May 27, 1941. B. S. WATLING 2,243,589

TICKET DISPENSING MACHINE

Filed Nov. 7, 1938 6 Sheets-Sheet 1

Fig. 1

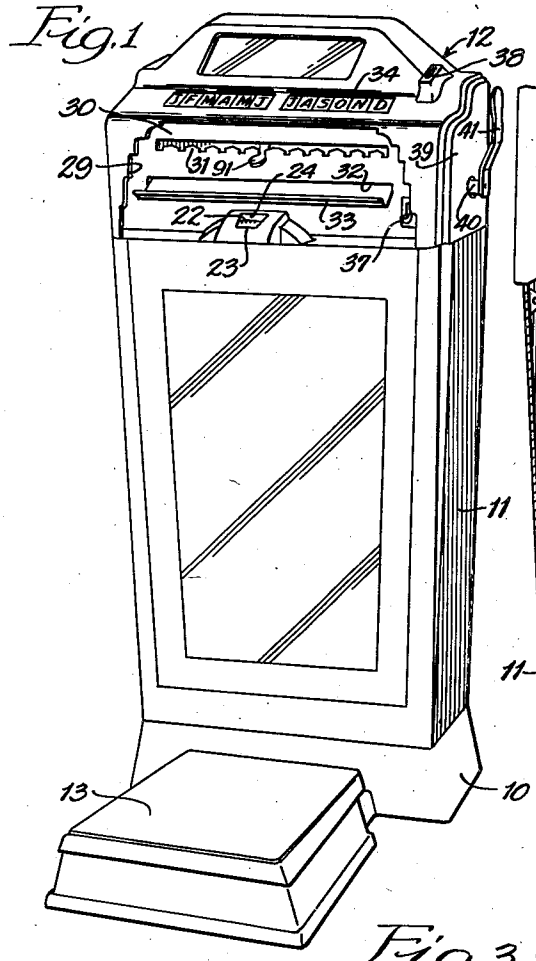



Fig. 2

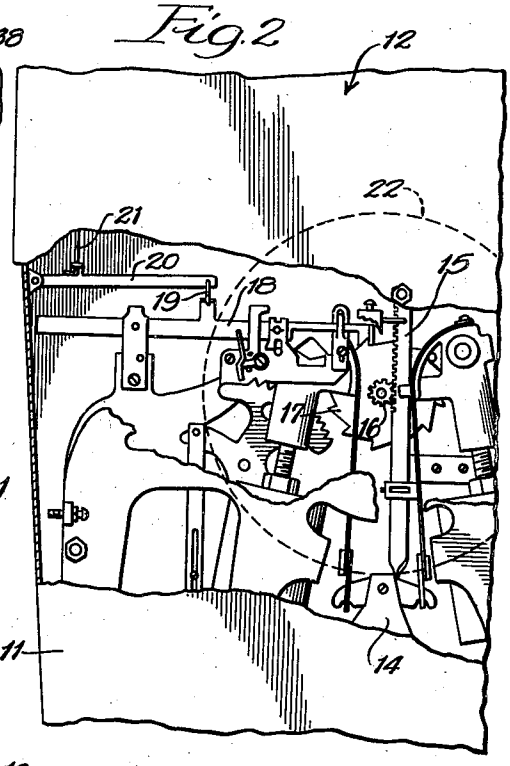



Fig. 4

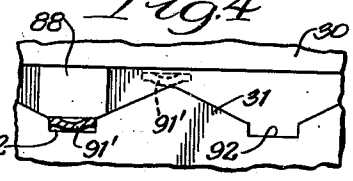
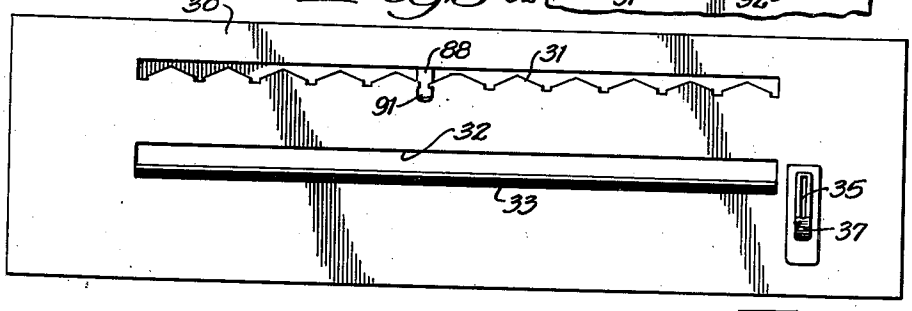



Fig. 3




Inventor:
Burns S. Watling,
By Fisher, Clapp, Soans & Pond,
Attorneys.

