

CHECK CONTROLLED POSTAGE STAMP VENDING MACHINE.

Patented Nov. 7, 1911.

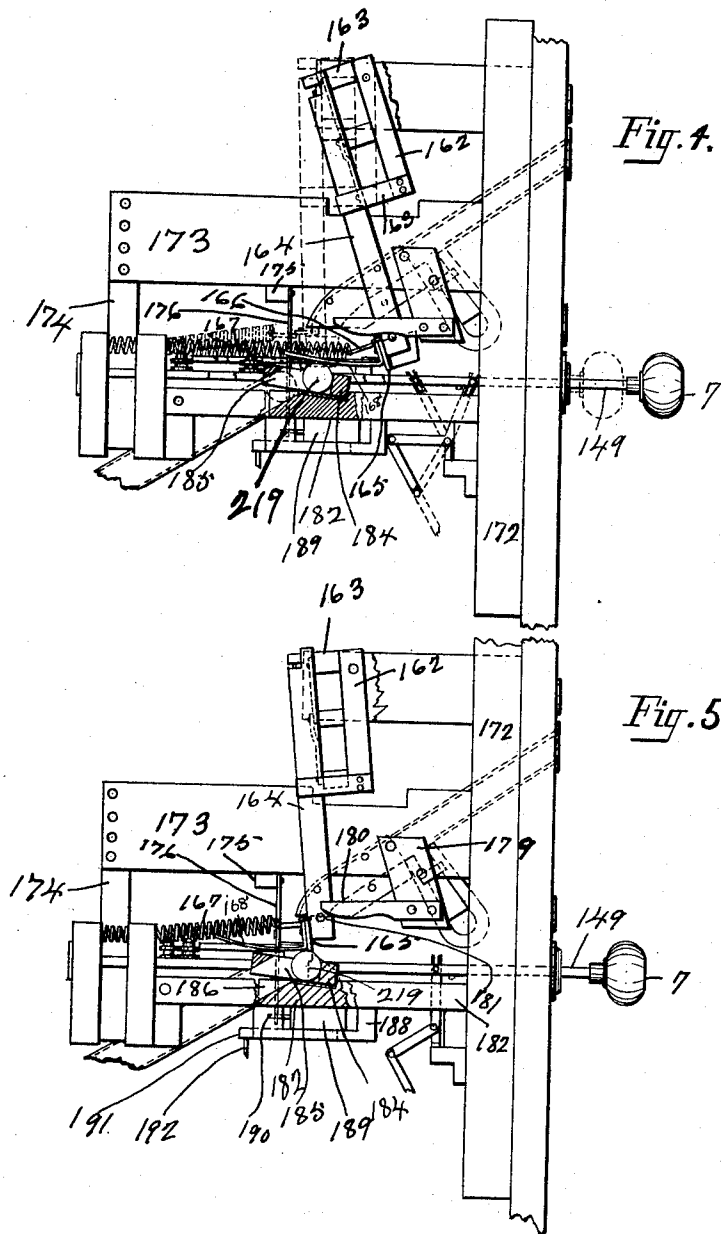
3 SHEETS—SHEET 2.

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CHECK-CONTROLLED POSTAGE-STAMP-VENDING MACHINE.

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Specification of Letters Patent.

Patented Nov. 7, 1911.

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To all whom it may concern:

Be it known that I, CHARLES SIMON, a citizen of the United States, residing at Avilla, in the county of Noble, in the State of Indiana, have invented certain new and useful Improvements in Check-Controlled Postage-Stamp-Vending Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My present invention relates to improvements in check-controlled apparatus for vending machines especially designed for vending postage stamps.

The primary object of my present invention is to provide an economical, convenient and reliable check or coin controlled means for operating postage stamp vending mechanism.

My invention consists of a fixed coin holding block; a swinging lever carrying upon its lower end a coin engaging means; coin levers adapted to be fulcrumed on the coin to unlock the mechanism and to actuate the coin itself in its discharge; and means for returning the coin engaging mechanism to its normal position.

