March 4, 1930. H. GILES 1,749,579

VENDING MACHINE

Filed Jan. 23, 1928 7 Sheets-Sheet 1

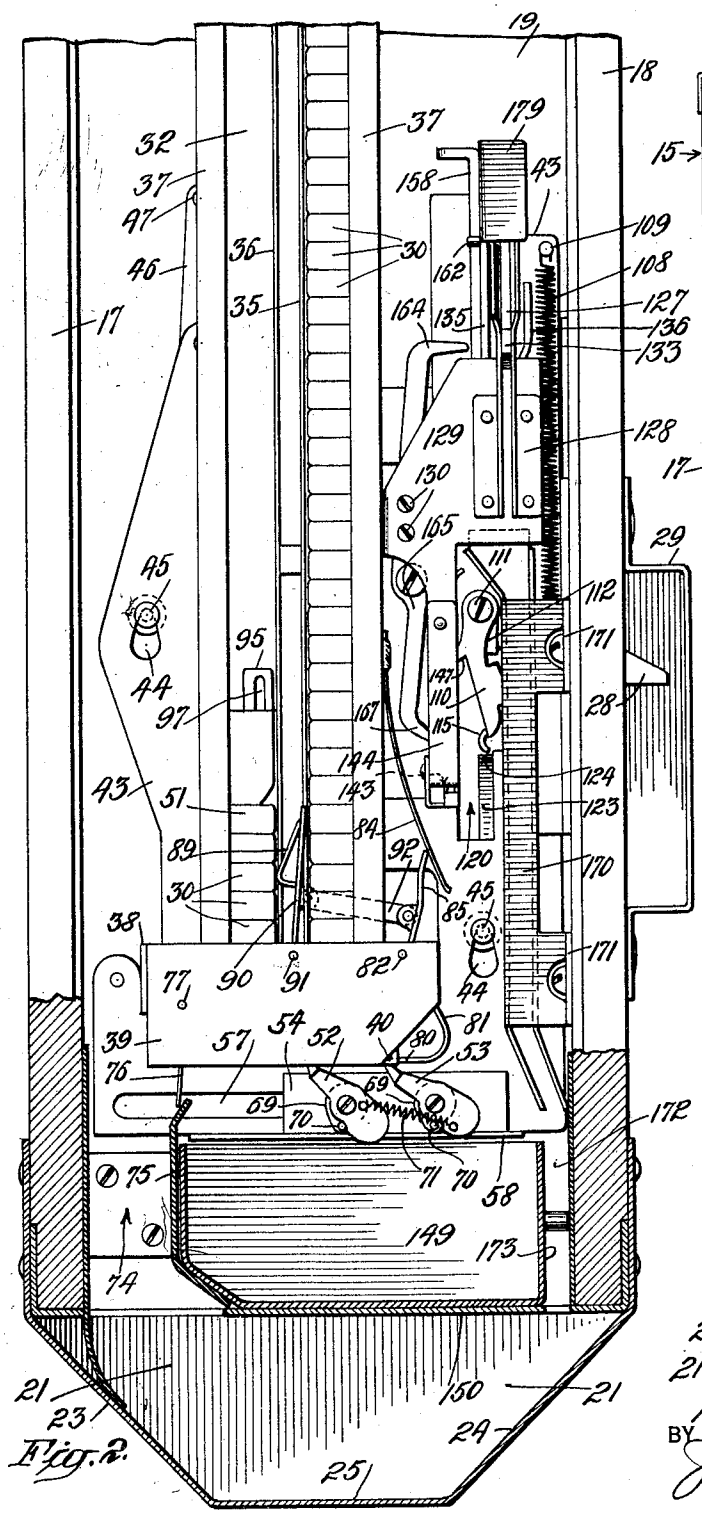
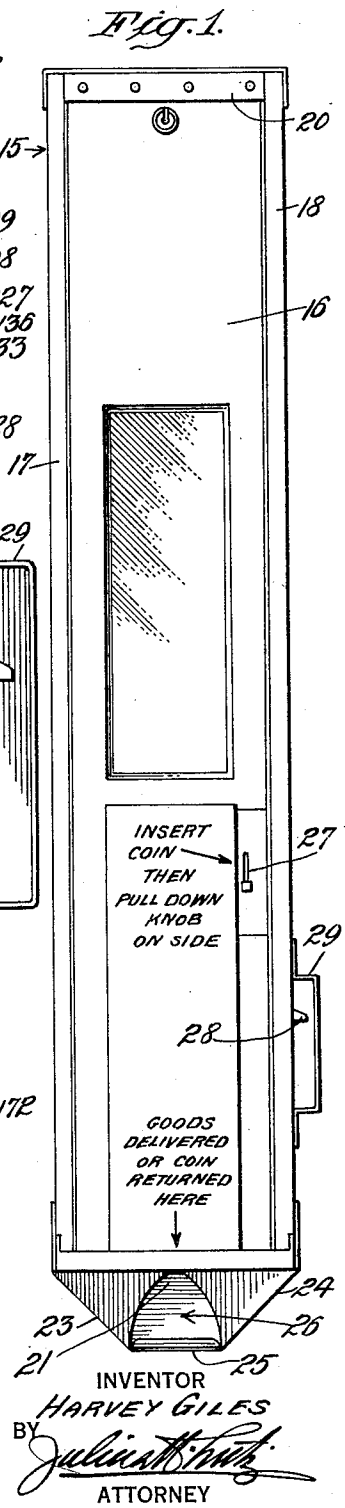


Fig. 2.



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Fig. 3.

