June 3, 1930. G. H. DAVIS 1,761,386

VENDING MACHINE

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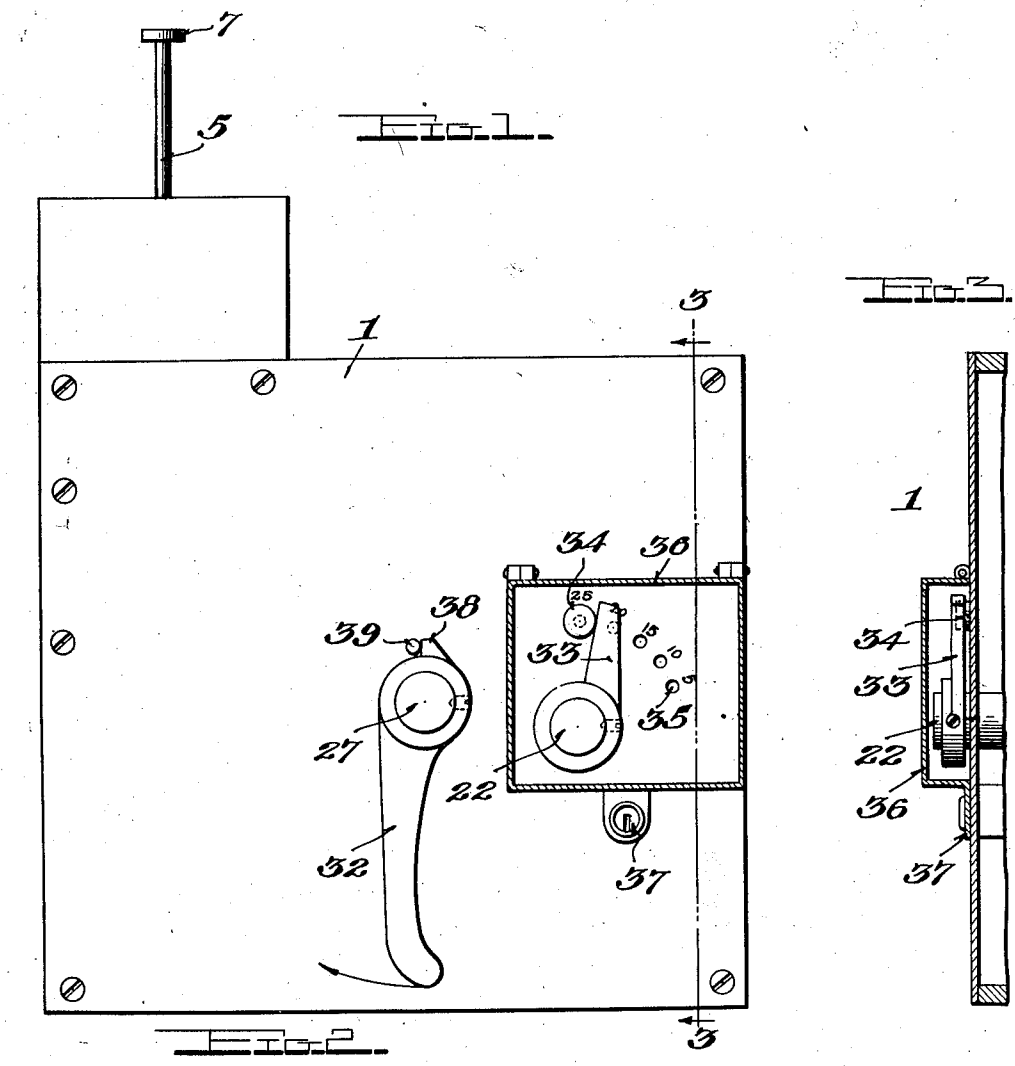

Fig. 1.

Fig. 3.

Fig. 2.

