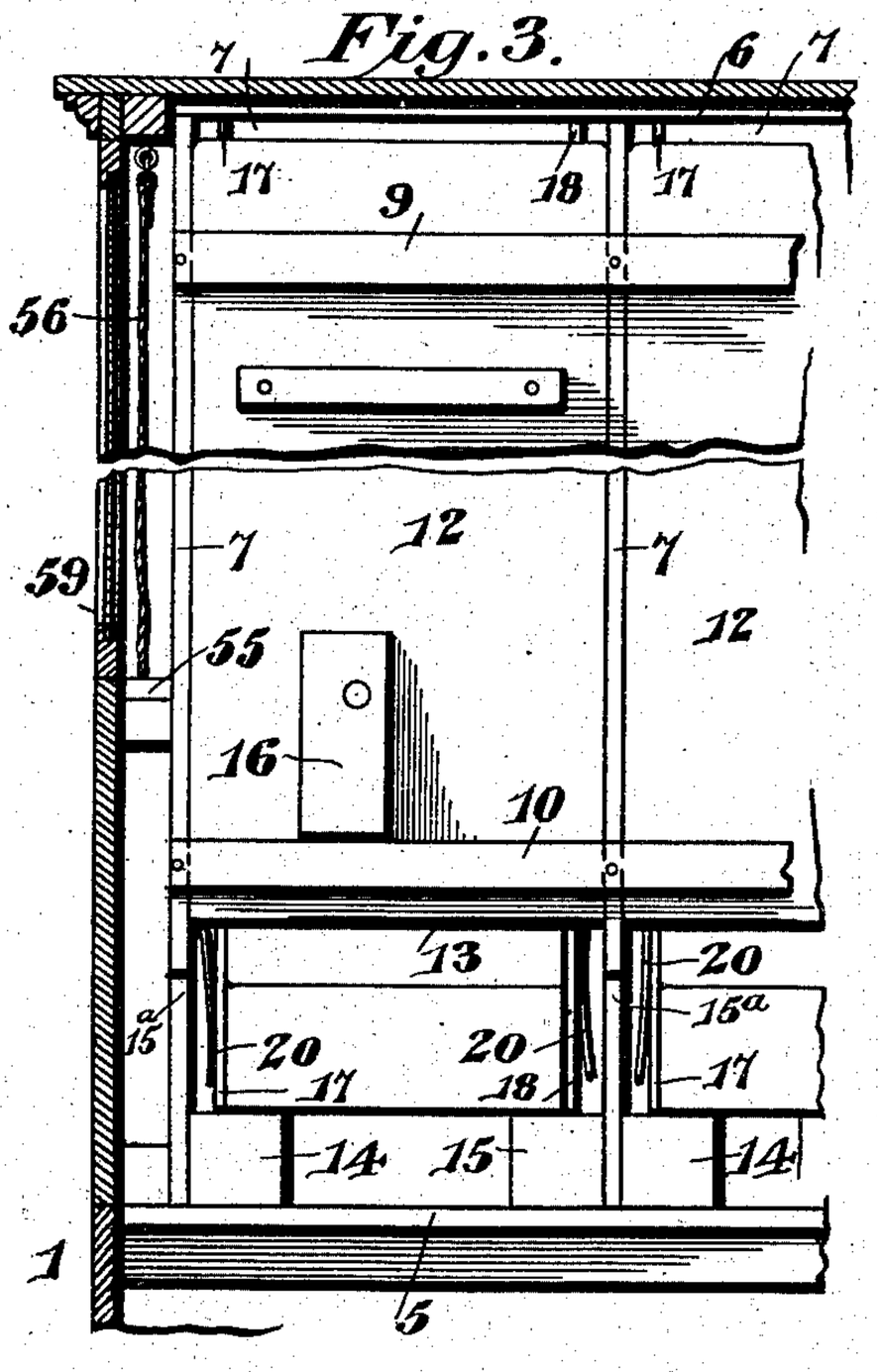


Fig. 4.

