

Oct. 9, 1945.

O. A. HOKANSON
MULTIPLE COIN DEVICE

2,386,741

Filed Jan. 12, 1944

3 Sheets-Sheet 1

Fig. 1.

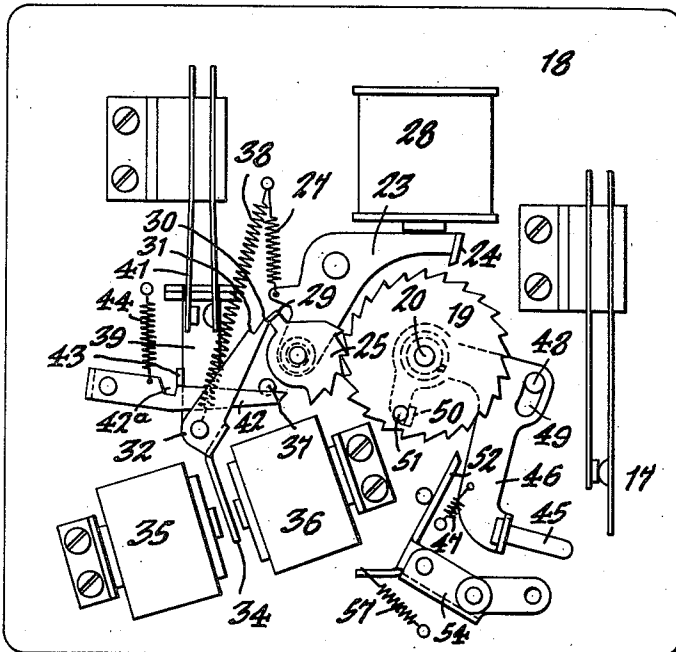
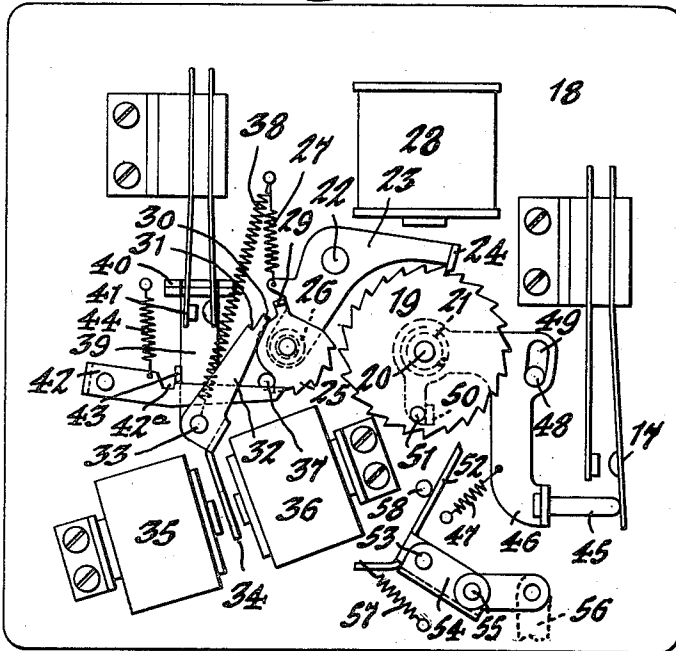


Fig. 2.

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Fig. 3.

