Sept. 12, 1933. A. D. ANTOINE 1,926,663

VENDING MACHINE

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Fig. 1

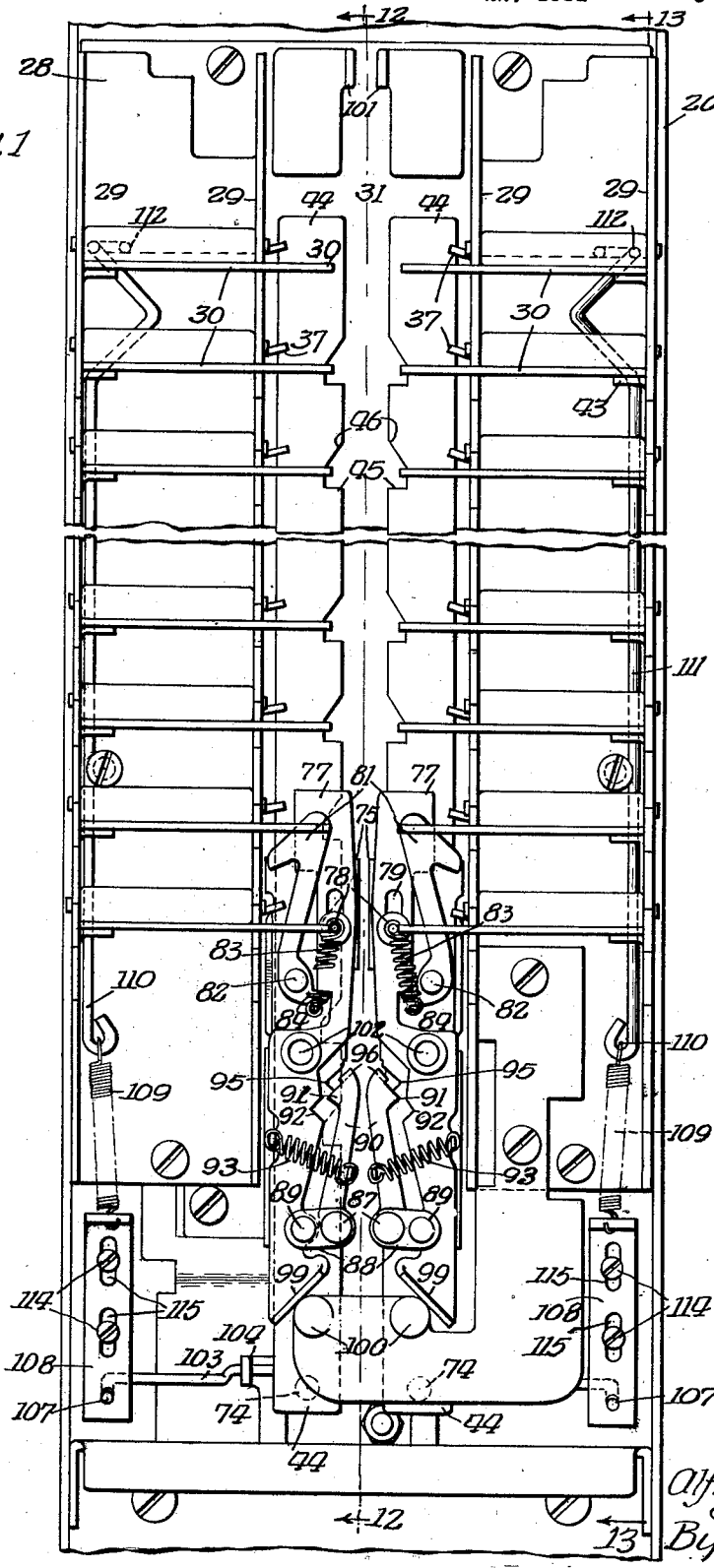


Fig. 2

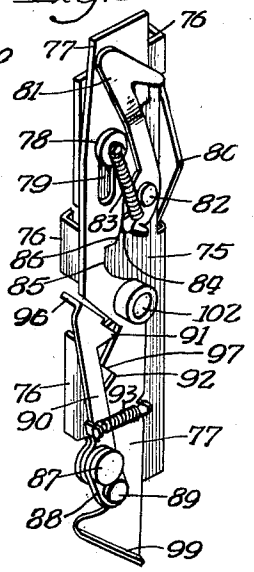
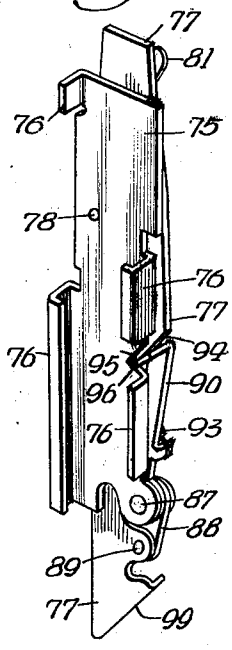


Fig. 3



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Fig. 4

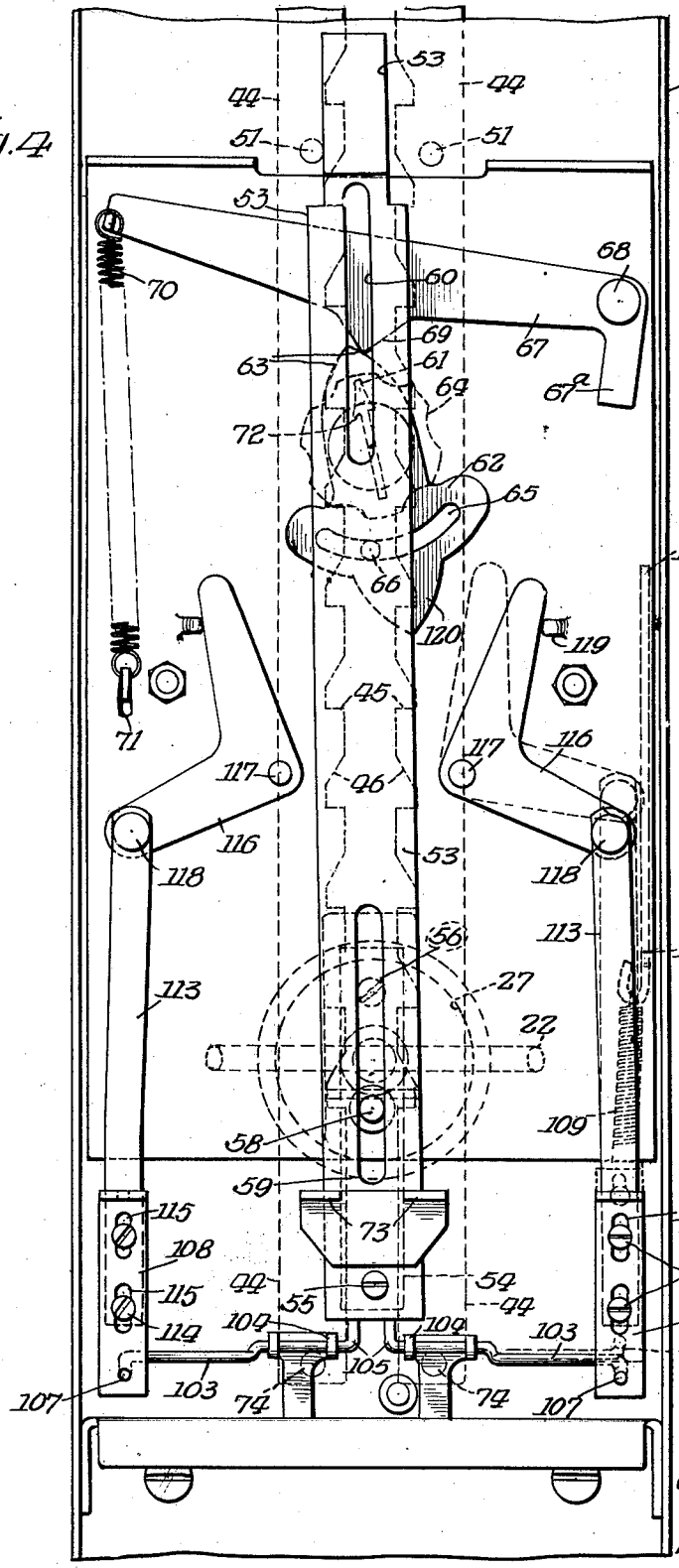
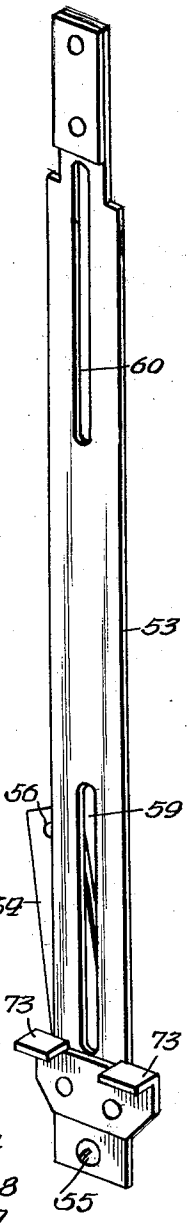