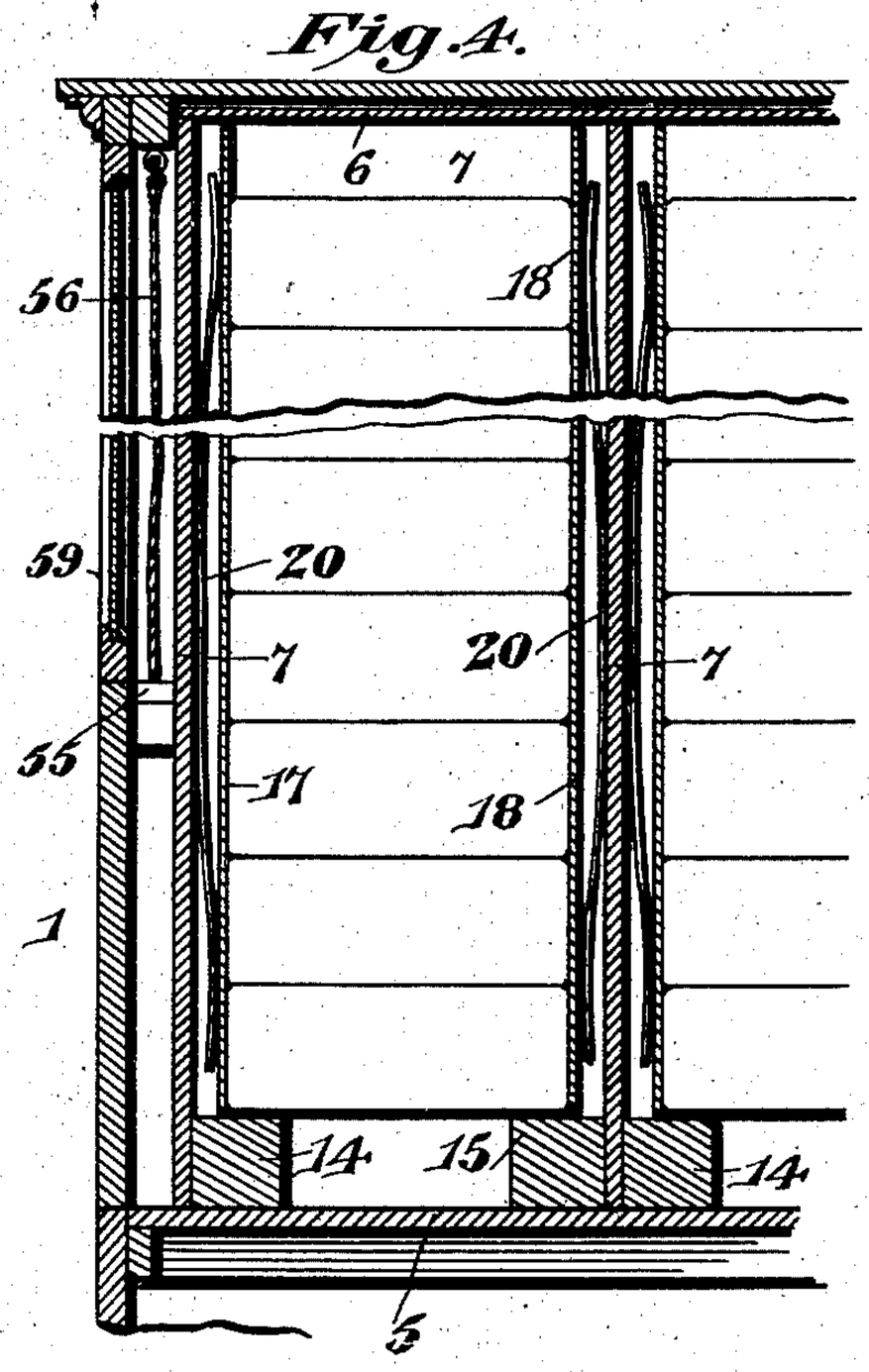


Fig. 5.

