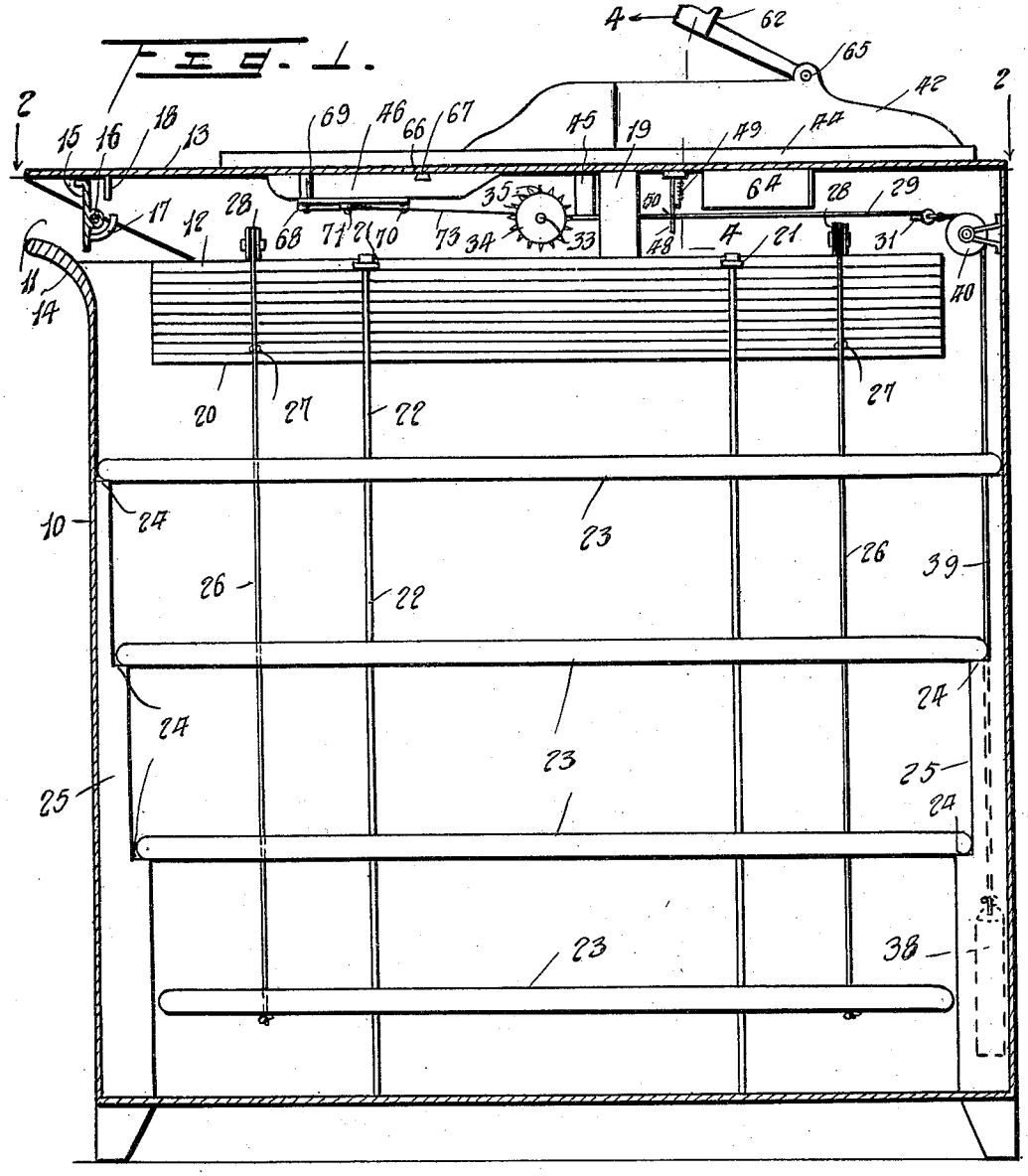
Nov. 8, 1932. J. A. KELLY 1,886,694

NEWSPAPER OR LIKE VENDING MACHINE

Filed Sept. 12, 1929 4 Sheets-Sheet 1

Fig. 1.



