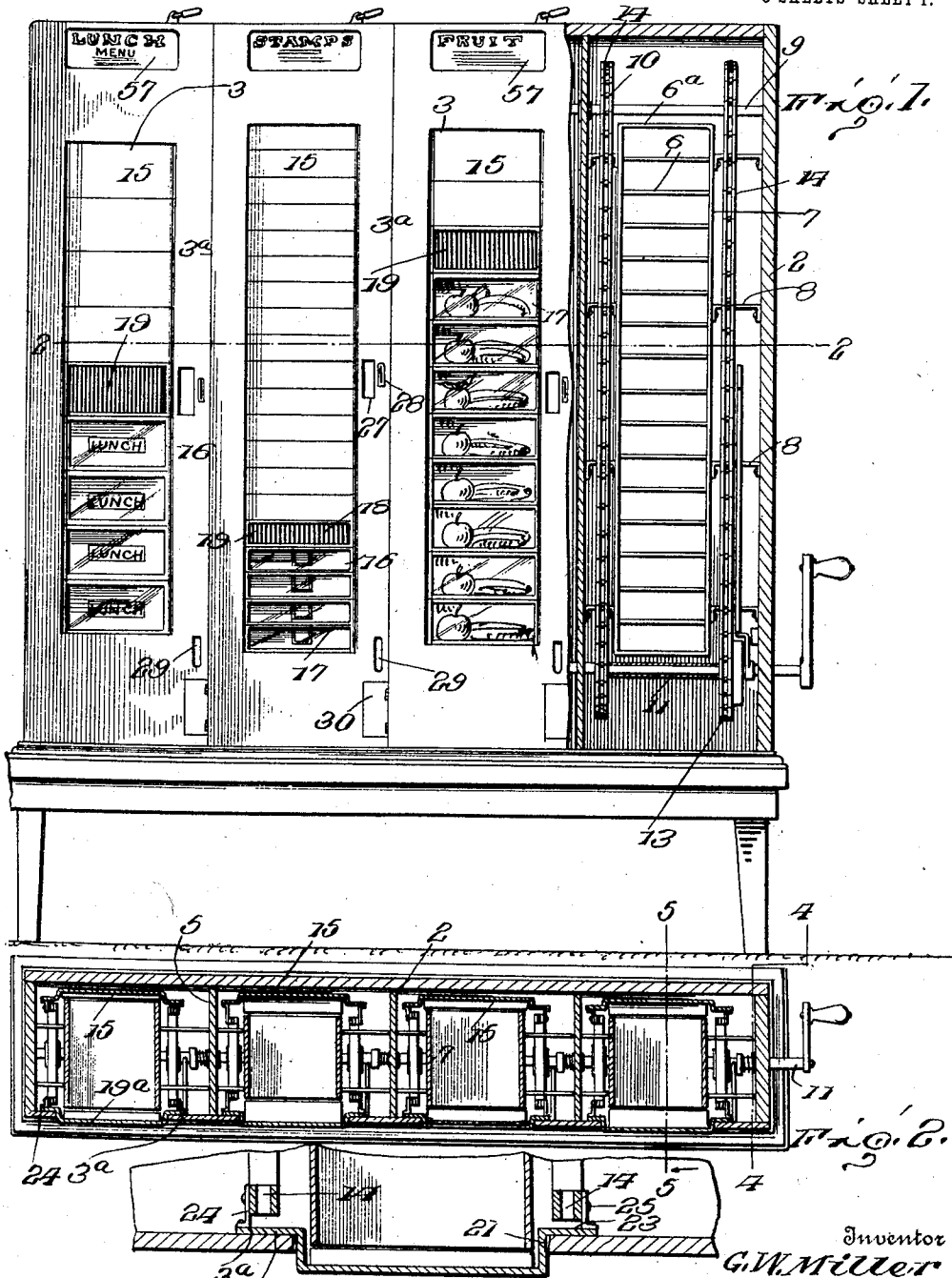


G. W. MILLER.
 MULTIPLE VENDING MACHINE.
 APPLICATION FILED FEB. 29, 1912.

1,050,675.

Patented Jan. 14, 1913.

3 SHEETS-SHEET 1.



Witnesses
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3 SHEETS-SHEET 2.