The principal novel feature of my invention is the coin engaging lever and its co-operative relation with the coin.

In the several views of the drawings similar reference numerals indicate like parts in which—

Figure 1 is a vertical section of my invention arranged in a suitable casing and in operative relation with vending mechanism. Fig. 2 is a rear view of the coin controller mechanism and the engaging levers therefor. Fig. 3 is a transverse section of Fig. 2 on the line $x-x$ showing another view of certain parts of my invention. Fig. 4 is an enlarged detail side view of my invention showing a position of the coin in its fulcrum block. Fig. 5 is a view similar to Fig. 4 but showing the position of the operative mechanism in its return movement by which it dislodges the coin from its fulcrum seat.

My invention is arranged in the upper part of any suitable casing 1 which preferably has any proper motive mechanism, not shown, in the lower portion of the casing. The front face of the casing 1 as usual has

a series of coin inserting apertures 4 adapted respectively to admit different sizes of coin. In coöperative relation with these apertures are fixed a series of inclined coin chutes leading to a series of coin receptacles 210 having a coin slot 211 in the bottom thereof through which the coin passes by gravity into its position in the slot 185 in the fulcrum block 184. The receptacles 210 are rigidly fixed to the front face of the horizontal plate 165 hereafter described.

Referring particularly to Fig. 1 the chute 209 consists of a piece of metal having its opposite edges turned over upon one side to form the coacting flanges 212 and 213. The space between these flanges forms the coin way in which the coin rolls downward to gravity. The chutes 209 are slightly laterally inclined toward the side having the said flanges thereon, which retain the coin in the coin way by projecting slightly over its upper and lower edges, whereby when a smaller coin is inserted in the insertion slot than the respective coinway is designed to retain, such coin will promptly drop out of the laterally inclined coin way into the receptacle 96 below where the operator can conveniently secure it again.

The coin way of the chute 209 is provided upon its open side with a fixed plate 214. Adjacent to the upper end of the plate 214, a portion of the lower coinway flange 213 is omitted, and instead thereof the chute 209 is provided with a pendant lug or extension 215 to which a suitable horse-shoe magnet 216 is fixed by means of the cross-piece 217 or other proper manner. The adjacent alined ends of this magnet are in line with the lower coin way flange 213 and permit the coin to roll across the same. Between the said ends of the magnet and the continuation of the lower coinway flange, is a short space as shown at 218 Fig. 1, in which the lower coinway flange is omitted. A proper coin will readily and securely jump this interval, but an iron washer, such as is often used to operate a machine of this class, will under the retarding influence of the said magnet so lose its momentum that it will drop through the opening 218 down to the receptacle 96.

In a suitable bearing in the sides of the casing 1 is revolubly mounted a suitable drum 13 having radially arranged trigger fingers 92 adapted to actuate the vending mechanism. I have also shown the relative

arrangement of stamp feeding mechanism consisting of a feeding table 118 hinged at its rear end to the upper face of the rear side of the frame 65. On this table is mounted a spool 121 on which the postage stamps to be fed are wound. These stamps are kept in position by a curved spring 122 which bears thereon, and are fed forward to the severing mechanism over the curved guide 123. This stamp feeding means is connected with the actuating mechanism by means of a vertical lever 143 mounted on the fulcrum pin 144, and the rod 141 pivotally connected to the rod 142 which in turn is pivotally connected to the lower arm of the bell crank lever 145 which is pivotally fulcrumed at 147 in any suitable manner. As the drum 13 and the stamp feeding means described form no part of my present invention no further description is necessary.