May 27, 1941. B. S. WATLING 2,243,589

TICKET DISPENSING MACHINE

Filed Nov. 7, 1938 6 Sheets-Sheet 2

Fig. 5

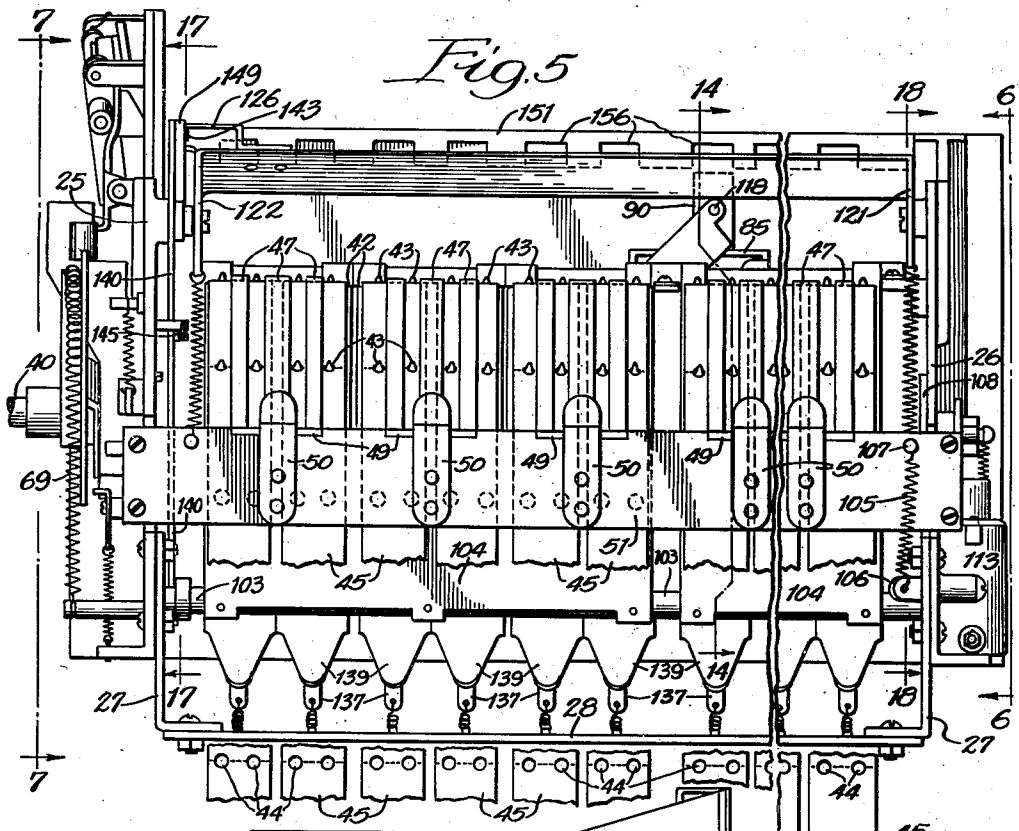



Fig. 6

Inventor:
Burns S. Watling,

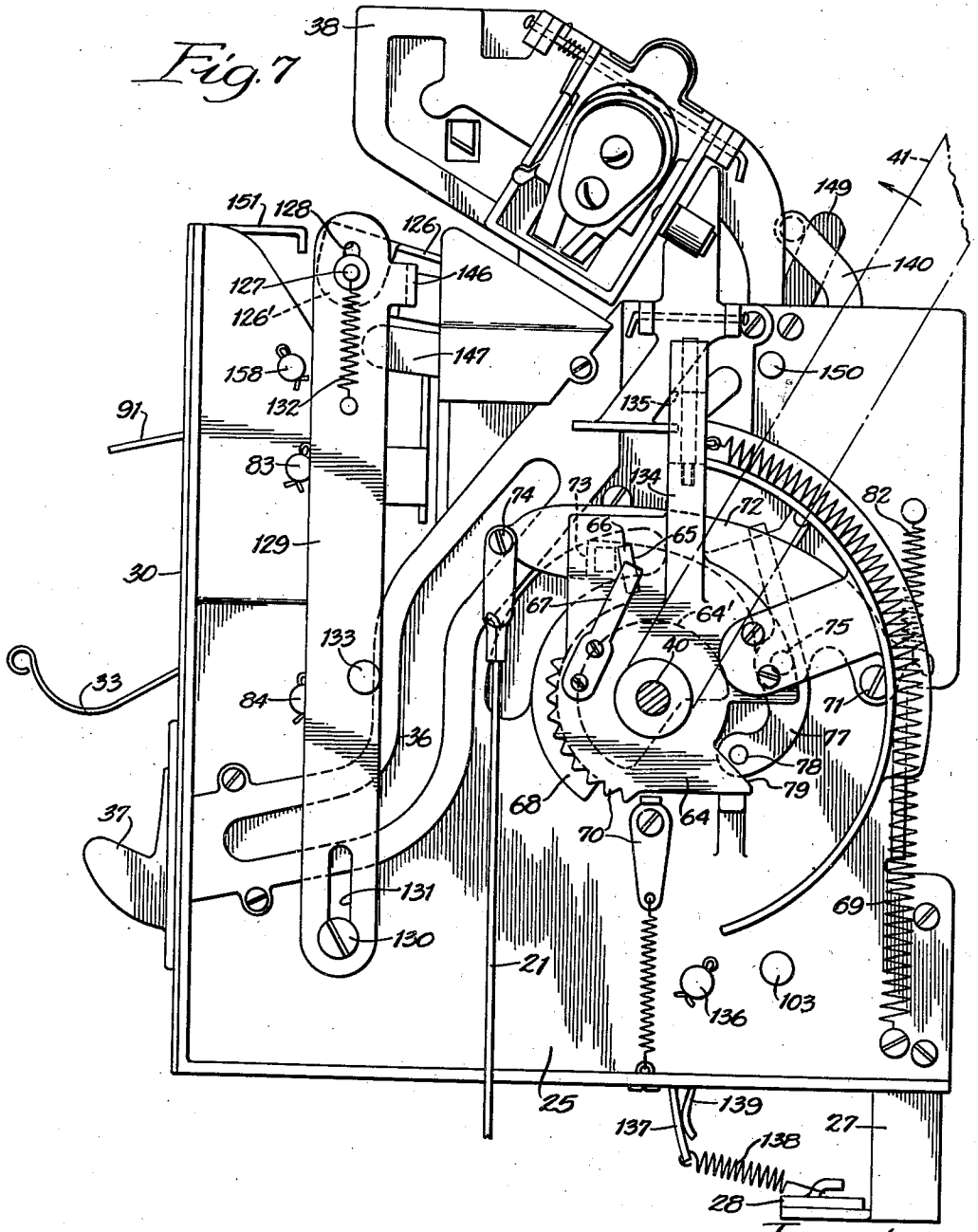
By Fisher, Clapp, Soans & Pond,
Attorneys.

May 27, 1941. B. S. WATLING 2,243,589

TICKET DISPENSING MACHINE

Filed Nov. 7, 1938 6 Sheets-Sheet 3

Fig. 7




Inventor:
Burns S. Watling,
By Fisher, Clapp, Soans & Pond.
Attorneys.

May 27, 1941. B. S. WATLING 2,243,589

TICKET DISPENSING MACHINE

Filed Nov. 7, 1938 6 Sheets-Sheet 4

Fig. 8

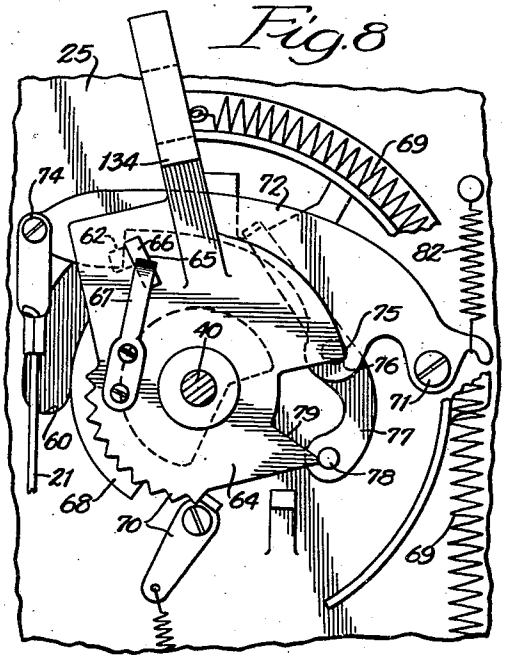



Fig. 9

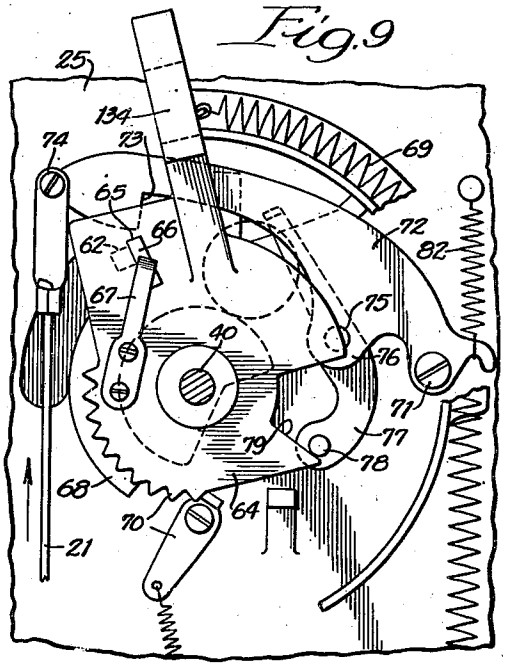



Fig. 10

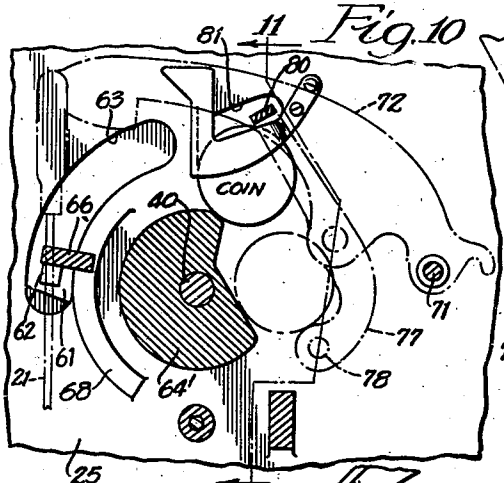



Fig. 11

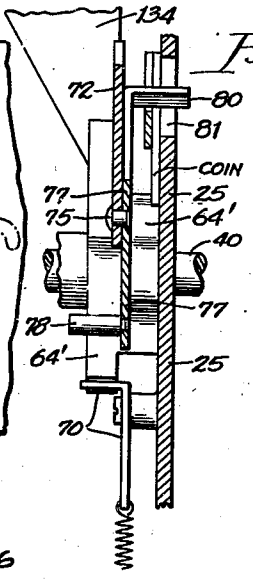



Fig. 12

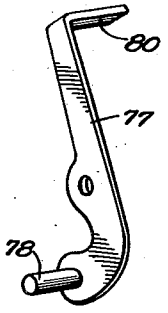
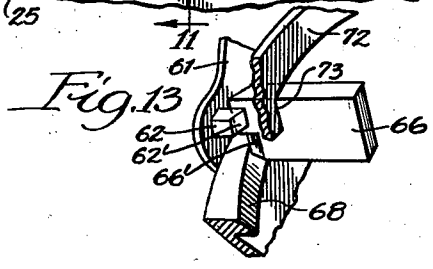



Fig. 13




Inventor:
Burns S. Watling,
By Fisher, Clapp, Soans & Pond,
Attorneys.