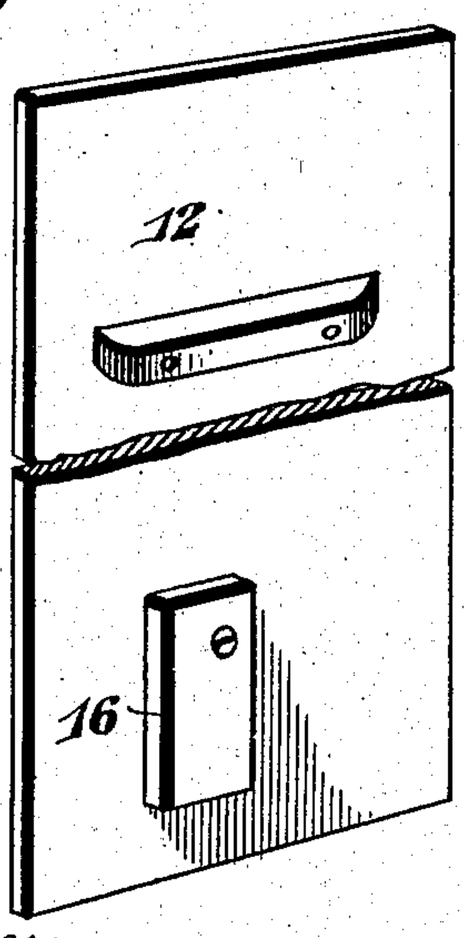
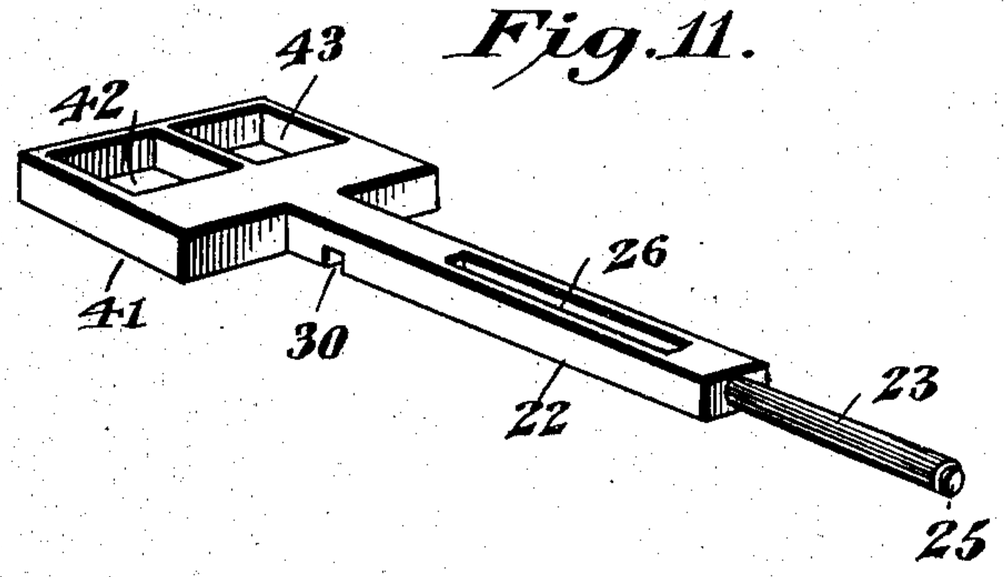


Fig. 11.



Witnesses
Jas. E. McCathran
Louis G. Julihn

John M. Shelton, Inventor

By E. G. Siggers

Attorney

No. 741,939. Patented October 20, 1903.

UNITED STATES PATENT OFFICE.

JOHN MARSHAL SHELTON, OF ARDMORE, INDIAN TERRITORY.

VENDING-CABINET.

SPECIFICATION forming part of Letters Patent No. 741,939, dated October 20, 1903.

Application filed August 18, 1902. Serial No. 120,100. (No model.)

To all whom it may concern:

Be it known that I, JOHN MARSHAL SHELTON, a citizen of the United States, residing at Ardmore, in the Chickasaw Nation, Indian Territory, have invented a new and useful Vending-Cabinet, of which the following is a specification.

This invention relates to a novel vending-cabinet, and has for its object to produce an ornamental and highly-attractive cabinet arranged for the display of merchandise and equipped with magazines containing small merchantable packages or articles arranged to be delivered automatically to the vendee upon the deposit of a coin and the actuation of a key by him.

A subordinate object is to so construct and arrange the various parts of the vending apparatus proper that the latter may be employed in connection with a show-window utilized to form the cabinet.

Another object of the invention is to insure the easy and accurate operation of the ejectors by preventing the weight of the packages in the magazines from being imposed thereon and to provide for the adjustment of the back wall of each magazine to regulate the size of the discharge-opening in accordance with the dimensions of the packages or articles to be vended.