In the front face of the casing 1 is slidably mounted a series of pull-rods 149 having upon their outer end a suitable knob as shown at 7, 8, 9, 10, 11 and 12. The pull-rod 149 has a fixed pin therein 148 which is loosely engaged by the longitudinally slotted end of the upper arm of the bell crank lever 145. The inner end of the rods 149 are loosely mounted in suitable lateral openings in the parallel guides 151 and normally abut against the strip 152 fixed on the outer face on the outer one of these guides.

On each of the pull-rods 149 near their inner ends is revolubly mounted a pulley 153, Fig. 9. Between these rods in alternating arrangement are fixed a series of blocks 154 on the inner face of the inner one of the guide-bars 151. On these blocks are revolubly mounted a corresponding series of pulleys 155. On these pulleys is loosely mounted a cord or cable 156 whose ends pass through suitable guide openings in the end of the inner guide bar 151, and are fixed to the ends of the other bar 151. This cord is so mounted thereon that there is always sufficient slack therein to permit the withdrawal of one pull knob to its full outward limit at a time, and only one, whereby when one knob is withdrawn to its outer limit the remaining knobs are firmly held in place by the cord 156. On the upper face of the pull-rods 140 are fixed corresponding series of guides 157 whose rear ends are arranged closely adjacent to and slightly above the grooved perimeter of the said pulleys, thereby serving as guides preventing the cord from slipping upward off of the said pulleys. The guides 157 are sufficiently undercut to permit the slack portion of the cord to remain beneath the same, as seen at 158 in Fig. 3, until it is taken up by the pull of another knob. The forward end of these guides 157 is provided with a rigid abutment plate 159 for the purpose about to be described.

To the inner opposite faces of the vertical strips 160 at the upper ends thereof are fixed a pair of horizontal arms 161 between which, and in whose free ends is pivotally mounted a swinging frame Figs. 5, 8, 10 and 11, consisting of a front side plate 162, provided at the opposite edges of its rear face with the fixed longitudinal strips 163, and a pair of pendant end pieces 164 in parallel relation with the plate 162 and rigidly connected therewith, and to the rear face of whose extended ends is fixed a plate 165 having at or near the middle of its length a hook 166, Fig. 3, to which is secured the forward end of a coiled retractile spring 167 the rear end of which passes loosely through a suitable opening in the forward guide 151 and is then fixed to the adjacent face of the rear guide 151, thereby normally securing the plate 165, together with its supporting frame, in its initial position against the abutment plates 159.

At suitable points on the plate 165 are arranged a series of plates 165' pivoted thereto at one end carrying upon their other end the respective fixed four upwardly curved coin-levers 169, 170 and 171, corresponding in number and arrangement to the coin chutes leading from the coin insertion apertures 4. On the upper edge of the plate 165 in coöperative relation with the pivoted plates 165' are fixed a corresponding series of spring plates 166' adapted to normally secure the plates 165' in their normal position. The forward ends of said coin levers are widened and have one side beveled as shown.

To the inner face of the front of the casing 1 are fixed a plurality of vertical strips 172 to the outer ones of which are fixed the forward ends of the horizontal plates 173 whose outer ends are fixed to the upper ends of the uprights 174 whose inner ends are fixed between the guide strips 151, to the lower edge of the plates 173 is rigidly secured the bar 175, Figs. 4 and 5, which is arranged above and slightly forward of the bar 165. To the front face of the bar 175 are pivotally mounted a series of pendant plates 176, Fig. 5, and in coöperative relation with the respective coin levers 166, 169, 170 and 171, and having upon that edge thereof adjacent to such coin lever a lateral slot 177, and directly above, the lateral lug 178 adapted for an actuating engagement with the said respective coin levers.

To the outer face and near the forward end of one of the plates 173 is fixed a pendant plate 179, Fig. 5, provided at its lower end with a fixed rearwardly extended finger 180 adapted to engage a fixed pin 181 in the lower end of the adjacent piece 164 for the purpose of holding the said swinging frame down to the plane of its forward movement.