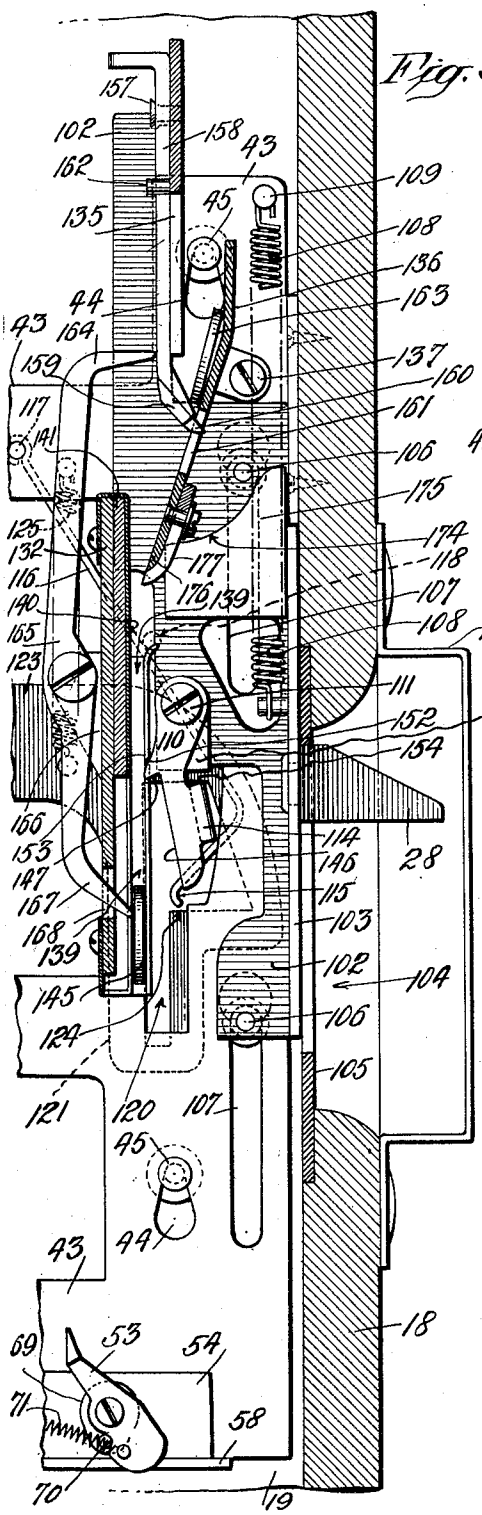
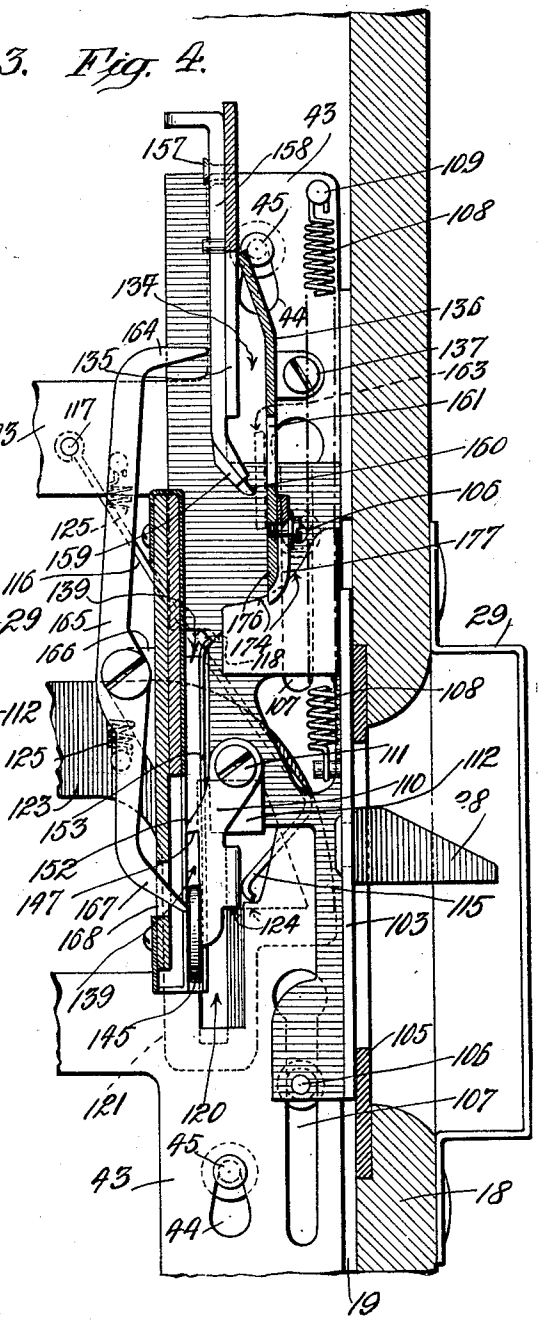


Fig. 4.



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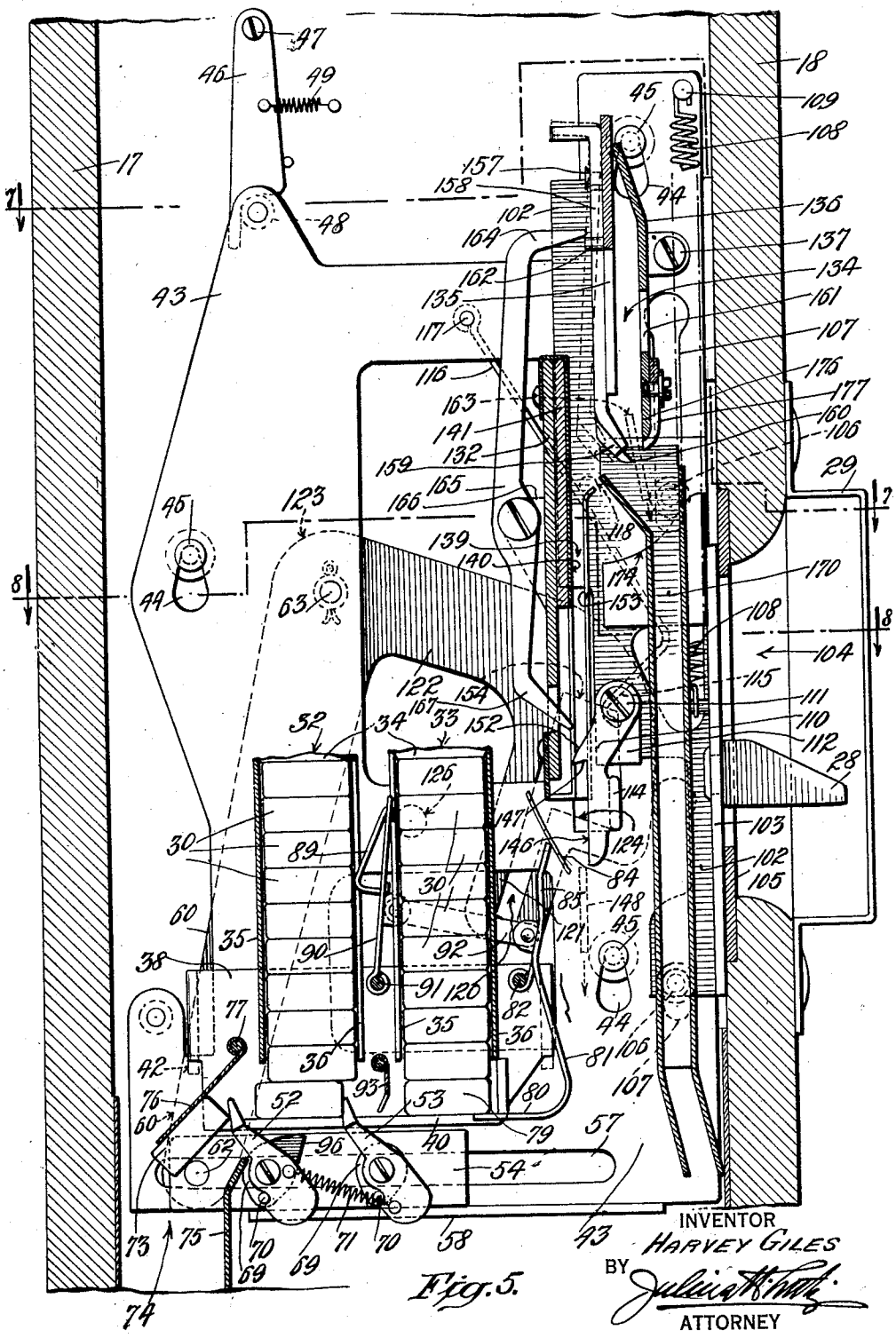


Fig. 5.

