

1,367,667.

Patented Feb. 8, 1921.
2 SHEETS—SHEET 1.

Fig. 1.

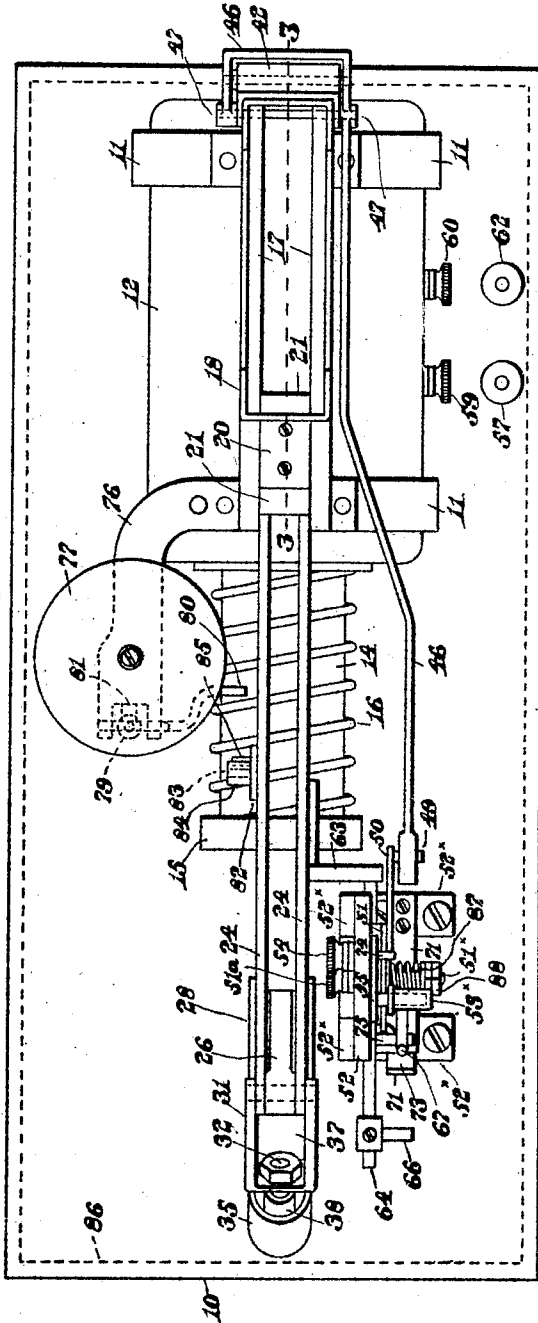


Fig. 4.

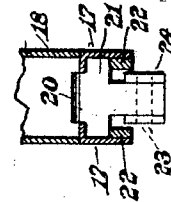
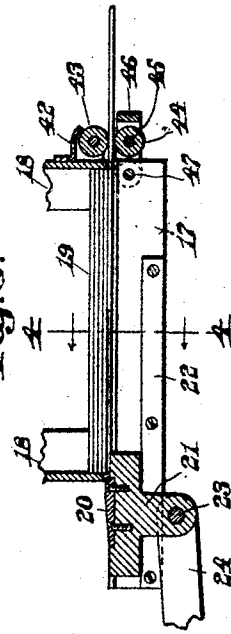


Fig. 3.