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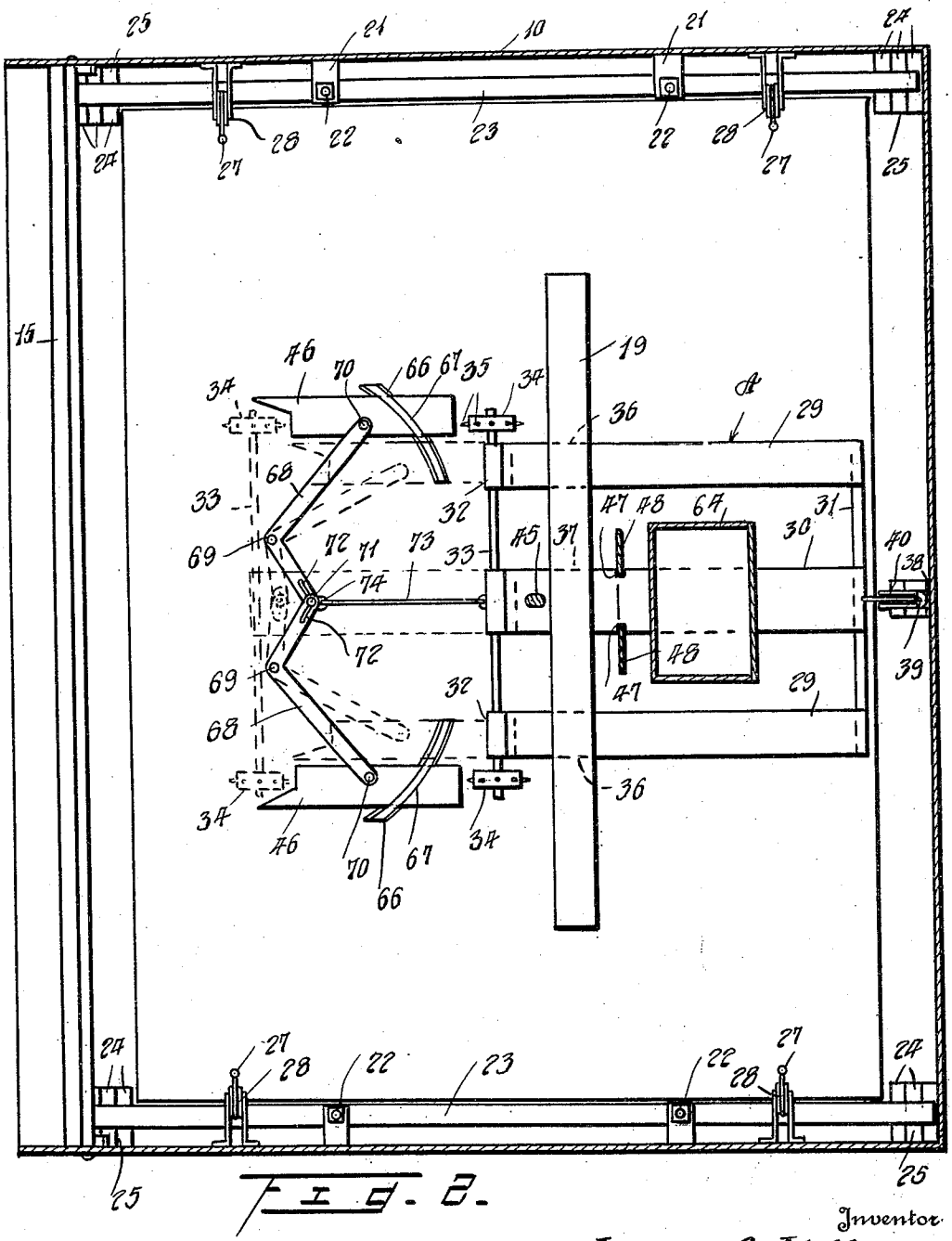


FIG. 2.

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Fig. 3.