May 27, 1941. B. S. WATLING 2,243,589

TICKET DISPENSING MACHINE

Filed Nov. 7, 1938 6 Sheets-Sheet 5

Fig. 19

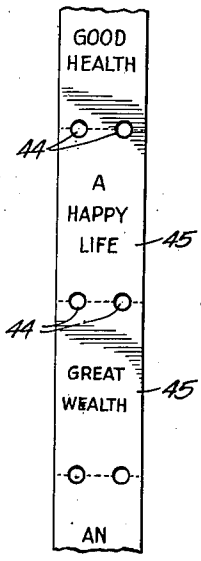



Fig. 14

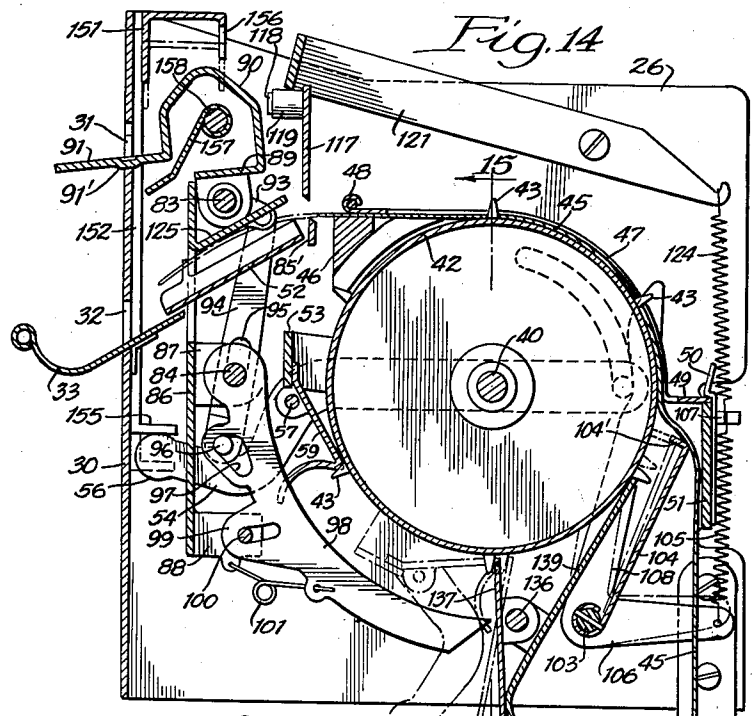


Fig. 15

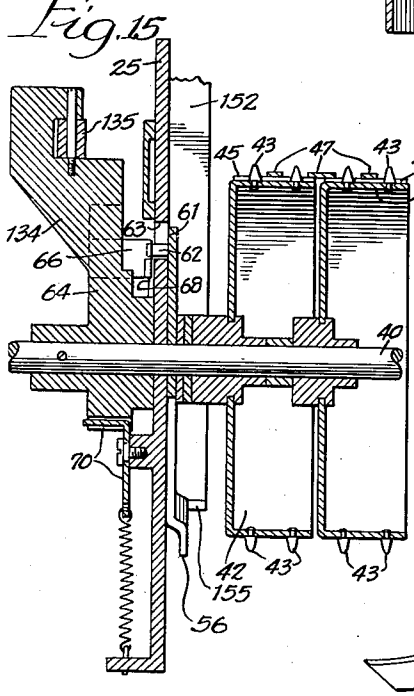
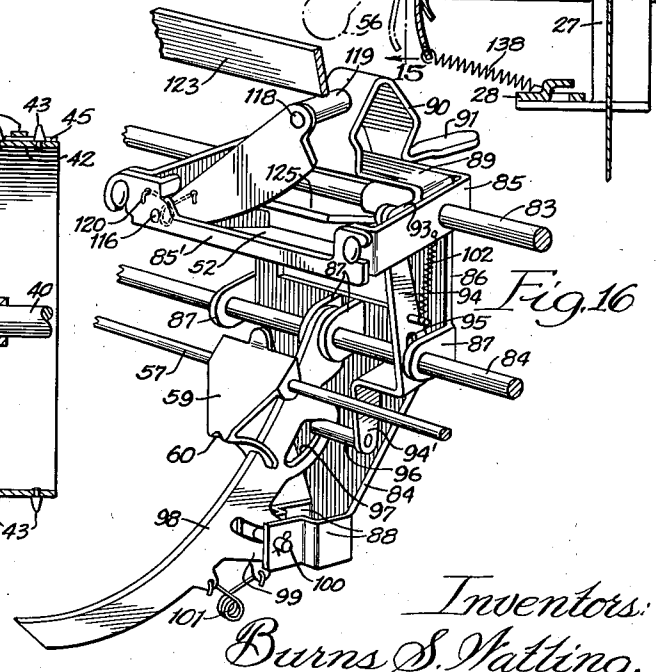


Fig. 16



Inventors:
Burns S. Watling,
By Fisher, Clapp, Soans & Pond,
Attorneys.