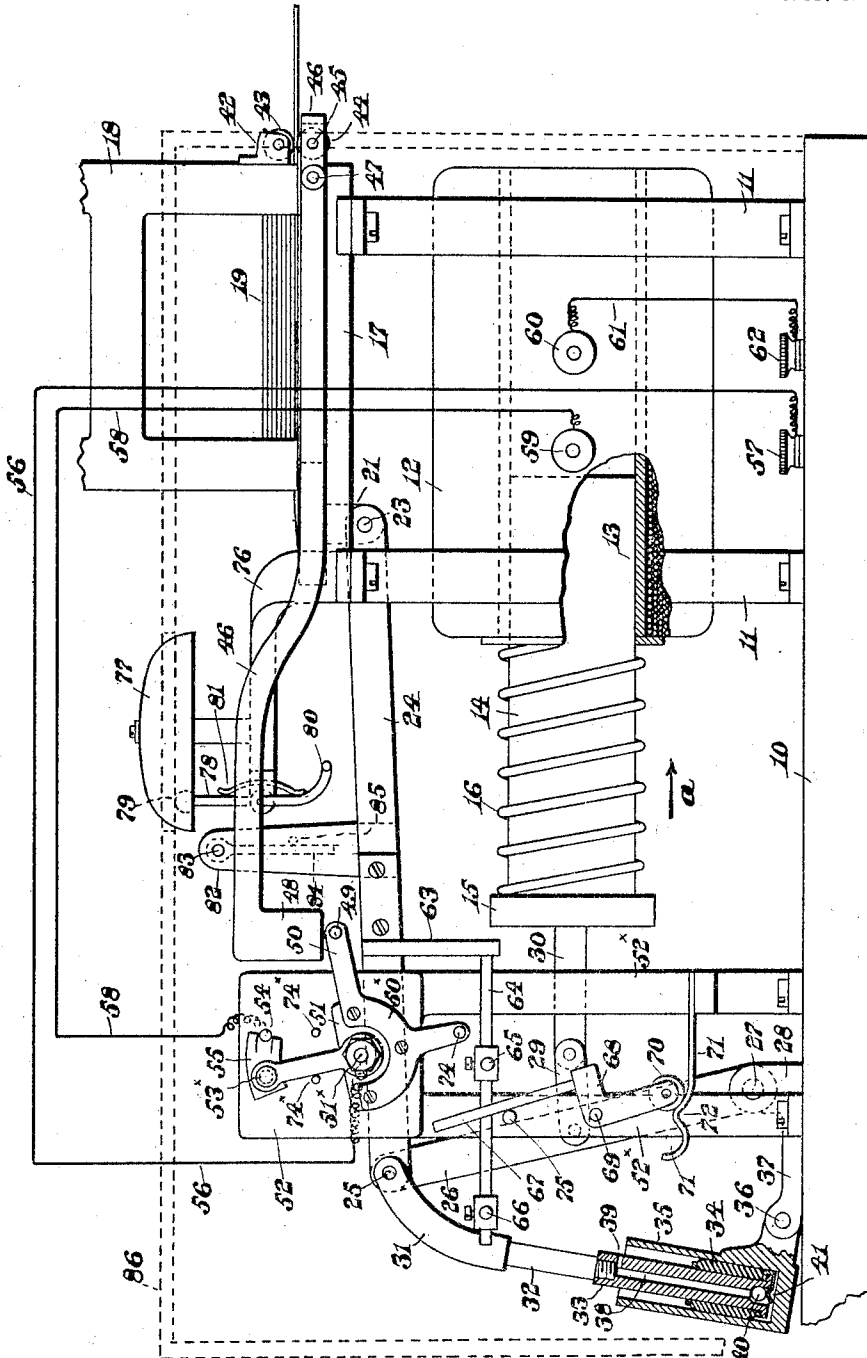


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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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CHECK-DISPENSING MACHINE.

1,367,667.

Specification of Letters Patent.

Patented Feb. 8, 1921.

Application filed June 1, 1920. Serial No. 335,864.

To all whom it may concern:

Be it known that I, DAVID L. MUNRO, a citizen of the United States of America, and a resident of Newton, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Check-Dispensing Machines, of which the following is a specification.

This invention relates to check dispensing machines for use in self-service lunch rooms and has for its object the provision of a simple but effective device of this character which will project a portion of a check from a check container into position to be seized by a customer and wholly removed, such removal causing the machine to operate to project a second check into the position formerly maintained by the first check.

The invention consists in an electrically controlled machine which will deliver one check at a time and by such delivery cause the mechanism to be actuated to project another check into position to be seized by the next customer.

The invention further consists in certain novel features of construction and arrangement of parts which will be fully understood by reference to the description of the drawings and to the claims to be hereinafter given.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described, except as required by the scope of the appended claims.

Of the drawings,

Figure 1 represents a plan of a machine embodying the principles of the present invention.

Fig. 2 represents a side elevation of the same, portions being broken in section.