Fig. 5



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Fig. 6

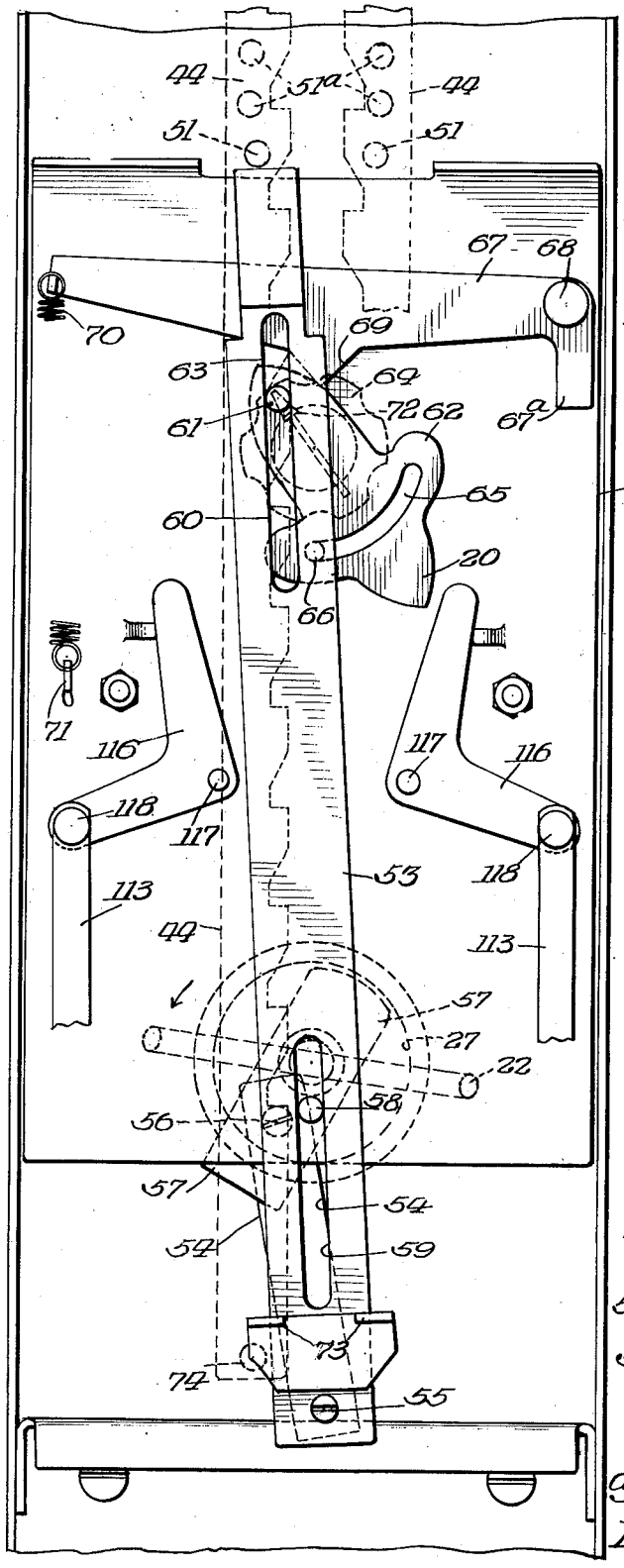


Fig. 15

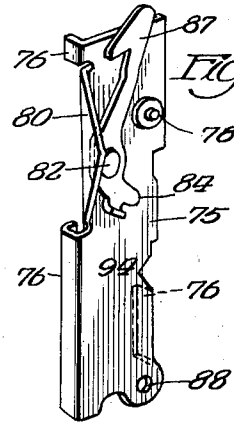


Fig. 16

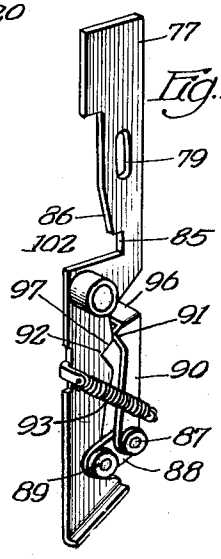
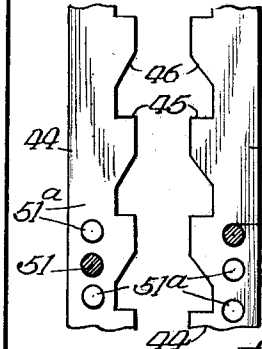


Fig. 17



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Fig. 7

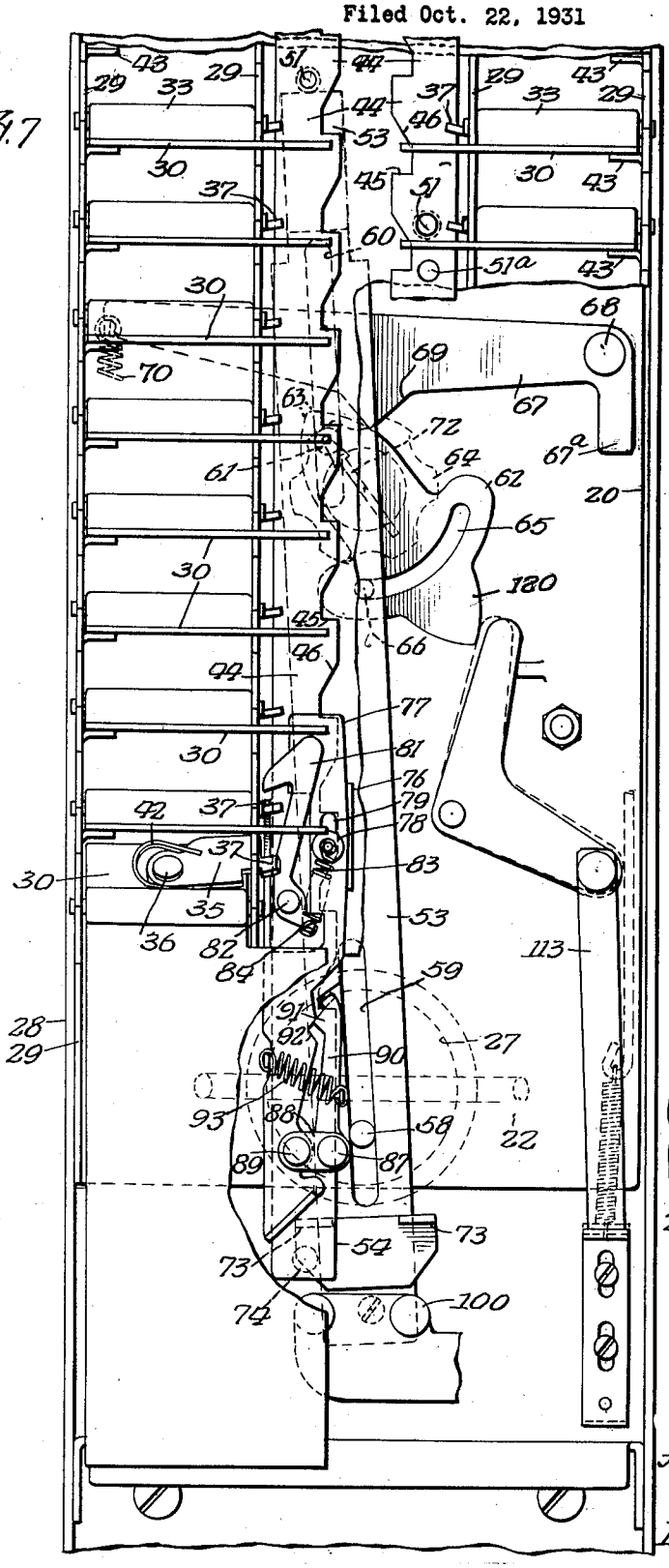
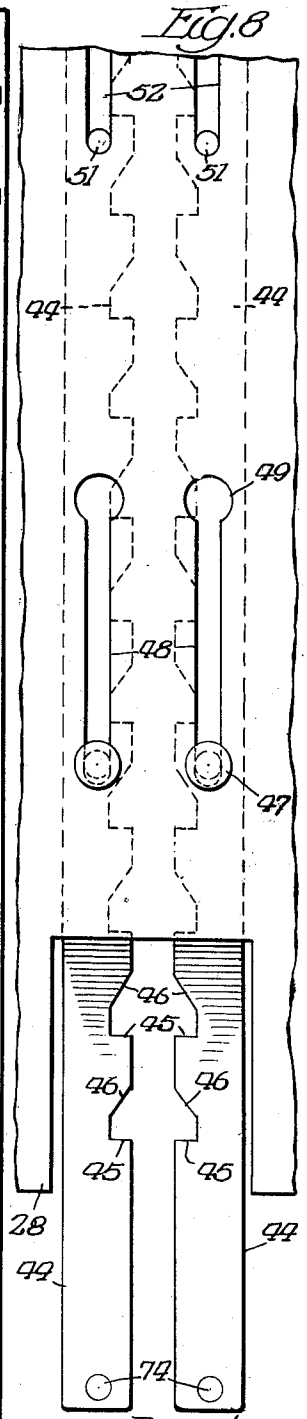


Fig. 8



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Fig. 9

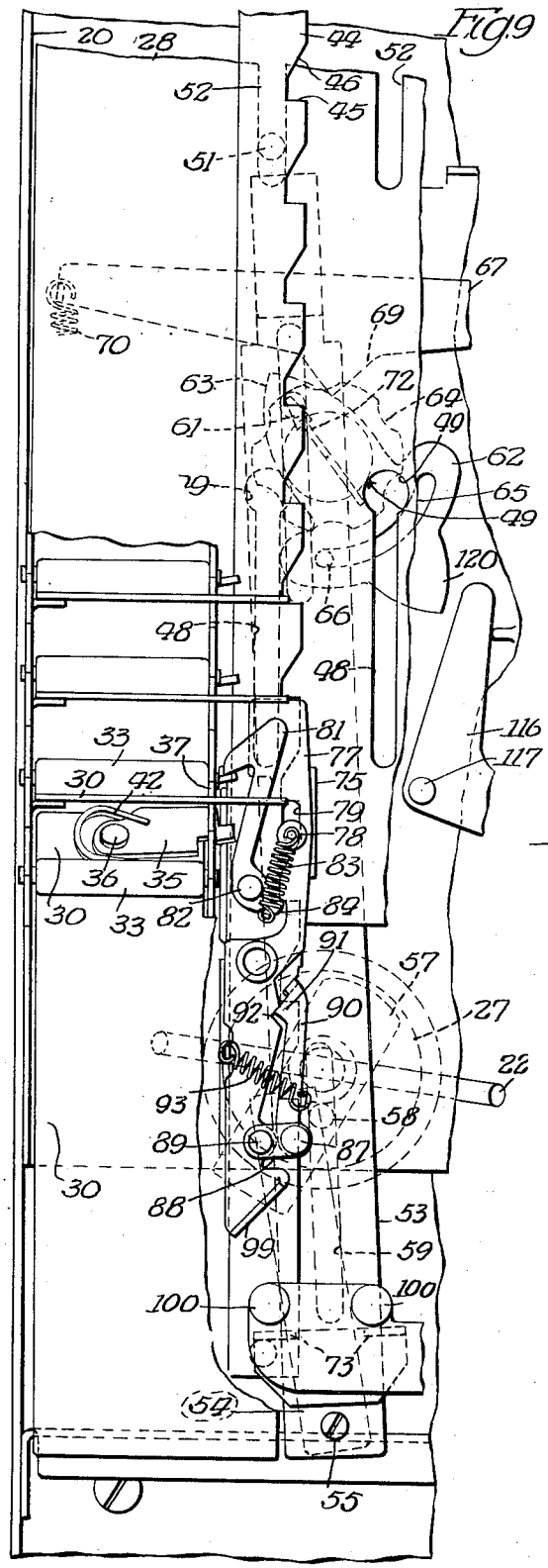


Fig. 10

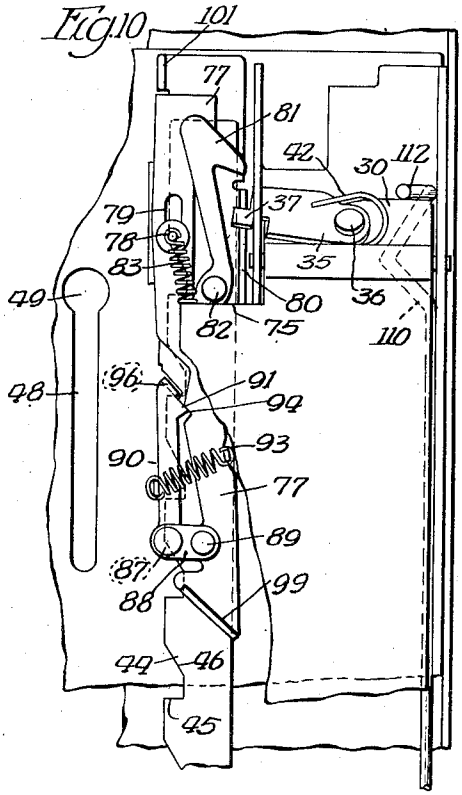
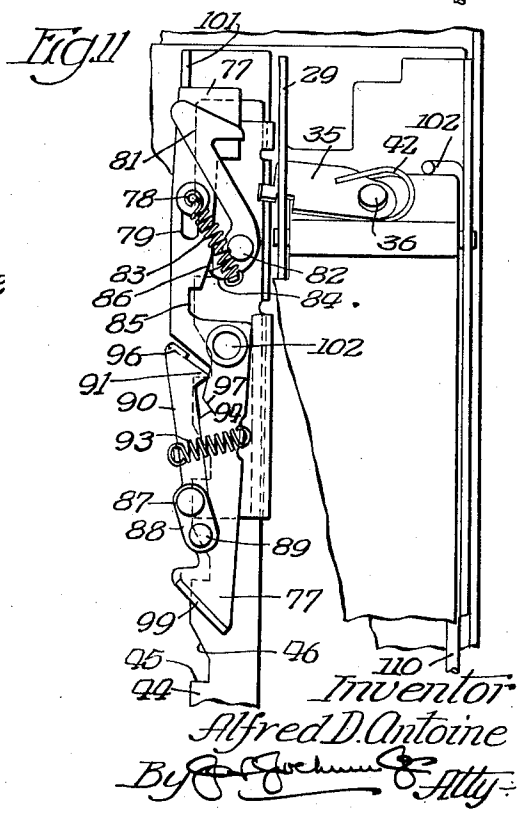