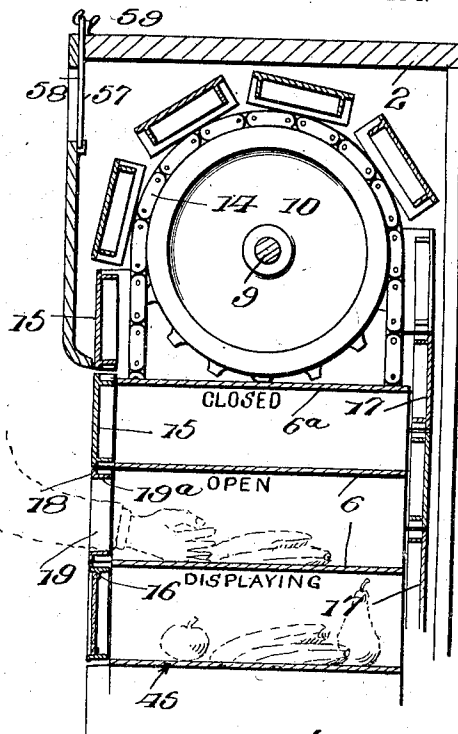
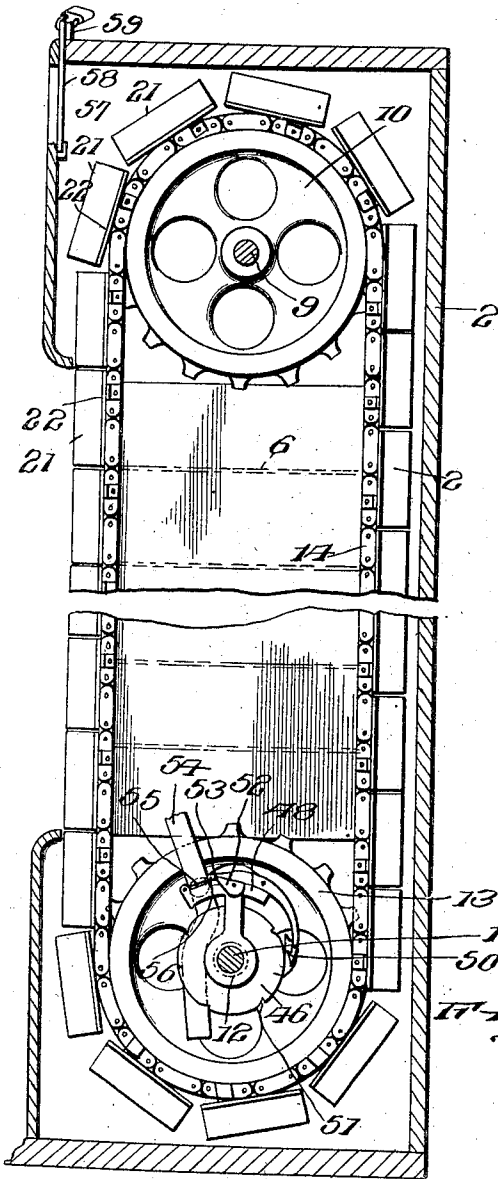


FIG. 3.

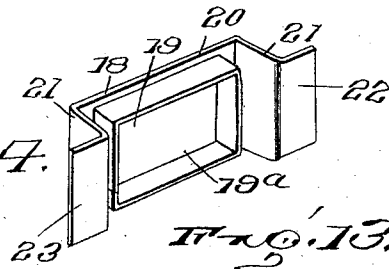


FIG. 4.

FIG. 13.

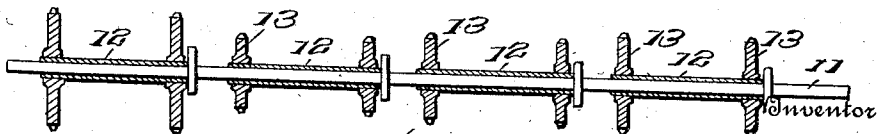


FIG. 12.

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334

Hammer

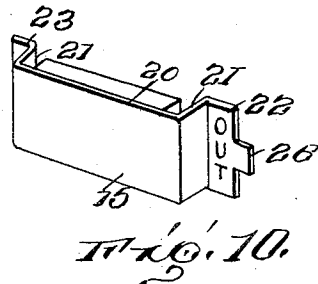
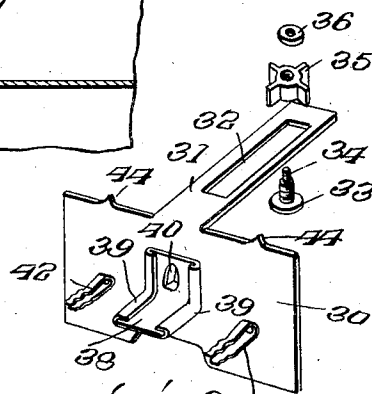
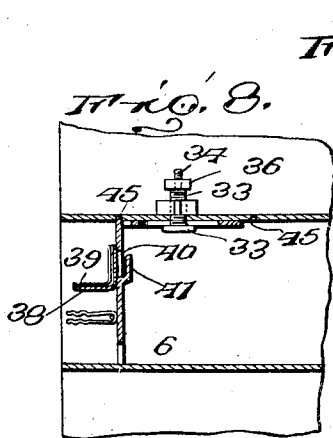
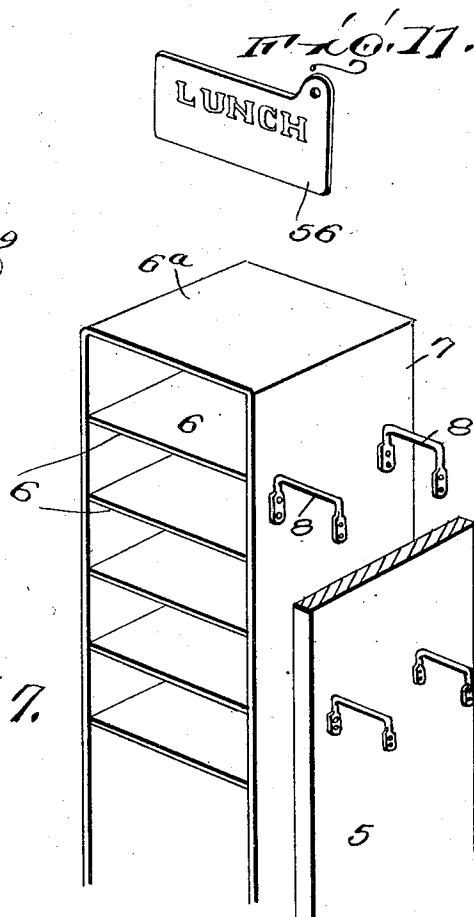
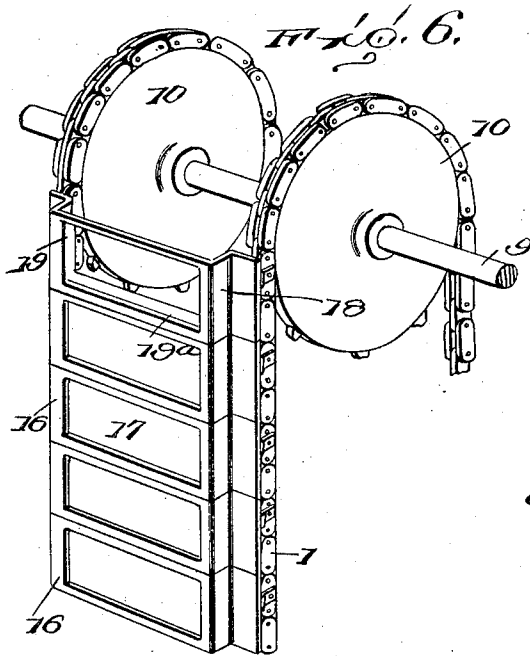
Attorneys.