Fig. 3 represents a vertical section of a portion of the machine on line 3, 3, on Fig. 1, and

Fig. 4 represents a transverse section of the same on line 4, 4, on Fig. 3.

Similar characters indicate like parts

throughout the several figures of the drawings.

In the drawings, 10 is a base of the machine having secured to the upper face thereof, the supports 11 in which is mounted a solenoid 12 having a hollow cylindrical core 13 in which is adapted to be reciprocated a plunger 14 having a head 15 at the outer end thereof.

Between the head 15 and one end of the solenoid 12 is a helical spring 16 adapted to normally retain the plunger 14 in the position indicated in Figs. 1 and 2 of the drawings.

Secured to the upper ends of the supports 11 are two side plates 17 having superimposed thereon a vertical container 18 in which is positioned a pile of checks 19 such as are used in self service lunch rooms.

The lower check 19 is adapted to be engaged by a pusher 20 secured to a member 21 adapted to be reciprocated upon the rails 22 secured to the inner faces of the side plates 17.

To the lower end of the reciprocating member 21 is pivoted at 23 two link bars 24, the opposite ends of which are pivotally connected at 25 to an arm 26 pivoted at 27 to an ear 28 secured to the base 10.

This arm 26 has pivotally connected thereto midway of its length a link 29 the opposite end of which is pivotally connected to a reduced shank 30 extending axially from the plunger 14.

There is also pivotally connected to the link bars 24 at 25, a yoke 31 having secured to its lower end a rod 32, the lower end of which is threaded to a tubular member 33 the lower end of which has mounted thereon a piston 34.

This piston 34 is adapted to be moved endwise in a dash pot 35 pivoted at 36 to a bracket 37 secured to the upper face of the base 10, said bracket preferably having the ear 28 formed thereon.

The member 33 has a passage 38 extending lengthwise thereof from the upper end of which extends a lateral passage 39.

The lower end of the passage 38 is somewhat enlarged and has a ball 40 positioned therein by means of a spring 41.

The ball 40 is adapted to close the passage 38 on the downward stroke of the piston 34 while on the upward stroke of said pis-

ton 34 air may be admitted to the dash pot 35 through said passage 38 and lateral passage 39.

During the downward stroke of the piston 34, the air confined within the dash pot 35 beneath the piston 34 will be permitted to slowly escape between the periphery of said piston and the inner wall of said dash pot.

To the front face of the container 18 is secured a bracket 42 having a roller 43 mounted therein, this roller 43 being adapted to contact with the upper face of a check 19 when projected from the container 18.

Beneath the projected check 19 is another roller 44 mounted on and revoluble about the axis of a pin 45 in the short end of a lever 46 pivoted at 47.

The longer arm of the lever 46 is provided at its rear end with a depending weighted projection 48. The lower end of this projection 48 is adapted to contact with a pin 49 extending laterally from an arm 50 formed upon a plate 50* secured to an insulating plate 51 pivoted at 51* to a plate 52 mounted upon supports 52* secured to the base 10.

The pivot pin 51* is insulated from the plate 52 and has secured thereto, an arm 53 having a contact member 53* at the upper end thereof.

This contact member 53* is adapted to engage with a contact member 54 when the arm 53 is moved about its pivot 51* and close the circuit to energize the solenoid 12.

The pivot pin 51* is provided with a binding post 51^a connected by means of a wire 56 to a binding post 57 on the base 10 and the contact member 54 is connected by a wire 58 to a binding post 59 on the solenoid 12.

This solenoid 12 is also provided with a binding post 60 connected by a wire 61 to a binding post 62 on the base 10.

An electric current is adapted to be supplied to the solenoid from any suitable source through the binding posts 57 and 62.

One of the link bars 24 is provided with a depending bracket 63 having a rod 64 secured to its lower end on which is mounted adjustable stop members 65 and 66.

When the link bar 24 is moved toward the front of the machine to partially project a check 19 from the container 18, the stop member 66 will engage an extension 67 projecting upwardly from a member 68 pivoted at 69 to one of the supports 52*.

The lower end of the member 68 has a roller 70 mounted therein and coacting with a humped spring 71.