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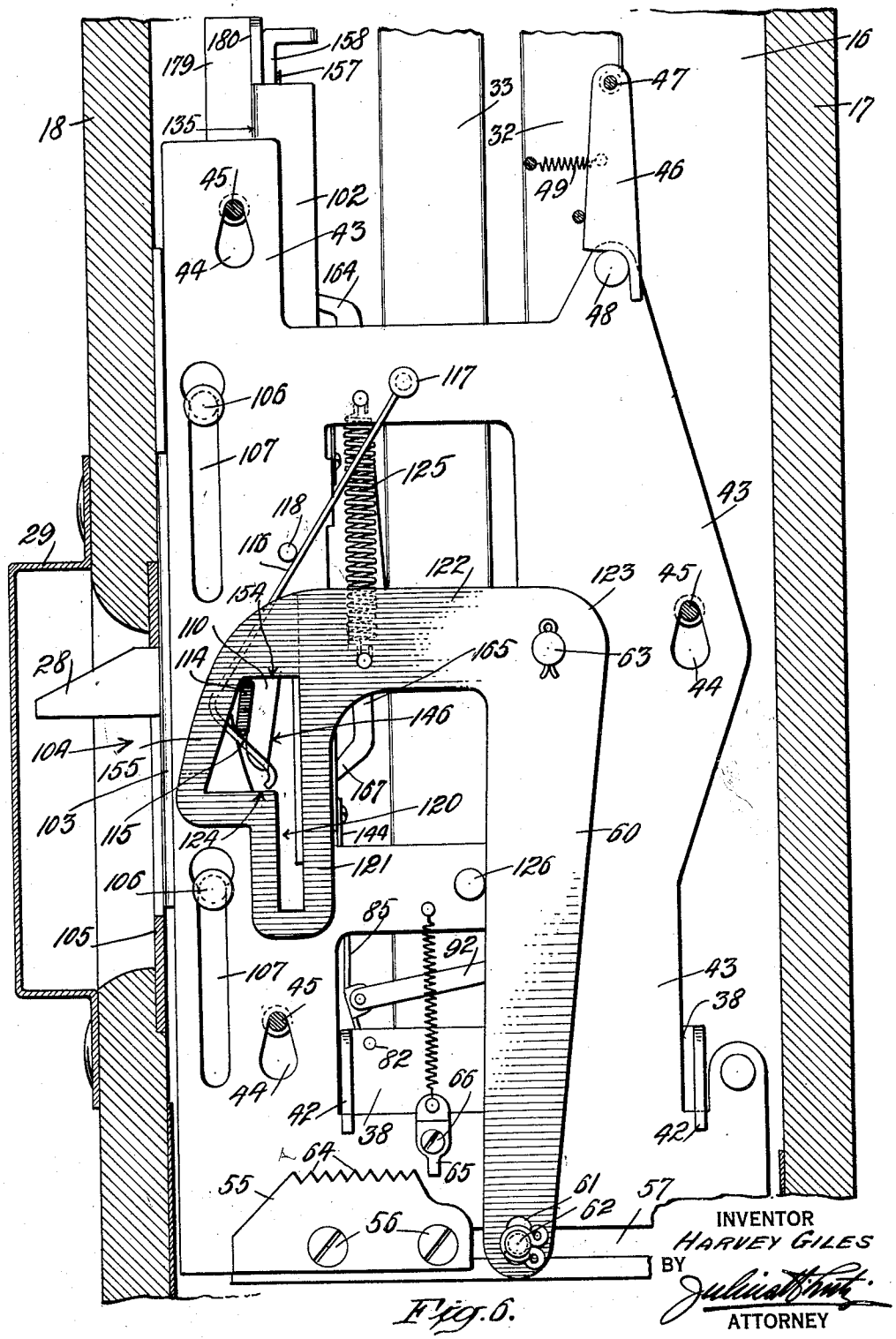


Fig. 6.

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Fig. 7.

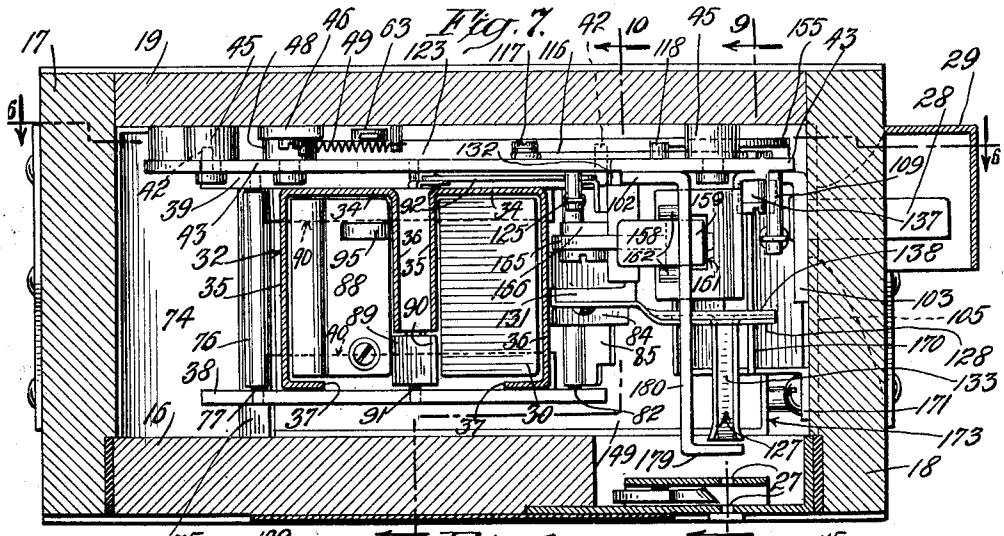
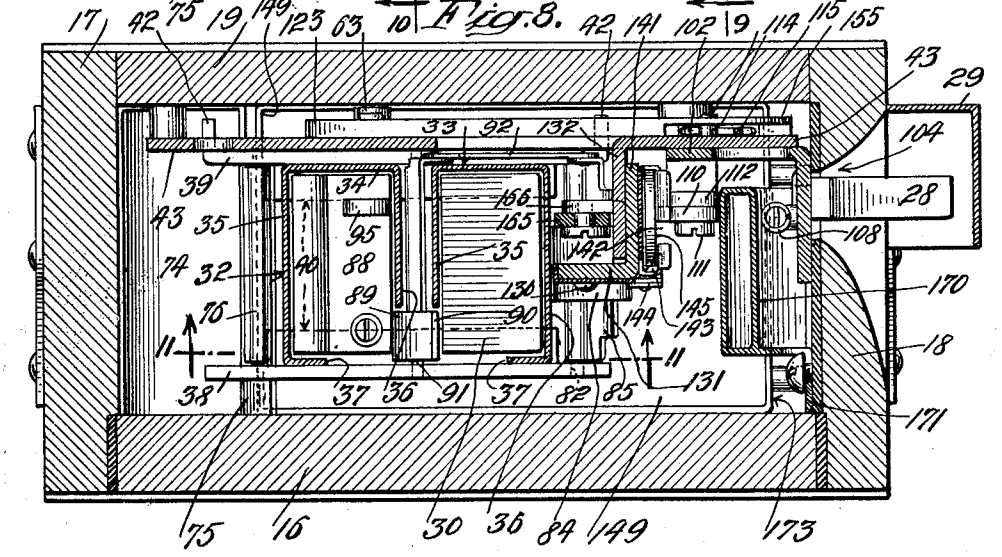


Fig. 8.