Fig. 11



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Fig. 12

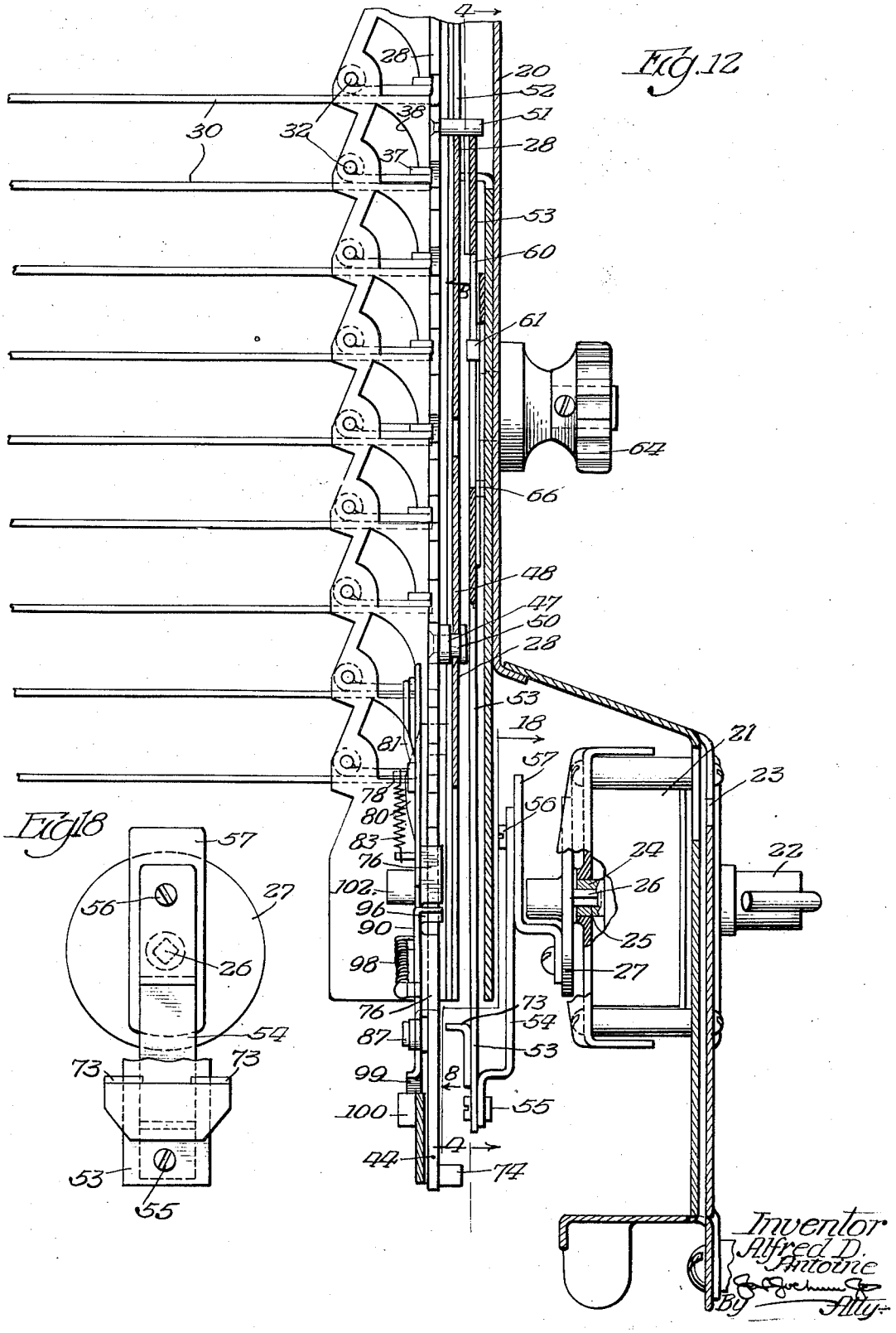


Fig. 18

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Fig. 13

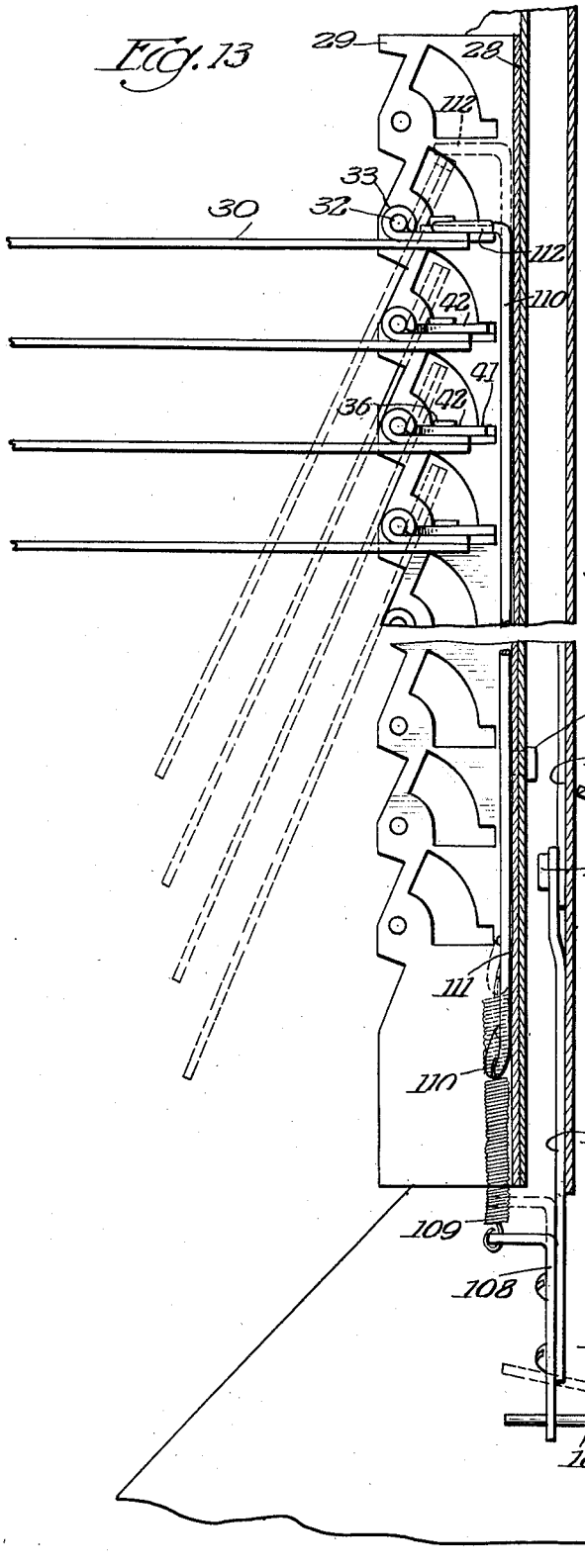
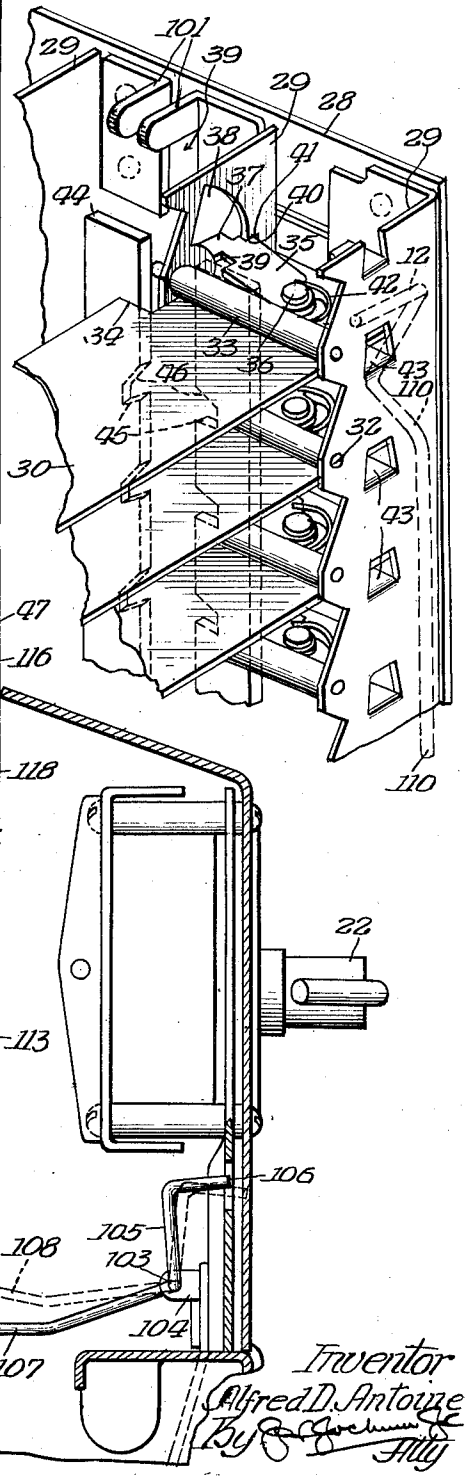