The engagement of the stop member 66 with the extension 67 will move the member 68 about its pivot 69 and the roller 70 slightly over the hump 72 and then permit the roller 70 to rapidly drop into the depression 73 in said spring 71.

During this operation the extension 67

will engage with the lateral projection 74 on the lower end of the plate 50* thereby causing the member 50* to make a rapid return to its normal position and preventing an arc being formed between the contact members 53 and 54.

When the check projector 20 is moved toward the front of the machine and between the rollers 43 and 44, the breaking of the circuit to the solenoid is effected.

When the solenoid 12 is energized, the plunger 14 will be moved in the direction of the arrow *a* on Fig. 2 of the drawings thereby through the pivoted lever 26, link bars 24 and reciprocating member 21 moving the lower check 19 in the container until it is partially projected from said container and retained between the rolls 43 and 44.

When in this position the circuit will be broken and will permit the spring 16 to return the plunger 14 into the position shown in the drawings and return the reciprocating member to its normal position, but as soon as a customer seizes the projected check 19 and removes it from between the rolls, 43, 44, the weight 48 will cause the lever 46 to be moved about its pivot 47 until the rolls 43, 44 come into contact, and the downward movement of the weighted end 48 will move the switch 53 sufficiently to bring the contacts 53* and 54 together thereby again completing the electric circuit and repeating the operation.

The movement of the switch 53 about its pivot is limited in either direction by means of the stop pins 74*.

The movement of the extension 67 to the rear of the machine is limited by the stop pin 75.

One of the supports 11 has secured to the upper end thereof a bracket 76 having a bell 77 supported thereon.

Pivotaly mounted on the extreme end of the bracket 76 is a lever 78 having at its upper end a bell hammer 79. The lever 78 at its lower end is provided with a lateral extension 80.

The lever 78 is retained in its normal position as shown in the drawings, by means of the spring 81.

Extending upwardly from the link bars 24 is an ear 82 having pivoted at 83 to the upper end thereof, a latch member 84 normally in a vertical position and prevented from moving toward the forward part of the machine by means of a stop pin 85.

When the link bars 24 are moved toward the front of the machine to project a check 19 from the container 18, the latch member 84 will ride over the projection 80 and upon the return movement of the link bars 24 this latch member will engage the projection 80 and move the lever 78 about its pivot a predetermined distance until the said latch member rides over the projection and is dis-

engaged therefrom whereupon the spring 81 will force the hammer 79 into contact with the bell 77 and cause an audible signal to be sounded.

5 The piston 34 in the dash pot 35 retards the return movement of the various parts of the machine so that these parts assume their normal position without undue jar or shock.

The mechanism is incased within a cover 10 86 shown in dotted lines and secured in any suitable manner to the base 10.

The pivot pin 51* is surrounded by a spring 87 the tension of which is adapted to be adjusted by means of the nuts 88. This 15 spring 87 retains the member 51 in contact with the plate 52 and creates sufficient friction between these two members 51 and 52 to prevent accidental movement of the member 51 about its pivot 51*.

20 The device is of such a size as to make it possible to position it upon a counter and does not require columns or a special cabinet to support the same.

By placing it upon a counter in this manner it is at all times within view of the cashier making it possible to prevent a customer from taking more than a single check from the device.

At all times there will be a single check 30 partially projected from the container and as one customer removes the projected check the apparatus will immediately be set in operation to partially project another check ready for the next customer.

35 Each time that a check is removed an audible signal is made and if desired a register of any well-known construction may be connected to the device to record the number of checks disposed of each day in order 40 that an accurate record may be made of the number of customers served.

This makes a very simple and effective device for dispensing checks or other tickets.

It is believed that from the foregoing description, the operation and many advantages of the present invention will be readily understood.

Having thus described my invention, I claim—

50 1. In a machine of the class described, a check container; a reciprocating member adapted to project a check partially from said container; and means controlled by the removal of a projected check for actuating 55 said reciprocating member and causing a second check to be moved outwardly.

2. In a machine of the class described, a check container having a delivery opening in the wall thereof; a reciprocating member 60 adapted to project a check partially from said container; a roller above said delivery opening; a second roller movable toward the first mentioned roller; a pivoted lever on which said second roller is mounted; a solenoid; a plunger in said solenoid; means 65

actuated by the movement of said plunger for actuating said reciprocating member; and means actuated by the movement of said roller lever for energizing said solenoid.