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3 SHEETS—SHEET 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. MILLER, OF LOS ANGELES, CALIFORNIA.

MULTIPLE-VENDING MACHINE.

1,050,675.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed February 29, 1912. Serial No. 680,635.

To all whom it may concern:

Be it known that I, GEORGE W. MILLER, citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Multiple-Vending Machines, of which the following is a specification.

My invention relates to vending machines, and particularly to vending machines adapted to be actuated upon the insertion of a coin.

The object of my present invention is to provide a vending machine in which a plurality of different articles may be vended from different compartments, and wherein the articles to be vended are retained in a stationary position at all times, thus permitting the machine to be used for vending delicate articles such as food stuffs, liquids, etc., which would be damaged by being constantly shifted and by being discharged from the machine in the usual manner.

Another object of my invention is to provide a vending machine having a compartment or compartments provided with stationary article holding shelves, and to provide in connection therewith a series of linked screening members movable in a path in front of said shelves, certain of said screening members being provided with glass panes whereby the articles to be vended and resting upon the shelves may be seen, certain of the screening members being opaque so as to conceal the shelves behind them, thus indicating that the articles have been sold from those shelves and the shelves are empty, and one of the screening members forming a gate and being provided with a delivery opening movable into positions opposite successive shelves, whereby to permit articles to be removed from the shelf opposite to which the gate is disposed at any particular time.

A further object is to provide in connection with the screening members above referred to, means whereby when the articles have been sold from all of the shelves and the entire compartment is empty, a notice may be presented showing that all articles have been disposed of, and whereby the insertion of an actuating coin may be prevented.

Another object of my invention is to provide in connection with the fixed shelves

above referred to, slidable supporting members capable of being attached to said shelves and forming a false back to the same, these slidable members being provided, each with means for supporting articles to be sold, the slidable members being so arranged that by moving them outward or inward, the depth of the shelf may be regulated.

Another object is to provide in connection with the slidable members above described, means attached thereto for supporting various small articles in position to be readily withdrawn through the gate opening previously referred to.

Another object is to improve the general construction of vending machines of this character and so form them that the several compartments in which the several varieties of articles being vended are contained may be entirely separated from each other so that one article can not be contaminated by another article contained in the same machine.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings wherein:

Figure 1 is a front elevation of a vending machine of the character above described, the compartment at the right hand end of the machine being in section to show the vending mechanism. Fig. 2 is a transverse section on the line 2—2 of Fig. 1. Fig. 3 is an enlarged fragmentary horizontal section of the forward end of one compartment, the sprocket chains disposed on each side thereof, and one of the screening sections. Fig. 4 is an enlarged vertical section on the line 4—4 of Fig. 2. Fig. 5 is an enlarged fragmentary vertical section on the line 5—5 of Fig. 2. Fig. 6 is detail perspective view of the sprocket chains, the sprocket wheels over which the chains pass, and the screening members carried upon the sprocket chains. Fig. 7 is a perspective detail view of one of the sets of shelves forming one of the compartments of the vending machine and an adjacent partition. Fig. 8 is a vertical fragmentary sectional view showing two of the shelves of the compartment and also showing in section one of the article displaying adjustable members mounted upon the shelf. Fig. 9 is a perspective detail view of one of the article displaying adjust-

able members removed from the shelf, the various parts being separated from each other. Fig. 10 is a perspective view of that one of the screening members designed to close the coin slot and display the word "Out" as an indication that the goods contained within a particular compartment are entirely sold. Fig. 11 is a perspective view of one of the display slides for indicating the character of goods contained within any one compartment. Fig. 12 is an elevation of the main actuating shaft 11, the sleeves 12 thereon and the sprocket wheels 13. Fig. 13 is a perspective view of the gate plate looking from the inside.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters. Referring particularly to Figs. 1 and 2, it will be seen that the outside casing of my vending machine which is designated 2 comprises a top, bottom and a back, and that the front of the vending machine is so formed as to provide a plurality of vertically extending openings designated 3 having nearly the same length as the height of the machine and defining panels 3^a.