Fig. 14



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Fig. 19

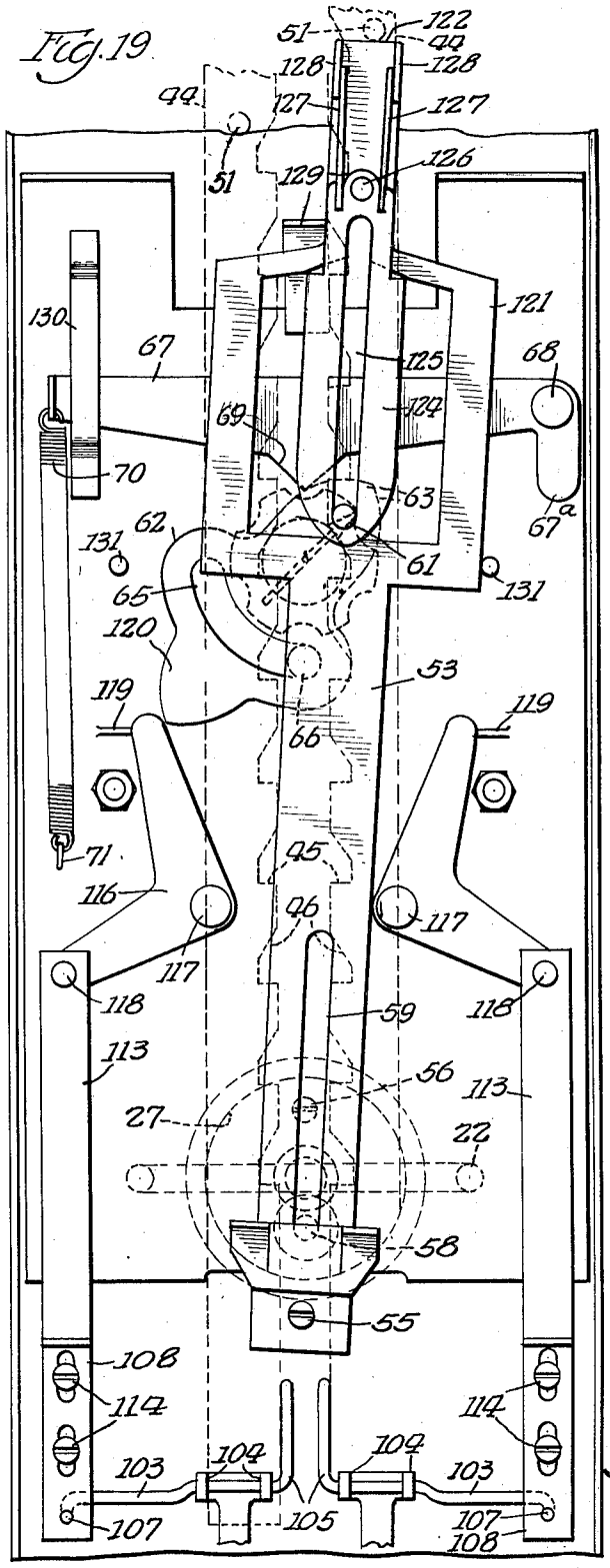
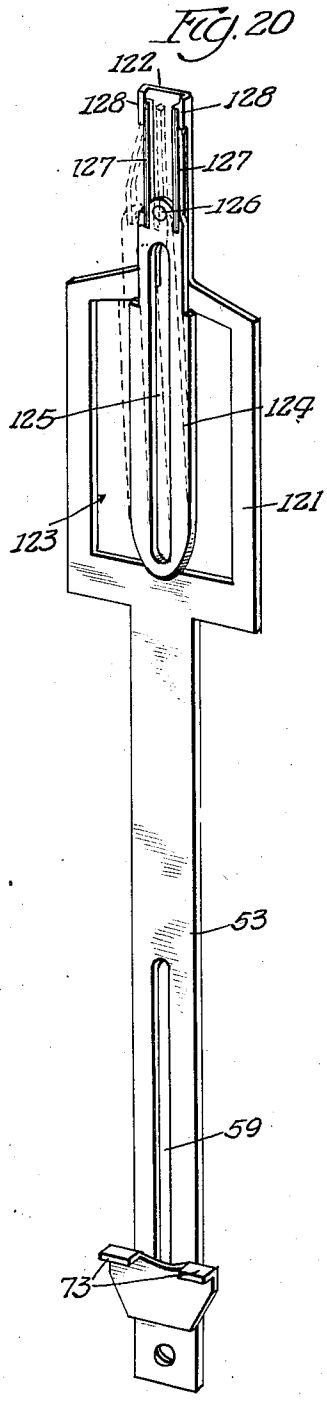


Fig. 20



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Fig. 21

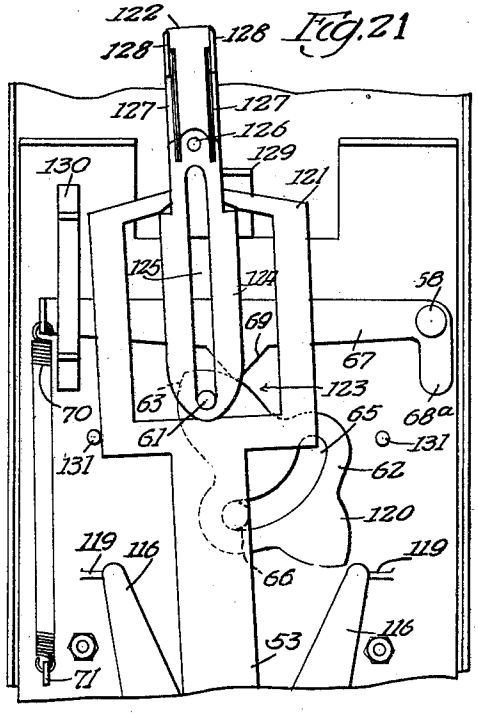


Fig. 22

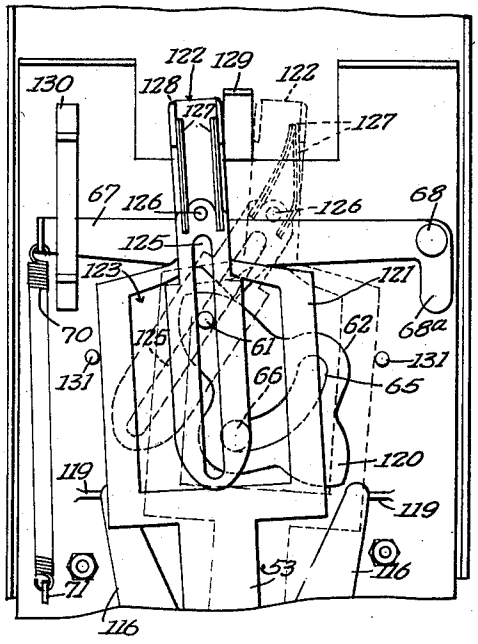


Fig. 23

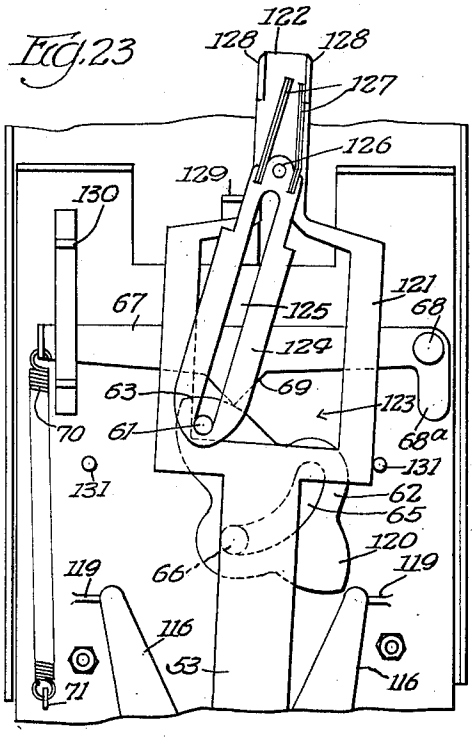
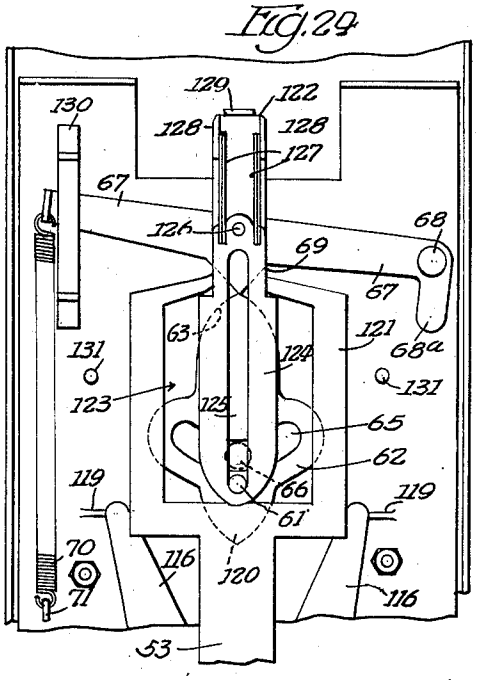


Fig. 24



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Patented Sept. 12, 1933 1,926,663

UNITED STATES PATENT OFFICE

1,926,663

VENDING MACHINE

Alfred D. Antoine, Chicago, Ill., assignor to Advance Machine Company, Chicago, Ill., a corporation of Illinois

Application October 22, 1931. Serial No. 570,483

26 Claims. (Cl. 312—94)

This invention relates to improvements in vending machines of the type in which the articles to be vended are arranged in a column consisting of supports arranged one above the other and properly spaced to receive articles therebetween, each of the supports holding its respective article or articles, the supports being provided with locking means for releasably holding them against tilting movement, and one of the objects of the invention is to provide improved means, which upon the insertion of a proper coin or token into the machine, may be actuated to successively release or unlock these supports to allow them to tilt to discharge or deliver therefrom the article or articles held thereby.

A further object is to provide in a machine of this character a plurality of columns of shelves, and improved means whereby the articles to be delivered may be selected from either of the columns.

A further object is to provide in a machine of this character improved means for tripping or releasing the supports and which means is adapted for intermittent advancement in a constant direction, and improved means for releasing the tripping means with relation to the advancing means therefor, whereby the tripping means will be automatically returned to its initial or starting position independently with respect to its advancing means, upon the delivery of the last article from the column.

A further object is to provide in a machine of this character coin controlled mechanism for actuating the control mechanism for the releasing mechanism for the article supports, and means whereby the coin or check will be returned to the operator in the absence of articles in the series.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention and in which

Figure 1 is a view in rear elevation, of a machine of this character with the back of the casing removed.

Figure 2 is a perspective view of the support or shelf tripping element, viewed from one face thereof.

Figure 3 is a view similar to Figure 2, viewed from the other face thereof.

Figure 4 is a view taken on line 4—4, Figure 12.

Figure 5 is a detail perspective view of a portion of the actuating means for the support tripping means, and showing the parts in one position.

Figure 6 is a view similar to Figure 4, showing the parts in another position.

Figure 7 is a view similar to Figure 1 with parts omitted and parts broken away, and with the parts in another position.

Figure 8 is a detail sectional view, taken on line 8—8, Figure 12.

Figure 9 is a view similar to Figure 7, with additional parts broken away and showing the remaining parts in another position.

Figure 10 is a detail view in elevation with parts omitted, and showing the support tripping means in a position just before it reaches its limit of travel to release the last support.

Figure 11 is a view similar to Figure 10, showing the parts in another position.

Figure 12 is a detail sectional view taken on line 12—12, Figure 1, with parts omitted.

Figure 13 is a sectional view taken on line 13—13, Figure 1.

Figure 14 is a detail perspective view showing some of the supports and the locking means therefor.

Figure 15 is a detail perspective view of one of the members of the slide or trip mechanism.

Figure 16 is a detail perspective view of another one of the members of the slide or trip mechanism.

Figure 17 is a view in elevation of a portion of the operating racks.

Figure 18 is a detail view taken on line 18—18, Figure 12.

Figure 19 is a view similar to Figure 4, with parts omitted, of a modified form of the invention, and showing the parts in a slightly different position from that shown in Figure 4.

Figure 20 is a detail perspective view similar to Figure 5, showing a modified form of the invention.

Figures 21, 22, 23 and 24 are detail elevations with parts removed, showing the actuating and support tripping means in different positions.

Referring more particularly to the drawings the numeal 20 designates generally an enclosing casing of any desired size and configuration, provided with an open back closed by a removable closure, not shown, and is provided with a discharge outlet opening (not shown), adjacent the bottom thereof, through which the commodity to be dispensed is delivered to the operator. Arranged in a suitable position is a coin controlled

mechanism designated generally by the reference numeral 21 having an operating handle 22, and the casing is provided with a coin or token receiving opening 23, through which latter the coin is inserted into the coin controlled mechanism.

