May 1, 1934. H. BLOCK 1,957,091

COIN CONTROLLED DEVICE FOR VENDING MACHINES

Filed Jan. 12, 1933

Fig 1

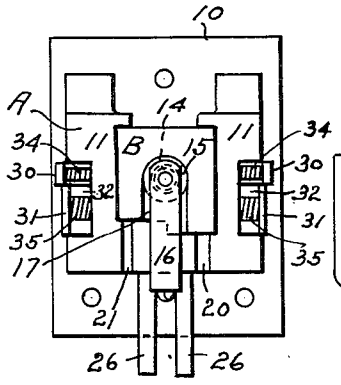
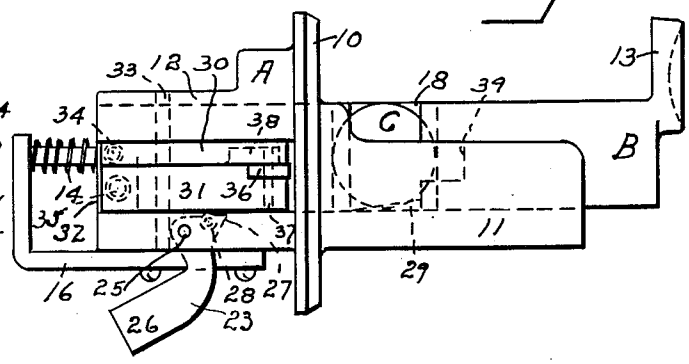


Fig 2



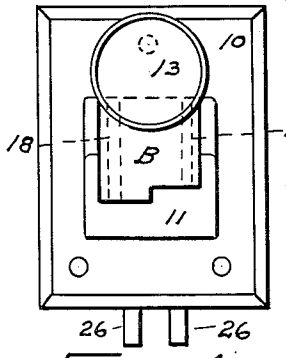


Fig 4

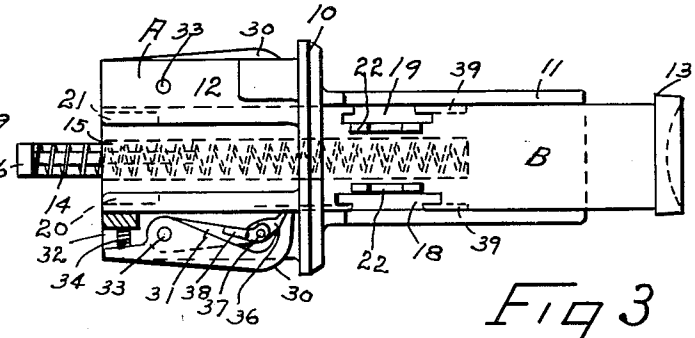


Fig 3

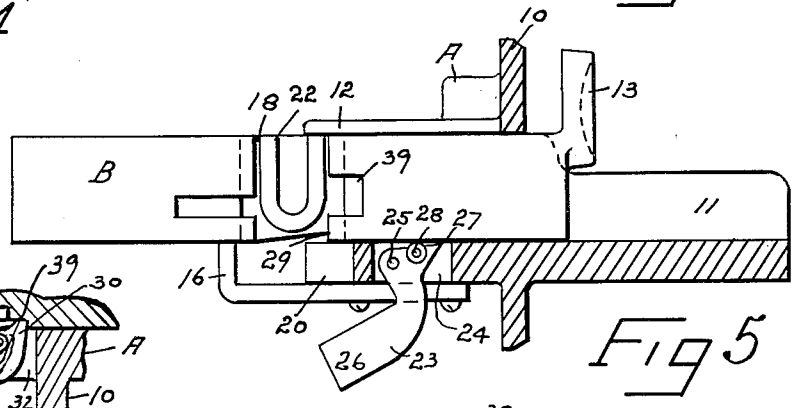


Fig 5

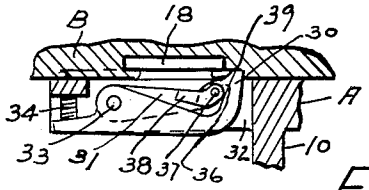
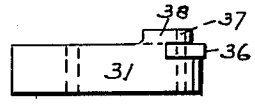


Fig 6



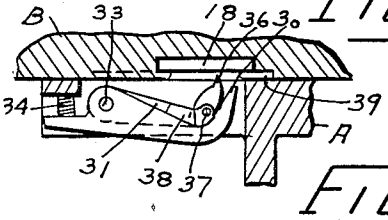


Fig 7

Fig 8

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COIN CONTROLLED DEVICE FOR VENDING MACHINES

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4 Claims. (Cl. 194—97)

The invention relates to coin controlled devices. It has for one of its main objects to provide a device which will detect and become inoperative when slugs, tokens, worn coins, or any other coins other than the particular coins which are intended for use with the device, are inserted therein. Another object is to provide a device in which more than one coin may be inserted at the same time, and in which coins of the same or different denominations may be used.