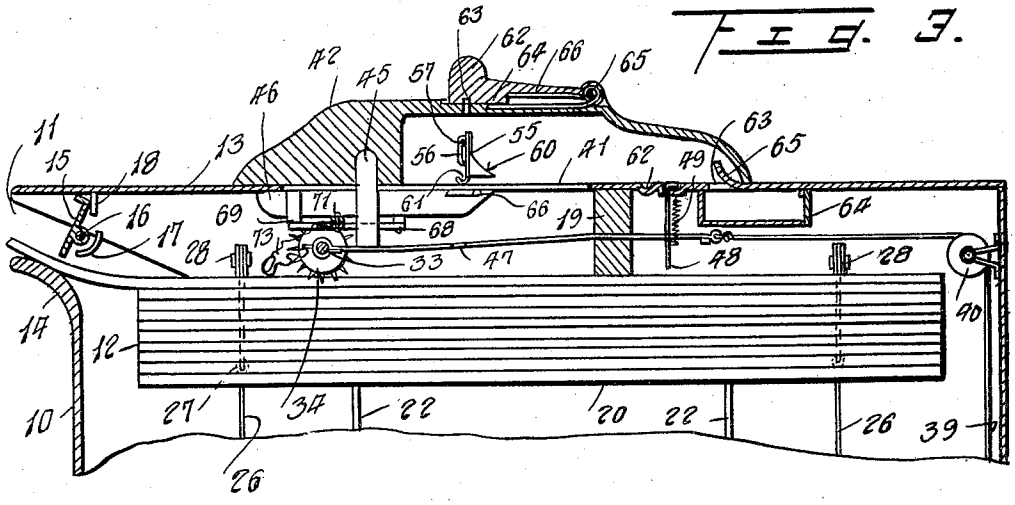


Fig. 4.

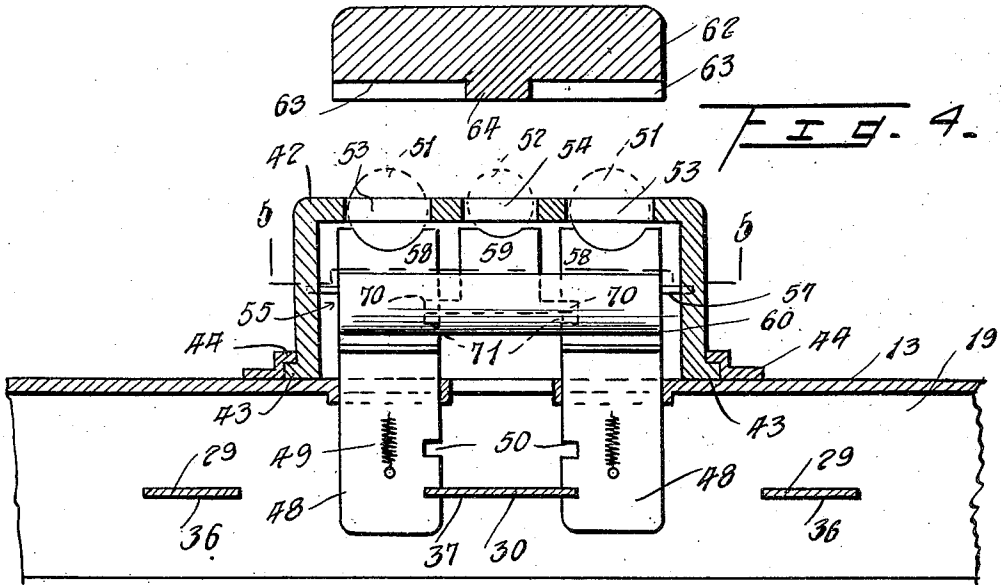
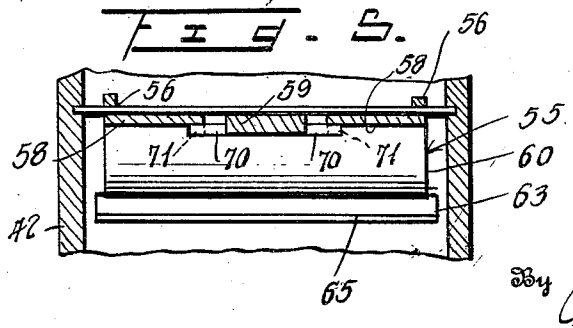


Fig. 5.



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NEWSPAPER OR LIKE VENDING MACHINE

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Fig. 6.

