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COIN CONTROL DEVICE

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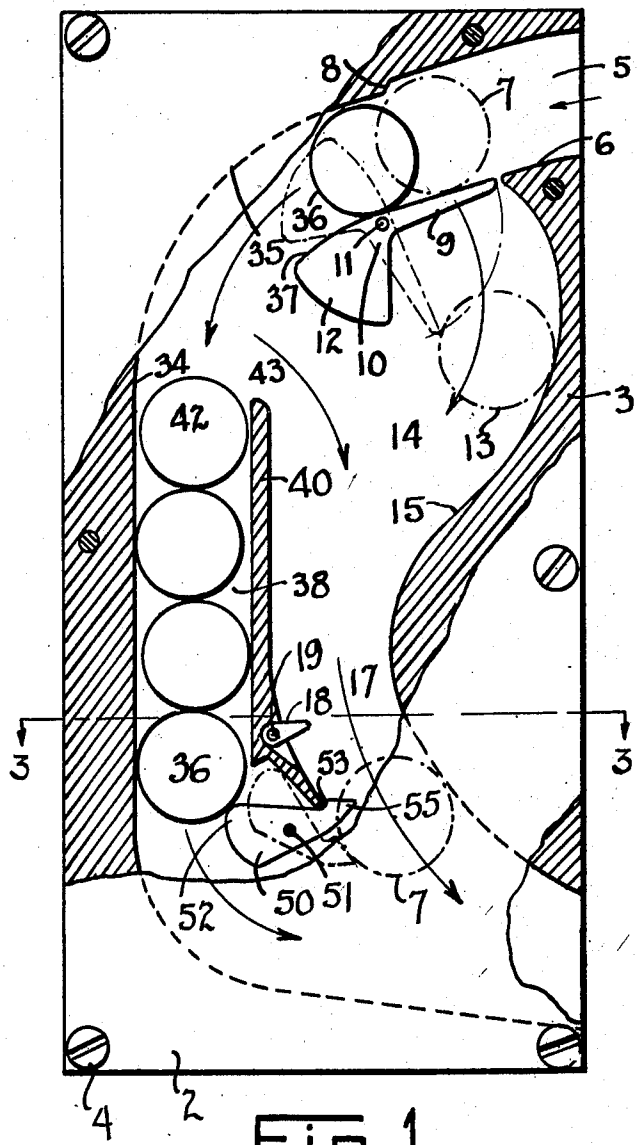


Fig. 1.

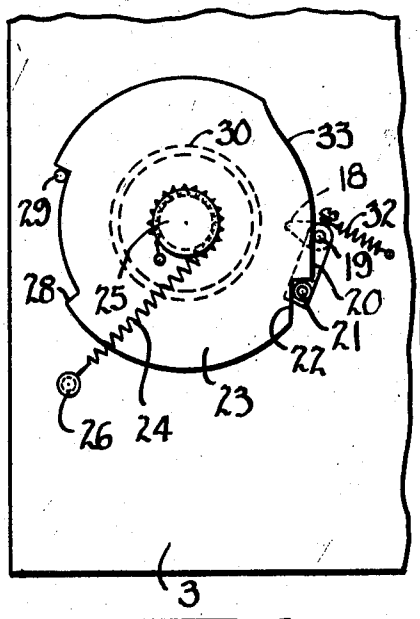


Fig. 2.

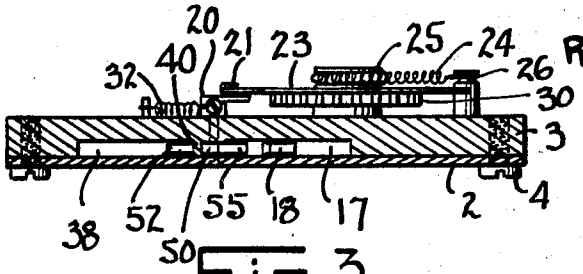


Fig. 3.

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COIN CONTROL DEVICE

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5 Claims. (Cl. 194—45)

The invention relates to a coin operated or coin controlled mechanism which may be attached to various types of machines in order to initiate their operation by the insertion of a coin or coins.

In many instances where a machine is to be operated by a coin the person intending to operate the machine does not have a coin of the correct denomination and it is necessary to obtain the correct coin or else the machine cannot be operated, and it is one of the objects of the present invention to provide a machine which is capable of receiving other coins in lieu of the coin usually required for that machine's operation, so that there can be no question raised as to the legality of the machine due to the fact that it is incapable of accepting coins which are considered as legal tender.

It is one of the objects of the invention to provide a machine which can be operated either by five pennies or by a nickel.

Another object of the invention is to provide a mechanism which may be operated by a plurality of coins of one denomination or a single coin of another denomination.

Still another object of the invention is to provide an apparatus which will receive coins of at least two different denominations in order to initiate its operation.