Dividing the interior of the casing 2 into a plurality of compartments, are the partitions 5 which are preferably of metal, but not necessarily so, and which may be of skeletal construction if desired. In the illustration of my invention, a vending machine is shown having four compartments for different kinds of articles, but of course I do not wish to limit myself to any particular number of vending compartments as the vending machine constructed in accordance with my invention may be expanded or contracted to any degree required to suit the exigencies of any particular case.

Disposed within each of the compartments and supported in any suitable manner are a series of shelves, each of these shelves being designated 6. These shelves extend from near the front of the machine to near the rear of the machine and are spaced any desired distance apart, depending upon the article to be vended. The shelves are supported upon the vertical plates 7 (see Fig. 7), and these in turn are supported from the partitions 5 or, in the case of the end compartments, from the adjacent partition 5 and the end wall of the machine, as illustrated in the right hand end of Fig. 1. As illustrated, the plates 7 are supported by means of a plurality of U-shaped brackets 8, these brackets having downwardly turned ends which are bolted respectively to the plates 7 and to the adjacent partition 5 or to the end wall of the machine, as clearly illustrated in Figs. 1 and 7. It will be seen from Fig. 1 that the end plates 7 are less in length than the height of the vending com-

partment, and that they are supported so that the ends of the end plates 7 do not touch the bottom or the top of the compartment, this being necessary in order to provide room for the screening members or shields carried by sprocket chains to pass over and under the upper and lower ends respectively of the shelves and plates 7.

Mounted in the upper end of each of the compartments is a shaft 9 extending transversely across the compartment. Preferably each compartment is provided with a separate shaft but I do not wish to limit myself to this as it is obvious that one shaft might pass through the entire series of compartments. Where separate shafts are used as illustrated in Fig. 1, sprocket wheels 10 are fixed upon the shaft and rotate therewith, the shaft 9 being mounted in suitable journal boxes carried upon the partition plates. Where, however, one single shaft is used extending entirely through the machine, then the sprocket wheels 10 are rotatably mounted upon this shaft so that each pair of sprocket wheels 10 is capable of independent rotation with relation to any other pair. This construction is fully illustrated in my pending applications, Serial No. 655,923, filed on the 21st day of October, 1911, and Ser. No. 627,568 of May 16, 1911.

Extending through the lower end of the vending machine is an actuating shaft 11. This shaft extends through and is common to all of the vending compartments and carries upon it a series of sleeves 12, one for each of the compartments, each sleeve 12 carrying upon it the oppositely disposed sprocket wheels 13 placed in alinement with the corresponding pair of sprocket wheels 10. Sprocket chains 14 pass over the sprocket wheels 10 and 13. Means whereby any one of the sleeves 12 may be operatively connected to the actuating shaft 11 will be later described. It is sufficient to say in this place that by dropping a coin in the coin chute corresponding to any desired vending compartment, the corresponding set of sprocket wheels 13 will be operatively connected to the shaft 11, so that upon a rotation of the shaft 11 the proper set of sprocket chains will be shifted.

Carried upon the sprocket chains and movable with them across the front and rear of the shelves 6 are a series of metallic plates forming shutters or screen members, these plates being connected at their ends to the sprocket chains 13 and movable therewith across the fronts of the several shelves 6. There are more than twice as many plates as there are shelves. Certain of these plates are solid, imperforate and opaque, these plates forming shutters and being designated 15. There are as many of these solid, imperforate and opaque plates as there are shelves in each column of shelves. Certain

other plates designated 16 are provided with a glass panel 17 in the face of the plate, as illustrated in Fig. 6, and as also illustrated in Fig. 5. There are as many of these plates 5 16 as there are shelves 6. There is likewise a plate designated 18 which has a delivery opening 19 in its face, and which forms a delivery gate. This plate 18 which forms the delivery gate is disposed between the 10 plates formed with the transparent panels 17 and the solid plates or shutters 15 as illustrated in Figs. 1 and 6.

When the shelves of a column of shelves are entirely filled with the articles to be 15 vended, and no article has been vended from that particular compartment, the parts are so disposed that the gate plate 18 is immediately above the uppermost shelf of the series and does not show at the front of the 20 machine. At this time all of the plates provided with the transparent panels are disposed along the front of the machine so that the contents of all of the shelves may be observed, while the imperforate, opaque plates 25 15 are at the back of the shelves and therefore concealed.

In the operation of my invention, the connected series of plates 15, 16 and 17 will have a step by step motion so that the gate plate 30 18 will move successively in front of successive spaces or compartments defined by the shelves 6, and that as the contents are removed from a shelf and the gate plate 18 shifted downward, the imperforate, opaque 35 plates 15 forming the shutters as before described will also shift downward and close all the shelf space above the gate plate 18, while the unremoved contents on the shelves below the gate plate will be displayed 40 through the glass panes 17 of the plates 16.

It will be noted that only the shelves containing unsold articles will be displayed, and that the gate plate will always be opposite an empty shelf, and that all the other empty 45 shelves will be closed by the imperforate plates.