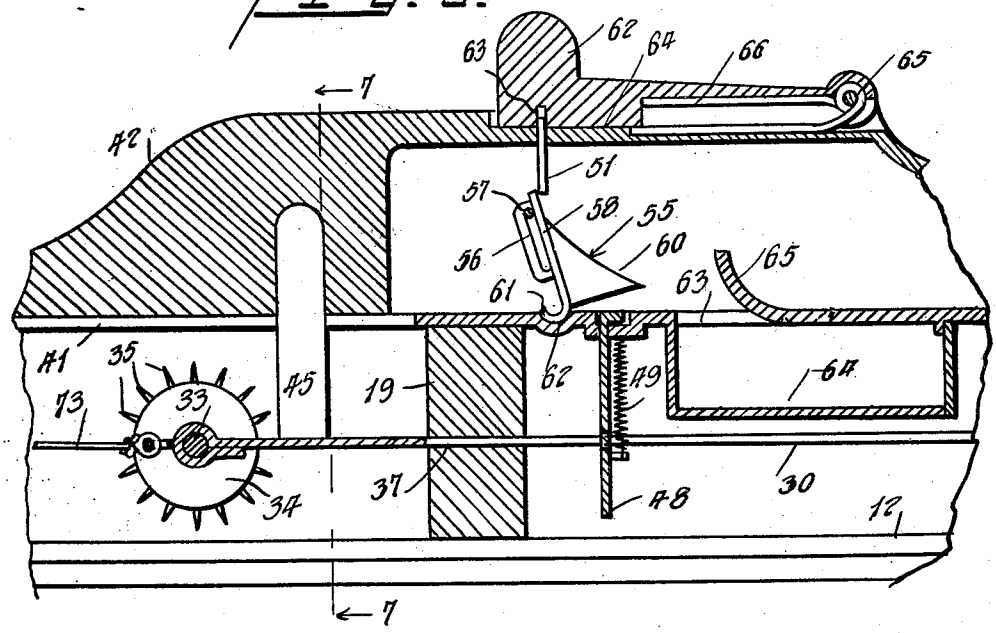
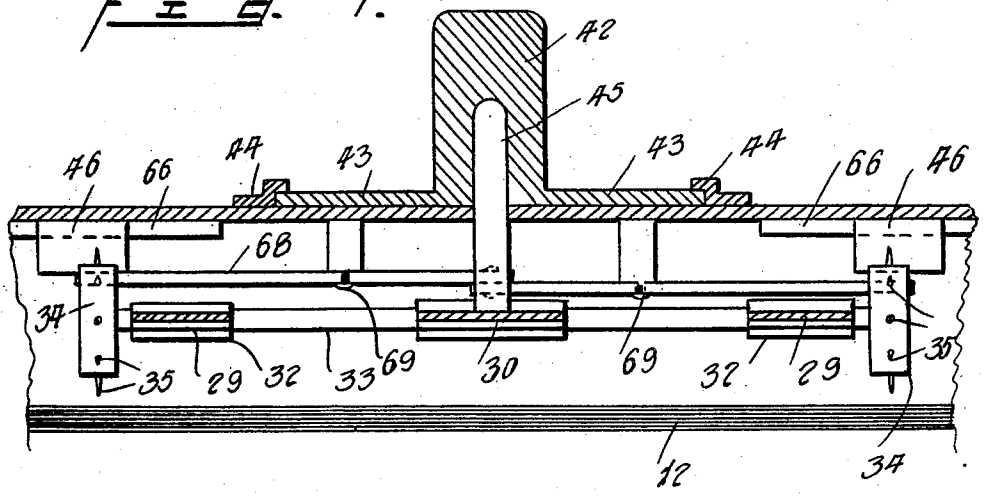


Fig. 7.



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UNITED STATES PATENT OFFICE

JAMES A. KELLY, OF PHILADELPHIA, PENNSYLVANIA

NEWSPAPER OR LIKE VENDING MACHINE

Application filed September 12, 1929. Serial No. 392,117.

This invention relates to a vending machine primarily for newspapers although capable of general use in connection with various articles or commodities.

It is aimed to provide a novel construction employing minimum and substantial parts enabling manufacture at minimum cost and also to provide a construction which is coin controlled by novel means employing a novel detent mechanism and a novel feeding device for the articles.

Another object is to provide a novel construction wherein the papers are maintained in proper position for delivery by graduated counter balances.