The coin controlled mechanism may be of any desired or suitable type, suffice it to say that the mechanism includes a shaft 24 having a recess 25 therein adapted to receive a shaft 26, angular in cross section, in a disc 27, and the disc 27 is provided for a purpose to be hereinafter set forth.

The numeral 28 (see particularly Figures 1 and 14) designates a suitable supporting plate adapted to fit within the enclosing casing and secured to and projecting from one face of the plate are spaced pairs of members 29 to constitute walls between which are arranged supports or shelves 30, the latter being arranged in two series superposed and being spaced from each other a suitable distance to receive and hold an article or articles therebetween and the extent to which these superposed supports are spaced is determined by the size or thickness of the article to be dispensed.

In the present form of the invention two series of these superposed supports 30 are disclosed which are spaced from each other to form a space 31 therebetween, for a purpose to be hereinafter set forth, and as the construction and operation of each series or column of supports 30 is the same, the specific description of one series or column will apply equally as well to them both.

Each of the supports 30 is pivotally mounted between co-operating walls 29 by means of a pivot pin 32 which passes through a bearing portion 33 arranged adjacent but preferably spaced for a slight distance from one end of the support, and a portion of the support adjacent the bearing 33 is cut away as at 34. A latch or locking member 35 is pivotally connected to the support as at 36, and one end 37 thereof projects beyond the edge of the support and into an opening 38 in the adjacent wall 29, the latch being provided with a cut away portion 39, to receive one wall of the opening 38 to permit the latch to be moved into a position so that the edge 40 of the latch may be moved out of a notch or recess 41 in the other wall of the opening 38 and thereby release the support 30. A spring 42 is provided which tends normally to move the latch 35 in a direction that the edge thereof will enter the recess 40 and thereby releasably lock or hold the support 30 against tilting movement. However, when the latch 35 is operated to release the support, in a manner to be hereinafter set forth, the edge 40 of the latch will move out of the recess 41, the opening 39 permitting such movement of the latch, and thereby permit the support 30 to tilt or swing about its pivot 32 to deliver or discharge the commodity resting thereupon.

After the support 30 has been once tilted to the position shown in dotted lines in Figure 13, and the releasing means, to be hereinafter set forth, has moved to a position to permit, the support may be raised or swung about its pivot 32, to a horizontal position, at which time the spring 42 will cause the edge 40 of the latch 35 to move into the recess 41 and thereby lock the support in its raised or operative position.

A lug or shoulder 43 (see also Figure 1) is provided for assisting in holding the support 30 in its elevated position and also as a means for limiting the raising movement of the support 30 to insure the proper locking of the support in this position. This lug 43 is preferably formed by cutting out a portion of one or both of the co-operating walls 29 and then deflecting the same laterally into the path of the downward movement of the end of the support adjacent which the latch 35 is secured, when the support is raised.

Arranged within the space 39 and adjacent each of the proximate walls 29 is a rack member 44 provided with shoulders 45 and inclined portions 46. Each of the rack members 44 is of a length to extend lengthwise of the respective series of supports 30 and is held against lateral displacement in any desired or suitable manner, preferably by means of headed bolts or projections 47 (shown more clearly in Figures 8 and 12) which pass through and are reciprocable in slots 48 in the supporting plate 28.

Any number of these projections 47 may be provided, but only one is here shown, and one is preferably located adjacent the top and the bottom of the supporting plate 28. The slot 48 is provided with an enlarged portion 49 through which the projection 47 passes, and this projection is provided with a reduced portion 50 to form a circumferential groove into which the walls of the slot extend. When the projection 47 is moved so as to register with the opening 49 the rack may be placed in position or removed, and when the projection 47 extends into the opening 49 so that the reduced portion 50 is in alinement with the walls of the slot, the rack may be lowered to secure the same in position. The downward movement of the rack 44 is limited by the engagement of the projection 47 with the end of the slot 48.

Secured to the rack and extending from the face thereof is a lateral projection or lug 51 (see particularly Figures 6, 8 and 12) which extends through a slot 52 in the supporting plate or member 28, the latter being spaced from the adjacent wall of the enclosing casing 20 so as to allow the lug 51 to extend for a short distance beyond the opposite face of the member 28, and by reason of which lug 51 the rack member 44 will be longitudinally moved in one direction by mechanism to be presently described. These lugs 51 are so positioned that they will determine the extent of movement to be imparted to the rack and serve as a means whereby the same rack operating mechanism will operate to impart a different extent of longitudinal movement to the rack, rendering it possible to dispense articles of different sizes or of the same size in the different series or columns of supports. That is to say, the lugs 51 may be adjusted with relation to their respective rack members so that with the same operating mechanism one rack will be given a greater or less longitudinal movement with respect to the other during the operation of the machine. For this purpose a series of holes 51a may be provided in the respective rack members.

The mechanism thus far described is all mounted upon the supporting plate 28, and the latter is adapted to be removably secured within the enclosing casing 20 in any desired or suitable manner (not shown), in order that it may be bodily removed therefrom as a unit.

The racks 44 are adapted to be moved longitudinally in one direction by the operation of the handle 22 upon the insertion of the proper coin or token into the coin controlled mechanism through the opening 23. To that end there is provided a bar or rod 53 which is connected with the disc or crank 27 through the medium of a link 54 (see particularly Figure 12). One end of the link is pivotally connected as at 55 to the bar or rod 53 and the other end of the link is

pivotally connected as at 56 to a bracket or connection 57 that is secured to the crank or disc 27. The bar or rod 53 is guided in its longitudinal movement by means of a stationary pin or projection 58 (see particularly Figures 4, 6 and 12) that is secured to a fixed support and projects into a longitudinal slot 59 in the bar, the slot being of sufficient length to permit of a full reciprocable movement thereof, and which slot is preferably located adjacent one end of the bar. A similar slot 60 is provided in the bar 53 adjacent the other end thereof and projecting into the slot 60 is a lug or pin 61 that is carried by a shiftable member 62 provided with cam portions 63, and which member is connected to a handle 64 accessible to the operator from the outside of the machine, and is located preferably in proximity to the coin controlled mechanism operating handle 22. The member 62 is provided with a slot 65 and into which slot extends a lug 66 which is stationary and serves to limit the swinging movement of the member 62 by the engagement of the ends of the slot 65 therewith.

The end of the rod or bar 53 is adapted to be positioned beneath the pin 51 on the respective rack member 44 to operate the latter according to the selection of the operator. That is to say by the operation of the member 62 the operator can select to operate the supports in either of the columns of supports by positioning the end of the bar or rod 53 beneath the respective pin or lug. This is accomplished by actuating the member 62 through the handle 64. When the handle 64 is operated the member 62 will be shifted thereby and through the medium of the pin or lug 61 operating in the slot 60 the bar or rod 53 will be swung about the pin 58 as a pivot, the pivotal connection 55 of the bar or rod 53 with the link 54, permitting of such operation, to position the end thereof beneath the pin 51 on the rack which controls the operation of the supports in the desired series, after which when the coin controlled mechanism is operated, the bar 53 will be reciprocated to actuate the selected rack member.

In order to insure a full movement of the member 62 when the handle 64 is operated and to properly position the end of the bar 53 beneath the pin 51 a member 67 is provided which is pivotally mounted as at 68 upon a fixed support and is provided with a cam portion 69 that co-operates with the cam portions 63 of the member 62. A spring 70 is connected by one end to the member 67 and is anchored at its other end as at 71 to a fixed support. This spring tends to move the member 67 in one direction about its pivot, and which movement may be limited by means of a stop 67^a in the form of an arm projecting from the member 67 adapted to engage one of the walls of the enclosing casing 20. The stress of the spring 70 is such that when the handle 64 is operated from the position shown in Figure 6, it will permit the member 67 to yield so that the cam portions 63 of the member 62 will pass to one side of the cam portion 69, whereupon the stress of the spring 70, when the handle 64 is released, will impart a further movement of the member 62 in the same direction, thereby insuring the proper positioning of the end of the bar 53. An indicator 72 may be provided to indicate to the operator the proper position into which the handle 64 should be moved.

When the bar 53 has reached the limit of its upward movement and is being retracted, the rack member 44 actuated thereby will return by gravity, but in order to insure a positive return of the rack members, the bar 53 may be provided with shoulders or lateral projections 73, one for each of the rack members 44 (see particularly Figures 6 and 12) adapted to engage over a lug or projection 74 upon the downward movement of the bar to positively draw down or lower the rack.

The rack bars 44 are reciprocated for the purpose of successively tripping or releasing the supports 30 of the particular series selected to be operated, and this is accomplished through the medium of tripping mechanism which is mounted upon the rack bar for movement therewith and with respect thereto and intermitently with respect to the operation of the rack.

The tripping or releasing mechanism consists essentially of a cam shaped portion adapted to operate upon and shift the latch 35 of the support to an inoperative position and also embodies mechanism which is adapted to co-operate with the respective supports to hold the trip or release mechanism against retrograde movement during a retrograde movement of the rack member, so that during the operations of the machine the trip or release mechanism will have an intermittent or ratchet operation with respect to the rack to advance or move the trip mechanism in a constant direction until the last support has been tripped or released, after which the tripping or release mechanism will be automatically rendered inactive or disconnected with respect to the rack and will be returned automatically to its initial or starting position independently with respect to the rack.

This may be accomplished in the following manner, reference being had more particularly to Figures 2, 3, 15 and 16.

A slide member 75 is connected with the rack member 44 to rest against one face thereof and is provided with flanges 76 to engage over the longitudinal edges of the member so as to hold the same in position and permit it to move freely lengthwise of the rack member. A trip element 77 is carried by the slide member 75 for movement therewith and with respect thereto and is connected to the slide through the medium of a headed pin or lug 78 which passes through a slot 79 in the trip member and the slot 79 is of such a length and the pin 78 is so located that one end of the trip member 77 projects beyond the end of the slide 75. This pin and slot connection also serves as a means for permitting a pivotal movement as well as bodily movement of the trip element with respect to the slide.

Carried by the slide 75 is a cam 80 which is preferably in the form of a lateral projection adapted to move behind and engage a portion of the latch 35 on the support 30, in a manner to be hereinafter set forth to shift the latch with respect to the support and thereby release the latter so as to permit it to swing about its pivot 32.

Carried also by the slide 75 is a dog 81 pivotally mounted as at 82 and a spring 83 is anchored by one end to the dog 81 and by its other end to a fixed support upon the slide 75 such as the pin 78. This dog 81 is adapted to engage over the edge of the latch 35 as the slide is advanced, so as to hold the slide 75 against retrograde movement and so as to permit the rack member 44 to move with respect to the slide in a retrograde direction. The spring 83 tends normally to move the dog 81 in a position to engage over the latch

35. The dog 81 is provided with a projection portion 84 which is adapted to enter a recess 85 in the trip element 77 so as to permit of the dog engaging over the latch 35.

The trip element is also provided with an inclined surface 86 adapted to co-operate with the projection 84 on the dog 81 so as to rock the latter about its pivot 82 and thereby move the dog 81 backwardly and hold the same in an inoperative position with respect to the latches 35. When the trip element 77 is moved from the position shown in Figure 2 and with respect to the slide 75, to the position shown in Figure 1, the dog 81 will be in a position that as the slide 75 is advanced the dog will engage the extremity of the latch 35 and will be rocked about its pivot 82 against the stress of the spring 83 until the end of the dog passes above the latch 35, the recess 85 being in a position to permit of such action, at which time the spring 83 will move the dog 81 forwardly and over the extremity of the latch. This will suspend the slide and permit the rack 44 to move downwardly with respect to the slide.