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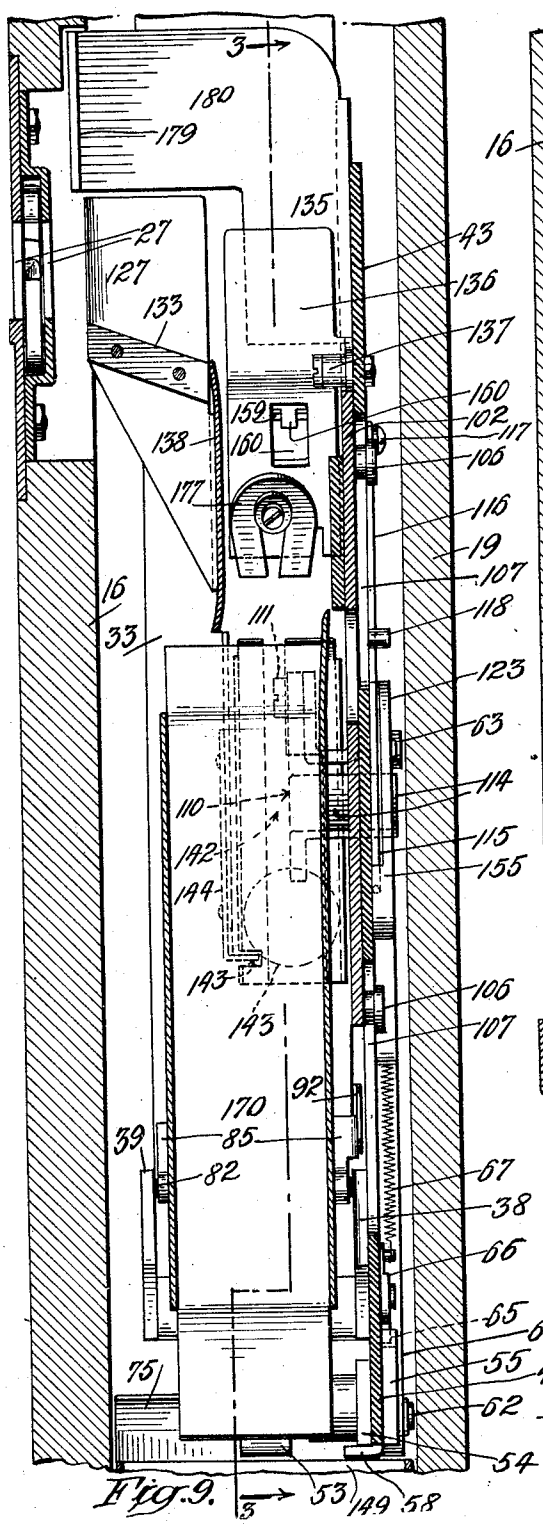


Fig. 9.

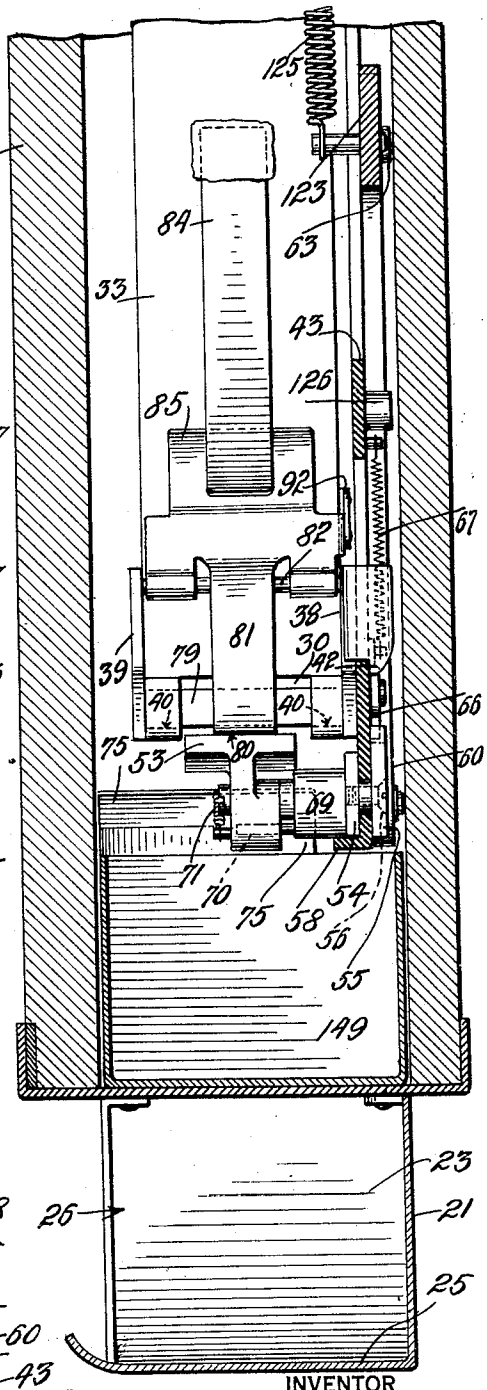


Fig. 10.

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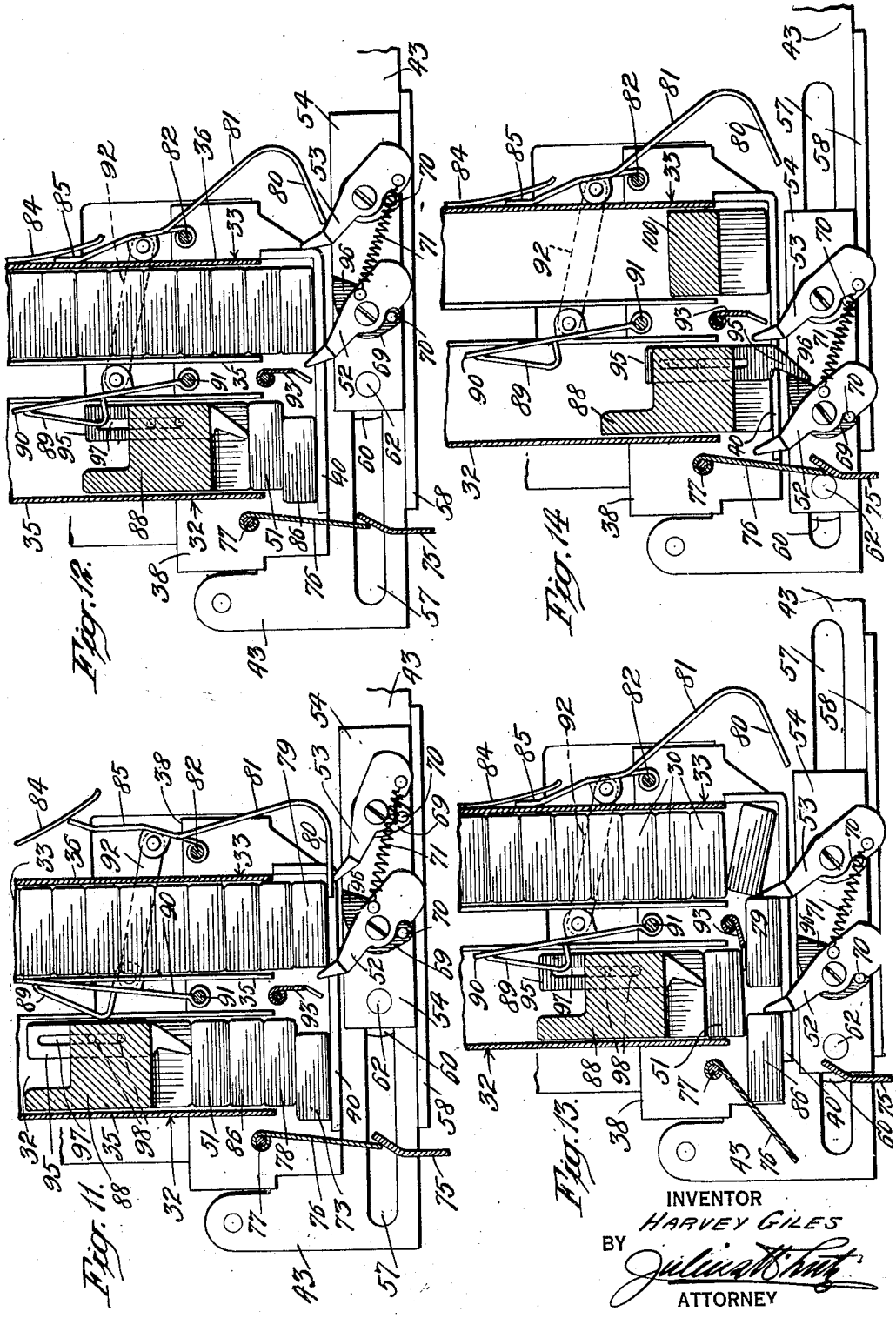


