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A. H. DU GRENIER

1,838,907

CHECK CONTROLLED MECHANISM

Filed Jan. 29, 1931

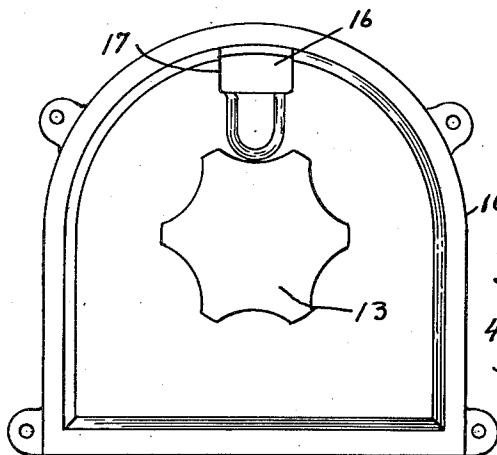


Fig. 1.

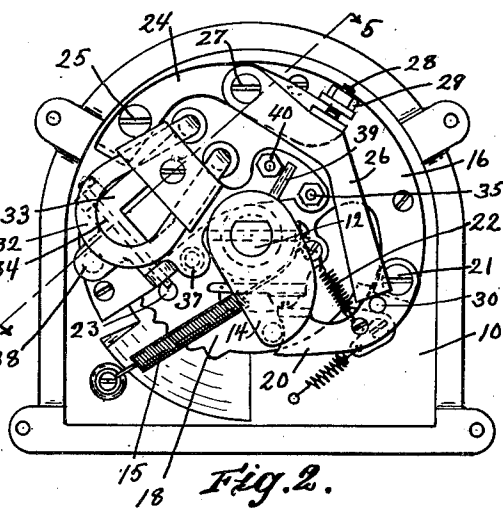


Fig. 2.

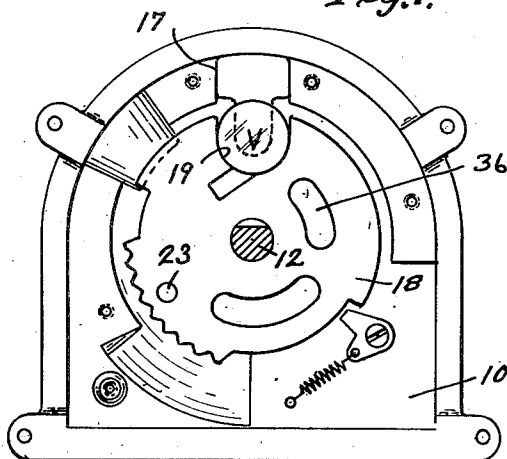


Fig. 3.

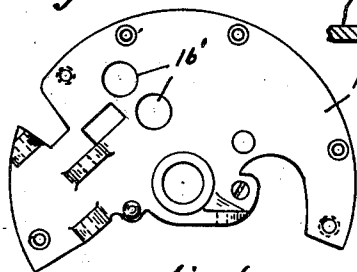


Fig. 6.

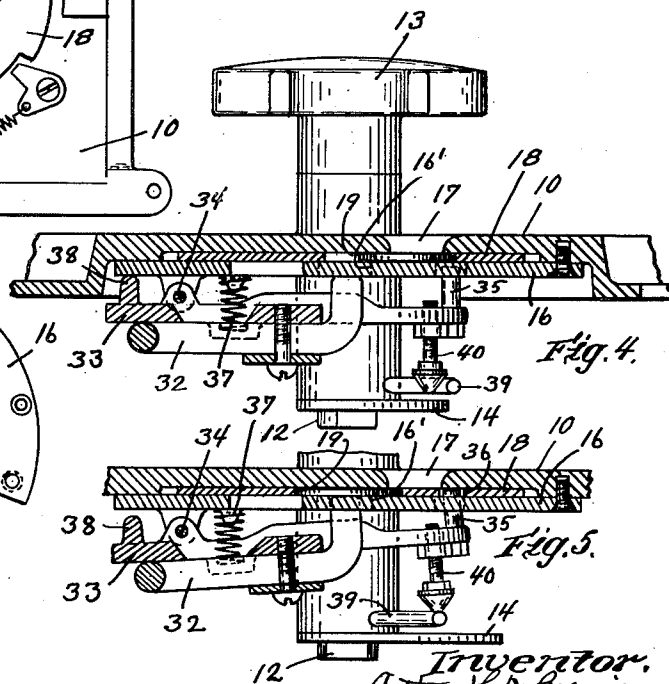


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE

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CHECK CONTROLLED MECHANISM

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This invention relates to that type of check controlled apparatus which ordinarily is employed to handle coins of small denomination, and which positively engage and carry the coins from a receiving to a delivering position, so that it has generally not been considered practical to test them other than dimensionally.