3. In a machine of the class described, a 70 check container; a reciprocating member adapted to project a check partially from said container; a pivoted weighted lever the weighted end of which is adapted to be raised by the projection of a check; a solenoid for 75 actuating said reciprocating member; and means for energizing said solenoid controlled by the dropping of the weighted end of said lever when a projected check is removed.

4. In a machine of the class described, a 80 check container; a reciprocating member adapted to project a check partially from said container; a pivoted weighted lever the weighted end of which is adapted to be raised by the projection of a check; a solenoid for actuating said reciprocating member; means for energizing said solenoid controlled by the dropping of the weighted end 85 of said lever when a projected check is removed; and means for returning said reciprocating member to its normal position. 90

5. In a machine of the class described, a check container; a reciprocating member adapted to project a check partially from said container; a pivoted weighted lever the 95 weighted end of which is adapted to be raised by the projection of a check; a solenoid for actuating said reciprocating member; means for energizing said solenoid controlled by the dropping of the weighted end 100 of said lever when a projected check is removed; means for returning said reciprocating member to its normal position; a dash pot; and means therein for regulating the speed of return of said reciprocating member. 105

6. In a machine of the class described, a check container; a reciprocating member adapted to project a check partially from said container; a pivoted weighted lever, 110 the weighted end of which is adapted to be raised by the projection of a check; a solenoid; a plunger therefor; a pivoted arm; a link between said arm and plunger; a link bar between said arm and reciprocating 115 member; and a switch controlling the current to said solenoid adapted to be closed by the dropping of the weighted end of said lever.

7. In a machine of the class described, a 120 check container; a reciprocating member adapted to project a check partially from said container; a pivoted weighted lever, the weighted end of which is adapted to be raised by the projection of a check; a solenoid; a plunger therefor; a pivoted arm; a link between said arm and plunger; a link 125 bar between said arm and reciprocating member; a switch controlling the current to said solenoid adapted to be closed by the 130

dropping of the weighted end of said lever; and a retarding device pivotally connected to the rear end of said link bar.

8. In a machine of the class described, a check container; a reciprocating member adapted to project a check partially from said container; and electrically actuated mechanism controlled by the removal of a projected check for actuating said reciprocating member and causing a second check to be moved outwardly.

9. In a machine of the class described, a check container having a delivery opening in the wall thereof; a reciprocating member adapted to project a check partially from said container; a roller above said delivery opening; a second roller movable toward the first mentioned roller; a pivoted lever on which said second roller is mounted; a solenoid; a plunger in said solenoid having a flanged head at its outer end; a spring between said head and solenoid; means actuated by the movement of said plunger for actuating said reciprocating member; and means actuated by the movement of said roller lever for energizing said solenoid.

10. In a machine of the class described, a check container having a delivery opening in the wall thereof; a reciprocating member adapted to project a check partially from said container; a roller above said delivery opening; a second roller movable toward the

first mentioned roller; a pivoted lever on which said second roller is mounted; a solenoid; a plunger in said solenoid having a flanged head at its outer end; a spring between said head and solenoid; means actuated by the movement of said plunger for actuating said reciprocating member; an electric circuit for said solenoid; and means controlled by the movement of said roller lever for closing said circuit.

11. In a machine of the class described, a check container having a delivery opening in the wall thereof; a reciprocating member adapted to project a check partially from said container; a roller above said delivery opening; a second roller movable toward the first mentioned roller; a pivoted lever on which said second roller is mounted; a solenoid; a plunger in said solenoid; means actuated by the movement of said plunger for actuating said reciprocating member; an electric circuit for said solenoid; a pivoted switch controlled by the movement of said roller lever for closing said circuit; and a friction device to prevent accidental movement of said switch.

Signed by me at 746-7 Old South Bldg., Boston, Mass., this 28th day of May, 1920.
DAVID L. MUNRO.

Witnesses:

WALTER E. LOMBARD,
NATHAN C. LOMBARD.