Fig. 12.

Fig. 14.

Fig. 11.

Fig. 13.

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Patented Mar. 4, 1930

1,749,579

UNITED STATES PATENT OFFICE

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VENDING MACHINE

Application filed January 23, 1928. Serial No. 248,329.

The invention relates to an improvement in vending machines of the type in which an article is delivered by the manipulation of a handle upon the insertion of a coin in the machine.

One object of the invention is to reorganize and simplify the operating parts of a coin-controlled vending machine to produce a more efficient and durable machine. Another object of the invention is to provide a vending machine in which the articles are stacked in columns with means for preventing frictional engagement between the articles of a reserve column or columns and the delivery means until the machine is in condition to deliver the articles of the reserve column. A further object of the invention is to provide a vending machine with improved means for ejecting a slug or a second coin. To the accomplishment of these objects the invention consists in the improved coin-controlled vending machine hereinafter fully described and particularly pointed out in the appended claims.

The preferred form of the invention is illustrated in the accompanying drawings in which Fig. 1 is a front elevation on a reduced scale of the box or casing of the machine; Fig. 2 is an elevation, partly in section, of the lower part of the machine, as seen when the front cover of the casing is removed; Fig. 3 is a sectional elevation on an enlarged scale of the right hand part of Fig. 2, the section being taken on the line 3—3 of Fig. 9; Fig. 4 is a view similar to Fig. 3, with the movable parts in a different position; Fig. 5 is a front sectional elevation of the operating parts of the machine, and showing the parts in the act of delivering an article; Fig. 6 is a rear sectional elevation of the operating parts of the machine, the section being taken on the line 6—6 of Fig. 7; Figs. 7 and 8 are sections taken, respectively, on the lines 7—7 and 8—8 of Fig. 5; Figs. 9 and 10 are sections taken, respectively, on the lines 9—9 and 10—10 of Fig. 7; Fig. 11 is a section taken on the line 11—11 of Fig. 8; and Figs. 12, 13 and 14 are views similar to Fig. 11, showing the parts in different positions of operation.

The coin-controlled article delivery means of the vending machine are housed in a vertically arranged box or casing 15 rectangular in cross-section and consisting of the front wall or cover 16, the side walls 17 and 18 and the rear wall 19. The top of the casing is closed by the cover 20 and access into the lower part of the casing is prevented by the hopper shaped enclosure 21 which serves as a receptacle into which the articles and returned coins are delivered. The slanting side walls 23 and 24 of the receptacle direct the articles and the returned coins onto the bottom 25 of the receptacle to which access is afforded through the opening 26 cut in the front wall of the receptacle. The coin is inserted in the slot 27 and an article is delivered by depressing the knob or handle 28 projecting through the side wall 18 and protected by the guard 29.

The articles 30 to be vended are in the present instance rectangular in form and are stacked in columns contained within the vertically arranged hoppers 32 and 33. In the illustrated embodiment of the invention the improved article delivery means and the improved actuating means therefor are shown associated with and operating on only two columns of articles. It will be understood, however, that the mechanism of the present invention is adapted to deliver articles from any desired number of columns simply by duplicating the parts of the article delivery means herein shown and described. Each hopper 32 and 33 consists of a rear wall 34, the left hand side wall 35, the right hand side wall 36, and the partial front wall 37. The vertically extending openings left in the front walls of the hoppers permit adjustment of the articles in the hoppers. At their lower ends the rear walls 34 of the hoppers are secured to a plate 38, and the lower ends of the partial front walls 37 are secured to a plate 39. Projecting inwardly from the lower edge of each plate 39 and 38 is a narrow ledge or shelf 40. The outer bottom edges of the lowermost articles in the hoppers rest on the shelves 40 and the articles are thus supported in the hoppers. The lower ends of the walls forming the hoppers

terminate above the shelves 40 a distance sufficient to permit the articles resting on the shelves to be ejected from the machine.

The hoppers 32 and 33 are supported in upright position within the casing 15 in the usual manner and for this purpose the ends of the plate 38 are provided with the rearwardly and downwardly projecting hooks 42 which engage with the edges of openings in a plate 43 removably mounted on the rear wall 19 of the casing. The plate 43 is provided with three slots 44, two on its right side and one on its left, which are adapted to receive the headed pins 45 extending forwardly from the casing wall 19. The upper ends of the slots are contracted to receive the neck portion of the pins 45, whereas the heads of the pins engage with the front face of the plate which is thus held from shifting. The pins 45 also serve to keep the rear face of the plate 43 properly spaced from the wall 19. The plate 43 is locked in place by means of an arm 46 pivoted at 47 on the casing wall 19. The lower end of the arm 46 is notched to engage with a pin 48 projecting rearwardly from the upper part of the plate 43, and thereby prevent the plate 43 from accidentally lifting out of place. A spring 49 holds the notched lower end of the arm 46 in engagement with the pin 48.

The improved article delivery means is arranged to deliver first all the articles in hopper 32 except the last or topmost article 51 therein, then to deliver all the articles in hopper 33, and finally to deliver article 51, after which the machine is locked against further operation until again replenished with articles. The article delivery means comprises the two fingers 52 and 53 pivoted on a slide 54 mounted on the front side of the lower end of the plate 43. On the rear side of the plate 43 and located opposite the slide 54 is a rack plate 55 which is secured to the slide 54 by screws 56 passing through the longitudinal slot 57 cut in the plate 43. The lower edge of the slide 54 is supported on a ledge 58 offset forwardly from the lower edge of the plate 43. Reciprocating movements are imparted to the slide 54 by a lever arm 60 the lower slotted end 61 of which loosely engages a pin 62 projecting rearwardly through the slot 57 from the left hand end of the slide. The lever arm 60 is fulcrumed at 63 on the rear side of the plate 43 and is actuated by the handle 28 in the manner to be described presently. To prevent return movement of the slide 54 before it has completed a full article delivery stroke, the upper edge of the plate 55 is provided with the teeth 64 arranged to be engaged by a pawl 65 pivoted at 66 on the rear side of the plate 43. The pawl 65 is controlled by a spring 67.