More particularly the invention relates to certain improvements in the machines of the type illustrated in my prior Patent No. 1,561,707 of November 17, 1925, in which the check is received in a recess formed in a rotatably mounted, disk like carrier and is delivered to a coin-receiver by the carrier when rotated to deliver the goods to be vended.

As such a mechanism may be operated to deliver the goods when any metal check of the standard diameter and thickness of the coin to be received is inserted, and as experience has shown that the greater proportion of the so called "slugs" which are inserted are magnetic, it is particularly desirable that an apparatus of the above type be provided with means which will prevent operation of the delivery mechanism by magnetic checks of standard diameter and thickness.

The object of my invention is to provide a check controlled mechanism of the type above referred to with means whereby when a magnetic check of standard diameter and thickness is inserted, the mechanism will be locked against movement to deliver the articles to be vended and will return the check to the one inserting it.

I accomplish this object by providing in connection with a mechanism of the type above referred to, a magnetically controlled locking means which is normally held in an inoperative position and is positively moved into position to lock the mechanism by an initial operative movement of the mechanism and is retained in this position by the magnetic attraction of the check, if its magnetic attraction is sufficient to prevent return to the inoperative position by other means.

For a more complete disclosure of the invention, reference is made to the following

specification, in connection with the accompanying drawings, in which:

Fig. 1 is a front elevation of the outer casing.

Fig. 2 is an elevation of the mechanism on the inner side of the casing.

Fig. 3 is a detail view of the coin-carrier.

Figs. 4 and 5 are sectional views on line 4-5 of Fig. 2 showing the parts in different positions.

Fig. 6 is a detail view of an inner partition which is employed.

As shown in the drawings, the entire check handling mechanism is mounted on a front plate 10, which is adapted to be attached to the vending machine in connection with which the mechanism is used, and a main operating shaft 12 is mounted in said plate, and has a handle 13 on its outer end and an actuating arm 14 on its inner end, for operating the dispensing mechanism, in connection with which the check controlled mechanism is employed, when the shaft is rotated to a certain extent from the initial position shown in Fig. 1, to which position the parts are returned by a spring 15, which is attached to said arm. A partition plate 16 is mounted on the inner side of the front plate and acts to close the inner side of the coin-receiving opening 17 formed therein. A disk like check holder or carrier 18 is fixed on the shaft 12 between the plates 10 and 16 and is of a thickness equal to that of the checks to be received, said carrier being provided with a coin-receiving recess 19 in its periphery, which is held in register with the opening 17 in the front plate when the carrier is in its initial position. A locking lever 20 is mounted on partition 16 by means of a pivot 21 and is normally held by a spring 22 in position to be engaged by a projecting pin 23 on the carrier 18, so that the shaft can not be rotated beyond a certain point, unless a check of predetermined thickness and diameter has been inserted, and a measuring lever 24 is mounted on the partition 16 by means of a pivot 25, the long arm of said lever 24 having an extension arm 26 connected thereto by a pivot 27, and an adjusting screw 28 is mounted in arm 26 and engaged with the long arm of lever 24 by

means of an adjusting nut 29, so that the arm 26 may be angularly adjusted with relation to the long arm of lever 24.

The arrangement is such that when a check is inserted in the carrier and the shaft is rotated, the edge of the check will be engaged with the short arm of lever 24, causing the extreme end of extension arm 26 to be engaged with a pin 30 on the locking lever 20, and, if the check is of standard diameter the lever 20 will be swung to one side of the path of the pin 23, so that the rotation of the shaft 12 may be continued to an extent to cause the check to be received and the dispensing mechanism to be operated.

With the arrangement as thus far described, if the arm 26 is correctly adjusted with relation to the diameter of a standard coin to be received, any check which is inserted, which is of standard thickness and diameter, will enable the shaft 12 to be operated so as to deliver the goods to be vended.

To prevent such operation by a check of standard dimensions which is magnetic, or contains substantially more magnetic material than the standard coin, a permanent horse-shoe magnet 32 is mounted on a support 33, which is in turn mounted to swing about a pivot 34 on the partition 16, so that said support and magnet, which are normally held in approximately parallel relation to said partition, as shown in Fig. 4, may be tilted into angular relation therewith, as shown in Fig. 5. The end portions of the poles of the magnet are extended right angularly outward thru openings 16', formed in the partition 16, so that the end faces there- or may be swung into contact with the carrier, or into close proximity therewith. A stop pin 35 is mounted on the support 33 and is arranged to be carried thereby through the partition and into a slot 36 in the carrier 18, so that, when the support is tilted into the position of Fig. 5, it may lock the latter against rotation at a certain point. A weak spring 37 is arranged between the support 33 and the partition 16, and is of sufficient strength only to return the support to normal position when this movement is unopposed, in which position the pin 35 will be withdrawn from slot 36, a stop finger 38 being formed on the support to limit its movement by the spring 37. An arm 39 on the shaft 12 is arranged to engage a conical head on the end of a post 40 mounted on the support 33, so that, during an initial portion of the rotation of the shaft 12 the arm 39 will engage the inclined side of the head of post 40 and cause the support 33 to be swung towards the carrier 18, causing the faces of the magnet to be moved into contact with the surface of a check held in the carrier recess 19 when the carrier has been rotated a short distance from the initial position.