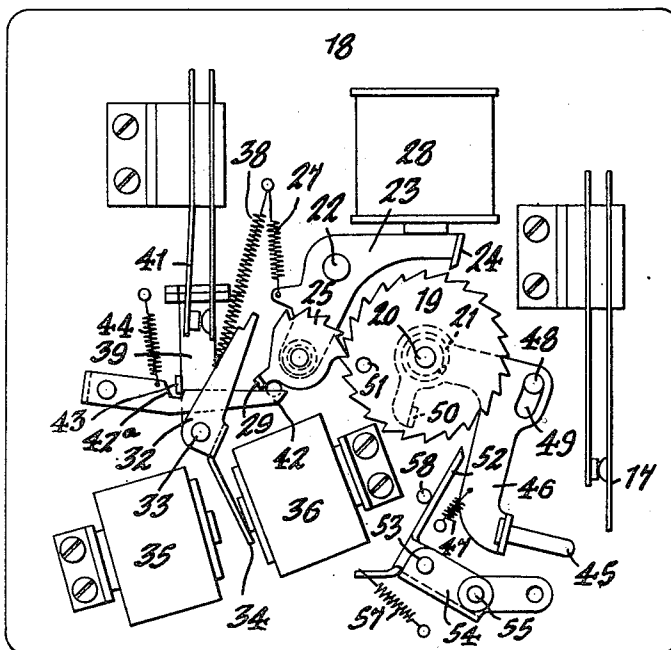
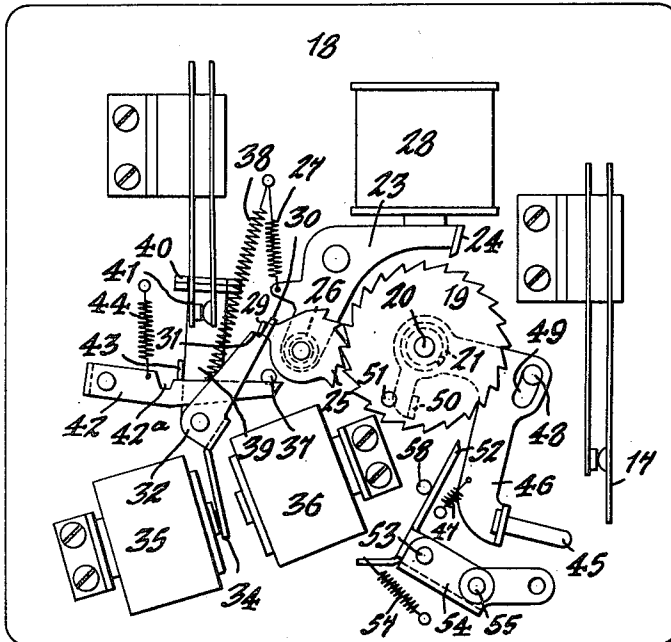


Fig. 4.

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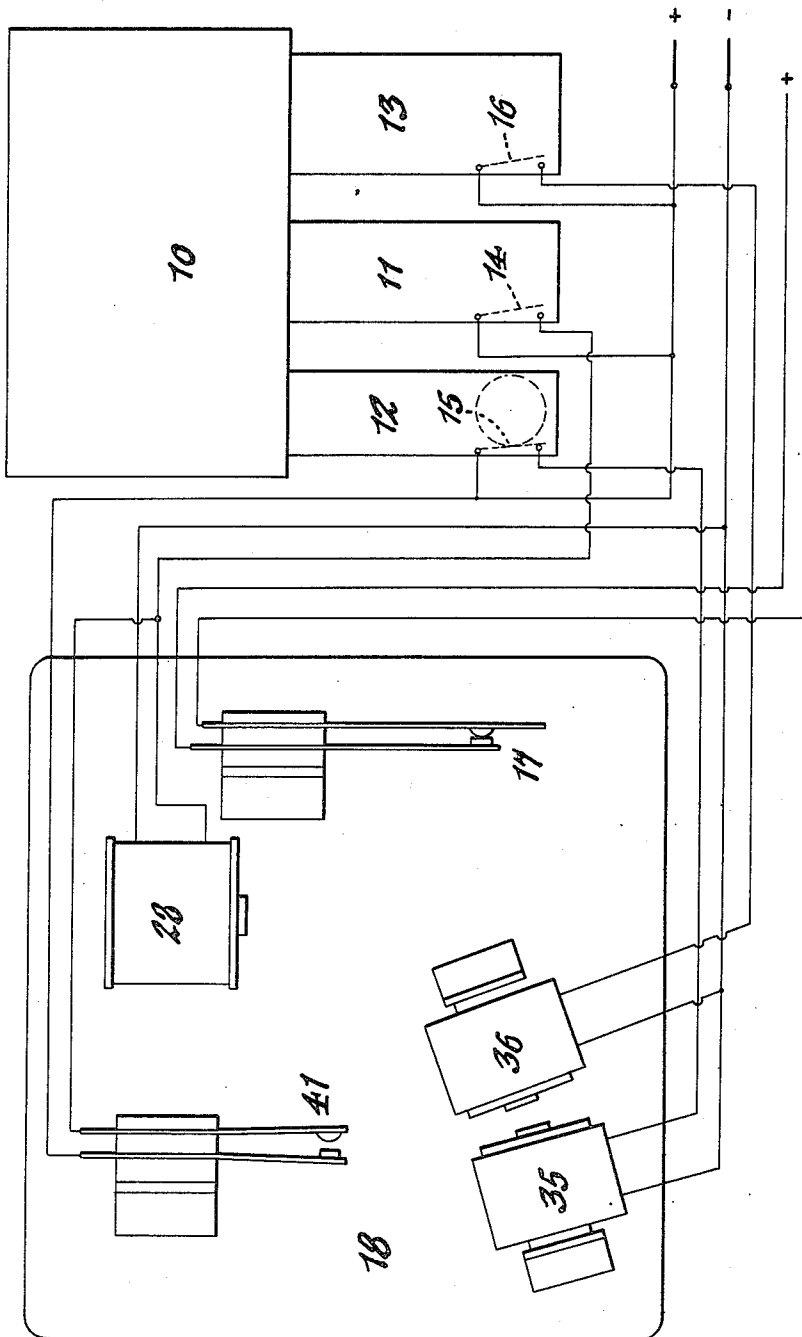
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MULTIPLE COIN DEVICE