May 27, 1941. B. S. WATLING 2,243,589

TICKET DISPENSING MACHINE

Filed Nov. 7, 1938 6 Sheets-Sheet 6

Fig. 17

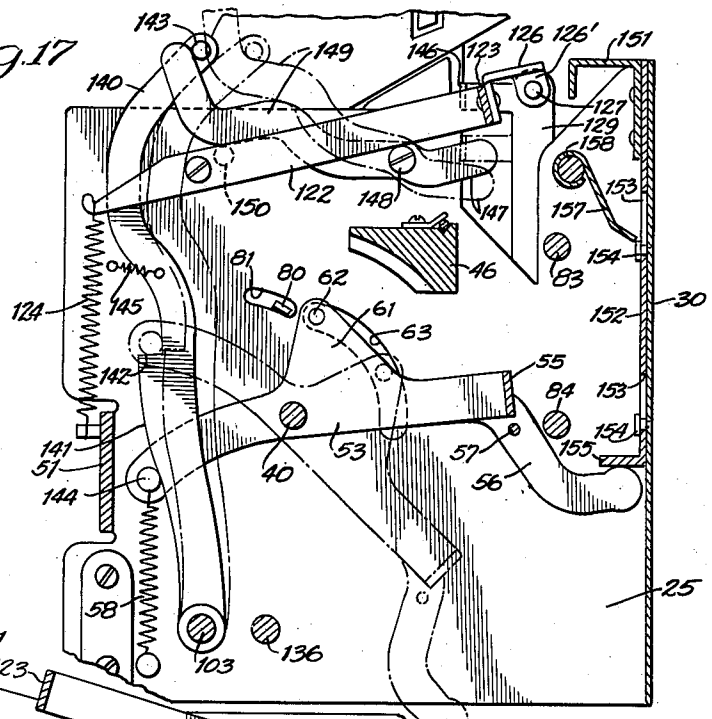
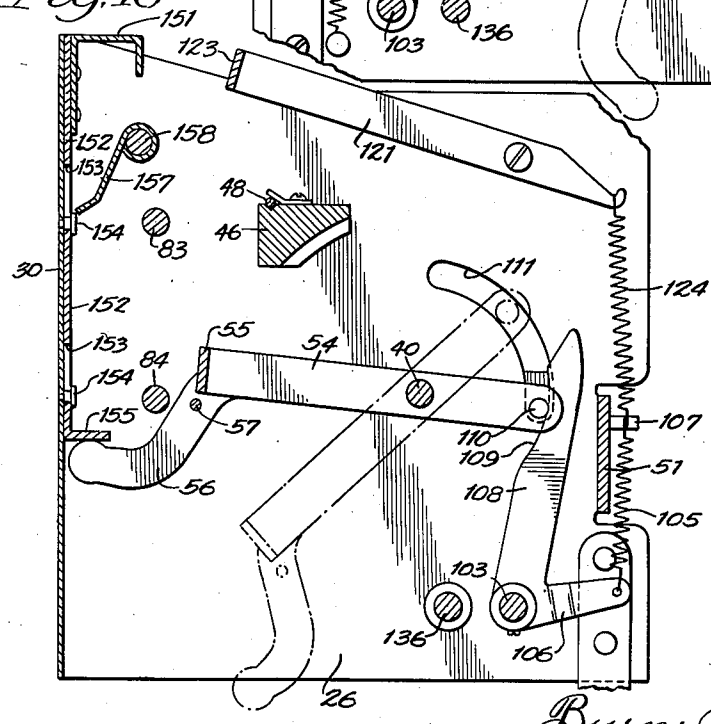



Fig. 18




Inventor:
Burns S. Watling,
By Fisher, Clapp, Soans & Pond,
Attorneys.

Patented May 27, 1941 2,243,589

# UNITED STATES PATENT OFFICE

2,243,589

## TICKET DISPENSING MACHINE

Burns S. Watling, Chicago, Ill., assignor to Watling Scale Company, Chicago, Ill., a corporation of Illinois

Application November 7, 1938, Serial No. 239,335

19 Claims. (Cl. 164—42)

This invention relates to ticket dispensing machines of that type wherein the tickets are formed as a continuous tape, and mechanism is provided for cutting off a single ticket from the tape at each operation of the machine and delivering it to the purchaser.

In the particular form of the invention hereinafter described and illustrated in the accompanying drawings the ticket dispensing mechanism constitutes an accessory of a coin controlled weighing scale, and the tickets are in the nature of horoscopes given free to the user of the scale. There is a line or tape of tickets for each month of the year, and the user of the machine sets the ticket dispensing mechanism for the particular month in which he or she was born. However, the present invention is not limited to this particular use, or to association with a weighing scale or other vending machine, but may be employed independently as an apparatus for dispensing slips or tickets of any nature that are severed from a continuous strip or tape.

The general object of the invention has been to provide an improved ticket or slip dispensing mechanism that may be operated by manipulating a handle lever. In the preferred embodiment herein shown and described the operation is controlled by a deposited coin or check. Other objects, more especially but not exclusively related to a horoscope or fortune telling device employing a plurality of separate strips or tapes of tickets, have been, to provide a single tape advancing and ticket severing device which may be bodily shifted to operate upon any of the several tapes, to provide an improved means for advancing the tapes to a ticket cutting position, to provide an improved automatic cutter mechanism, to provide an improved means for preventing overthrow of the tape advancing mechanism, to provide a device for slightly backing off the free end of the tape, after a ticket has been severed therefrom, to cause it to clear the path of the shiftable cutter, to provide a device for securely locking the shiftable tape advancing pawl and ticket cutter in fixed position relatively to each tape, and to provide an improved tape advancing mechanism that will permit easy reloading as the tapes become exhausted.

Still other objects and attendant advantages of the invention will be apparent to persons familiar with this class of devices from the following detailed description, taken in connection with the accompanying drawings in which I have illustrated an improved embodiment of the invention, and wherein—

Fig. 1 is a perspective elevation of a well known form of coin controlled weighing scale having my ticket dispensing apparatus associated therewith.

Fig. 2 is a rear elevation of the upper portion of the scale operating mechanism.

Fig. 3 is an enlarged front elevation of a front panel having a rack for holding the shifting lever in fixed position in line with the several tape advancing drums and also having a ticket delivery mouth and holder.

Fig. 4 is a further enlarged fragmentary front elevation of the rack and lever, illustrating a structural feature of the rack which prevents the setting of the lever at an intermediate position between two notches.

Fig. 5 is a rear elevation of the apparatus.

Fig. 6 is an end elevation viewed from the right of Fig. 5.

Fig. 7 is an end elevation, in section through the main drive shaft, viewed from the left of Fig. 5, and showing the parts in normal idle position.

Figs. 8 and 9 are similar views of the main operating parts shown in Fig. 7, Fig. 8 showing the locked position of the parts when no coin is inserted, and Fig. 9 showing the released position of the parts when a coin is inserted.

Fig. 10 is a view in a vertical plane behind that of Fig. 9, showing the parts further advanced and also showing in section a cam that first arrests the coin in a position to release the latch bar and then releases the coin for passage to the coin box.

Fig. 11 is a vertical transverse section taken on the offset line 11—11 of Fig. 10.

Fig. 12 is a perspective detail of a lever that is pivoted on the latch bar and functions to raise the latter to released position through engagement with a deposited coin.

Fig. 13 is a perspective detail of a portion of the mechanism, controlled by the latch bar, that advances the tape-feeding drum one step to present a ticket for severance by the cutter.

Fig. 14 is a vertical transverse section, taken on the line 14—14 of Fig. 5.

Fig. 15 is a fragmentary vertical longitudinal section through the operating handle end of the apparatus and a pair of drums, taken on the line 15—15 of Fig. 14.

Fig. 16 is a perspective elevation of a laterally shiftable frame structure or carriage that carries the ticket cutter and also effects a lateral shift and control of the drum-advancing pawl.

Fig. 17 is a vertical transverse section taken on the line 17—17 of Fig. 5.

Fig. 18 is a vertical transverse section, taken on the line 18—18 of Fig. 5.

Fig. 19 is a plan of a fragment of a ticket tape.

As above stated, the present invention is shown applied to a weighing scale which has the general construction shown in Patent No. 1,923,287, issued August 22, 1933, to Thomas W. B. Watling. The frame or casing of the scale comprises a base 10, an upright portion 11, and an upper portion or cap designated as an entirety by 12. The scale platform 13 is connected through a link, the upper portion of which is shown at 14 to a vertical rack bar 15 that engages with a pinion 16 on the shaft of a ratchet wheel 17. This ratchet wheel is normally locked against turning by a pivoted latch 18 that is connected by a link 19 to a lever 20 that is raised to release the scale mechanism for operation by an upwardly extending link 21. Fast on the shaft of the pinion 16 is a graduated scale dial 22 (Fig. 1), which shows through an opening 23 in the front wall of the cap 12 in association with a fixed pointer 24. This scale mechanism forms no essential part of the present invention; but since I contemplate using the latter in association with the scale mechanism, I have herein illustrated it as applied to, and forming an accessory of, a weighing scale.