The fingers 52 and 53 are held spaced on the slide 54 by the collars 69 so that the upper ends of the fingers may extend into the space between the shelves 40 to engage and eject the articles. The operative, article delivering position of the fingers is determined by the stop pins 70 projecting forwardly from the collars 69 and against which the spring 71 yieldingly holds the fingers. These parts are arranged and function as usual in machines of this character.

The normal retracted position of the slide 54 is shown in Fig. 11. As the slide is moved to the left the upper end of the finger 52 engages the lowermost article 73 of the hopper 32 and pushes it out from under the column of articles in the hopper and beyond the left hand ends of the shelves 40 (the action being indicated in Fig. 5), so that the article will fall down through the opening 74 formed between the inner surface of the lower end of the wall 17 and the guide plate 75 secured to the rear wall 19 of the casing and projecting forwardly therefrom. The opening 74 discharges into the receptacle 21. As the article is moved outwardly by the finger 52 it swings the flap or guard 76 pivoted at 77 on the plates 38 and 39. The flap 76 acts to prevent the insertion of an instrument into the machine to abstract an article therefrom. As soon as the finger 52 has pushed the lowermost article 73 out from under the superincumbent articles in the hopper 32 the next succeeding article 78 drops onto the shelves 40. As the slide 54 returns to its initial position the spring 71 permits the upper end of the finger 52 to pass under the article on the shelves 40 and then returns it to article engaging position after it has passed to the right of the article. This mode of operation is continued until all the articles except the last or topmost article 51 are delivered from the hopper 32.

While all the articles except the last two articles are being delivered from the hopper 32 by the finger 52, the finger 53 is passing inoperatively under the articles in the hopper 33, being prevented from engaging the lowermost article 79 in hopper 33 by the inturned lower end 80 of a guard 81 pivoted at 82 on the right hand ends of the plates 38 and 39. Fig. 5 shows the limit of the left hand movement of the finger 53 and Figs. 11 and 12 show the right hand limit of movement of the finger 53. Thus it is seen that while the end 80 of the guard 81 is under the articles in the hopper 33 the finger 53 reciprocates inoperatively, except to push forward slightly the lowermost article of the column in the hopper 32. This condition continues until only two articles remain of the column in hopper 32, the last or topmost article 51 and the next lower article 86, as shown in Fig. 12. This arrangement prevents any frictional engagement between the finger 53 and the articles in reserve column 33 until the machine is in condition to deliver the articles of column 33.

The delivery of all the articles from hopper 32 except the last two therein lowers the

weight 88 resting on the column of articles in the hopper below a feeler member 89 projecting into the slotted lower end of the side wall 36 of hopper 32 from the upper end of an arm 90 pivoted at its lower end in the upper edges of the plates 38 and 39. The arm 90 is connected by the link 92 with the upper extension 85 of the guard 81. Until the last two articles in the hopper 32 have been delivered the leaf spring 84 acting on the extension 85 of guard 81 presses the feeler member 89 against the adjacent sides of the articles and of the weight 88. When, however, only two articles remain in the column of hopper 32 the weight 88 descends below the feeler member 89, and thereupon the spring 84 acts to swing the arm 90 and the upward extension 85 of the guard 81 to the left and thereby retract the extension 80 of the guard 81 from beneath the column of articles in hopper 33. This permits the upper end of the finger 53 to assume a position behind the lowermost article 79 in hopper 33. On the next left hand movement of the slide 54 the finger 52 engages and pushes out of the machine the second last article 86 of column 32 and the finger 53 pushes the lowermost article 79 of hopper 33 into the place occupied by article 86. This mode of operation is clearly indicated in Fig. 13. To prevent article 79 from frictionally engaging the bottom surface of article 51 in hopper 32, I provide a flap 93 depending in the path of travel of the articles being delivered from hopper 33. As an article is pushed forward by finger 53 it engages the flap 93 and swings it under the adjacent side edge of article 51. When the article pushed forward by finger 53 has displaced the article under article 51 in hopper 32 the flap 93 returns to inoperative position. The lower end of the flap is slotted so as not to interfere with the passage of the upper ends of the fingers.

The finger 53 continues in this manner to deliver the articles from hopper 33 until all the articles therein have been delivered. When the last article in hopper 33 has been pushed forward by finger 53 and delivered from the machine by finger 52, the last article 51 in hopper 32 descends onto the shelves 40 in position to be engaged and delivered by finger 52. While finger 52 is pushing the last article 51 out of the machine the vertically arranged detent 95 loosely mounted in weight 88 descends into the path of return movement of the lug 96 projecting upwardly from the collar 69 associated with finger 52, thereby preventing return movement of the slide 54. The lower end of detent 95 normally rests on the last article 51 in hopper 32, as clearly indicated in Figs. 11 to 13. When article 51 has been delivered detent 95 drops of its own weight into the path of travel of lug 96. The detent 95 is provided with a slot 97 which engages the pins 98 passing through the weight 88. The articles are pressed downwardly in the hopper 33 by means of the weight 100. The lower ends of both weights 88 and 100 are slotted so that they press only on the two ends of the uppermost articles in the hoppers.

The means for actuating the lever arm 60 to reciprocate the slide 54 comprises a vertically arranged slide 102 slidingly mounted on the front face of the right hand margin of the plate 43 the outer edge of which is straight and lies closely adjacent to the inner face of the side wall 18 of the casing. A portion of the right hand edge of the slide 102 is offset forwardly, and to the middle to this offset part 103 of the slide 102 is secured the knob or handle 28. To protect the edges of the slot 104 in the side wall 18 of the casing through which the handle 28 projects, a slotted plate 105 is provided against which the part 103 of the slide 102 reciprocates. Extending rearwardly from the slide 102 are two headed pins 106 which project through the vertically arranged slots 107 in the plate 43. The slide 102 is thus guided in its up and down movements and the heads of the pins by engagement with the rear face of the edges of the slots 107 hold the slide 102 and the parts carried by it in operative position. The slide 102 is moved downwardly to impart a left hand, article delivering movement to the slide 54 through the lever arm 60 by depressing the handle 28 when a coin is in proper position in the machine. The slide 102 is returned to its raised position by means of the contraction spring 108 secured at its upper end to the pin 109 fastened in the upper end of the plate 43 and secured at its lower end in the part 103 of the slide 102. The means for operatively connecting the slide 102 with the lever arm 60 when a coin is in proper position in the machine comprises a member 110 pivotally mounted at 111 on the slide 102. A block 112 holds the member 110 away from the slide 102. The member 110 is provided on its right hand side with a rearwardly extending arm 114 which projects through an opening in the plate 43 and has a normal position above a deflector 115 formed as the inclined lower end of a resilient member 116 secured at its upper end 117 to the upper part of the rear side of the plate 43. A pin 118 normally holds the lower end 115 of the member 116 in deflecting position. If the handle 28 is depressed when no coin is in the machine the arm 114 of the member 110 slides down the deflector 115 and is guided thereby into the vertically arranged slot 120 formed in the downwardly extending part 121 of the lever arm 122, which with the lever arm 60 constitutes a bell crank lever 123 pivoted at 63. Thus there is no engagement between the arm 114 and the lever 123 when no coin has been deposited in the machine and consequently the handle 28 may be depressed without affecting the other parts

of the machine beyond inoperatively reciprocating the slide 102 and the parts carried by it. When, however, a proper coin has been inserted in the machine, the downward movement of the arm 114 pushes aside the deflector 115 and engages with the shoulder 124 formed on the part 121 of the lever arm 122 and oscillates the lever 123 about its pivot point 63 to move the slide 54. The lever 123 is returned to normal position by means of the spring 125 secured at its upper end to the plate 43 and at its lower end to the lever arm 122. A stop 126 in the plate 43 engaged by the lever arm 60 determines the normal position of lever 123.