Each of the plates 15, 16 and 18 has practically the same general form, that is, it has a middle portion 20 which extends 50 entirely across the front of the opening 3 in the compartment, this middle portion being inwardly bent as at 21 and then being provided with the outwardly turned terminal flanges 22 and 23, as clearly illustrated in Figs. 3, 6 and 10. These flanges 55 22 and 23 extend under the panels 3^a which define the side walls of the opening 3, as clearly illustrated in Fig. 3, the middle portion of each of the plates 15, 16 and 18 projecting outward through the opening 3. This projection of the panel is somewhat exaggerated in the figures, but it is sufficient to provide a space for the plates 15, 16 and 18 to clear the front edges of the 60 shelves 6 and bring the front of each of these

plates in approximate alinement with the front of the casing 2.

While I do not wish to limit myself to any particular manner of attaching these plates or screening members to the sprocket 70 chains 14, I preferably provide the flange 22 with the angle clip 24 which is riveted to the side of the sprocket chain and also riveted to the flange 22, and provide the flange 23 with an angle clip 25, also riveted 75 to the flange and to the inside face of the adjacent sprocket chain link. It will of course be understood that each plate is attached to only one link of each of the sprocket chains 14, and that if each of these 80 plates is so wide as to overlap an adjacent link or links, it is not attached to these adjacent links or link. This permits the chains and the connected plates 15, 16 and 18 flexing as the chains and plates pass over 85 the sprocket wheels. Preferably each plate is attached at its upper end to the corresponding link of a sprocket chain.

The upper and lower edges of the shutter plates always begin and end at a bending 90 point in the chain, that is, in the center between two connecting links, and it will be plain that the shutter plates may be either the height of one, two, three or four links. In any case, however, the shutter 95 plate is only attached to one link of the chain so as to permit it to flex properly.

In order to provide means for indicating that all of the articles disposed on the shelves of one compartment have been sold 100 out, and also to prevent the insertion of a coin for actuating a compartment whose contents have been entirely sold out, I provide one of the imperforate opaque plates or shutters 15 with the word "Out" or a 105 corresponding character or word, displayed upon the flange 22 as in Fig. 10, and also provide this flange 22 with an outwardly projecting lug or shield 26. Each of the panels 3^a is provided with an opening 27 110 through which the word "Out" will be displayed when all of the contents of a compartment have been sold. There is also provided in each of the panels 3^a a coin slot 115 28 located adjacent to the opening 27, and when all of the contents of a compartment have been sold, the panel containing the word "Out" will be moved to such position that the word "Out" will be displayed 120 through the opening 27, while the lug or shield 26 will move into position behind the coin slot 28, thus obstructing the coin slot and preventing the insertion of a coin. The panel 3^a is also provided at any suitable point with a discharge opening or slot 29 125 whereby bad coins may be discharged, or coins of too small a denomination, and each panel is also provided at the lower end of the compartment with a locked door 30 by which the money deposited in the coin slot 130

28 may be removed from the machine. It will be understood that the particular coin actuating mechanism to secure the operation of the shaft 11 may be of any suitable character and does not form part of my present invention. Furthermore, that any suitable coin discharging mechanism may be used.

It is necessary where a vending machine is provided having compartments for the sale of different articles, that means be provided for supporting small articles at or near the forward ends of the shelves 6, said means being capable of removal so that large articles may be placed upon the shelves. In the illustration of my invention shown in Fig. 1, one of the compartments is intended to vend boxes of lunch. Another compartment is intended to vend fruit, while still another compartment is intended to vend such small articles as stamps, pens, stationery or the like. In order to hold these small articles at the front of the shelves, I provide the attachment shown in Figs. 8 and 9, this attachment comprising a false back to the shelf, so mounted as to be shiftable toward or from the front of the shelf, and so constructed as to easily support such articles as stamps, pens, penholders, note paper etc.

In Fig. 9, 30 designates a follower plate which forms as shown in Fig. 8, a false back to one of the shelves 6. This follower plate has an extension 31 bent back from its upper edge which is adapted to contact with the shelf above the shelf over which the follower plate moves. The extension 31 is longitudinally slotted as at 32, and passing through this slot is a bolt 33. The extremity of this bolt is reduced as at 34 and the main body of the bolt and this reduced extremity are both screw threaded.

Operating upon the main body of the bolt is the nut 35 formed with the radiating wings, and operating upon the reduced extremity 33 is the lock nut 36. The nut 36 is a limiting nut to prevent the nut 35 from being turned completely off the bolt. The nut 35 may be loosened by turning it up until it reaches the stop nut 36, and thus the connection between the extension 31 and the shelf may be loosened to permit the plate 30 to be shifted backward or forward to any desired position upon the shelf, after which the nut 35 may be again turned up so as to hold the plate 30 in its adjusted position. The nut 35 is provided with the radiating wings to permit the nut to be operated by means of any suitable implement introduced from the front of the shelf through a notch 37 formed in the lower edge of the plate 30. It will be understood that by introducing an instrument through this notch 37, the bolt for the plate 30 of the shelf beneath is released. This plate 30,

therefore, acts to a certain extent as a shield for the nuts of the bolt beneath, and while an instrument such as a nail, screw-driver etc., may be introduced through the notch 37 and used to turn the nut 35, yet these implements will not avail to turn the nut 36.

In order to remove the plate 30 entirely, the nut 35 is loosened and the plate 30 is turned at right angles. The set nut 36 is then removed, the nut 35 turned entirely off, and the device entirely removed.