Pivotally connected to the slide 75 as at 87, and by one end, is a link 88 and the other end of the link is pivotally connected as at 89 to the trip element 77. Pivotally connected also to the slide 75 is a dog 90 having a nose or portion 91 adapted to enter a notch or recess 92 in the trip element 77, and a spring 93 tends normally to move the dog 90 in a direction to cause the nose to enter the recess.

The slide 75 is provided with a notch or recess 94 so as to permit a laterally deflected portion or finger 96, which is carried by the dog 90, to engage over the shoulders 45 on the rack member, and one of the walls of the notch or recess 92 is inclined as at 97 (see particularly Figure 16) adapted to operate upon the nose 91 of the dog 90 to swing the same about its pivot and thereby move the nose 91 to a position where it will not engage the shoulders 45 on the rack members 44 when the slide and the tripping mechanism are returned to a normal position after all of the articles have been dispensed from one of the columns. The spring 93 tends normally to move the dog 90 in an operative direction.

The bottom of the trip element 77 is preferably inclined as at 99 and this inclined portion is adapted, at a predetermined time in the cycle of operation of the mechanism, to engage or strike against a stationary lug or projection 100 arranged in the path of movement thereof and operates, to cause the trip element to be shifted with respect to the slide 75, to shift the dogs 81 and 90 from an inoperative position as shown in Figure 2, into an operative position as shown in Figure 10, and this is accomplished in the following manner.

The normal position of the parts of this trip or release mechanism is as shown in Figure 10, that is with the trip element 77 in a position that the projection 84 on the dog 81 will enter the recess 85 and with the dog 90 and link 88 in the position shown in Figure 10, that is so that the nose 91 of the dog 90 will enter the recess or notch 92 in the trip element. In this position the spring 93 will cause the projection 96 on the dog 90 to be in a position to engage over and rest upon one of the shoulders 45 on the rack member, the slide 75 being provided with the notch 94 for that purpose.

The slide 75 will then be locked to the rack member for movement therewith by reason of the projection 96 engaging one of the shoulders 45 so that when the rack member 44 is then moved upwardly the slide 75 with the release or tripping mechanism will be bodily advanced together. During this movement the nose of the dog 81 will be engaged by the projecting portion 37 of the latch 35 and a continued movement of the slide with the rack will result in the dog 81 being moved about its pivot 82 against the stress of the spring 83 so as to pass the projection 37 until the nose of the dog 81 passes over such projection, at which time the spring 83 will then move the dog 81 about its pivot in the opposite direction, so as to engage over and rest upon the projection or end of the latch 35.

When the rack member 44 is drawn backwardly this dog 81 co-operating with the portion of the latch 35 will hold the slide as well as the trip element against movement with the rack, and at this time the inclined portion 46 on the rack member 44 will engage the extension 96 on the dog 90 to move the latter about the pivot point 87 against the stress of the spring 93 to permit the rack member to be drawn downwardly with respect to the slide 75. As soon as another of the shoulders 45 has passed the nose 91 of the dog 90, the spring 93 will swing the dog 90 about its pivot 87 to cause the portion 96 to engage over such shoulder and thereby lock the slide 75 with the rack member so that upon the next movement upwardly, the slide and the mechanism supported thereby will be advanced thereby, thus causing a step by step or ratchet movement of the slide 75 upwardly to successively trip the latch members 35 to release the supports so that they will discharge the articles held thereby.

This intermittent or ratchet movement of the slide 75 will continue until the slide has reached the uppermost support, or in the position as shown in Figure 10. A further movement of the rack member 44 upwardly will then cause the cam 80 on the slide 75 to engage the projecting portion 37 of the latch 35 of the uppermost support 30 and shift it against the stress of the spring 42 to release the uppermost support, and just at the time that the latch 35 is thus shifted, the end of the trip member 77 will engage a stop or projection 101 to arrest the movement of the trip member with the slide 75, but the slide will continue to travel with the rack member 44. The result will be that the trip element 77 and slide 75 will be shifted one with respect to the other, causing the wall of the recess 85 to operate upon the projection 84 of the dog 81 and swing the latter about its pivot 82. The inclined surface 86 of the trip element 77 will then engage the projection 84 on the dog 81 and hold the latter in an inoperative position. As this relative movement is imparted to the trip element and slide, the inclined wall 97 of the notch 92 will operate upon the nose 91 of the dog 90 to swing the latter about the pivot 87 against the stress of the spring 93 to move the projection 96 on the dog 90 into a position where it will not engage any of the shoulders 45 of the rack member. A continued relative movement of the trip element 77 and the slide 75 will cause the pivot 89 of the link 88 to be lowered with respect to the pivot 87 and the spring 93 will then cause the dog 90 and the link 88 to assume the position shown in Figure 2, thereby causing the trip element to be drawn backwardly and thereby insure a proper positioning of the parts so that the slide 75 with the trip element and the dogs carried thereby will immediately fall by gravity down the rack bar to the lower end thereof or until the inclined

surface 99 at the lower end of the trip element 77 strikes the projection 100.

The force or impact of the inclined surface 99 against the projection 100 will cause a relative movement of the trip element 77 with respect to the slide 75, with the result that the trip element will be raised with respect to the slide and the link 88 will then swing about its pivot 89, from the position shown in Figure 11 back to the position shown in Figure 10, and as soon as the notch 92 in the trip element is in a position to receive the nose 91 of the dog 90, the spring 93 will cause the nose to enter such notch or recess and will move the projection 76 so that it will be in a position to engage over one of the shoulders 45 when the slide is again advanced. At the same time the trip element 77 will swing about the pivot formed between the lug 78 and slot 79, and the pivot 89 of the link 88, and the recess 85 will move into a position that the spring 83 will swing the dog 81 about its pivot 82 into an operative position or into the position shown in Figure 10.

By the provision of the link 88 and the pivots 87—89, it will be manifest that the trip element will move downwardly with respect to the slide 75 and also into a position with respect to the slide 75, to insure a proper positioning of the dogs so that they will not interfere with the descent or fall of the slide and the mechanism carried thereby, by gravity, to its initial or starting position.

When the parts of this trip mechanism are in the position shown in Figure 10, the entire trip mechanism may be raised with respect to the rack member 44 as the dogs 81 and 90 will ratchet with respect to the rack member, and as a means for thus moving the slide 75, there may be provided a socket or recess 102 carried by the trip element 77 into which an implement may be inserted for moving the slide 75 upwardly and downwardly on the rack bar.

After all of the supports 30 have been lowered by the operation of the release mechanism and the release mechanism has been returned to its initial position, the supports may be repositioned so as to hold articles thereupon by moving their free ends upwardly until the latch 35 springs into position under the shoulder 41 on the members 29.

As a means for preventing the discharge of the coin into the machine after either of the columns has been exhausted or emptied, suitable coin return mechanism may be provided.

As before stated, the check controlled mechanism may be of any desired type. Suffice it to say that the coin is deposited into a disc having a seat therein, which is adapted to be inverted so as to discharge the coin therefrom. In order to prevent the discharge of the coin when the machine is empty, each one of the series is provided with a coin return mechanism preferably comprising a rock shaft 103 (see particularly Figure 4) journaled in suitable bearings 104. One end of the shaft is bent upwardly as at 105 and a portion thereof is bent forwardly as at 106, another portion of the shaft is bent rearwardly to form an arm 107. By rocking the shaft 103 in one direction, the portion 106 will be positioned under the coin in the coin carrier so that it will not be delivered from the seat and by rocking the shaft 103 in the opposite direction, the portion 106 will be withdrawn so as to allow the coin to be deposited in the machine.

Any suitable means may be provided for thus rocking the shaft, but a simple and efficient means embodies a member 108 (see particularly Figures 1 and 13) having an opening into which the end of the arm 107 projects. To this member is connected one end of a spring 109 and the other end of the spring is connected as at 110 to the end of a rod 111 that extends upwardly along one of the walls 29, moving in suitable guides. The upper end of the rod 111 is shaped to form a projecting portion 112 that stands within the path of movement of the end of the uppermost support 30, as shown more clearly in Figures 10 and 14, so that when the uppermost support 30 is lowered by rocking about its pivot 32, one end thereof will contact with the portion 112 of the rod 111 and raise the latter, and this through the medium of the spring 109 will raise the member 108 and thereby rock the shaft 103 by raising the arm 107.

Connected with the member 108 is a link 113 (see also Figures 4 and 7) and the connection between the member 108 and link 113 may be adjustable and formed preferably by means of screws 114 passing through slots 115 in one of the members and engaging the other member. A bell crank lever 116 is pivotally mountd as at 117 to a fixed support preferably the wall of the enclosing casing, and to one arm of the bell crank lever the end of the link 113 is pivoted as at 118. A stop 119 is provided for limiting the movement of the other arm of the bell crank lever in one direction. The bell crank lever 116 is mounted adjacent the shiftable cam member 62 and carried by the cam member 62 is a cam projection 120 which is adapted when the cam member 62 is shifted by the handle 64, to engage the arm of the bell crank lever 116 and rock the latter in a direction to lower the member 108 and the arm 107 of the shaft 103 in a direction to withdraw the portion 106 from beneath the coin in the coin carrier.

When, however, the uppermost support 30 is lowered, the rod 110 will raise the arm 107 to position the projection 106 so as to prevent the discharge of the coin into the machine. Therefore, after the articles have been exhausted from one supply and it is desired to vend the articles from the other column or supply, the uppermost support 30 in the exhausted supply will hold the portion 106 of the shaft 103 in a position that the coin cannot be delivered into the machine. Therefore, means must be provided for retracting this portion 106 so that the articles can be vended from the other column by the same coin controlled mechanism.

The bell crank lever 116 and link 113 are provided for this purpose and are so arranged that when the member 62 is shifted so as to vend from the other column, the cam shaped portion 120 will engage the bell crank lever 116 of the exhausted supply and thereby retract the portion 106 of the shaft 103. The coin return mechanism of the other supply will be held inactive by reason of the weight of the parts operating to rock the shaft 103 in a direction to withdraw the respective portion 106 of the shaft and will so remain until the uppermost support has been shifted to draw upon the rod 111. The spring 109 permits the cam shaped portion 120 of the cam member 62 to shift the bell crank lever 116 and withdraw the portion 106 of the shaft 103, even though the uppermost support has a tendency to render the coin return mechanism active.

With this improved construction it will be manifest that at any time during the operation of the machine, the operator can selectively vend articles from either column or series, and after all of the articles have been exhausted from one

supply or column, the articles in the other column can be vended, and the coin will be returned to the operator in the event that both of the supplies are exhausted, or in the event that an operator should adjust the mechanism in an attempt to vend or procure an article from the exhausted column or supply.