The more specific objects and advantages will become apparent from the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:—

Figure 1 is a view of the improved machine in substantially central vertical section,

Figure 2 is a cross sectional view taken on the line 2—2 of Figure 1,

Figure 3 is a fragmentary sectional view taken on the same plane as Figure 1 but showing the parts in position for discharging a newspaper,

Figure 4 is a sectional view taken on the line 4—4 of Figure 1,

Figure 5 is a sectional view taken on the line 5—5 of Figure 4,

Figure 6 is an enlarged detail sectional view primarily showing the coin controlled parts in position to collect a coin, and

Figure 7 is a cross sectional view taken on the line 7—7 of Figure 6.

Referring specifically to the drawings, wherein like reference characters designate like or similar parts, the machine employs a cabinet or casing generally designated 10 which is provided with a discharge opening at 11 for newspapers or other commodities 12, such opening being below the top wall 13 of the cabinet and the side wall adjacent the same having an outwardly curving lip 14. In order to prevent tampering through opening 11 with the newspapers or commodities 12, a guard or check plate 15 is pivoted to the cabinet at 16, inward movement of the lower end of the guard being limited through the engagement of an arcuate lug 17 thereon with a stop 18 depending from the top 13.

Suitably fastened within the casing 10 preferably in engagement with the top 13 is an abutment bar 19 which is adapted to be engaged by the uppermost article 12. The articles 12 are arranged in a pile or superposed as shown in the drawings, and rest on a plate or platform 20 which is guided in its vertical movement through the slidable engagement of ears 21 thereon with guide rods 22 vertically mounted in the casing in any preferred manner. A series of counter weights 23 are progressively increasing in length in an upward direction and those above the bottom being adapted for coaction with shoulders 24 provided by batons 25 arranged within the casing. Counter weights 23 are fixed in the position shown to flexible elements or cables 26 and are also fastened as at 27 to the platform 20, and between their ends, such cables traversing guide pulleys 28 suitably fastened to the casing.

The counter weights 23 automatically elevate the platform 20 and pile of papers 12 after one is dispensed, thus maintaining the uppermost one in contact with the bar 19. The graduated counter balances 23 shown, insure an even pressure against the means for effecting the discharge of a newspaper or commodity being vended, is under novel coin controlled means. In this connection, a frame generally designated A is provided which consists of two outer bars 29 and an intermediate bar 30, connected rigidly together at their rear ends by a rod 31 and at their forward ends being formed into bearings 32 which journal a shaft 33 having feed rollers 34 fixed on its opposite ends, which rollers are preferably provided with spurs 35 to facilitate engagement with the newspapers 12. Such frame A is slidable toward and away from the discharge opening 11, to which end, the bar 19 has slots at 36 and 37 through which the bars 29 and 30 pass. Such frame A is urged to its rearmost or re-

tracted position by a suitable means such as a weight 38 which is connected to the frame A by means of a cable or flexible element 39 traversing a direction pulley or the like at 40 fastened to the casing.

In the top wall 13, a longitudinally extending slot 41 is provided and over the same an operating head 42 is slidably mounted on the wall 13 so as to move toward and away from the opening 11. The head 42 has lateral flanges 43 which are overlapped by guide members 44 fastened to the top wall 13 as best shown in Figures 4 and 7. Operating head 42 carries a lug 45 which passes through the slot 41 and which is engageable with the bar 30. It will be noted that the bars 29 and 30 normally are straight or horizontal and maintain the rollers 34 elevated or out of contact with the uppermost article 12.

In order to engage the uppermost article 12, the rollers 34 must be depressed into engagement with the article as shown in Figure 3. To this end, the bars 29 and 30 are of flexible metal so that they may be deflected out of a horizontal plane into the position shown in Figure 3. To this end, the frame A is adapted to move with the operating head 42 and during such movement, the feed rollers 34 are adapted to engage abutment block 46, which acts as a cam to rotate the rollers 34 clockwise, causing them to engage the uppermost paper 12 and feed it forwardly as suggested in Figure 3 so that it will project through the opening 11 and may be readily grasped by the purchaser and withdrawn.