Still another object is to equip the cabinet with a delivery-till having connection with a flexible chute and so arranged that the opening of the till will effect the delivery of a package to the vendee and will at the same time guard the opening.

Still other objects of the invention and novel features of construction will appear as the description of the illustrated embodiment of the invention progresses.

In the accompanying drawings, Figure 1 is a perspective view of my vending-cabinet. Fig. 2 is a sectional elevation of the same, certain positions of the parts being shown in dotted lines. Fig. 3 is a sectional view of a portion of the cabinet, showing a magazine in elevation. Fig. 4 is a similar view showing the magazine in section. Fig. 5 is a detail perspective view of the sliding back wall of one of the magazines. Fig. 6 is a similar view of one of the plungers with its associated guides. Fig. 7 is a detail sectional view of the subject-matter of Fig. 6. Fig. 8 is a transverse section on the line 8 8 of Fig. 7. Fig. 9 is a sectional view through the keyboard, one of the plungers, and the detent, the latter being shown depressed by a coin to release the plunger. Fig. 10 is a detail view of the detent, and Fig. 11 is a detail perspective view showing a double ejector for ejecting simultaneously a pair of oranges, apples, or other articles from certain magazines.

Like numerals of reference are employed to designate corresponding parts throughout the several views.

The cabinet or casing (indicated generally by the numeral 1) may be of any desired size and shape, but is preferably constructed substantially as shown in Fig. 1, with glass panels 2 and 3 in its side and end walls. Extending into the cabinet from the front thereof is a horizontal keyboard 4, arranged to be slid into and out of place when access to any of the parts carried thereby is desired—as, for instance, for purposes of repair. When in place, the inner end of the keyboard is supported by a slat 4^a, extending between the side walls of the casing, and a face-plate 4^b, secured to its front end, closes the opening in the front of the casing and serves as a guide for the keys mounted on the board. In practice the keyboard is locked in the casing by an appropriate locking device. (Not illustrated.) Behind this keyboard is arranged a magazine-support 5, having its opposite ends secured to the side walls of the cabinet in any approved manner and supporting a series of vertical magazines 6, each designed to contain a number of small packages or articles to be vended. These magazines are defined between a series of vertical partitions 7, connected by a top wall 8 and by a pair of horizontal bars 9 and 10, disposed behind the magazines and connected to the rear edge of each of the partitions, as best shown in Fig. 3. The fronts of the several magazines are open to permit their contents to be seen from the front of the cabinet; but the packages are retained by facing-strips 11, one of which is fastened to the front edge of each partition and extends in opposite directions therefrom to engage the adjacent edges of the packages. Each magazine is equipped with a sliding back wall 12,

the lower edge 13 of which is designed to be elevated a sufficient distance to permit the lowermost package resting upon the supporting-blocks 14 and 15 to be discharged from the magazine. The lower edge of the back wall 12 therefore defines the top edge of what may be termed a "discharge-opening" 15ª, through which the articles or packages are expelled one at a time in a manner to be hereinafter described.

As the cabinet is intended to be employed for the vending of a large variety of articles of various sizes, it is necessary to adjust the back wall of each magazine in order to regulate the size of the discharge-opening. I therefore provide each back wall 12 with an adjusting device, which in the present embodiment of the invention is in the form of a pivoted cam or turn-button 16, of polygonal form, the various faces of which are located at different distances from its axis and are designed to rest upon the bar 10. As the back wall of each magazine depends upon the adjusting cam or button for its support, it is obvious that by the rotation of said cam the adjustment of the back wall of said magazine may be effected to increase or diminish the size of the discharge-opening at the bottom of the magazine. It is also desirable to adjust the internal dimensions of the magazines to correspond with packages of different sizes, and for this reason they are each provided with yielding side plates 17 and 18 and a similar back plate 19, (see Figs. 2 and 4,) urged inwardly from the side and back walls of the magazine by bowed springs 20, as shown.

We have now seen that the cabinet is provided with a series of vertical magazines located in rear of the keyboard and each having a pair of separated supporting-blocks at its bottom to support the lowermost package of a series of packages in position to be discharged rearwardly through a discharge-opening at the bottom of the back wall of the magazine.