It is thought that the operation of this machine will be clearly understood from the foregoing, but briefly stated, it is as follows:

The operator first actuates the handle 64 to select the supply from which he desires to procure an article. The coin is then delivered into the coin controlled mechanism and the handle 22 actuated. It is assumed, at the start of the operation, that the slide 75 with the trip mechanism carried thereby, is in its lowermost position or in the position shown in Figure 1. When the coin is inserted and the handle 22 is operated, the rack 44 will be moved longitudinally and with it the slide 75 and the trip or release mechanism until the cam 80 on the slide shifts the latch 35 of the lowermost support 30 to release the latter and allow it to drop. At this time the slide 75 will be moved to a position that the dog 81 will engage over the portion 37 of the next adjacent latch 35, so that when the rack 44 is returned the slide 75 will be held in its adjusted position and the rack will move with relation to the slide. This ratcheting upwardly of the slide 75 with the supporting mechanism is repeated during the successive operations of the coin controlled mechanism until the uppermost support 30 is reached.

This support will be tripped in a similar manner and when tripped the rod 111 will be moved longitudinally to render the coin return mechanism active. At the same time that the uppermost support 30 is tripped the slide 75 will continue in its movement until the end of the trip element 77 abuts the projection or stop 101. The slide 75, however, will continue to travel in the same direction to shift the trip element 77 with relation to the slide, and this will shift the dogs 81—90 to inactive positions with respect to the latches 35 and also to the shoulders 45 on the rack bar, and the slide 75 will then drop by gravity to the bottom of the machine.

During this movement by gravity the parts of the slide and trip mechanism will be as shown in Figure 2. When the slide reaches a position that the inclined surface of the trip element 77 contacts with the stop or projection 100, the trip element will be shifted with respect to the slide so that the parts will move from the position shown in Figure 2, back to the position shown in Figure 10, to render the slide active with respect to the rack bar.

The rack bars are moved by the coin controlled mechanism through the medium of the link 54 during their upward movement and the rack bars are lowered by means of the projections 73 engaging over the projections 74 on the rack bar. The bar or rod 53 which is the actuating bar is moved by the handle 64 so that the end of this bar 53 will be positioned beneath one or the other of the lugs 57 on the respective rack bar so as to operate the latter when the bar 53 is moved in one direction, and when one of the supplies is exhausted, the coin return mechanism will be rendered active.

Inasmuch as the same coin controlled mechanism is provided for each of the supplies, the bell crank lever 116 and link 113 are provided for rendering it possible to permit of the operation of the machine to vend from the other supply without the loss of the coin to the operator in an attempt to vend from the exhausted supply, which might otherwise be done by the operator by setting the selecting mechanism through the operation of the handle 64.

In order to prevent an operator from partially setting the bar 53 by the knob 64 and then holding this bar in this partially set position by holding the knob 64 so that upon actuating of the mechanism an article will be dispensed from one of the supplies, and then by further manipulating the knob 64 to again set the bar 53 to the other column and before the coin is returned, that is perform such operations while the coin controlled mechanism is held by holding the handle 22, and then operating the machine again so as to dispense two articles by the insertion of a single coin, the mechanism disclosed in Figures 19 to 24 may be provided.

In this form of the invention the bar 53 is made in two sections, that is the upper end of the rod is enlarged as at 121 at a point spaced from the extremity 122 and this enlargement is in the form of a hollow frame to provide an opening 123. The slot in this form of the invention which takes the place of the slot 60 in which the lug 61 projects, is formed in a separate member 124, the slot 125 therein, corresponding to the slot 60, extends substantially throughout the length thereof and in register with the opening 123, the member 124 being pivotally mounted as at 126 upon the bar 53 so as to swing freely with respect thereto.

Connected with the member 124 and on opposite sides of the pivot 126 are springs 127 preferably in the form of leaf springs which project for any desired distance beyond the end of the member 124 and engage laterally projecting lugs or shoulders 128 carried by the end 122 of the bar 53, so that when the member 124 is moved about its pivot 126 into the position shown in Figures 22 and 23, one of the springs 127 will be flexed and when moved in the opposite direction to the same extent, the other of the springs 127 will be flexed for a purpose to be set forth.

The lug 61 carried by the member 62 projects into the slot 125 of the member 124 and by swinging the member 62 by rotating the handle 64, the lug 61 will cause the member 124 to rock about its pivot, the opening 123 in the portion 121 of the bar 53 permitting of such rocking movement of the member 124.

The member 124 is moved bodily with the bar 53 and when the end 122 of the bar 53 is positioned as shown in Figure 19, that is so that the extremity 122 stands beneath the lug 51 on the rack member 44, the bar 53 will, when it is moved bodily, move the rack bar 44 to trip one of the supports 30.

When in the position shown in Figure 19, the end of the bar 53 will assume a position to one side of a shoulder or projection 129 and will hold the bar 53 in the position shown in Figure 19 during the reciprocating movement of the bar and this operation will continue upon each operation of the machine, so long as the member 62 is in the position shown in Figure 19. When, however, the member 62 is moved from the position shown in Figure 19 to the position shown in Figures 21, 22 and 23, no matter what position the bar 53 is in, the handle 64 will be adapted for a full rotation and the member 62 will be swung to the full extent of its movement by reason of

the fact that the member 124 will swing about the pivot 126.

When, however, the side of the bar 53 engages the side of the shoulder or projection 129 (see Figure 19) and the member 62 is moved from the position shown in Figure 19 to the position shown in Figures 21 to 23, the full movement of the knob 64 will not be interfered with because the lug or projection 61 will cause the member 124 to rock about the pivot 126 and this will cause one of the springs 127 to move away from its projection 128 while a stress is created upon the other spring 127, see particularly Figure 22, and this stress will remain in the spring 127 until the extremity 122 of the bar 53 moves to a point below the shoulder or projection 129, or into the position shown in dotted lines in Figure 22. Just as soon as the extremity 122 of the bar 53 passes below the shoulder or projection 129, the energy stored in the spring 127 which is under stress will cause the member 124 to move rapidly about its pivot 126 from the position shown in dotted lines to the position shown in full lines in Figure 22, to position the end 122 of the bar 53 beneath the lug 51 on the other rack bar 44. In this position and upon operation or shifting of the bar 53 the end thereof will engage this latter lug 51 and shift the other rack bar 44.

During this period of movement the end of the bar 53 will clear the shoulder 129 and as the bar 53 is moved upwardly the end thereof will pass on the other side of the shoulder or projection 129 as shown in Figure 21.

Should the member 62 be moved back to the position shown in Figure 19 while the end of the bar is in the position shown in Figure 21, the member 124 will be rocked in the opposite direction about the pivot 126 and cause a stress to be exerted on the other spring 127 so that upon lowering the bar 53 when the end thereof clears the shoulder or projection 129, such end of the bar will be moved back from the position shown in Figure 21, to the position shown in Figure 19.

It will therefore be manifest that no matter which way the selective knob 64 is turned it will be capable of a full rotative movement and the spring 70 together with the inclined surfaces 69 will co-operate with the extremity 63 of the member 62 to assist in throwing the member 62 to one side or the other after the center point has been passed.

Should it be attempted to move the parts to the position shown in Figure 24, that is so that the extremity of the member 62 will engage the tip or apex of the inclined surfaces 69 to hold the member 67 in a position to attempt to reciprocate the bar 53 and thereby fradulently operate the machine, the springs 127 will cause the member 124 to assume the position shown in Figure 24, that is so that the extremity 122 will be directly beneath the shoulder or projection 129. The result will be that when the parts are in this position and it is attempted to actuate the bar 53 to shift one of the rack bars 44, such operation will be prevented by reason of the fact that the end 122 of the bar 53 will engage beneath the shoulder or projection 129 and the movement of the bar 53 will be arrested.

Obviously, it will be manifest that with this construction the selective feature of the mechanism is still provided, but in this form of the invention a safety means is also provided to prevent a fradulent operation of the machine, and at the same time permit the operator to impart a full rotative movement to the knob or selector handle 64.

After the selecting mechanism has been operated in any position of the bar 53, it will be manifest that upon operation of the machine, the bar 53 will aright itself according to the position of the member 62.

If desired and in order to hold the member 67 against lateral movement, a guide or way 130 may be provided.

The springs 127 operate to automatically shift the bar 53 at a predetermined time in the operation of the machine so that the bar 53 will be moved to its limit and it will not be possible to manipulate the machine so as to get more than one article on the deposit of each coin.

Spaced lugs 131 may be provided between which the bar 53 will oscillate so as to limit the shifting movement of the bar from one of its positions to the other.

While the preferred forms of the invention have been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:—

1. In a vending machine a plurality of superposed spaced pivotally mounted article supports, locking means for maintaining them against movement about their pivots, a releasing unit for successively rendering said locking means inactive to permit a pivotal movement of said supports, a reciprocable member, means for reciprocating the member, pawl and ratchet mechanism for connecting said unit with the said member whereby said unit may be advanced, and means operatively connected with said unit and co-operating with means carried with a support above the one released, for causing a relative movement of said member with relation to said unit in one direction of movement of the member.

2. In a vending machine a plurality of superposed spaced pivotally mounted article supports, locking means for maintaining them against movement about their pivots, a releasing unit for successively rendering said locking means inactive to permit a pivotal movement of said supports, a reciprocable member, means for reciprocating the member, pawl and ratchet mechanism for connecting said unit with the said member whereby said unit may be advanced, means operatively connected with said unit and co-operating with a support above the one released, for causing a relative movement of said member with relation to said unit in one direction of movement of the member, and means operating automatically at a predetermined point in the advancement of said unit to render said pawl and ratchet connection inactive, whereby said unit will return by gravity, independently of said member.

3. In a vending machine a plurality of superposed spaced pivotally mounted article supports, locking means for maintaining them against movement about their pivots, a releasing unit for successively rendering said locking means inactive to permit a pivotal movement of said supports, a reciprocable member, means for reciprocating the member, pawl and ratchet mechanism for connecting said unit with the said member whereby said unit may be advanced, means operatively connected with said unit and co-operating

with a support above the one released, for causing a relative movement of said member with relation to said unit in one direction of movement of the member, and means arranged in the path of movement of said unit by said member to be engaged by said unit and operating to move said pawl into an inactive position, whereby said unit will return independently of said member.

4. In a vending machine a plurality of series of article holders, each series embodying individual superposed article holders spaced to receive articles therebetween, means individual to the article holders for mounting them for swinging movement independent of each other, releasing means individual to the series for successively adapting the holders of the respective series to swing about their pivots, actuating means common to said releasing means, and means for selectively rendering either of said releasing means active or inactive at will with respect to said actuating means.

5. In a vending machine a plurality of series of article holders, each series embodying individual superposed article holders spaced to receive articles therebetween, means individual to the article holders for mounting them for swinging movement independent of each other, releasing means individual to the series for successively adapting the holders of the respective series to swing about their pivots, actuating means common to said releasing means, and means adapted to be set at will from the outside of the machine for selectively rendering either of said releasing means active or inactive with respect to said actuating means.

6. In a vending machine a series of superposed pivotally mounted supports, means for maintaining said supports against pivotal movement, a unit adapted to be intermittently advanced to successively adapt said supports for such pivotal movement, means for intermittently advancing said unit, the last recited means embodying a reciprocable rack, a spring controlled pawl carried with said unit and co-operating with the rack, means for reciprocating the rack, means associated with said unit and adapted to be shifted to render the pawl inactive with respect to the rack to permit said unit to return by gravity and independently with respect to the rack, and means adapted to be engaged by the last said means at a predetermined time in the cycle of operation of the mechanism to automatically render said pawl inactive with respect to said rack.