*Housing structure*

Within the cap 12, at the end thereof at which the operating handle is located, is a vertical end wall 25, and at the opposite end is a vertical end wall 26. The lower rear corners of these walls are rigidly connected by a pair of angle brackets 27 (Fig. 5) connected at their lower ends by a bar 28. In the front wall of the cap 12 is a large opening 29 (Fig. 1), behind which is a rectangular panel 30, shown in isolated detail in Fig. 3, that is connected at its ends to the front vertical edges of the end walls 25 and 26. This panel has in its upper portion a longitudinal rack 31 cut therein designed to receive and hold against accidental lateral displacement a hand lever by which the tape advancing and severing devices are positioned to cooperate with any of a series of rotary drums (hereinafter referred to) that support and advance the tapes. Below the rack 31 is a longitudinal opening 32 through which the severed tickets issue into a sheet metal receiving trough 33. On the front wall of the cap 12 above the rack 31 is a longitudinal row 34 of alphabetical symbols consisting of the initial letters of the twelve months of the calendar year arranged in the order of the months. The several notches in the rack bar 31 correspond in number to these symbols and are respectively located in vertical alignment with the latter. In the right-hand lower corner of the panel 30 is a coin discharge slot 35 registering with the lower end of a return chute 36 (Fig. 7), for the return of unused coins, which come to rest in a catcher 37 underlying the slot 35. On the top wall of the cap 12 is the receiving mouth 38 of the usual coin chute, shown in side elevation in Fig. 7, and equipped with the usual throw-out devices for false tokens by which it is attempted to cheat the machine. As these throw-out devices are old and well-known and constitute no part of this invention, a description thereof is not deemed necessary. The internal end wall 25, and certain parts of the operating mechanism located externally thereof are concealed by a cover 39 (Fig. 1).

*Tape supporting and guiding mechanism*

Journaled in and extending between the walls 25 and 26 is the main operating shaft 40 that extends at one end through the wall 25 and the cover wall 39 and has keyed thereon an operating handle 41. Mounted to turn independently on shaft 40 are drums 42, twelve in number, disposed side by side, as shown in Figs. 5 and 15. Each of these drums is equipped on its periphery with six equally spaced pairs of teeth 43, which are adapted to engage holes 44 in the ticket tape or strip 45, a fragment of which is shown in Fig. 19, the holes being located between the adjacent ends of adjacent tickets. The tape rides over approximately an upper quarter of the periphery of the drum, as clearly shown in Fig. 14, and, when loading the machine, the forward end portion of each tape is directed over a stationary supporting bar 46 (Fig. 14) extending between the end walls 25 and 26. The tapes are guided and confined on the periphery of the drum by curved guides, each comprising a group of three narrow strips 47, the two outside strips overlying two adjacent tapes and the center strip overlapping the adjacent edges of the tapes (Fig. 15). These guides, at their upper ends, are hinged on a rod 48 overlying the bar 46 and at their lower ends are formed with tail pieces 49 engaged by spring catches 50 mounted on a plate 51 (Fig. 5). When supplying the drum with a new tape, each of these guards 47 is simply swung upwardly and backwardly out of the way. The trailing portion of each tape hangs down within the rear portion of the upright cabinet body 11, in the manner clearly indicated in Figs. 5 and 14. Just beyond the bar 46 is a downwardly and forwardly inclined chute 52, over which the severed ticket slides onto the receiving trough 33.

*Coin controlled drum turning mechanism*

If a proper coin is inserted, a down swing of the operating handle 41 turns the selected drum one-sixth of a revolution, which advances the foremost ticket to a position to be severed from the ticket tape. Referring first to Figs. 17 and 18, pivoted on the main drive shaft 40 is a bail comprising an arm 53 lying just inside the end wall 25, an arm 54 lying just inside the opposite end wall 26, a cross bar 55 that connects corresponding ends of the arms 53 and 54, tail pieces 56 formed as extensions of the arms, and a rod 57 supported at its ends by the tail pieces. The bail is normally held in its raised position by a pull spring 58 (Fig. 17).

Slidable along the rod 57 by means later described is a V-shaped pawl 59, in the nose of which is a notch 60 (Fig. 16) that engages one of each pair of drum teeth 43 in the manner clearly shown in Fig. 14, to turn the drum and advance the ticket tape one step each time the bail is swung down to the dotted line position shown in Figs. 17 and 18.

Describing now the means for rocking the bail downwardly, on the arm 53 of the bail is an upright extension 61 (Figs. 13 and 17) carrying a lateral stud 62 that extends through an arcuate slot 63 in the wall 25. Referring to Figs. 7, 8, 9, 10 and 15, fast on the shaft 40 between the end wall 25 and the cover wall 39 is a casting 64 formed with a transverse slot 65 in which is slidably mounted a block 66 pressed toward the wall

25 by a leaf spring 67. When the casting 64 is rotated counter-clockwise viewing Figs. 7, 8 and 9, the inner end of the block 66 strikes the stud 62, as shown in Fig. 13, and this rocks the bail downwardly, causing the pawl 59 to turn the tape drum one step. Since the casting 64 is rotated a little beyond the limit of down movement of the bail, a fixed cam 68 engaged by a beveled end portion 66' of the block 66, retracts the latter sufficiently to allow it to pass the stud 62. On the return movement of the casting, which is effected by a spring 69 (Fig. 7), the block 66 rides over a cam end 62' of the stud 62. The casting 64 is equipped with a common and well known full stroke compelling device indicated at 70 in Figs. 7, 8 and 9.

*Coin controlled locking mechanism*

In the embodiment of the invention herein presented, a coin controlled mechanism is provided which locks both the scale and the ticket dispensing mechanisms against operation if no proper coin is deposited. This locking mechanism is shown principally in Figs. 7 to 13 inclusive. Pivoted at 71 on the outer side of the wall 25 is a latch bar 72 formed on its free end with a hook 73, and to the forward end of said hook is pivoted at 74 the upper end of the link 21. As shown in Figs. 7 and 13, this hook normally lies across the path of travel of the block 66, and when the casting is turned from the position shown in Fig. 7 to that shown in Fig. 8, if no coin has been deposited the block 66 strikes the hook 73, and any further rotation of the casting 64 is arrested. Pivoted at 75 to a lobe 76 on the lower edge of the latch bar 72 is a trigger lever 77, shown in isolated detail in Fig. 12. The lower end of this lever 75 carries a laterally extending pin 78 which, as shown in Fig. 7, normally overlies a radial shoulder 79 formed on the casting 64. On the upper end of the lever 77 is a lateral finger 80 that extends across the coin chute and through a slot 81 in the wall 25. If no coin has been deposited, the rotation of the casting 64 to the position shown in Fig. 8 merely rocks the lever 77 idly through engagement of the shoulder 79 with the pin 78, and the latch bar 72 is not raised. This is shown in Fig. 8. But if a proper coin is deposited, as indicated in Figs. 9 and 10, the coin is temporarily arrested between the finger 80 and the circular portion of a hub section or cam 64' (Fig. 10) that forms a part of the casting 64. The engagement of the finger 80 by the edge of the coin prevents the pin 78 from sliding off the shoulder 79, as shown in Fig. 9. Hence, the trigger 77 lifts the latch bar 72, which frees both the scale mechanism and the ticket dispensing mechanism for operation; and as the casting 64 is further rotated to the position indicated in Fig. 10, a cut-away portion of the hub section 64' permits the coin to drop. The latch bar 72 is normally urged into latching position by a pull spring 82.