Normally the head 42 is immovable because the head and frame A are unitarily connected together since the lug 45 is fastened to the strap or bar 30 and since such strap or bar 30 has notches 47 provided in opposite edges thereof as shown in Figure 2 which are occupied by detent members as also shown in said figure and in addition well shown in Figure 4. Such detent members 48 by their engagement with the notches 47 thus normally prevent operation of the slide 42 and of the machine. The detents 48 are vertically slidable in openings in the wall 13 and are normally suspended in the position shown in Figure 4 by coil springs 49 adapted to be depressed so that notches 50 in facing edges thereof will aline with the bar 30 so that the bar 30 will be free to slide longitudinally of the frame A and associated parts to vend an article 12. The downward movement of the detents 48 to aline the notches 50 with the bar 30 places the springs 49 under tension, and after a vending operation, such springs 49 when the bar 30 moves the notches 47 into registry with the detents 48, restoring the detents to the locking position as shown in Figure 4, at other times, the presence of the bar 30 in the notches 50 serving to maintain detents 48 depressed against the tension of springs 49.

In order to actuate the machine, two coins such as are shown at 51 or a single coin as shown at 52, may be deposited through slots 53 or 54, respectively, in the top wall of actuating head 42. The head 42 is hollow and in the space thereof, a coin control member 55 is located, the same being loosely mounted through the engagement of elongated slots 56 with a cross rod 57 on the head 42 passing through such slots. Such control member 55 has vertically disposed receiving projections 58 and 59, for engagement by the coins 51 and 52, and their upper edges being concave so that the coins will fit the same as shown in Figure 4. The member 55 has coin deflecting blocks as at 60 and also has a lug as at 61. Normally the detents 48 are projected above the wall 13 and the lug 61 rests on such detent plates.

When the coins 51 are positioned as shown in Figure 4, the lever 62 is moved downwardly against the coins 51, thus moving the detents 48 to an extent where the notches 50 aline with the bar 30. For example, the coins 51 may be two nickels. On the other hand, if a dime is to be used to operate the machine, it may be the coin suggested at 52 and when placed as shown in Figure 4, downward movement of lever 62 will move the coin 52 and accordingly the member 55 downwardly to the same extent and for the same purpose as previously mentioned downward movement of lever 62, it being understood that the engaging surfaces 63 and 64, to directly abut the coins 51 and 52, being at different elevations, in order to control the proper downward movement of the detents 48. The lever 62 may be pivoted to the head at 65 and it may have a spring 66 associated therewith normally urging the lever 62 to open position.

In the position shown in Figure 3, the rod 57 is not at the upper end of the slot. Hence as the slide 42 moves along, the lug 61 will drop into a depression 62 in the top wall 13 and continuous movement of head 42 will cause the coin controlled member 55 to tilt as shown in Figure 6, whereupon the coin shown in that figure is released and will drop along the surface 60 through a slot or opening 63 in the wall 13 into a coin tray 64, a shield 65 being upwardly deflected from the wall 13 at the front of the slot 63 to insure proper action of the coin. The coin tray 64 is conventionally shown only since it is well known that it may be rendered accessible in any desired way and may be of any desired construction.

Since the abutments or blocks 46 are used only to depress and maintain the feed members 34 depressed, blocks 46 are movably mounted so that they may be moved out of alinement with the elements 34 when the latter are retracted, so as not to interfere with free retraction, that is moved from the full

line to the dotted line position shown in Figure 2. To permit such movement, arcuate dove-tail track members 66 are fastened to the under surface of wall 13 and the blocks 46 have similarly shaped slots 67 whereby they may move along the track members 66 in parallelism.

Bell crank levers 68 are pivoted at 69 to the wall 13 and at 70 to the blocks 46. At 71, such bell crank levers are pivotally connected together by a pin, the slot through which it passes in the bell cranks being elongated as shown at 72. A flexible element 73, such as a cable, is connected to bar 30 and to the pivot member 71 as at 74.

When the head 42 and connected parts are relatively close to the end of a vending or discharge movement, the lug or pin 45 abuts the bell cranks 68 adjacent their pivots 70, which causes the same to move from the full line to the dotted line position shown in Figure 2 where the blocks 46 are out of the path of return movement of the feed members 34. Thus after a vending movement of the head 42 and associated parts, the weight 38 will move such head and feeding means to normal or reset position and the blocks 46 will not be restored to the full line position shown in Figure 2 until the feed members 34 are rearwardly thereof because the flexible element 73 is of such length that it does not become taut until that time and hence does not pull the bell crank levers 68 from the dotted to the full line position shown in Figure 2 until the feed members 34 have been restored practically to initial or reset position.