The front of the plate 30 preferably is provided with means for supporting small articles. As illustrated, a central support is provided consisting of a strip of metal bent at right angles to form a holder designated 38. This holder is provided with the marginal flanges 39 for holding stamps and the like, the stamps being bowed and then inserted between these flanges. The rear of the angular plate 38 is punched out as at 40. The plate 30 is also punched out immediately behind the hole 40, but the tongue 41 so punched out of the plate 30 is bent upward, as illustrated in Fig. 8, this tongue so bent forming a pocket adapted to contain pens, pins or other small articles. This tongue also serves as a guard to prevent articles deposited in the opening 40 from being pushed too far in. On each side of the supporting member 38 are located the spring clips 42 which are adapted to support cards, penholders, pencils or the like.

In order that the plate 30 may be held firmly in either its forward or its rearward position, the plate 30 is provided with the upwardly projecting spurs or lugs 44. There are preferably a pair of these spurs, and each shelf is provided with two pairs of indentations 45 into which the spurs 44 may engage when the plate is in either its forward or its rearward position. These indentations 45, therefore, will indicate the position for the forward or rearward movement of a plate, and also will hold the plate 30 in just the right place.

It is to be understood that the opening 37 in the lower edge of the plate 30 is not of such dimensions as to permit the insertion of a rod over the top of the bolt 33. It is also plain that even if the plate 30 was mischievously removed in the manner before mentioned, no particular harm would be done to the machine. This movable plate 30 is obviously of great convenience as it permits the device to be used for vending articles which could not ordinarily be displayed or supported properly upon the shelves 6, either on account of their peculiar form or on account of their small size.

While I do not wish to limit myself to any special actuating mechanism for operating the several sets of screens, I have illustrated for this purpose the form of actuating mechanism shown in my pending application,

Serial No. 655,923, filed on the 21st day of October, 1911. There are as many of these actuating mechanisms as there are compartments, as plainly shown in Fig. 2. Each actuating mechanism is normally disconnected from the shaft 11 but may be operatively engaged therewith upon the deposit of the proper coin in the corresponding coin slot 28. As illustrated, each actuating mechanism comprises a ratchet wheel designated 46 which is fixedly mounted on the corresponding sleeve 12. The shaft 11 passes loosely through this sleeve and carries upon it an outwardly projecting arm 27 having an arcuate head 48 at its outer end. Mounted upon one end of this head is a pivoted curved pawl 49, the lower end of which is formed with a tooth 50 adapted to engage a ratchet notch 51 formed in the wheel 46. The end of the pawl 49 opposite the tooth 50 is of such weight that normally the toothed end of the pawl 49 is held out of engagement with the notch 51. Under these circumstances, it will be seen that the shaft 11 may be rotated without in any wise affecting the wheel 46.

Rotatably mounted upon the head 48 immediately beneath the weighted end of the pawl 49 is an eccentric 52 having a projecting finger 53. A coin chute 54 leads down from the coin slot 27 and discharges into the lower end of the compartment. This coin chute at one point of its course is transversely slotted as at 55, and mounted upon the head 48 is a pin 56 which normally extends into this slot. This pin 56 extends under the forward end of the nose or arm 53 projecting from the eccentric 52. When a coin is deposited in the chute, it falls upon a support within the chute disposed below the slot 55, and in that position when the arm 47 is forced over by a rotation of the crank handle on end of shaft 11, the pin 56 will push down against the upper edge of the coin, raise the arm or nose 53, rotate the eccentric 52, raise up the counterweighted end of the pawl 49, and force the toothed end of the pawl into engagement with the notch 51. Thus upon a continued rotation of the shaft 11, the wheel 46 will turn with the rotation of the arm 49, and the chains 14 and their connected plates 15, 16 and 18 will shift one step sufficiently to bring the gate plate or delivery plate 18 into position opposite a filled shelf and cover the shelf immediately above. The coin after the arm 47 and head 48 have rotated a certain distance, will drop out of the lower end of the coin chute 54. Certain mechanism must be provided for causing the pawl 49 to keep in engagement with the wheel 46 until the arm 47 has been turned the full length of its travel in one direction, and means must then be provided for releasing this engagement between the pawl and the wheel so as to per-

mit the arm 47 to be turned back to its former position. It is not believed, however, that it is necessary to illustrate fully this coin actuating mechanism to show such means as the coin actuating mechanism is fully illustrated in the pending application before referred to, and further because any mechanism actuated upon the deposit of a coin for connecting the sprocket chains with an actuating shaft might be used without departing from the spirit of the invention.

Referring again to the delivery gate plate 18, it is pointed out that as shown in Fig. 6 and in Fig. 5, this plate 18 is provided with inwardly projecting flanges 19^a which define the opening 19, these flanges extending inward sufficiently that as shown in Fig. 5, the flanges will just pass the forward edges of the shelves 6. These flanges act as guards to prevent a person from inserting an instrument through the delivery opening and pulling out any of the articles resting upon the shelf below the delivery gate.

Preferably all of the shutter plates are provided with these inwardly projecting flanges 19^a in order that the shutter plates may abut against the ends of the shelves so as to prevent the linked shutters from being forced inward. It will be obvious, however, that other means might be provided for obtaining this object.

Of course, any desired means may be used whereby to indicate the character of the articles vended in each of the compartments. I have shown, however, each of the compartments as provided at its upper end with an indicating card, designated 57 and illustrated in Fig. 11. This card or plate may be made of any suitable material and is adapted to be inserted through a slot 58 in the top of the casing immediately over each one of the compartments. This card or plate is provided with a lug having therein a perforation 59 through which a padlock may be fastened to lock the indicating card or plate in place as illustrated in Fig. 1.