*Push pawl shifting mechanism*

The push pawl 59 is bodily shifted laterally along the rod 57 on which it is mounted by a manually operated mechanism illustrated mainly in Figs. 14 and 16. Slidably mounted on parallel rods 83 and 84 extending between the end plates 25 and 26 is a carriage comprising an upper rectangular frame 85 slidable on rod 83, a depending back plate 86, ears 87 extending forwardly of the back plate 86 and slidably engaging the rod 84, and a pair of forwardly projecting ears 88 on the lower end of the back plate 86. Pivoted on the rod 83 within the frame 85 is a bail 89, integral with the horizontal limb of which is an inverted U-shaped shank 90 of a small handle member 91 that extends through a slot directly above the rack 31 and, as best shown in Fig. 4, has a narrow neck portion 91' that fits snugly in rectangular seats 92 formed between adjacent teeth of the rack. When the neck of the handle is thus seated, it may be lifted out of its seat, but is held against accidental lateral displacement. It will be observed that the rack teeth are formed with oppositely sloping upper edges, so that if the handle is accidentally left on the peak of a tooth, it will slide down into one of the seats on either side.

Integral with one depending arm of the bail 89 is a short arm 93 to which is pivoted the upper end of a push bar 94. This latter has a vertical slot 95 straddling the rod 84 and an inwardly offset lower end portion 94' carrying a lateral pin 96. This pin plays through a cam slot 97 formed in a curved depending tongue 98 that is pivoted at its upper end on the rod 84 between the central ears 87, and substantially midway of its length has a slotted lobe 99 guided on a pin 100 between the ears 88. This permits a limited up and down swing of the tongue, but prevents lateral swing thereof. A spring 101 between the lower edge of the tongue and one of the ears 88 urges the tongue toward the drum. The free end of the push pawl 59 is formed with a vertical slot straddling the upper edge of the tongue. Hence, when the carriage unit shown in Fig. 16 is shifted laterally to a position opposite one of the drums, the push pawl 59 travels with it. When the handle 91 is raised to shift the carriage and pawl from one drum to another, the pin 96, which is normally held retracted by a spring 102, acting on the cam 97, lowers the tongue 98 sufficiently to permit the pawl to drop away from the tooth of the drum, but it does not disengage the tongue from the pawl.

*Drum overthrow preventer*

Referring to Figs. 5, 14, and 18, keyed on a rock shaft 103 at the rear of the machine are a pair of wide upstanding dogging pawls 104 each formed on its upper free end with a nose 104', that is urged toward the surface of the drums under the pull of a spring 105. This spring is connected at its lower end to one arm 106 of a bell crank lever fast on the rock shaft 103, the upper end of the spring 105 being anchored to a pin 107 on the plate 51. The upstanding arm 108 of the bell crank has in its inner edge a shallow recess or hollow 109 that, in the idle position of the machine, is engaged by a lateral pin 110 on the bail arm 54, as shown in Fig. 18, which holds the pawls 104 in the position shown in full lines in Fig. 14, with their noses sufficiently distant from the drum to allow the passage of the underlying teeth 43. During the first part of the drum turning movement the pawl is shifted slightly further outwardly by the pin 110; and when the drum has been turned far enough to carry the teeth 43 just underlying the pawl nose past the latter, the pin 110 slides off the upper end of the lever arm 108, and the nose of the pawl moves into contact with the surface of the drum, in which position it blocks the overthrow of the drum from momentum.

Many users of vending machines seem to take a savage delight in abusing the machine, particularly by manipulating the handle in a slamming

manner calculated to bend or break it. To prevent this I preferably control the operative movement of the lower bail 55 by a slow-down device illustrated in Figs. 6 and 18. The pin 110 is extended through an arcuate slot 111 in the end wall 26, and is engaged by a horizontal fork 112 on the upper end of the plunger stem of a hydraulic or pneumatic door check 113 that is mounted on the outer side of the end wall 26. A pull spring 114 anchored to a pin 115 on the wall 26 and connected to the free end of the pin 110 cooperates with the spring 58 (Fig. 17) in returning the bail 55 to normal raised position.

*The tape cutter*

During the final part of the down swing of the operating handle 41, the advanced portion of the tape, constituting a single ticket, is severed. The cutter is best shown in Figs. 14 and 16. The inner longitudinal member of the frame 85 is shaped to form a fixed cutting blade 85', and pivoted at 116 thereon is one end of a swinging blade 117. Mounted on the free end of the blade 117 is a lateral stud 118 carrying a roller 119. A hinge spring 120 normally maintains the blade raised. Referring to Figs. 14, 17 and 18, pivotally mounted on the end walls 25 and 26 is an upper bail consisting of parallel arms 121 and 122 and a cross bar 123 connecting their free ends. Springs 124 (Figs. 17 and 18) normally hold the bail in raised position, in which position the cross-bar 123 overlies the roller of the cutter blade, as shown in Fig. 14. At the conclusion of the tape feeding movement, when the foremost ticket on the tape has been advanced to the dotted line position shown in Fig. 14 between the chute 52 and an overlying guard plate 125 cut and bent rearwardly and upwardly from the carriage wall 86, the upper bail is swung down to operate the cutter by the following means. Referring to Figs. 5, 7 and 17, attached to one end of the bail cross-bar 123 is a bracket 126 that overhangs a vertical slot in the end wall 25 and is formed with a depending ear 126' that carries a pin 127 that extends through a vertical slot 128 in the upper end of a vertical link bar 129 on the outer side of the end wall 25 (Fig. 7). The link bar 129 is guided for vertical movement at its lower end by a stud 130 extending through a slot 131. The link bar 129 is elastically connected to the pin 127 by a spring 132, and on the outer face of the link bar 129 is a stud 133. Integral with the casting 64 is an upstanding arm 134 (see also Figs. 8, 9 and 15) carrying a roller 135. After the operating handle 41 has been swung down far enough to advance the tape to a ticket severing position, and when further turning of the tape drum has been arrested by camming the block 66 off the stud 62, a further movement of the handle in the same direction causes the roller 135 to strike the stud 133 and depress the link 129, and this, through the spring 132, pin 127 and bracket 126, depresses the upper bail bar 123 sufficiently to operate the cutter. On the subsequent rising movement of the bail the link bar 129 is restored to normal position by an upward pull exerted through pin 127 and spring 132.

*Drum back-off device*

When the ticket has been severed, the end of the tape just behind the cut lies on the fixed blade 85' of the cutter between the end shoulders of the blade (Fig. 16). The next lateral shift of the cutter carriage would abrade and perhaps tear the free end of the tape unless the latter is retracted out of the way. Such retraction is effected by a drum back-off device shown in Fig. 14. On a rod 136 extending between the end walls 25 and 26 is pivoted, in association with each drum, a pawl 137, the upper end of which is adapted to act on the teeth 43, under the pull of a spring 138, in a manner to urge the drum in a backward rotation, the extent of which backward movement is limited by a dogging pawl 139, the tail of which bears on the tail of pawl 137, so that the spring 138 also urges the dogging pawl 139 into working position. Now, a full stroke of the drum advancing pawl 59 carries the tooth engaged thereby to the dotted line position shown at the bottom of the drum in Fig. 14, and this at the same time shifts pawl 137 to the dotted line position against the pull of spring 138. As soon as pawl 59 drops away from the tooth, pawl 137, under the pull of spring 138, backs the drum sufficiently to clear the end of the tape from the fixed cutter blade and at the same time kicks the dogging pawl 139 into engagement with the drum so as to limit the extent of such backward movement to the slight amount necessary.