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Fig. 4

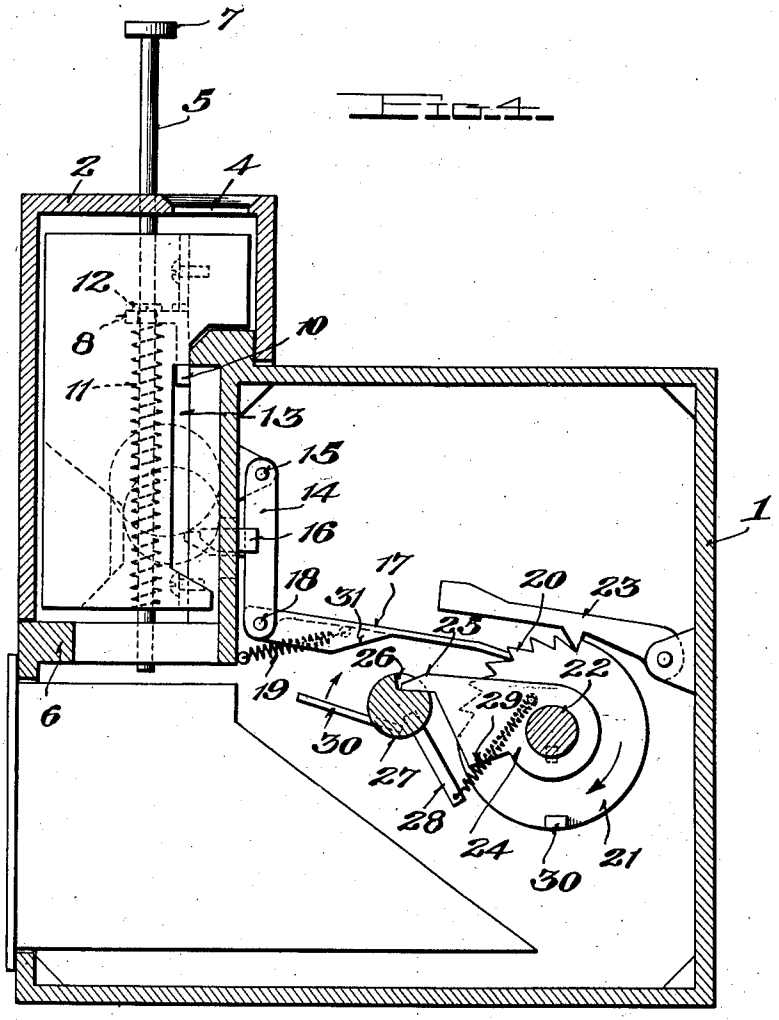
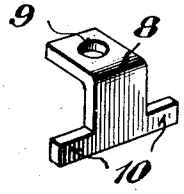


Fig. 5



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UNITED STATES PATENT OFFICE

GEORGE H. DAVIS, OF PROVIDENCE, RHODE ISLAND

VENDING MACHINE

Application filed March 8, 1929. Serial No. 345,413.

This invention relates to certain new and useful improvements in vending machines, and more particularly pertains to a device for use with vending machines whereby nickels and dimes can be used to operate the machine, and wherein the device can be adjusted so as to require different sums of money to operate same. In other words the invention aims to enable the machine to be set so as to permit operation thereof by means of various sums for example, 5, 10, 15, 20, 25 cents, etc.

In the drawings Figure 1 is a side elevation of the invention, partly in section,

Figure 2 is a fragmentary top plan view,

Figure 3 is a section on line 3—3 of Figure 1,

Figure 4 is a section on line 4—4 of Figure 2,

Figure 5 is a detail perspective view of the coin engaging pusher.

In proceeding in accordance with the present invention, a casing 1 is employed having a top 2 formed with coin slots 3 and 4, the latter slot being for use with dimes while the slot 3 is for use with nickels.

A vertically disposed rod 5 is slidable through the top 2 and through a member 6 disposed below the top, the rod having a hand engaging knob 7 on its upper end. The coin slots 3 and 4 register with the usual coin chutes provided therefor in the casing. A coin engaging pusher 8 of substantially L-shape as shown in Figure 5 is provided with an opening 9 to slidably receive the rod 5, and is further formed with outwardly projecting feet 10 which latter project within the respective coin chutes. A coil spring 11 surrounds the rod 5 and exerts pressure against the top of the coin pusher 8, holding the latter engaged with a stop collar 12 which is fixedly connected to the rod 5. The feet 10 operate or slide in vertical slots 13 that are provided therefor in the sides of the coin chutes.

A vertical lever 14 is pivoted at 15 within the casing and carries fingers 16 intermediating its ends, which fingers project within the coin chutes and are of varying lengths so as to engage the vari-diametered coins. A dog 17 is pivoted at 18 to the lower end of the lever 14 and is tensioned by a coil spring 19. The dog 17 engages the teeth 20 of a toothed wheel 21 the latter being mounted on a shaft 22. A pawl 23 is pivoted to the casing and engages the teeth 20 of the wheel 21 so as to prevent retrograde movement of the wheel.

A second dog 24 is loosely journaled on the shaft 22 and has a nose 25 formed to engage in an L-shaped cutout or tooth 26 provided in a vending machine operating shaft 27.

The shaft is provided with an arm 28 which is connected to a coil spring 29 by means of which the dog 24 is normally tensioned to move downwardly. A finger 30 is secured to the shaft 27 in a position so as to engage an inclined face 31 formed on the dog 17 upon turning of the shaft, thereby to lift the dog out of engagement with the teeth 20 of wheel 21.