To the inner face of the inner one of the

plates 151 is rigidly fixed a plate 182, Fig. 1 to whose lower face is fixed a longitudinally slotted plate 183. The plate 182 has a longitudinal slot coincident with the slot of the plate 183. In these slots the lower ends of the pendant plate 176 are loosely mounted.

To the upper face of the plate 182 are rigidly fixed a series of spaced coin receptacle plates 184 Fig. 5. These plates have a vertical coin slot 185 whose rear end is inclined as shown, and registers with the respective coin chute hereafter described. The plates 184 are slightly inclined forwardly, and the forward end of the coin slot therein is closed at its bottom by the plate 182 thereby forming a temporary fulcrum seat for the coin. The forward edge of the plate 182 is provided with a series of inclined slots 186 in register with the forward portion of the slots 185.

The plates 184, four in number, one for each coin chute, are arranged directly beneath the respective coin levers 169, 170 and 171, and in coöperative relation therewith. The rear end of the plates 184 are rigidly connected with the upper ends of the respective coin chute 168 Figs. 1, 2 and 3 whose lower ends are rigidly connected to the top of the respective coin receptacle 104. The coin receptacle 104 which is connected with the penny insertion aperture 3 is provided at its upper end with a lateral slot 187, Fig. 1, for the purpose of replenishing the same with coins, when the same is depleted by the frequent making of change.

To the lower face of the plate 182 near its opposite ends are fixed a pair of guides 188 in which is mounted a bar 189 having both a sliding lateral and longitudinal movement therein. In the forward edge of the bar 189 are fixed a series of horizontal rearwardly projecting pins 190 in coöperative relation with the said pendant plates 169, 170 and 171 for the purpose of actuating the bar 189.

To the lower face of the bar 189 is rigidly fixed a rearwardly extended finger 191 having its free end provided with a fixed pendant pin 192 whose point is beveled upon its rear face. The function of the pin 191 is to actuate the knob releasing and the stamp cutting mechanism in the manner hereafter described.

To the front edge of the plate 182 at or near the middle of its length is pivotally fulcrumed a bell-crank lever 193 whose pendant end is pivotally connected to one end of a lever arm 194 whose other end is pivotally connected to the lower face of the bar 189 at or near the middle of its length.

The bar 189 has a vertical longitudinal slot 195 (not shown) through which passes a pin 195 fixed in the corresponding guide 188. This slot 195 thus limits the longitudinal movement of the bar 189, and also forms

a fulcrum for the lateral movement thereof under the impulse of the arm 194. In the normal position of the bar 189 the pin 195 rests in the inner end of the slot 195, and is firmly retained therein by the tension of the coil spring 203, Fig. 2, having one end secured to the bar 189 and its other secured to the cross-piece 147.

To the inner face of the front of the casing 1 is rigidly fixed a horizontal strip 196, Fig. 1. A lever bar 197 is pivotally connected and in parallel relation with the strip 196 by means of the arms 198, one at or near each end thereof.

A lever-bar 199 is pivotally connected to the bar 197 by means of the arms 200 at or near the ends thereof, and normally rests firmly against the lower face of the pull-rods 149 under the tension of the coil-spring 201, Fig. 2, having one end secured to the adjacent face of the casing 1, and the other end secured to the lower face of the lever-bar 197. The bar 199 has its rear face provided at or near the middle of its length with a lateral lug adapted to normally engage the forward and upper end of the bell-crank lever 193.

The pull-rods 149 are each provided upon their lower face near their front end with a pendant lug 204 Fig. 1 adapted to engage the front face of the bar 199 when it is pulled outward to its outer limit, as shown in dotted lines in Fig. 1 thereby rigidly securing the pull rod 149 in its extended position until the finger 183 is actuated by its engagement with one of the trigger fingers on the cylinder 13, thereby lowering the bar 199, through the medium of the bell-crank lever 193 and its connections, out of its engagement with the lug 204 of the withdrawn pull rod 149, after which such pull-rod will automatically assume its normal position under the tension of the retractile spring 167.