7. In a vending machine a series of superposed pivotally mounted supports, means for maintaining said supports against pivotal movement, a unit adapted to be intermittently advanced to successively adapt said supports for such pivotal movement, means for intermittently advancing said unit, the last recited means embodying a reciprocable rack, a spring controlled pawl carried with said unit and co-operating with the rack, means for reciprocating the rack, means associated with said unit and adapted to be shifted to render the pawl inactive with respect to the rack to permit said unit to return by gravity and independently with respect to the rack, means adapted to be engaged by the last said means at a predetermined time in the cycle of operation of the mechanism to automatically render said pawl inactive with respect to said rack, and means operating automatically to render said pawl active with respect to the rack, as said unit approaches the limit of its independent return movement.

8. In a vending machine a plurality of series of article holders, each series embodying individual superposed article holders spaced to receive articles therebetween, means individual to the article holders for mounting them for swinging movement independent of each other, releasing means individual to the series for successively adapting the holders of the respective series to swing about their pivots, actuating means common to said releasing means, means for selectively rendering either of said releasing means active or inactive at will, with respect to said actuating means, and means whereby the extent of movement of the said releasing means by the said actuating means may be varied.

9. In a vending machine a plurality of series of spaced superposed shiftable article supports fixed against traveling movement, means for maintaining them against such shifting movement, means individual to the series and adapted to transverse the series for successively adapting said supports for shifting movement, actuating means individual to the second recited means, a master actuating member common to the first recited actuating means, means for operating said master actuating member, and means for selectively rendering said master actuating member active and inactive with respect to either of the first recited actuating means.

10. In a vending machine a plurality of series of spaced superposed shiftable article supports, means for maintaining them against such shifting movement, means individual to the series for successively adapting said supports for shifting movement, actuating means individual to the second recited means, a master actuating member common to the first recited actuating means, means for operating said master actuating member, shoulders individual to the first recited actuating means, and means for selectively positioning at will, said master actuating member to engage one of said shoulders to operate the respective actuating means, upon the operation of the said master actuating member.

11. In a vending machine a plurality of series of article holders, each series embodying individual spaced superposed holders fixed against traveling movement, means individual to the article holders for maintaining them against movement with respect to each other, and means for selectively adapting at will, the holders of either series to be successively released.

12. In a vending machine a plurality of series of article holders, each series embodying individual spaced superposed holders, means individual to the article holders for maintaining them against movement with respect to each other, and means for selectively adapting at will, the holders of either series for such movement, the last said means embodying releasing mechanism individual to the series, a master actuating element, and means for positioning the master actuating element to be active with respect to either of the said releasing mechanisms.

13. In a vending machine, a series of spaced superposed article holders mounted for pivotal movement, means for maintaining the holders against such movement, releasing means for rendering the first said means inactive to permit of a pivotal movement of said holders, means for intermittently advancing the said releasing means, the said advancing means embodying a rack member, the releasing means embodying a slide movable upon the rack member, a spring controlled pawl for connecting the slide and rack

member, and means rendered active at a predetermined time in the cycle of operation of the releasing means for shifting said pawl into an inactive position to disconnect the slide with respect to the rack member whereby the slide will fall by gravity with respect to the rack member.

14. In a vending machine, a series of spaced superposed article holders mounted for pivotal movement, means for maintaining the holders against such movement, releasing means for rendering the first said means inactive to permit of a pivotal movement of said holders, means for intermittently advancing the said releasing means, the said advancing means embodying a rack member, the releasing means embodying a slide movable upon the rack member, a spring controlled pawl for connecting the slide and rack member, means rendered active at a predetermined time in the cycle of operation of the releasing means for shifting said pawl into an inactive position to disconnect the slide with respect to the rack member whereby the slide will fall by gravity with respect to the rack member, and means operating to automatically shift the pawl back into an operative position with respect to the rack member, at a predetermined time in the said falling movement of the said slide.

15. In a vending machine, a series of spaced superposed article holders mounted for pivotal movement, means for maintaining the holders against such movement, releasing means for rendering the first said means inactive to permit of a pivotal movement of said holders, means for intermittently advancing the said releasing means, the said advancing means embodying a rack member, the releasing means embodying a slide movable upon the rack member, a spring controlled pawl for connecting the slide and rack member, means rendered active at a predetermined time in the cycle of operation of the releasing means for shifting said pawl into an inactive position to disconnect the slide with respect to the rack member whereby the slide will fall by gravity with respect to the rack member, means for reciprocating the rack member, means operating automatically to render said slide active with respect to said rack at a predetermined time in the falling movement of the slide, and means for maintaining the said slide against movement with the rack member when the latter is given a retrograde movement during the reciprocation thereof to permit the slide to be advanced by the rack member.

16. In a vending machine a series of superposed pivotally mounted article holders, means for maintaining them against such pivotal movement, a releasing unit for successively adapting the holders for such pivotal movement, a rack for intermittently advancing said releasing unit, means for reciprocating the rack, said unit embodying a slide mounted loosely upon the rack member, a spring controlled dog co-operating with the rack for connecting the slide and the rack for advancing the former, a holding dog for holding the slide in its advanced position, a shiftable element carried with the slide, and a stop adapted to be engaged by said shiftable element during the advancement of the slide for rendering the first dog inactive with respect to the rack whereby the slide may be returned independently of the rack.

17. In a vending machine a series of superposed pivotally mounted article holders, means for maintaining them against such pivotal movement, a releasing unit for successively adapting the holders for such pivotal movement, a rack for intermittently advancing said releasing unit, means for reciprocating the rack, said unit embodying a slide mounted loosely upon the rack member, a spring controlled dog co-operating with the rack for connecting the slide and the rack for advancing the former, a holding dog for holding the slide in its advanced position, a shiftable element carried with the slide, a stop adapted to be engaged by said shiftable element during the advancement of the slide for rendering the first dog inactive with respect to the rack whereby the slide may be returned independently of the rack, and a stop adapted to cause said shiftable element, upon the return of the slide, to shift the said spring controlled dog to render the same active with respect to said rack.

18. In a vending machine a series of shiftable article holders, means for maintaining them against such movement, means for rendering the last said means inactive to permit of such shifting movement, the last recited means embodying a reciprocable rack member, a slide mounted to move freely thereupon, a spring controlled dog mounted upon the slide for operatively connecting the slide and rack member, a shiftable element also carried by the slide, a link connection between said element and the slide whereby when said element is shifted with respect to the slide two different movements will be imparted to the element, a stop adapted to be engaged by said element when the slide is moved in one direction by the rack member, to move the element with relation to the slide, to render said dog inactive with respect to the rack member, and a stop adapted to be engaged by the said element when the slide moves in the opposite direction, to shift said element with respect to the slide to render the dog active with respect to the rack member.

19. In a vending machine a series of shiftable article holders, means for maintaining them against such movement, means for rendering the last said means inactive to permit of such shifting movement, the last recited means embodying a reciprocable rack member, a slide mounted to move freely thereupon, a spring controlled dog mounted upon the slide for operatively connecting the slide and rack member, a shiftable element also carried by the slide, a link connection between said element and the slide whereby when said element is shifted with respect to the slide two different movements will be imparted to the element, a stop adapted to be engaged by said element when the slide is moved in one direction by the rack member, to move the element with relation to the slide, to render said dog inactive with respect to the rack member, a stop adapted to be engaged by the said element when the slide moves in the opposite direction, to shift said element with respect to the slide to render the dog active with respect to the rack member, a holding dog carried by the slide for maintaining the slide in the position to which it has been moved by the rack member, and means whereby the relative movement of said element with relation to the slide will render the said holding dog active and inactive.

20. In a vending machine a plurality of series of article holders, each series embodying individual spaced superposed holders, means individual to the holders for maintaining them against movement with respect to each other, means for selectively adapting at will the holders of either series to be successively released, the

last said means embodying releasing mechanism individual to the series, a master actuating element, and means for positioning the master actuating element to be active with respect to either of said releasing mechanisms at will, the last recited means embodying a member adapted to be set by the operator at any time in the cycle of operation of the mechanism for causing the master actuating element to be selectively positioned with respect to the said releasing mechanisms.

21. In a vending machine a plurality of series of article holders, each series embodying individual spaced superposed holders, means individual to the holders for maintaining them against movement with respect to each other, means for selectively adapting at will the holders of either series to be successively released, the last said means embodying releasing mechanism individual to the series, a master actuating element, means for positioning the master actuating element to be active with respect to either of said releasing mechanisms at will, the last recited means embodying a member adapted to be set by the operator at any time in the cycle of operation of the mechanism for causing the master actuating element to be selectively positioned with respect to the said releasing mechanisms, means co-operating with the said member and adapted to be rendered active by the setting of said member for shifting said master actuating element, and means for maintaining the last said means against shifting said master actuating element until the latter has been moved to a predetermined position in the cycle of operation of the machine.

22. In a vending machine a plurality of series of article holders, releasing means individual to the holders of each series for causing them to deliver the articles therefrom, a master actuating element, means for positioning said actuating element to be active with respect to either series of releasing means, the said positioning means embodying a setting member operable at will, a resiliently yielding connection between said setting member and said master actuating element, and means for causing said connection to be placed under tension by the actuation of said setting member, the last recited means also operating to maintain the master actuating element against shifting movement by the said setting member and said connection until the master actuating element reaches a predetermined position in its cycle of operation.

23. In a vending machine a plurality of series of article holders, releasing means individual to the holders of each series for causing them to deliver the articles therefrom, a master actuating element, means for positioning said actuating element to be active with respect to either series of releasing means, the said positioning means embodying a setting member operable at will, a resiliently yielding connection between said setting member and said master actuating element, means for causing said connection to be placed under tension by the actuation of said setting member, the last recited means also operating to maintain the master actuating element against shifting movement by the said setting member and said connection until the master actuating element reaches a predetermined position in its cycle of operation, and means for maintaining said master actuating element against operation when the latter assumes a position intermediate its full set operative positions.

24. In a vending machine a plurality of series of article holders, releasing means individual to the holders of each series for causing them to deliver the articles therefrom, a master actuating element, means adapted to be set at any time during the operation of the machine for causing said master element to be rendered active with relation to either of said series of holders, the said setting means embodying a control member adapted to be positioned at will, a swinging member connected to and movable with said master actuating element, a pin and slot connection between said control member and said swinging member, resilient means adapted to be placed under tension when said swinging member is moved about its pivot with respect to the said element, means for actuating said master actuating element, and means for maintaining said swinging member against pivotal movement with respect to the said master actuating element until the latter reaches a predetermined position during the cycle of operation thereof.

25. In a vending machine a plurality of superposed spaced pivotally mounted article supports, locking means for maintaining them against movement about their pivots, a releasing unit for successively rendering said locking means inactive to permit a pivotal movement of said supports, a reciprocable member, means for reciprocating the member, means for connecting said unit with said member for advancing said unit, and means operatively connected with said unit and co-operating with means carried with a support above the one released, for causing a relative movement of said member with relation to said unit in one direction of movement of said member.

26. In a vending machine a plurality of superposed spaced pivotally mounted article supports, locking means for maintaining them against movement about their pivots, a releasing unit for successively rendering said locking means inactive to permit pivotal movement of said supports, a reciprocable member, means for reciprocating the member, means for connecting the said unit with said member for advancing the unit, means operatively connected with said unit and co-operating with a support above the one released, for causing a relative movement of said member with relation to said unit in one direction of movement of the member, and means operating automatically at a predetermined point in the advancement of said unit to render said connecting means inactive, whereby said unit will return by gravity independently of said member.

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