To effect the discharge of the packages from the magazines, the cabinet is equipped with a series of key-operated coin-controlled ejecting devices. Upon the keyboard 4 are formed or fixed a series of paired guides 21, designed to guide a series of plungers 22, each arranged in front of one of the magazines and provided with a terminal operating-key 23, extending through the front wall 24 of the cabinet and provided with a knob 25, of hard rubber or the like. Each plunger 22 is formed with a coin-slot 26, above which is disposed the lower end of a race 27, opening through the front of the cabinet to receive a coin deposited by the vendee. Each plunger is normally held against movement by a detent 28, hinged at its front end to the keyboard or to the guides thereof and having at its free end a beak 29, engaging a notch 30 in the under side of the plunger. The detents are held up in their engaging positions by springs 31 and are designed to be depressed to their releasing positions by the deposit of a coin in the adjacent coin-race. (See Fig. 9.) When a coin is deposited in one of the chutes or races 27, it gravitates to the slot 26 in the subjacent plunger, but projects slightly above the latter. If now the plunger is moved inward, the coin will be forced under the back wall of the chute and will depress the detent to release the plunger, the notch 30 being of sufficient size to permit such slight movement of said plunger as is necessary to effect its complete release in the manner stated. The coin is not immediately released from this position, but is supported by the detent until the plunger has been moved a sufficient distance to prevent the possibility of the premature reëngagement thereof by the detent. This is insured by providing each detent with a slot 32, which is normally substantially covered by the plunger and is not uncovered until said plunger has been moved back a considerable distance. When, however, the plunger has been moved inward to eject a package, the coin drops through the slot 32 in the detent and through a registering slot 33 in the keyboard 4 and is thus deposited in a money-drawer 34, supported in suitable guides immediately below the keyboard. Upon the release of the coin the detent is urged upwardly by its spring 31 for the purpose of engaging and holding the plunger when the latter is returned to its normal position. The retraction of the plungers is effected by retracting-springs 35, preferably of spiral form. Each retracting-spring is secured at its opposite ends to a plunger and to one of the guides therefor, the plunger and guide being preferably formed with correlatively longitudinal grooves 36 and 37, (see Fig. 7,) which define a protecting-housing for the spring.

Most of the plungers are provided at their rear ends with hinged ejectors 38, (see Figs. 2, 6, and 9,) normally retained in an elevated position by springs 39, interposed between the reduced rear end 40 of a plunger and the superposed ejector. Each hinged ejector normally extends to a plane somewhat above that of the plunger and is designed to contact with the lowermost package of the magazine and to eject the latter through the discharge-opening 15ª when the plunger is reciprocated by the vendee through the medium of one of the keys 23. When a package is ejected, the remaining packages drop down in an obvious manner, striking the ejector and depressing it against the resistance of its spring. As the weight of the column of packages is sustained by the supporting-blocks 14 and 15 and not by the plunger, the latter will be readily retracted by its spring as soon as the vendee releases the key. This form of ejector, however, is not common to all of the plungers, as certain of the magazines are designed to contain articles, two or more of which are intended to be delivered

in return for a single coin. Apples or other small fruit would perhaps be sold in this way, and the plungers opposite such magazines are therefore provided with ejectors 41, having the form of plural receptacles, as shown in Fig. 11. In this figure the ejector 41 has two receptacles 42 and 43, into which two articles—as, for instance, two apples—are dropped from a magazine and ejected upon the operation of the key by the vendee. If the simultaneous delivery of a still larger number of articles is desired, the ejector 41 is formed with a larger number of receptacles or receiving-spaces.