It will be obvious that the invention may be varied in many of the details of construction here shown without departing from its spirit, and that various modifications may be made in the form and construction of the several parts in order to adapt the device to vending various articles. It is also to be particularly noted that each compartment is completely separated from the next adjacent compartment by means of the partitions 5 so that articles of food for instance which may be contained in one compartment will not contaminate or be contaminated by the food in the next adjacent compartment. Furthermore, in this connection it will be seen that the food or other articles placed upon the shelves is separated from the sprocket chains 14 and from the coin actuating mechanism by means of the support-

ing plates 7. Thus oil or other lubricant which may be upon the sprocket chains and which may be used in the coin actuating mechanism, by no chance can come in contact with the food. Of course, the uppermost shelf of the series of shelves 6 need not be used, in which case this shelf will form a protection and prevent oil or any other lubricant from falling upon the articles upon the shelves. The articles are protected from dust by reason of the fact that all of the filled shelves are closed at their rear ends by the imperforate shutter plates and at their forward ends by means of the plates having the glass observation panes therein.

It will be noted particularly from Figs. 1, 4 and 5 that the front of the casing above and below the slot 3 is outwardly bowed or deflected so that the shutter plates entirely clear the front of the casing at the point where the shutter plates turn over the upper and lower sprocket wheels. This also provides for a perfectly straight run of the shutter plates from the upper end of the slot to the lower end thereof.

In order to provide for moving one set of shutter plates through a space, say of three inches, while another set of shutter plates will move through a space of five inches upon each actuation or step of the actuating shaft 11, and thus provide for one of the vertical sets of compartments having three inch delivery openings, while another of the vertical sets is provided with say a five inch delivery opening, I provide that the upper and lower sprocket wheels of each set shall have different diameters as illustrated in Fig. 11. Thus for relatively shallow shelves, that is, shelves spaced from each other a short distance, comparatively small sprocket wheels 10 and 13 are used. Where there is considerable distance between the shelves, a relatively large sprocket wheel is used. For instance, for a compartment having a three inch delivery opening, there is provided a sprocket wheel having sixteen teeth, say for illustration, and hung with its periphery two inches inwardly from the front casing, its center, however, being the shaft 11. Another compartment having a greater height between the shelves is provided with a larger set of sprocket wheels, these however being made with sixteen teeth as were the first named sprocket wheels and hung on the same center shaft, but its periphery reaching nearly flush with the front casing. Under these circumstances, it will be obvious that one-eighth revolution by the main operating arm on the shaft 11 will move each wheel the distance of two teeth, and that the teeth being spaced evenly give the required results. The variation in distance between the peripheries of these sprocket wheels having different diameters,

and the outer casing or the shutters moving along the outer casing, is taken care of by lengthening the angle clips 24 and 25 sufficiently to accommodate the required distance. The flanges 19^a will be regulated accordingly, depending upon the distance of the periphery of the sprocket wheels from the front of the casing.

What I claim is:

1. A vending machine including a casing having a series of shelves therein defining a series of compartments, a screen extending across all of said compartments and being provided intermediate of its ends with a delivery opening, the screen being movable in a path traversing all of said compartments to bring the delivery opening successively opposite each one of said compartments.

2. A vending machine including a casing having a series of shelves therein defining a series of compartments, a flexible screen extending across all of said compartments and being provided intermediate its ends with a delivery opening, the screen being movable in a path traversing all of said compartments to bring the delivery opening successively opposite each of said compartments.

3. A vending machine including a casing having a series of shelves therein defining a series of compartments, an endless flexible screen extending around all of said compartments and across the front and rear ends thereof, said screen being provided with a delivery opening, the screen being movable in a path traversing all of said compartments to bring the delivery opening opposite any desired compartment.

4. A vending machine including a casing having a series of shelves therein defining a series of compartments, a screen extending across all of said compartments and being provided intermediate its ends with a delivery opening, and means for moving the screen step by step in a path traversing all of said compartments to bring the delivery opening successively opposite each of said compartments.

5. A vending machine including a casing having a series of shelves therein defining a series of compartments, a flexible screen extending across all of said compartments and composed of independent screen members flexibly connected to each other, each screen member being flexibly connected to the adjacent screen member, one of said screen members located intermediate the ends of the screen being provided with a delivery opening, the screen being movable in a path traversing all of said compartments to bring the delivery member successively in front of each of said compartments.

6. A vending machine including a casing having a series of shelves therein defining a series of compartments, a flexible screen extending across the front of all of said com-

partments and comprising a series of flexibly connected screen members, certain of said members being imperforate and opaque, certain others having transparent panels, and one of said members being formed with a delivery opening and being disposed between the series of opaque members and the members carrying transparent panels.

7. A vending machine including a casing having a series of shelves therein defining a series of compartments, an endless flexible screen extending around said shelves and across the front and back of said compartments, said screen comprising a series of flexibly connected screen members, certain of said members equal in number to the number of compartments being opaque, certain others equal in number to the number of compartments having transparent panels, and one of said members being formed with a delivery opening and being disposed between the series of opaque members and the series of members carrying transparent panels, said screen being movable in a path traversing the fronts of all of said compartments to bring the delivery opening successively opposite each of said compartments.