A further object is to provide a device of simple construction which can be used in combination with a great many of the various vending machines now in use and which can be manufactured and installed at a comparatively low cost.

These and various other objects and advantages will be readily understood from the following description and from the accompanying drawing of a preferred embodiment of the invention in which, however, certain modifications may be made without departing from the scope of the appended claims. In the drawing

Fig. 1 is a rear view of the device,

Fig. 2 a side view,

Fig. 3 a top view with a portion broken away,

Fig. 4 a front view,

Fig. 5 a cross-sectional side view showing the slide in its inner position,

Figs. 6 and 7 are cross-sectional top views showing the coin detecting pawls, and

Fig. 8 a side view of one of these pawls.

Referring now to all the views, simultaneously, the device consists of a housing A in which a slide B is mounted. The housing is provided with a flange by means of which the whole device may be attached to a vending machine. A channel-shaped extension 11 projects from the front face of the flange and another extension 12 projects from its rear face. An operating handle 13 projects upwardly from the outer end of the slide.

The slide is maintained in the inactive position, shown in Figs. 2 and 3, by a compression spring 14 which is contained in a pocket 15 formed in the slide. The ends of this spring abut against the bottom of the pocket and an angular bracket 16 secured to the underside of the housing. A slot 17, cut in the bottom of the slide, enables the slide to pass over the end of the bracket.

Coin pockets 18 and 19 are milled on opposite of the slide. The pockets in the drawing are shown as made of unequal size so as to accommodate coins of different denominations, as for example, a five and ten cent piece, but they may, of course, also be made of equal size so as to accommodate coins of the same denomination.

As it is preferable to make the depths as well as the widths of the pockets equal to the diameter of the coins, the depth of the slide A is necessarily greater on one side than on the other. This is shown in Figs. 1 and 4. The pockets are really T-shaped slots milled vertically across the sides of the slide so that the coin C is supported by the housing. The extension 11 is so constructed that the coins may be easily withdrawn from the pockets when decided as, for example, when either have been inserted in the wrong pocket.

When the slide is pushed in the coins are supported by the housing until the extreme inward position, shown in Fig. 5 is reached, when the coins will drop through the slots 20 and 21. The various coin detecting-means function while the slide is moved from the position shown in Fig. 2 to the position shown in Fig. 5. As the means are substantially the same for both coins, only one set needs to be described.

Each pocket is made to the exact diameter and thickness of the coin to be used so that larger or thicker coins or slugs can not be inserted. A permanent magnet 22 may be inserted in the slide adjacent to each pocket so that slugs made of iron, or other metals attracted by magnetism, will be held by them and so return with the slide when this returns to its normal position. These magnets can, of course, only be used when the mechanism of the vending machine, to which the device is attached, is operated by the release of the coin.

To detect coins or slugs too light in weight, a weighing lever 23 is employed. This lever operates in a slot 24 in the housing and is pivoted on a pin 25. It consists of a weight arm 26 and a pawl 27. A short distance back from the end of the pawl a roller 28 is mounted. This roller is located directly in the path of the coin so that this will have to pass over it. Ordinarily, the weight arm 26 holds the pawl 27 in engagement with the underside of the slide and if the coin passing over the roller is of the correct weight this position is maintained. An angular cut 29 is made in the bottom of the slide directly under the coin pockets. If the coin is too light it will be lifted by the weight of the arm 26 and the pawl 27 will engage in the cut 29; thus preventing the slide from being pushed farther in its inward direction.

To detect slugs or worn coins pawls 30 and 31 are employed. These pawls are mounted in slots

32 formed in the side of the housing, are pivoted on pins 33, and held in engagement with the sides of the slide by compression springs 34 and 35. The pawl 31 has a slot milled in its front end in which a feeler or a tumbler 36 is pivoted on a pin 37. A protrusion 38 projects from the upper side of the pawl 31 and engages against the pawl 30. The protrusion is plainly shown in Figs. 6, 7, and 8.