As shown in Figure 1 of the drawing, the shaft 27 has an operating handle 32 thereon and the shaft 22 is provided with an arm 33 which is formed to engage a set screw 34, the latter being engaged in a selected one of a series of openings 35 provided therefor in a side of the casing. These opening are provided with the indicia "5" "10," "15," "20," "25" to indicate various sums of money necessary to deposit in order to operate the vending machine. Closure 36 is provided for the projecting end of the shaft 22, the arm 33, and the set screw 34, and is locked by means of a lock 37. As shown in Figure 1 the shaft 27 is provided with a stop lug 38 formed to engage a stop pin 39 attached to a side of the casing.

In operation, the arm 33 is moved to register with the desired sum 35 and is held by

the screw 34, this movement of the arm causes the shaft 22 and therewith lug 30 on the wheel 21 to be set in a position according to the amount for which the arm 33 is set. Assuming that the arm 33 is set for 15 cents it will be apparent that the operator must first deposit either a dime or a nickel in the slot 4 or 3, whereupon rod 5 is pushed downwardly to cause the coin to engage the finger 16 thereby to rock lever 14 and move dog 17 to rotate the wheel 21. Then the remaining coin is inserted in its proper slot and the rod 5 is again pushed downwardly thereby causing a further movement of the wheel 21, which latter movement causes the lug 30 to engage the shoulder 29 on the loose dog 24, raising the latter out of notch 26 whereupon the operator by means of the lever 32 operates shaft 27 and thereby the vending machine. This movement of the shaft 27 causes the finger 30 to engage the inclined face 31 of dog 17 which raises the latter from engagement with the teeth 20 and at the same time the dog 17 engages the pawl 23 and lifts same out of engagement with the teeth 20 of wheel 21. At this time the movement of the arm 28 tensions the spring 29 so that when the shaft 27 is released the parts are automatically restored to the position of Figure 4 in which it will be seen that the shaft 27 is in locked position.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a device of the type set forth, a casing having chutes for coins of varying denominations, spring pressed pusher means for the coins, a lever having coin-engaging fingers which latter project within the chutes, a vending machine operating shaft having a notch, a second shaft having a toothed wheel keyed thereto, a spring pressed dog pivoted to said lever and key engageable with the teeth of the wheel to turn the latter, a pioted pawl overlying said dog and engaging the wheel to prevent retrograde movement of the wheel, a dog loose on the second shaft and engageable in said notch of the vending machine operating shaft, a finger on the vending machine operating shaft to operate said spring pressed dog and therethrough said pawl to release the wheel, spring means connected to the loose dog and to said vending machine operating shaft to restore the loose dog to normal position following operation of the last named shaft, means to hold said second shaft and thereby the wheel in different set position and a lug on the wheel to engage the loose dog.

2. In a device of the type set forth, a vending machine operating shaft, a settable shaft having a toothed wheel rigidly secured thereto, means operable by coins of varying denominations to turn said wheel, means to prevent retrograde movement of the wheel engageable with a part of said operating means, means actuated by the operating shaft to engage and release said wheel turning means and to thereby cause the latter to engage and release the means to prevent retrograde movement of the wheel, means loose on the settable shaft to lock the operating shaft against movement, means on the wheel to engage said loose means and to move same out of locking position upon predetermined movement of the wheel in accordance with the setting of the settable shaft, and means operable by the operating shaft to restore the locking means to locking position following operation of the operating shaft.

3. In a device of the type set forth, a vending machine operating shaft, a ratchet wheel, means operable by coins of varying denominations to turn the wheel different distances, means to lock the operating shaft against movement, means operable by the wheel for releasing said locking means, means to set the wheel so as to require same to move varying predetermined distances in order to release the locking means and means operable by the shaft to restore the locking means to normal position following operation of the shaft.

4. In a device of the type set forth, vending machine operating means, means settable for movements of varying predetermined extents, locking means for said operating means, means actuated by coins of varying denominations to move the settable means to extents governed by the denominations of the coins, means actuated by the settable means to release the locking means upon predetermined movement of said settable means, and means actuated by the operating means to restore the locking means to normal position following operation of the operating means.

5. In a device of the type set forth, vending machine operating means, means settable for movements of varying predetermined extents, locking means for said operating means, means actuated by coins of varying denominations to move the settable means to extents governed by the denominations of the coins, means actuated by the settable means to release the locking means upon predetermined movement of said settable means, and means to restore the locking means to normal position following operation of the operation means.

6. In a device of the type set forth, a vending machine operating means, lock releasing means for freeing said operating shaft and operable by coins of varying denominations, and by varying combinations of the coins of a predetermined sum total, and means to selectively set said lock-releasing means so as to enable same to be oper-

ated by single coins of varying denominations and of a predetermined sum total or by varying combinations of the coins of said predetermined sum total.

7. In a device of the type set forth, a vending machine operating shaft, and lock releasing means for freeing said operating shaft, and operable by single coins of varying denominations and of a predetermined sum total or by varying combinations of the coins of said predetermined sum total.

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

GEORGE H. DAVIS.