Attention is called to the fact that the device 55 is in three different parts namely the parts 58 and 59, the latter carrying the blocks 60 independently of the parts 58. The element 59 has lugs 70 at the sides thereof which extend into vertically enlarged slots 71 in the detents 48. A spring 72 normally holds the projections 70 in engagement with the upper end wall of the slots 71. If it be attempted to operate the device by depositing a single coin 51, depression of one detent 48 will be farther than the depression of the other and hence the notches 50 will not register with the bar 30 and the device will not be operated.

The use or operation by two nickels or a dime is given by way of example only since the parts may be varied according to the commodities sold and the coins which would usually be deposited to purchase the same and for instance in lieu of the nickels 51, pennies could be used and in lieu of the dime 52, a nickel could be accommodated.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:—

1. A machine of the class described having a vertically movable feeding means, means to bodily move the feeding means horizontally, flexible means normally maintaining the feeding means elevated above feeding position, means to depress the flexible means and thereby move the feeding means to feeding position and impart feeding motion thereto as it is bodily moved, and means normally urging the feeding means to retracted position.

2. A machine of the class described having a vertically movable feeding means, means to bodily move the feeding means horizontally, means normally maintaining the feeding means elevated above feeding position, means to depress the feeding means to feeding position and impart feeding motion thereto as it is bodily moved, and means operable to displace the last mentioned means at the end of a feeding movement whereby it will not be in the path of return movement of the feeding means.

3. A device of the class described comprising a slidable vertically flexible means normally disposed out of feeding position by its resiliency and adapted for feeding engagement with an article, means engageable by said first means during a feeding movement to flex the same to feeding position, and means operable by the first mentioned means to displace the second mentioned means prior to retraction of the feeding means.

4. A device of the class described comprising a slidable vertically flexible means normally disposed out of feeding position by its resiliency and adapted for feeding engagement with an article, means engageable by said first means during a feeding movement to flex the same to feeding position, means operable by the first mentioned means to displace the second mentioned means prior to retraction of the feeding means, and means operable to reset the second mentioned means adjacent the end of retracting movement of the feeding means.

5. A machine of the class described having a feeding member, a block engageable by the feeding member to move the same to feeding position, mechanism operable at the end of a feeding movement to move the feeding block to inoperative position to enable the feeding means to be retracted, said mechanism being connected to the feeding means and also operating adjacent the end of the retracting movement of the feeding means to restore the block into the path of movement of the feeding means.

6. A machine of the class described having a feeding wheel, a block engageable by said wheel to move the same to feeding position and to impart feeding motion thereto, cam means to guide movement of the block into and out of the path of movement of the feeding wheel, slidable means mounting said wheel, and mechanism connected to the slid-

ing means and to said block operable at the end of a feeding movement of the wheel to move the block to inoperative position and adjacent the end of the retracting movement of the feeding wheel to restore the block into the path of feeding movement of the latter.

7. A machine of the class described having a substantially horizontally disposed wall, an abutment means below the same, means to urge articles against said abutment means, a resilient frame slidably mounted in said abutment means, a feeding wheel for the articles normally maintained out of contact therewith by said resilient frame, means operable to slide the frame, cam means depending from said wall and engageable with the wheel through said sliding movement to move the wheels to feeding position and to impart feeding motion thereto.

8. A machine of the class described having a substantially horizontally disposed wall, an abutment means below the same, means to urge articles against said abutment means, a resilient frame slidably mounted in said abutment means, a feeding wheel for the articles normally maintained out of contact therewith by said resilient frame, means operable to slide the frame, cam means depending from said wall and engageable with the wheel through said sliding movement to move the wheels to feeding position and to impart feeding motion thereto, said cam means comprising a block, a cam connection between the block and said wall, and a system of leverage between the blocks and said frame operable at the end of a feeding movement of the wheel to move the block to inoperative position and adjacent end of the retracting movement of the wheel operable to restore the block into the path of feeding movement of said wheel.

In testimony whereof I affix my signature.

JAMES A. KELLY.