*Lower bail lock and release*

After the machine has been operated to the point at which the foremost ticket on the tape has been advanced to cutting position, the return movement of the lower bail 55 is delayed to permit the block 66 to cam back past the stud 62. The mechanism for accomplishing this is shown in Fig. 17. Pivoted on the rock shaft 103 just inside the end wall 25 is an upstanding lever 140 formed on its outer edge with a cam 141 and a shoulder 142 at the upper end of the cam, and also having a lateral pin 143 at its upper end. On one end of the arm 53 of the lower bail is a lateral pin 144 which engages the cam 141. This lever 140 is urged to the full line position by a spring 145. As the lower bail 55 descends to the dotted line position, the pin 144 rides up the cam 141 and comes to rest on the stop shoulder 142. At the end of the ticket cutting operation and during the final part of the down movement of the link bar 129 a lateral lug 146 on the link bar 129 strikes and depresses the short arm 147 of a lever that is pivoted at 148 on the end wall 25, with its long arm 149 engaged with the pin 143. This shifts the last named lever to the dotted line position shown and at the same time shifts lever 140 inwardly to the dotted line position, releasing the lower bail and permitting it to be raised to normal position by its spring 58. When the upper bail returns to its normal position, the lever 147, 149 drops by gravity to its normal position, coming to rest on a stop pin 150 on the wall 25.

*Selecting lever lock*

After the selecting lever 91 has been shifted lengthwise of the rack 31 and engaged with one of the notches of the latter, and a proper coin has been deposited, it is desirable to prevent a shift of the lever by the operator to another notch until the machine has been fully operated. This is effected by a lever locking mechanism controlled by the lower bail, and best shown in Figs. 5, 14, 17 and 18. Extending lengthwise of the upper front portion of the machine just behind the panel 30 and overlying the inverted U-shaped shank 90 of the selecting lever is an inverted U-shaped bar 151 mounted at its ends on vertical strips 152 slidably mounted on the inner side of the panel 30. As shown in Figs. 17 and 18, the strips 152 have vertical slots 153 engaged with pins

154 in the panel 30 to guide the strips and limit the up and down movements thereof. On the lower end of each strip is a foot 155 that normally rests on the free end of the extension 56 of the lower bail arm, when the latter is in its raised position. In the front wall of the bar 151 are notches 156 (Fig. 5) that register with the several positions of the selecting lever 91. These notches 156 are normally above and out of engagement with the member 90, as shown in Fig. 14. But when the machine is operated, the bar 151 drops, so that one of the notches straddles the member 90, as shown by dotted lines in Fig. 14, and this prevents any lateral shift of the selecting lever 91 until the locking bar 151 has been again raised by the bail arm extensions 56.

*Anti-theft guard*

As is well known, coin controlled vending machines are constantly subjected to efforts by dishonest persons to work the machine and obtain the articles vended thereby without paying for them. The tool commonly used for this purpose is a length of wire or other form of pick, which is inserted through an opening in the casing wall to reach and operate a movable element by which the goods are delivered. To guard against this I preferably employ behind the opening in which the rack 31 is formed a guard plate 157 (Figs. 14, 17 and 18) that is curled at its upper edge around a transverse rod 158 extending from end to end of the machine and at its lower end abuts against the inner surface of the panel 30 just below said opening. This effectually prevents the entrance of a wire or pick to engage and operate the tape dispensing drum.

*Operation*

The operation of the apparatus has been quite fully described in connection with the description of its mechanical details, but may be briefly recapitulated as follows:

The user steps on the platform 13, and, assuming that he was born in June and desires to obtain his horoscope, he shifts the lever 91 to the June position indicated in Fig. 1, drops a coin in the chute 38, and, grasping the handle 41, swings it toward him to approximately 90 degrees. During the first part of the rotation of the casting 64 (which is fast on the main shaft 40) the locking latch 72 is raised through engagement of the trigger lever 77 with the edge of the coin, so that the latch lever is itself lifted out of engagement with the block 66. This at the same time, through an upward pull on the link 21 frees the scale mechanism for operation so that the scale exhibits the user's weight, and further rotation of the casting 64 rocks the lower bail downwardly to the dotted line position shown in Fig. 18, which causes the pawl 59 to turn the drum slightly more than one-sixth of a revolution, and at the same time permits the overthrow preventing pawl 104 to shift to operative position, and swings the drum back-off pawl 137 to the dotted line position shown in Fig. 14. During the final part of the down swing of the handle lever 41, the upper bail is swung downwardly sufficiently to operate the cutter mechanism, and as soon as the pawl 59 drops off the tooth 43 with which it is engaged, the drum back-off pawl 137 gives to the drum a slight backward movement sufficient to carry the free edge of the tape out of the path of the cutter. The severed ticket slides down the chute 52 onto the catcher 33, from which it may be picked up by the operator of the machine. The spring 69 then acts to return the casting 64 to the initial or starting position shown in Fig. 7, and this, through the main shaft 40, resets the handle lever 41 to vertical position.

If it is attempted to operate the machine without depositing a proper coin, as soon as the block 66 strikes the hook 73 of the latch lever 72, all further movement is blocked.

When a tape is exhausted, it is readily replaced by a new one by simply raising and swinging back the guide 47. At the completion of one full operation, the upper bail is returned to raised position by its springs 124, which also raises the link bar 129, and the lower bail is restored by its spring 58 to its elevated position, in which the pawl 59 engages with the next tooth 43, and this, at the same time, raises the lock bar 151, so that the selecting lever 91 may be shifted to a new position.

While I have herein shown and described one practical and preferred embodiment of the invention, it is to be understood that the ticket dispensing apparatus may be operated and used entirely independently of a weighing scale, that the coin control may be omitted where the purpose of the machine may be other than to vend information and/or goods, and that variations and modifications in the details of structure and arrangement of the parts may be resorted to within the scope of the claims.

I claim:

1. In a machine of the class described, the combination of a shaft, a plurality of drums disposed side by side rotatably mounted on said shaft, said drums having circumferentially spaced peripheral teeth, ticket tapes trained over said drums and having holes engaged with said teeth, a drum operating pawl and means for shifting the latter into operative engagement with a tooth of any of said drums, and means for actuating said pawl to cause it to effect a partial rotation of the drum engaged therewith.

2. In a machine of the class described, the combination of a shaft, a plurality of drums disposed side by side rotatably mounted on said shaft, said drums having circumferentially spaced peripheral teeth, ticket tapes trained over said drums and having holes engaged with said teeth, a rod extending across the peripheries of said drums, a pawl slidable laterally on said rod, means for shifting said pawl along said rod into operative engagement with a tooth of any of said drums, an operating handle, and means actuated by said handle for swinging said rod bodily in a path substantially coaxial with said drums.

3. In a machine of the class described, the combination of a shaft, a plurality of drums disposed side by side rotatably mounted on said shaft, said drums having circumferentially spaced peripheral teeth, ticket tapes trained over said drums and having holes engaged with said teeth, a bail pivoted on said shaft, a rod mounted at its ends in the arms of said bail and extending across the peripheries of said drums, a pawl slidable laterally on said rod, means for shifting said pawl along said rod into operative engagement with a tooth of any of said drums, an operating handle fast on said shaft, and means actuated from said shaft for rocking said bail.

4. In a machine of the class described, the combination of a shaft, a plurality of drums disposed side by side rotatably mounted on said shaft, said drums having circumferentially spaced peripheral teeth, ticket tapes trained over

said drums and having holes engaged with said teeth, a bail pivoted on said shaft, a rod mounted at its ends in the arms of said bail and extending across the peripheries of said drums, a pawl slidable laterally on said rod, a manually operable member for shifting said pawl along said rod into operative engagement with a tooth of any of said drums, an operating handle fast on said shaft, means actuated from said shaft for rocking said bail in a direction to cause said pawl to advance the drum with which it is engaged, and a spring for returning said bail.

5. In a machine of the class described, the combination of a shaft, a plurality of independently rotatable drums disposed side by side on said shaft, ticket tapes trained over said drums, cooperating means on said drums and tapes through which rotation of the former advances the latter, a drum operating member and means for laterally shifting the latter into direct operative engagement with any of said drums, a single means for actuating said member in any position of the latter to cause it to effect a partial rotation of the drum engaged therewith, and a cutter for severing the advanced end portion of the tape.