To the front edge of the plate 182 in suitable bearings is pivotally mounted substantially midway of its ends a vertical lever 205 having a lateral lug 206 on its rear face, and normally secured in a slightly rearwardly inclined position by the tension of the coil spring 207 having one end secured to the bar 196, and its other end to the lower end of the lever 205. The lever 208 has near its lower end a lateral lug 209 adapted for an actuating engagement with the forward beveled end of the plate 29.

To the rear face of the plate 165 is fixed a forwardly projecting plate 208, adapted for an actuating engagement with the lug 206 on the upper end of the lever 205 for the purpose of starting the motor mechanism through the medium of the plate 29 and its described connections.

The operation of my invention thus described is obvious and briefly stated is as follows: The operator inserts the proper coin

in the aperture 4 after which it is conveyed to the fulcrum block 184 through the coin chute 112 and the corresponding coin receptacle 210 by gravity, where it is retained temporarily in the slot 185 by the plate 165 which abuts the inner edge of the perimeter of the coin 219. The operator now seizes the knob 7 and pulls the rod 149 outwardly thereby actuating the vending mechanism of the machine. When the rod 149 is pulled outwardly it carries with it the plate 165 with its coin levers. In this forward movement the plate 165 engages the upper perimeter of the coin and over the same which acts as a fulcrum to elevate the lever to which it is attached thereby releasing the motive mechanism of the machine by any suitable trigger connection. When the operator releases his hold upon the pull-knob the rod 149 will be automatically returned to its normal position by means of its retractile spring, during which movement the coin lever will ride upon the upper edge of the coin and by its impingement thereon will force the same rearwardly to its discharge, through the slot 185 after which all parts of the mechanism will resume their normal positions.

Having thus described my invention what I desire to secure by Letters Patent is:

1. In a machine of the character described a coin holding block vertically slotted and provided with a coin seat in said slot; a pendant forwardly swinging element in co-operative relation with said block; a horizontal bar fixed on the free end of the swinging element and having a series of pivoted plates upon its rear face and adapted to engage with the upper edge of a coin on said block; coin levers fixed on said plates and adapted to force said coin to its delivery upon their return movement; means for forwardly actuating the coin levers; and means for automatically returning the coin levers to normal position.

2. In a coin actuated machine a vertically slotted coin block provided with a coin seat

therein; a swinging lever element arranged directly above the said block and in co-operative relation therewith; a series of rearwardly projecting coin levers adapted to actuate the coin to its delivery; a horizontal bar fixed on the lower end of a swinging lever and adapted to unlock the releasing mechanism in its forward movement by over riding the coin as a fulcrum; means for automatically returning the said lever to normal position; means for actuating the coin levers; and means for pressing the coin levers to their engagement.

3. The combination of a vertically slotted block having a coin seat therein; a forwardly swinging pendant element; a coin engaging means fixed upon the lower end of said element and adapted to unlock the mechanism of the machine in its forward movement by employing the said coin upon its seat as a fulcrum; a plurality of coin levers mounted on the lower end of said lever and adapted to actuate the coin to its delivery upon the return movement thereof; means for forwardly actuating the said swinging element; and means for automatically returning the said swinging element to normal position.

4. A pendant forwardly swinging lever; a coin engaging means mounted upon the lower end of said lever and adapted to engage the said coin as a fulcrum in its forward movement; means for actuating said lever; a coin lever fixed upon the lower end of said pendant lever adapted to actuate the coin to its discharge in the rearward movement of said lever; a vertically slotted coin block in co-operative relation with the before mentioned elements; and means for returning the said lever to its normal position.

Signed by me at Fort Wayne, Allen county, State of Indiana, this 28th day of December 1908.

CHARLES SIMON.

Witnesses:

AUGUSTA VIBERG,
AUGUSTE SPIEGEL.