When a coin is inserted in the coin pocket and the slide is pushed in, the pawl 30 as well as the feeler 36 will engage on the face of the coin as it passes them. If the coin has ordinary embossing, or a raised surface, the feeler will be caught by this raised surface and will turn until it assumes the position shown in Fig. 7. Its normal position is that shown in Figs. 3 and 6. When the feeler assumes the position shown in Fig. 7 it lifts the pawl 31 and the protrusion 38 engages with the pawl 30 and lifts this pawl so as to prevent it from engaging against a stop 39 formed in the slide. Thus the slide may be pushed in until the coin is discharged through the slot 20.

On the other hand, if a worn coin or smooth slug is inserted in the pocket and the slide is pushed in, the feeler will pass over the coin or slug without turning, thus leaving the pawls 30 and 31 in their normal positions causing pawl 30 to engage against the stop 39 and to prevent any further movement of the slide. The end of the pawl 30 is located slightly ahead of the end of the feeler 36. If a token or slug with a hole in it is inserted in the coin pocket the end of the pawl will encounter and drop into this hole before the feeler has been actuated by it, thus again arresting the movement of the slide. The pawls 30 and 31 as well as the weight arm 36 will also arrest the movement of the slide if either of the coin pockets is empty.

As it is well understood, by those skilled in the arts, that the mechanism of the vending machine to which this device is attached may be actuated by the final movement of the slide, by the releasing of the coins, or in some such other way, no description of these means will be necessary here.

From the foregoing it will be seen that the present device may be constructed to operate with one or more coins, and that it can be constructed to operate with coins of the same or different denominations. It will also be seen that it detects any slug, token, worn coin, etc., intentionally or unintentionally inserted in the pockets.

Having described my invention and its operation, what I claim as new and wish to protect by Letters Patent is:

1. In a device of the class described; a housing; a slide mounted in said housing; a coin pocket formed vertically across one side of the slide in which a coin may be supported by resting on the housing; means near the rear end of the housing for discharging the coin from the coin pocket; a pawl pivoted to the housing; a projection formed on said pawl; a feeler pivoted on the end of said pawl and actuated by the engraving of the coin inserted in the coin pocket; a stop formed in the slide; and a second pawl, actuated by the projection formed on the first-mentioned pawl pivoted on the housing for arresting the inward movement of the slides by engaging in said stop when the feeler is not actuated.

2. In a device of the class described; a housing; a slide mounted in said housing; a coin pocket formed vertically across one side of the slide in which a coin may be supported by resting on the housing; means near the rear end of the housing for discharging the coin from the coin pocket; a pawl pivoted to the housing; a projection formed on said pawl; a feeler pivoted on the end of said pawl and actuated by the engraving of the coin inserted in the coin pocket; a stop formed on the slide; and a second pawl, actuated by the projection formed on the first-mentioned pawl, pivoted on the housing for arresting the inward movement of the slide when a perforated coin, token or slug is contained in the pocket and for engaging in said stop when the feeler is not actuated.

3. In a device of the class described; a housing; a slide mounted in said housing; a coin pocket formed vertically across one side of the slide in which a coin may be supported by resting on the housing; means near the rear end of the housing for discharging the coin from the coin pocket; a pawl pivoted to the housing; a projection formed on said pawl; a feeler pivoted on the end of said pawl and actuated by the engraving of the coin inserted in the coin pocket; a stop formed on the slide; a second pawl, actuated by the projection formed on the first-mentioned pawl, pivoted on the housing for arresting the inward movement of the slide when a perforated coin, token or slug is contained in the pocket and for engaging in said stop when the feeler is not actuated; a weighing lever pivoted on the housing and located in the path of the coin; a pawl associated with said weighing lever; and another stop formed in the slide in which the last-mentioned pawl engages if the coin passing over the weighing lever is too light in weight.

4. In a device of the class described; a housing; a slide mounted in said housing; a coin pocket formed vertically across one side of the slide in which a coin may be supported by resting on the housing; means near the rear end of the housing for discharging the coin from the coin pocket; a pawl pivoted to the housing; a projection formed on said pawl; a feeler pivoted on the end of said pawl and actuated by the engraving of the coin inserted in the coin pocket; a stop formed on the slide; a second pawl, actuated by the projection formed on the first-mentioned pawl, pivoted on the housing for arresting the inward movement of the slide when a perforated coin, token or slug is contained in the pocket and for engaging in said stop when the feeler is not actuated; a weighing lever pivoted on the housing and located in the path of the coin; a pawl associated with said weighing lever; another stop formed in the slide in which the last-mentioned pawl engages if the coin passing over the weighing lever is too light in weight; and a magnet associated with the coin pocket for preventing the discharge from the pocket of any coin, token or slug made of a metal having magnetic properties.

HUGO BLOCK.