6. In a machine of the class described, the combination of a shaft, a plurality of drums disposed side by side rotatably mounted on said shaft, ticket tapes trained over said drums, cooperating means on said drums and tapes through which rotation of the former advances the latter, a drum operating member and means for shifting the latter into operative engagement with any of said drums, means for actuating said member to cause it to effect a partial rotation of the drum engaged thereby, and a cutter shiftable laterally with said member for severing the advanced end portion of the tape.

7. In a machine of the class described, the combination of a shaft, a plurality of drums disposed side by side rotatably mounted on said shaft, ticket tapes trained over said drums, cooperating means on said drums and tapes through which rotation of the former advances the latter, a drum operating member and means for shifting the latter into operative engagement with any of said drums, means for actuating said member to cause it to effect a partial rotation of the drum engaged thereby, a shears type cutter shiftable laterally with said member for severing the advanced end portion of the tape, and means for operating said cutter in any position of the latter.

8. In a machine of the class described, the combination with a plurality of tape feeding devices disposed side by side for effecting step-by-step movements of a corresponding plurality of tapes, of bodily shiftable means for severing the advanced end portion of any tape, comprising a fixed blade across which the advanced end portion is projected by its feeding device, a pivoted blade cooperating with said fixed blade in all cutting positions of the latter, a pivoted bail having its cross bar overlying said pivoted blade, and means for actuating said bail to effect a cutting movement of said pivoted blade.

9. In a machine of the class described, the combination with a plurality of drums rotatably mounted side by side, and tapes respectively mounted on and advanced by said drums, of a pawl laterally shiftable into driving engagement with any of said drums, means for actuating said pawl to effect a partial rotation of the drum engaged thereby, a slideway extending across the peripheries of said drums, a cutter mounted on said slideway and laterally shiftable with said pawl, and means for actuating said cutter to sever the advanced end portion of a tape.

10. In a machine of the class described, the combination with a plurality of drums rotatably mounted side by side, and tapes respectively mounted on and advanced by said drums, of a pawl laterally shiftable into driving engagement with any of said drums, means for actuating said pawl to effect a partial rotation of the drum engaged thereby, a slideway extending across the peripheries of said drums, a carriage slidably mounted on said slideway, a cutter mounted on said carriage and shiftable with the latter, a member on said carriage engaged with said pawl to shift the latter, manually operable means to shift said carriage along said slideway to a position opposite a selected drum, and means for actuating said cutter after said selected drum has been turned by said pawl to bring the end portion of its tape to a position to be severed by said cutter.

11. In a machine of the class described, the combination of a rotatable drum having circumferentially spaced peripheral teeth, a ticket tape trained over said drum and having holes engaged with said teeth, a pawl operative to drive said drum through successive engagements with said teeth, and a drum overthrow preventer comprising a second pawl spring urged into contact with the periphery of said drum and means controlled by the operating means of said drum driving pawl holding said second pawl disengaged from said drum during the first part of the operative movement of said drum driving pawl.

12. In a machine of the class described, the combination of a plurality of rotatable drums disposed side by side and having circumferentially spaced peripheral teeth, ticket tapes trained over the respective drums and having holes engaged with said teeth, a laterally shiftable pawl operative to drive any one of said drums through successive engagements with the teeth thereof, a tape cutter shiftable laterally to a cutting position opposite any of said drums, and a drum back-off device associated with each drum operative to turn the drum backward a slight distance after said cutter has severed the forward end portion of a tape to shift the new end of the tape out of the path of travel of said cutter.

13. In a machine of the class described, the combination of a plurality of rotatable drums disposed side by side and having circumferentially spaced peripheral teeth, ticket tapes trained over the respective drums and having holes engaged with said teeth, a laterally shiftable pawl operative to drive any one of said drums through successive engagements with the teeth thereof, a tape cutter shiftable laterally to a cutting position opposite any of said drums, a spring-tensioned drum back-off pawl engaged with a tooth of each drum to turn the latter backward a slight distance after said cutter has severed the forward end portion of a tape, and a dogging pawl actuated by said back-off pawl serving to limit the extent of said backward turning movement.

14. In a machine of the class described, the combination with a plurality of rotatable tape feeding devices disposed side by side for effecting step-by-step movements of a corresponding plurality of tapes, a single actuating member for said feeding devices slidable between positions radially opposite said feeding devices, and means for shifting the said actuating member laterally

into operative engagement with any selected feeding device, of a panel opposite said feeding devices having an opening and notches in an edge of said opening corresponding in number and spacing to said feeding devices, and an operating handle rigid with said shifting means extending through said opening and engageable with any of said notches.

15. In a machine of the class described, the combination with a plurality of rotatable drums disposed side by side for effecting step-by-step movements of a corresponding plurality of tapes trained over said drums, a drum actuating pawl, and means for shifting said pawl laterally into operative engagement with any selected drum, of a panel opposite said drums having a longitudinal opening and notches in a longitudinal edge of said opening corresponding in number and spacing to said drums, and an operating handle for said shifting means extending through said opening and engageable with any of said notches.

16. In a machine of the class described, the combination with a plurality of rotatable drums disposed side by side for effecting step-by-step movements of a corresponding plurality of tapes trained over said drums, a drum actuating pawl, and means for shifting said pawl laterally into operative engagement with any selected drum, of a panel opposite said drums having a longitudinal opening and notches in a longitudinal edge of said opening corresponding in number and spacing to said drums, an operating handle for said shifting means extending through said opening and engageable with any of said notches, and means for locking said handle against shift to another notch during the operation of the machine.

17. In a machine of the class described, the combination with a plurality of rotatable drums disposed side by side for effecting step-by-step movements of a corresponding plurality of tapes trained over said drums, a drum actuating pawl, means for shifting said pawl laterally into operative engagement with any selected drum, and manually operable means for actuating said pawl to effect a partial rotation of the selected drum, of a panel opposite said drums having a longitudinal opening and notches in the lower longitudinal edge of said opening corresponding in number and spacing to said drums, an operating handle for said pawl shifting means extending through said opening and engageable with any of said notches, a locking bar above and extending crosswise of said operating handle and formed in its lower edge with notches adapted to straddle the shank of said handle, and supporting strips for said locking bar slidably mounted on said panel, said strips being footed on an element of said pawl actuating means and normally holding said locking bar disengaged from said handle shank but permitting said locking bar to drop into locking engagement with said shank when said pawl actuating means is operated to cause the pawl to advance the drum engaged thereby.

18. In a machine of the class described, the combination with a pair of laterally adjacent tape feeding drums, and a pair of tapes respectively overlying and supported on corresponding upper quarters of the peripheries of said drums, of a curved tape guiding and confining member hinged at its upper end overlapping adjacent edge portions of said tapes, and a catch engaged with the lower end of said member.

19. In a machine of the class described, the combination with a pair of laterally adjacent drums each having spaced pairs of peripheral teeth, and tapes respectively overlying and supported on corresponding upper quarters of the peripheries of said drums, said tapes having holes engaged with said teeth, of a curved tape guiding and confining member hinged at its upper end and having outer strips respectively overlying the central portions of said tapes and a central strip overlapping adjacent edge portions of said tapes, and a spring catch engaged with the lower end of said member.

BURNS S. WATLING.

CERTIFICATE OF CORRECTION.

Patent No. 2,243,589. May 27, 1941.

BURNS S. WATLING.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 6, first column, lines 62 and 63, claim 8, strike out the words "in all cutting positions of the latter" and insert the same after "blade" and before the comma in line 64, same claim; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of August, A. D. 1941.

Henry Van Arsdale,
Acting Commissioner of Patents.

(Seal)