When a coin is inserted into the machine through the slot 27 it passes into a guide slot 127 formed by the upper bifurcated ends of a fixture 128 fastened to the plate 129 secured by the screws 130 to the angle iron 131 supported by the offset part 132 of the right hand margin of the plate 43. The incoming coin is guided by the slot 127, the bottom 133 thereof being inclined for the purpose, into the opening 134 formed between the flange 135 extending forwardly from the upper end of the slide 102 and the coin deflector 136 pivoted at 137 in the upper part of the right hand margin of the plate 43. The plate 43 constitutes the rear wall of the opening 134 and the side extension 138 of plate 129 constitutes the front wall thereof. The lower end of the coin deflector 136 is inclined slightly to the left, as shown in Fig. 3, and directs the coin into the upper end of a vertically arranged pocket 139, the side 140 of which is secured to the part 141 of the angle iron 131. At its two lateral edges the side 140 of the pocket 139 is extended at right angles and then inwardly, thereby forming a receptacle open at its upper and lower ends and provided on its right hand side with a vertical opening 142 to permit the member 110 to feel for and engage the coin in the pocket. As the falling coin reaches the lower end of the pocket 139 it is caught and held by the rearwardly turned lower end 143 of a resilient member 144 secured to the lower end of the plate 129. The coin 145 in the lower end of the pocket 139 is held by the resilient member 144 in position to be engaged by the lower end 146 of the member 110 as the latter is swung in a clockwise direction by reason of the engagement of the arm 114 with the deflector 115. When the lower end 146 of the member 110 encounters the coin 145 the member 110 is held against further pivotal movement, and the arm 114 is thereby held in a vertical plane over the shoulder 124 of the lever arm 122. Consequently, on the continued downward travel of the member 110 with the handle 28 the arm 114 pushes to one side the deflector 115 and engages with the shoulder 124, thereby oscillating the lever 123 on its pivot point 63 and moving the slide 54 to deliver an article. On the continued downward movement of the member 110 the shoulder 147 formed on the left hand edge of the member 110 engages with the upper edge of the coin 145 and forces it out of the lower end of the pocket 139 against the action of the resilient member 144. The released coin drops, as indicated by the dotted lines 148 in Fig. 5, and is received in the coin box 149 supported on the top wall 150 of the receptacle 21. On the upward return movement of the member 110, the upper edge 152 of the shoulder 147 encounters the part 153 of the right hand side wall of the pocket 139 which acts as a cam to rotate the member 110 in a counter clockwise direction and position the arm 114 above the deflector 115. The top edge 154 of the opening in the lever arm 122 acts as a stop to limit the upward movement of the member 110 and the parts connected therewith. The side wall 155 of the lever arm 122 by engagement with the arm 114 as the latter slides on the shoulder 124 limits the oscillatory movement of the lever 123 and thereby the extent of the article delivery movement of the slide 54.

If, while a coin is held in the lower end of the pocket 139 another coin is inserted in the machine, the second coin is prevented from passing into the pocket 139, and then when the handle 28 is depressed it is delivered into the receptacle 21. On the left hand face of the flange 135 is mounted a vertically arranged bar 158 which is loosely connected with the pin 157 in the upper end of the flange 135. The stop pins 162 in the flange 135 prevent in and out movement of the bar 158, whereas its loose connection with the pin 157 permits its lower end 159 to move slightly laterally. The bar 158 constitutes a coin stop of which the offset lower end 159 projects toward the inclined part of the coin deflector 136, and of which the lower extremity 160 extends into a slot 161 formed in the coin deflector 136. As a coin falls into the space 134 between the coin deflector 136 and coin stop 158, the coin strikes the offset lower end 159 of the coin stop 158, moving it laterally, and then slides down the inclined part of the deflector 136 into the pocket 139. If now a second coin 163 is inserted into the machine and falls into the space 134 the lateral movement imparted to the lower end of the coin stop 158 by the coin moves it against the upper inturned end 164 of a lever 165 pivoted on a bracket 166 extending laterally from the part 132 of the plate 43. The lower inturned end 167 of the lever 165 projects through a hole 168 in the lower end of the part 132 of plate 43 and through a hole in the side wall 140 of the pocket 139. The oscillatory movement imparted to the lever 165 by the coin stop 158 causes the lower end 167 of the lever to engage with one face of the coin 145 held in the lower end of the

pocket 139, thereby preventing further oscillation of the lever and preventing the coin stop 158 to swing far enough laterally to release the coin. Hence the second coin 163 is held by the lower end 159 of the coin stop against the adjacent part of the deflector 136. If now the handle 28 is depressed, carrying with it the slide 102 and the coin stop 158, the lower extremity 160 of the coin stop travels in the slot 161 holding the coin 163 against the deflector 136 for a short distance, long enough to permit the deflector 136 to turn under the action of gravity into the position shown in Fig. 5 and drop the second coin 163 into the upper end of a vertically arranged chute 170 supported from the side wall 18 by the brackets 171. The lower open end of the chute 170 discharges into the receptacle 21 through the space 172 separating the lower end of the wall 18 from the adjacent end 173 of the coin box 149. The coin deflector 136 is held in its inclined normal position, as shown in Fig. 3, by the engagement of the upper cam surface 174 of a block 175 carried by the slide 102 with the lower end 176 of the coin deflector. As the slide descends the block 175 releases the deflector 136 and permits it to swing into vertical position. On the upward return movement of the slide 102 the cam piece 175 engages with the lower end of the deflector 136 and turns it in a clockwise direction into normal, coin receiving position.

The lower end of the deflector 136 carries a magnet 177 which catches iron slugs and holds them until on the downward movement of the coin stop 158 the lower end 160 thereof encounters the slug and detaches it from the magnet, directing it into the upper end of the chute 170 through which it is directed into the receptacle 21.

Upon the delivery of the last article 51 of hopper 32 by finger 52, and the locking of slide 54 by the engagement of the lug 96 by the detent 95 the coin slot 127 is closed by the guard plate 179 which prevents the insertion of any more coins into the machine. The guard plate 179 is carried by the forwardly extending part 180 of the upper end of the flange 135.