Another object of the invention is to provide a control apparatus wherein coins of one denomination are directed to actuate the machine immediately, whereas a plurality of coins of another denomination will be accumulated until a predetermined number of them have been received, whereupon the machine will then be actuated.

Still another object of the invention is to provide an arrangement whereby a trigger will be actuated by a coin of one denomination or a predetermined one of a plurality of coins of another denomination.

It is also an object of the invention to deflect a predetermined one of a plurality of coins past a trigger mechanism so as to actuate the device.

It is also an object of the invention to provide a trap for a plurality of coins in combination with a release, which release will be actuated whenever the device is actuated.

Other and further objects of the invention will be readily apparent when the following description is considered in connection with the accompanying drawing wherein:

Fig. 1 is a side elevation of an apparatus constructed for insertion in the machine where it is to be utilized and showing certain of the parts in section.

Fig. 2 is a back view of the construction shown in Fig. 1 and illustrating the power drive which is released by the device.

Fig. 3 is a section taken on the line 3—3 of Fig. 1.

In Fig. 1 a base plate 2 is shown as serving as a support for the mechanism and it is to be understood that this plate may be attached to any desired type of machine which is to be actuated or controlled by the insertion of a coin.

There are almost innumerable types of apparatus which may be operated by a coin in this manner, such as various types of vending machines, admittance mechanisms, and other devices. The present invention, however, particularly lends itself to coin controlled mechanisms which are used in connection with parking meters or coin receivers in public conveyances. In such devices there is the possibility that some person might contend that they have the right to operate such mechanisms by inserting the proper amount of money in coins of such a denomination that it would require the machine to be operated by a plurality of coins rather than by a single coin. As an instance of this, parking meters are usually operated by a single coin, such as a nickel. Five pennies, of course, are legal tender and equal the amount of a nickel, and it is, therefore, intended to provide an apparatus which can be operated by the five pennies as well as by a nickel. Another instance would be, if the amount to be inserted were ten cents, either a dime, two nickels, or ten pennies, or one nickel and five pennies would be legal tender for the ten cents, and it is intended that the present invention shall embody machines to accommodate these and other various combinations of coins.

Fig. 1 is illustrative of an arrangement wherein the plate 2 in combination with the foundation member 3 serve as a frame-work of the various chutes to control the movement of the coins which are inserted. The frame and the base plate are connected together by the screws 4 and, of course, these parts will take various configurations, depending upon the denomination of the coins which are to be inserted in the particular machine.

As seen in Fig. 1, the chute 5 is arranged for the insertion of the coin and it extends laterally and downwardly so that the coin will roll by gravity along the bottom 6 thereof.

This mechanism is arranged to be actuated by

a coin of one denomination and such coin is shown in dotted line at 7, and for purposes of illustration may be described as a nickel or five cent piece.

A stop shoulder 8 is provided in the base 3 and is positioned at such an elevation that a coin such as a nickel cannot pass thereby but will be stopped in the dotted line position shown at the top of Fig. 1. In this position the coin is resting upon the arm 9 of the switch 10. This switch is an eccentric arm pivoted at 11 and including a weight portion 12 which will be overbalanced by the weight of coin 7 so that it will tilt to the dotted line position and allow the coin 7 to pass down to the dotted line position 13 within the chamber 14. Thus, the coin will roll along the inclined surface 15 in the chamber 14 and will pass into the restricted area 17. Projecting into the passage 17 is a trigger 18 which is fixed on a shaft 19, pivoted in the base 3. This shaft is shown as projecting from the reverse side of the base 3 in Fig. 2 and has fixed thereon a link 20 which carries a projection 21. This projection is arranged to seat in a recess 22 in the drive wheel 23. This wheel is pivoted on a shaft mounted in the base plate so that it may rotate and is normally urged to rotate in a clockwise direction by the spring 24, which is coiled about the hub 25 of the wheel and has one end anchored to the base plate at 26.

Thus, when the projection 21 moves out of recess 22 this wheel 23 will rotate to the right until the shoulder 28 engages the stop pin 29. It is intended that any suitable mechanism can be driven by the movement of this wheel 23 and a gear 30 may be affixed to the wheel in order to operate a gear train or a rack mechanism as desired. On the other hand, movement of this gear may merely release a power mechanism. In order that the trigger 18 may be reset a spring 32 normally urges the projection 21 into the recess 22 and a cam face 33 is therefore provided on the wheel 23 so that when it moves in a counter-clockwise direction the projection 21 will be held against the wheel so that it will move into the recess 22, thus raising the trigger to a position ready for actuation by coin or token, as appears more fully hereinafter.