In normal operation of the mechanism,

when a standard coin, which is practically non-magnetic, is placed in the coin-recess and the shaft is moved rotatably, the arm 39 will be immediately engaged with the conical head of post 40, causing the faces of the magnet to be swung into contact with coin as it is carried past the same and the support 33 and its pin 35 to be moved into the position of Fig. 5. Further movement of the shaft will carry the arm 39 out of contact with the post 40, so that the spring 37 will then be free to return the support 33 to the initial position of Fig. 4, permitting the rotation of the carrier to be continued to its delivery position.

If, however, the check is magnetic, after the magnet poles have been forced into contact with the check, they will become magnetically connected thereto, and as the check is held by the partition 16 against lateral movement, it will hold the magnet and its support in the position of Fig. 5, as the strength of the spring 37 will only be made sufficient to draw the magnet away from the check when the latter is practically non-magnetic. Consequently, the pin 35 will be held in the slot 36 of the carrier until the end of this slot engages the pin, so that further operative movement of the carrier will be prevented, and as the carrier cannot be moved to operate the dispensing mechanism, it will be moved back to the initial position, returning the check to the one who inserted it.

I claim:

1. In a check controlled mechanism, a check holder movable to carry a check from a receiving to a delivering position, a locking device movable between an inoperative position and a position in which it locks the holder against movement to its delivering position, yieldable means normally acting to hold said device in its inoperative position and permitting movement thereof to its operative position, means arranged to be actuated by the holder during an initial portion of its movement from its receiving position to move said locking device to its operative position and on further movement to permit the return thereof to its inoperative position by said yieldable means, and means for retaining said locking device in its operative position by the magnetic attraction of a check in said holder against the action of said yieldable means.

2. In a check controlled mechanism, a check holder movable to carry a check from a receiving to a delivering position, a locking device movable between an inoperative position, and a position in which it locks the holder against movement to its delivering position, yieldable means normally acting to hold said device in its inoperative position and permitting movement thereof to its operative position, means arranged to be actuated by the holder during an initial portion of its movement from its receiving position

to move said locking device to its operative position and on further movement to permit the return thereof to its inoperative position by said yieldable means, and means for magnetically connecting said locking device to a check held by said holder when said device is moved into operative position, and for holding it in this position when the magnetic attraction of the check is sufficient to overcome the action of said yieldable means.

3. In a check controlled mechanism, a check holder movable to carry the check from a receiving to a delivering position, a locking device movable from an inoperative position to a position to lock said holder against movement to its delivery position, means on said holder arranged to engage said device and positively move it from its inoperative to its operative position and to become disengaged therefrom to permit its return to inoperative position during an initial movement of the holder from its receiving position, a magnet mounted on said locking device and arranged to be carried into a position to be magnetically attracted by a check carried by the holder as said device is moved into operative position by the holder, and means for returning said device to inoperative position when the magnetic attraction of the check is insufficient to hold it in its operative position.

4. In a check controlled mechanism, a check holder movable to carry the check from a receiving to a delivering position, a locking device movable from an inoperative position to a position to lock said holder against movement to its delivery position, means on said holder arranged to engage said device and positively move it from its inoperative to its operative position and to become disengaged therefrom to permit its return to inoperative position during an initial movement of the holder from its receiving position, a magnet mounted on said locking device and arranged to be carried into a position to be magnetically attracted by a check carried by the holder as said device is moved into operative position by the holder, and yieldable actuating means arranged to permit movement of said device to operative position and to return it to inoperative position when the strength of the magnetic attraction of the check is insufficient to overcome the force of said actuating means.

5. In a check controlled mechanism, a holder having a check receiving recess and movable to carry the check from a receiving to a delivering position, means at each side of said recess for holding the check against lateral movement therein when in positions intermediate said positions, a locking device movable between an inoperative position and an operative position in which it locks the holder against movement to delivery position, means arranged to be actuated by the

holder during an initial portion of its movement from receiving position to move said device to its operative position and thereafter permit it to return to its inoperative position, yieldable means for returning said device to, and normally holding it in its inoperative position, and a magnet mounted on said device and arranged to be carried into position to be magnetically connected to a check in said recess when said device is moved into operative position and to hold it in this position against the action of said yieldable means.

In testimony whereof, I have signed my name to this specification.

ARTHUR H. DU GRENIER.

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