We have now completed the description of the magazines and of the coin-controlled mechanism for ejecting the contents thereof, and it remains to be seen in what manner the vended articles are transferred to a point accessible to the vendee. At the bottom of the front wall 24 is formed an opening 44, normally closed by the front wall 45 of a triangular receptacle constituting a till 46, pivoted, as indicated at 47, so as to tilt from an axis located at the juncture of its front and back walls. Attached to the rear wall 48 of the till 46 is one end of a flexible chute 49, extending upwardly and rearwardly and attached at its opposite end to the rear wall 50 of the casing in a plane slightly above that of the keyboard, as indicated at 51. When a package or other article is ejected rearwardly from a magazine, it drops upon the chute 49 and gravitates to the till 46, the front wall 45 of the latter being provided with a glass panel 52, through which the vendee may observe the delivery of the article to the till. Grasping the knob 53 of the till, the vendee tilts the latter forward, as shown in dotted lines in Fig. 2, against the resistance of a spring 54, preferably of spiral form and secured at its opposite ends to the wall 48 and to a fixed part of the cabinet. The forward tilting of the till is limited by the flexible chute 49, and as the latter is drawn to a taut position it forms a straight inclined plane, which insures the downward gravitation of an article to the till if perchance the sagging of the chute in its normal position has prevented the complete delivery of the article. It should also be noted that when the till has been swung out sufficiently to permit access to its interior the rear wall 48 will have been swung up sufficiently to constitute a guard for the opening 44 in the front of the casing.

In a plane above the coin-chutes 27 the cabinet is provided with a display-shelf 55, extending from the front of the casing to the magazines. (See Fig. 2.) This shelf is designed for the display of merchandise of the same character as that contained in the magazines. For instance, if the packages in the magazines contain candy or fruit small ornamental dishes will be placed upon the shelf 55 in front of the magazines and filled with a tempting display.

The ornamental appearance of the cabinet is enhanced by the provision of ornamental draperies 56, arranged opposite the glass panels 2 and 3 in the upper portion of the cabinet. If desired, the display-compartment above the display-shelf 55 may be lighted by an incandescent or other lamp 57, adjacent to which is located a ventilator 58, designed to permit a circulation of fresh air through the display-compartment.

To facilitate the filling of the magazines without removing them from the casing, the latter is provided at its opposite sides with doors 59, which may be opened to permit the proprietor of the machine to reload the magazines by slipping the packages or articles into the upper ends thereof from the front, the facing-strips 11 terminating a sufficient distance from the top wall 8 to facilitate this operation.

Briefly, the operation of the device is as follows: The vendee, selecting the proper magazine by the aid of the display in front thereof, deposits a coin in the appropriate coin-slot at the front of the cabinet and grasps the key disposed immediately below the same. The coin, descending through the chute 27, drops upon the detent 28, and by pressing upon a key 23 the vendee forces the plunger back to cause the coin to depress the detent and to cause the ejector located at the rear end of said plunger to discharge one of the packages in the magazine, the coin dropping through the slots in the detent and keyboard and into the money-drawer. The package gravitates down the flexible chute 49 and into the till, its arrival being observed by the vendee. The key is now released and is returned to its normal position by the retracting-spring 35, the detent being urged by the spring 31 into engagement with the plunger to lock the latter securely until another coin has been deposited. The vendee now opens the till and removes the package in an obvious manner.

I have shown and described the vending mechanism in connection with a special form of inclosing cabinet. It is contemplated, however, to utilize a show-window as an inclosure for the mechanism, and the arrangement of the parts has been especially designed to adapt them for such use. In effecting the reorganization to carry out this idea the magazines would be placed in the window, an opening would be provided in the framing at the bottom of the window for the keyboard, the plungers, and the money-drawer, and another opening for the till. Other slight alterations would be made to accommodate the coin-chutes and permit the support of the rear end of the flexible chute 49.

It is thought that from the foregoing the construction and operation of my novel vending-cabinet will be clearly apparent; but while the illustrated embodiment of the invention is believed at this time to be preferable I wish to be distinctly understood as re-

serving to myself the right to effect such changes, modifications, and variations of the illustrated structure as may fall properly within the scope of the protection prayed.

What I claim is—

1. In a vending-machine, the combination with a magazine, and a key-operated ejector, of a till, and a flexible chute connected to the till and arranged to convey thereto an article ejected from the magazine.

2. In a vending-machine, the combination with a casing, and a magazine therein, of an ejector arranged to eject an article from the magazine, an operating-key for said ejector, extending through the front of the casing, a movable till located in the front of the casing below the key, and a flexible chute secured at one end to the till and secured at its opposite end to a fixed part of the casing, said chute being arranged to convey an article from the magazine to the till.