When the apparatus is to be operated by a plurality of coins having the same value as the coin 7 the chute 5 is continued and curved as at 35 so that the smaller coins such as 36 will roll along the surface 37 on top of the switch 10. Coin 36 is of a size to pass the stop shoulder 8 and is of a weight less than the weight 12 so that the switch 10 will not be overbalanced. The surface 37 of switch 10 is so curved that it will direct these coins 36 into the trap portion 38, which is formed by the wall 39 and the partition 40 on the base 3. This trap 38 is of a size to receive a predetermined number of these small coins 36. This predetermined number will preferably be one less than the number of such smaller coins which will be the same value as the single coin 7. Thus, if the coin 7 is a nickel and coins 36 are pennies, the trap 38 will hold four pennies as shown. The fourth penny 42 provides a curved surface against which the fifth penny will strike as it rolls over the switch 10 and in view of the fact that the partition 40 is of a height that it provides entrance 43 to the chamber 14, the fifth penny will in this manner pass into the chamber 14 and in its movement down by gravity will move into the neck portion 14 and strike the trigger 18 as would the nickel 7.

The device will in this manner be actuated by the fifth penny the same as it was actuated by the nickel. It is to be distinctly understood that the denomination of these coins is merely illustrative and the relative size, value and weights may be varied as circumstances may require. When the mechanism is actuated it is of course desirable to release those coins which are retained in the trap 38 so that they will not be available to the next operator. These coins can be retained in the trap by means of the support arm 50, which is pivoted on a pin 51 carried by the housing. This arm 50 has a heel 52 which projects into the passage below the trap 38 so that the coins will abut against this heel as shown in Fig. 1. The weight of these coins tends to move the arm 50 in a counter-clockwise direction and brings the shoulder 53 thereof against the lower end of the partition 40. The arm, however, has an extension 55 thereon which projects into the narrow portion 17 of the chamber so that it will be struck by a coin passing downwardly through the device. In Fig. 1, in dotted lines, the coin 7 is shown as having engaged the extension 55 and tilted the arm sufficiently to move the heel 52 out of the base of the trap 38 so that the trapped coins will be free to fall out of the trap by gravity.

Broadly, the invention contemplates a machine which can be actuated either by one or by a plurality of coins and it seems obvious that by rearrangement of the structure and the mechanism here described the device could be used for various combinations of coins of various denominations.

What is claimed is:

1. In apparatus of the character described to be actuated by either a plurality of small coins or a single large coin, in combination, drive mechanism urged in one direction, restraining means therefor including a trigger mechanism, means to direct the larger coin into contact with said trigger mechanism to release said drive mechanism, means to retain one less than the required number of small coins, an entrance to said trigger mechanism for the next of said smaller coins so that said trigger mechanism also may be actuated thereby to release said drive mechanism, and means actuated by said next coin for releasing said coin retaining means.

2. In apparatus of the character described, in combination, a drive mechanism; means urging said drive mechanism in one direction; means restraining action of said drive mechanism; a coin actuated trip therefor; a passage into which said trip projects; an entrance chute for coins; means to segregate coins of different denomination and to direct coins of one denomination into said passage to actuate said trip; a trap to receive coins of a second denomination, said trap being so configurated that after the same is filled the next coin of said second denomination will be directed into said passage also to actuate said trip; and means actuated by said directed coin to release the other coins from said trap.

3. In apparatus of the character described, in combination, a rotatable member; spring means urging said member in one direction; means including a release trigger for restraining rotation of said member under the action of said spring means; means for selectively guiding into contact with said trigger a coin of one denomination upon its insertion into the apparatus; means for retaining all but the last of a predetermined number of coins of another denomi-

nation and for guiding into contact with said trigger said last coin, contact of coin and trigger operating the trigger, whereby the rotatable member is released for rotation under the action of said spring means; and means operated by the said last pre-determined coin for operating said retaining means and releasing the others of said pre-determined number of coins.

4. A coin control for parking meters, comprising, in combination, a frame, a coin chute thereon, a switch to segregate smaller from larger coins, a trap beyond said switch for a plurality of smaller coins passing said switch, means for retaining said coins in said trap, a passage for the larger coins deflected by said switch, a by-pass from the top of said trap to said passage so that a smaller coin will be deflected into said passage when said trap is filled, trigger means in said passage to be actuated by the passing of either a smaller or a larger coin through the passage, and means operated by the passing of said coin through the passage to release said coin retaining means.

5. A coin controlled device for parking meters comprising, in combination, a foundation plate having a chute thereon, a switch to receive the coins entering said chute, a stop for larger coins adjacent said switch so that the weight of the coin will tilt said switch to deflect the coin, a trigger device to be actuated by the deflected coin as the coin falls by gravity, a passage beyond said switch for smaller coins passing said stop, a trap of a size to be filled by a pre-determined number of smaller coins, an entrance to said trigger to receive the next of said smaller coins when said trap is filled so that said trigger may be actuated thereby, and means actuated by said next coin to release the other coins from said trap.

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