8. A vending machine including a casing having a series of shelves therein defining a series of compartments, a flexible endless screen extending around the series of shelves and across the fronts and backs of said compartments, said screen consisting of a series of independent, flexibly connected screen members equal in number to twice the number of compartments, one of said members being formed with a delivery opening, said screen being movable in a path traversing all of said compartments to bring the delivery opening successively opposite the front of each compartment.

9. A vending machine including a casing having an open front, a screen composed of independent, flexibly connected screen members, said screen having a length greater than the length of the open front of the casing one of said members located intermediate the ends of the screen being provided with a delivery opening, said screen being movable in a path traversing the length of said casing to bring the delivery opening opposite any desired portion of the casing.

10. A vending machine including a casing having a series of shelves therein defining a series of compartments, endless flexible elements disposed on each side of said set of shelves and extending above and below the same, a series of screen members attached to both of said endless connections, one of said members being provided with a delivery opening, the screen composed of said members being movable with the flexible connections in a path traversing the front and rear

ends of all of said compartments to bring the delivery opening successively opposite each of said compartments.

11. A vending machine having a casing having a series of shelves therein defining a series of compartments, oppositely disposed sprocket wheels arranged below the lower ends of said series of shelves, endless chains passing over said sprocket wheels, screen members attached to said chains and extending across the front and rear ends of the shelves, one of said screen members being formed with a delivery opening, and means for giving a step by step movement to the sprocket chains whereby to cause the screen members to traverse the front ends of all of said compartments to bring the delivery opening successively opposite each compartment.

12. A vending machine including a casing having a vertically extending opening in its front, a vertically arranged series of shelves mounted within the casing opposite to said opening, said shelves defining a series of compartments, a screen extending across the fronts of all of said compartments, said screen being formed of independent, flexibly connected screen members, each of said members extending on each side beyond said opening and having its lateral margins disposed behind the front wall of the casing on each side of the opening, one of said screen members being formed with a delivery opening, and means for giving the screen a step by step movement in a path traversing the fronts of all of said compartments to bring the delivery opening successively in front of each compartment.

13. A vending machine including a casing having a vertical opening in its front, a vertically arranged series of shelves within the casing opposite to said opening, said shelves defining a series of compartments, oppositely disposed endless flexible connections mounted on each side of said shelves and extending above and below the same, a series of screen members attached at their ends to said flexible connections and extending transversely of the compartments, each of said screen members comprising a plate having a middle portion projecting outward through the opening in the casing, the end margins of the plate extending behind the casing on each side of the opening, one of said members being formed with a delivery opening, and means for moving the screen in a path traversing the fronts of all of said compartments to bring the delivery opening successively into position opposite each of said compartments.

14. A vending machine including a casing having an opening in its front wall, the front wall being provided with a slot to one side of said opening, a screen extending across the front of said casing and across

said opening, said screen being provided with a delivery opening and being movable in a path traversing the front of said casing to bring the delivery opening opposite different portions of the casing, said screen being provided at one point in its length with a member projecting laterally outward beyond the side margin of the screen, the movement of the screen bringing said member opposite said slot to close the same whereby to indicate that the contents of the vending machine have been exhausted.

15. A vending machine including a casing having a vertical opening in its front wall and a slot disposed to one side of said opening, a series of shelves supported within said casing, said shelves defining a series of compartments, a flexible screen consisting of a series of flexibly connected screen members, one of said members being provided with a delivery opening and another of said members being provided with a shield at one end, said screen being movable in a path traversing the fronts of all of said compartments to bring the delivery opening opposite any desired compartment and to bring the shield on said shield-carrying member opposite the said slots to indicate that the contents of the shelves have been exhausted.

30. 16. A vending machine including a plurality of superposed shelves defining a series of successive compartments, a plurality of plates, one for each compartment and forming a false back thereto, each plate having an angular extension, and means for adjustably engaging the angular extension of each plate with the shelf above, the lower edge of each plate being cut away to provide an opening through which the adjustable connection of the shelf below may be released.

45 17. A vending machine including a casing provided with a longitudinal opening, the casing at one margin of the opening being formed with a display slot, a series of shelves within the casing and defining a series of compartments, a screen extending

across all of said compartments and being provided with a delivery opening, the screen being movable in a path traversing the fronts of all of said compartments to bring the delivery opening opposite any desired compartment, said screen at one point in its length being provided with an outwardly extending member movable in a path intersecting the display opening, whereby said member may be displayed through the slot to indicate that the vending compartments have been discharged of their contents.

18. A vending machine including a casing divided into a plurality of main compartments, the front of said casing opposite each of said main compartments being formed with a longitudinal opening, a series of shelves, one series for each of said main compartments and supported therein, endless flexible screens disposed, one in each compartment, each screen extending across the front of all of said shelves and closing the open front of the casing, each of said screens being formed with a delivery opening whereby the contents of any shelf may be secured, and means for giving any one of said screens a step by step movement independently of the other screens to bring the delivery opening successively in front of the space between any two shelves of its corresponding compartment.

19. A vending machine including spaced shelves defining a compartment, a screen movable in front of the compartment and formed with a delivery opening, the solid portion of the screen having an area equal to the opening of the compartment so as to close the compartment when the screen is in one position, and actuating means connectable with or disconnectable from operative engagement with said screen.

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

GEORGE W. MILLER. [L. S.]

Witnesses:

HERBERT H. THOMPSON,
FRANK W. PATTERSON.