3. In a vending-machine, the combination with a casing having an opening in its front wall, of a magazine within the casing, an ejecting device having a key extended through the front wall of the casing, a pivoted till of triangular form having one wall normally closing the opening in the casing, and a flexible chute connected to the other wall of the till and extended back to receive an article ejected from the magazine.

4. In a vending-machine, the combination with a casing having an opening in its front wall, of a pivoted triangular till the front wall of which normally closes the opening in the casing, a flexible chute connected to the rear wall of the till and secured at its opposite end to a fixed part of the casing, whereby said chute constitutes means for limiting the movement of the till in one direction, a retracting-spring for returning the till to its normal position, a magazine, and an ejecting device disposed to eject an article from the magazine, from whence said article is conveyed to the till by the flexible chute.

5. In a vending-machine, the combination with a casing, of a series of magazines therein, a horizontal keyboard extending in front of the magazines, a series of key-operated ejectors mounted on the keyboard and arranged to eject articles one at a time from the magazines, a till located at the front of the casing below the keyboard, and a flexible chute secured at one end to the till and extended upwardly and rearwardly to receive the articles ejected from the magazines.

6. In a vending-machine, the combination with a casing, of a series of vertically-disposed magazines therein, a horizontal keyboard removable through the front wall of the casing, a series of plungers mounted on the keyboard and removable from the casing therewith, keys extending beyond the front of the casing from the plungers, and ejectors located at the rear ends of the plungers to eject articles or packages from the magazines.

7. In a vending-machine, the combination with a casing having an opening in its front wall, of a series of vertically-disposed magazines in the casing, a horizontal keyboard mounted to slide in and out of the casing through the opening in the front wall thereof, a series of plungers mounted on the keyboard and removable from the casing therewith, keys extending beyond the front of the casing from the plungers, and ejectors located at the rear ends of the plungers to eject the articles or packages from the magazines.

8. In a vending-machine, the combination with a magazine, of supports for elevating the lowermost package therein above the bottom of the magazine, a plunger operating in a plane below the package, an ejector hinged at its rear end to the plunger and depressible to present the upper surface flush with the upper surface of the plunger to facilitate the retraction of the parts, and a spring interposed between the plunger and the under side of the ejector to elevate the latter into an engaging position with a package after the plunger has been completely retracted.

9. In a vending-machine, the combination with a magazine, of a keyboard, guides mounted on the keyboard, a plunger movable between the guides, the contacting faces of the plunger and a guide being formed with coincident grooves defining a spring-housing, and a plunger-retracting spring located within the housing thus formed and secured at its opposite ends to the plunger and guide, respectively.

10. In a vending-machine, the combination with a casing having an opening in its front wall, of a pivoted till the front wall of which normally closes the opening in the casing, a flexible chute connected to the rear wall of the till and secured at its opposite end to a fixed part of the casing, whereby said chute constitutes means for limiting the movement of the till in one direction, means for returning the till to its normal position, a magazine, and an ejecting device disposed to eject an article from the magazine, from whence said article is conveyed to the till by the flexible chute.

11. In a vending-machine, the combination with a casing having an opening in its front wall, of a magazine within the casing, an ejecting device, a pivoted till having one wall normally closing the opening in the casing, and a chute connected to the other wall of the till and extended back to receive an article ejected from the magazine.

12. In a vending-machine, the combination with a magazine, of a vertically-movable back wall therefor, a cam mounted on said back wall, a fixed support upon which the cam rests to position the wall, and means for ejecting packages or articles from the magazine.

13. In a vending-machine, the combination with a series of magazines, of a fixed bar extending horizontally in rear thereof, vertically-movable back walls for the magazines, and rotary members of polygonal form mount-

ed on the back walls and arranged to rest upon the bar.

14. In a vending-cabinet, the combination with a casing having glass panels in its upper portion, of a series of magazines spaced from the rear wall of the casing, a display-shelf extending from the magazines to the front wall of the casing and defining a display-compartment in the upper front portion of the casing, a keyboard located below the display-shelf, a series of plungers mounted on the keyboard in advance of the magazines, keys extending beyond the front of the casing from said plungers, a till located at the front of the casing below the keyboard, and a chute extending upwardly and rearwardly from the till to receive the articles ejected from the magazines.

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

JOHN MARSHAL SHELTON.

Witnesses:

JOHN N. MORGAN,

B. A. YOUNG.