What I claim is new and desire to secure by Letters Patent is:—

1. In combination with a vending machine, a coin-controlled mechanism comprising, a vertically arranged pocket for receiving the coin, yielding means for holding the coin in the pocket, said pocket having a slot in one side permitting access to the coin, a vertically reciprocable slide, a handle fastened to the slide, a member pivotally mounted on the slide and extending downwardly, a bell crank lever one arm of which is connected with the vending machine, said pivoted member having a part adapted to engage and actuate the other arm of the bell crank lever, and a yieldable deflector over which the part of the pivoted member is normally positioned, downward movement of the slide causing said part to travel on the deflector and be deflected thereby to move the pivoted member into position to contact the coin in the pocket, further downward movement of the slide causing said part to force aside the yieldable deflector and engage and actuate the bell crank lever.

2. In combination with a vending machine, a coin-controlled mechanism comprising, a vertically arranged pocket for holding the coin, a vertically reciprocable slide, a handle attached to the slide, a bell crank lever one arm of which is connected with the vending machine, a member movably mounted on the slide and having a part adapted to engage and actuate the other arm of the bell crank lever, a yieldable deflector engaged by said part on the downward movement of the slide to move the movable member into contact with the coin in the pocket, said contact holding the member in position to push aside the deflector and engage and actuate the bell crank lever on further downward movement of the slide.

3. In combination with a vending machine, a coin-controlled mechanism comprising, a bell crank lever connected with the vending machine, means for holding a coin, a vertically reciprocable slide, a member movably mounted on the slide adapted to actuate the bell crank lever, and a deflector arranged to engage and deflect the member into contact with the coin, said contact holding the member in position to push aside the deflector and engage and actuate the bell crank lever.

4. In combination with a vending machine, a coin-controlled mechanism comprising, a bell crank lever connected with the vending machine, means for holding a coin, a vertically reciprocable slide, a member pivoted on the slide adapted to engage and actuate the bell crank lever, and a yieldable deflector, said member on downward movement of the slide being deflected by the deflector into contact with the coin, said contact arresting further pivotal movement of the member and holding the member in position to push aside the deflector and engage the bell crank lever on further downward movement of the slide.

5. In combination with a vending machine, a coin-controlled mechanism comprising, a bell crank lever connected with the vending machine, a pocket for holding a coin, a vertically reciprocable slide, a member pivotally mounted on the slide and having one part adapted to engage and actuate the bell crank lever, a second part adapted to contact with the side of the coin and a third part adapted to contact with the top of the coin to force the coin out of the pocket, and a yieldable deflector effective on downward movement of the slide to engage the first part of the

member to move it to bring the second part thereof into contact with the side of the coin, said contact preventing pivotal movement of the member and causing the first part thereof to push aside the deflector and engage and actuate the bell crank lever on further downward movement of the slide.

6. In combination with a vending machine, a coin-controlled mechanism comprising, a bell crank lever connected with the vending machine, a pocket for holding a coin, a vertically reciprocable slide, a member pivotally mounted on the slide and having one part adapted to engage and actuate the bell crank lever, a second part adapted to contact with the coin and a third part arranged on upward movement of the slide to contact with a fixed part of the machine for holding the member in normal position, and a deflector engaged by the first part of the member on the downward movement of the slide to force the second part of the member into contact with the coin, said contact holding the member in position so that the first part thereof on further downward movement of the slide pushes aside the deflector and engages and actuates the bell crank lever.

7. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for holding a coin, a vertically reciprocable slide, a member pivotally mounted on the slide, a deflector separate from and located in the path of downward movement of the member adapted to engage the member and move it into contact with the coin, and means actuated by the member while it is in contact with the coin for operating the vending machine.

8. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for holding a coin, a vertically reciprocable slide, a member movably mounted on the slide, a deflector arranged to deflect the member into contact with the coin on downward movement of the slide, said contact holding the member in operative position, and means actuated by the member while it is in operative position for operating the vending machine, said member acting to push aside the deflector to engage and actuate the means for operating the vending machine.

9. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for holding a coin, a vertically reciprocable slide, a member movably mounted on the slide, a yieldable deflector, means for holding the member normally over the deflector, said deflector acting on downward movement of the slide to deflect the member into contact with the coin, said contact holding the member in position to push aside the deflector, and means engaged and actuated by the member when the deflector is pushed aside for operating the vending machine.

10. In combination with a vending machine, a coin-controlled mechanism comprising, a vertically arranged pocket, resilient means connected with the pocket for holding a coin therein, a vertically reciprocable slide, a member pivoted on the slide, a yieldable deflector, means for normally holding the deflector above the slide, said deflector acting on downward movement of the slide to deflect the member into contact with the coin, said contact holding the member in position to push aside the deflector, and a bell crank lever one arm of which is connected with the vending machine and the other arm of which is arranged to be engaged and actuated by the member on its downward movement after pushing aside the deflector.

11. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for receiving the coin, and means for returning a second coin inserted into the machine while the first coin is in the pocket consisting of, a deflector for deflecting the first coin into the pocket, a movably mounted coin stop arranged to be engaged and pushed aside by the coin passing down the deflector into the pocket, a lever for engaging the coin in the pocket to hold the coin stop to prevent the second coin from passing into the pocket, and means for directing the second coin out of the machine.

12. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for receiving the coin, and means for returning a second coin inserted into the machine while the first coin is in the pocket consisting of, a coin deflector pivotally mounted on a fixed part of the machine, means for holding the deflector in position to direct the first coin into the pocket, a coin stop arranged to be engaged and pushed aside by the first coin, a lever arranged to engage the coin in the pocket for holding the coin stop to prevent the second coin from passing into the pocket, and means for directing the second coin out of the machine.

13. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for receiving the coin, and means for returning a second coin inserted into the machine while the first coin is in the pocket consisting of, a coin deflector movably mounted on a fixed part of the machine, a reciprocable slide, a cam member mounted on the slide for holding the deflector in position to direct the first coin into the pocket, a coin stop movably mounted on the slide arranged to be pushed aside by the first coin as it passes into the pocket, means for engaging the coin in the pocket to hold the coin stop to prevent a second coin on the deflector from passing into the pocket, and means for directing the second coin out of the machine.

14. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for receiving the coin, and means

for returning a second coin inserted into the machine while the first coin is in the pocket consisting of, a coin deflector pivotally mounted on a fixed part of the machine, a vertically movable slide, a cam piece mounted on the slide for holding the deflector in position to direct the first coin into the pocket, a coin stop movably mounted on the slide and arranged to be pushed aside by the first coin as it passes into the pocket, a lever arranged to engage the coin in the pocket for preventing the coin stop from releasing a second coin into the pocket, and means for directing the second coin out of the machine on downward movement of the slide.

15. In combination with a vending machine, a coin-controlled mechanism comprising, a pocket for receiving the coin, and means for returning a second coin inserted into the machine while the first coin is in the pocket consisting of, a coin deflector pivotally mounted on a fixed part of the machine and having a longitudinal slot, a vertically reciprocable slide, a cam surface mounted on the slide for holding the deflector in position to direct the first coin into the pocket, a coin stop movably mounted on the slide and having a part extending into the slot in the deflector, said coin stop being pushed aside by the first coin as it passes down the deflector into the pocket, a lever one end of which is arranged to engage with the coin in the pocket and the other end of which is arranged to be contacted by the coin stop to prevent the coin stop from releasing a second coin on the deflector into the pocket, and a chute for directing the second coin out of the machine on downward movement of the slide and release of the deflector by the cam surface.

HARVEY GILES.