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3 Sheets-Sheet 3

Fig. 5.



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UNITED STATES PATENT OFFICE

2,386,741

MULTIPLE COIN DEVICE

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Application January 12, 1944, Serial No. 517,963

17 Claims. (Cl. 194-9)

This invention relates generally to coin controlled devices of the type used on vending machines, automatic phonographs and like apparatus, but more particularly to a multiple magazine switch machine for governing the operation of such apparatus in accordance and commensurate with the deposit of different denomination coins.

One of its objects is to provide an electrically-governed, multiple coin device of this character which is simple, compact and inexpensive in construction which is efficient and reliable in operation, and which is so designed as to positively register and automatically pre-set the device as determined by the value of the coins deposited, whether a nickel, dime or a quarter, by a single electric impulse or contact of the coin or coins as they pass through their respective coin chutes, assuring the patrons full value for the deposits made.

It has for another object to provide a unitary, multiple coin device embodying an electrically-governed ratchet mechanism which is so designed and constructed as to selectively feed the ratchet mechanism a predetermined distance in accordance with the coin values deposited and in turn govern the duration of closing of the switch controlling the apparatus to which the mechanism is applied.

Other features of the invention reside in the construction and arrangement of parts herein-after described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a front view of the magazine switch device with the cover plate removed and the parts in a normal, switch-opened position. Figure 2 is a similar view with the parts in switch-closed position, after the deposit of a nickel. Figure 3 is a similar view with the full lines showing the position of the parts after the deposit of a dime and the dotted lines showing the position of the parts after the deposit of a quarter. Figure 4 is a fragmentary front view showing the means for latching those parts of the device in switch-closing position during the maximum movement of the segmental pinion. Figure 5 is a diagrammatic view of the electrical circuits controlled by the coins deposited and showing the independent discharge chutes equipped with switches momentarily closed by the passage of coins therethrough.

Similar characters of reference indicate corresponding parts throughout the several views.

In the embodiment of my invention shown in the drawings, this coin-controlled device is designed

for actuation by nickels, dimes and quarters to initiate the closing of the circuit of an automatic phonograph or like apparatus to which the device is attached, the denomination of the coins deposited, by a single electrical impulse, governing other mechanism for controlling the duration of closing of such circuit to accordingly give the patron the full value for the deposits made. For example, should the coin device be employed in connection with an automatic phonograph and a nickel be deposited for the playing of one selected record, the controlled circuit will remain closed until that record is played; should a dime be deposited, the controlled circuit will automatically remain closed until two records are played; and should a quarter be deposited, the controlled circuit will automatically remain closed until five records are played. In other words, the denomination of the coins deposited automatically governs my novel mechanism initiated by the coins for accordingly predetermining the duration of closing of the circuit to be controlled.

Referring now to the drawings, 10 indicates a coin selector of any well known construction into which the various denomination coins are deposited, the acceptable coins passing through nickel, dime and quarter discharge chutes 11, 12 and 13, respectively. Located in these chutes are companion switches 14, 15 and 16 which are adapted to be momentarily closed by the respective coins and which govern the closing of other circuits hereinafter described responsible for predetermining the duration of closing of a switch 17 included in the control circuit of the phonograph or like coin-controlled apparatus.

The various working parts of my coin-controlled device, including the switch 17, are mounted on a base or casing 18, and in its preferred construction such device consists of a ratchet wheel 19 mounted on a stud 20 and having a helical spring 21 connected thereto for constantly urging it to turn in a clockwise direction. Pivoted intermediate its ends at 22 alongside the ratchet wheel is an escapement pawl 23 which is substantially bell crank in shape and which is provided on one arm thereof with a tooth or pallet 24, while its other or depending arm has a revolvable toothed detent or segmental pinion 25 rotatably mounted thereon in the plane of the ratchet wheel and having a helical-spring 26 connected thereto for constantly urging it to turn in a clockwise direction. A spring 27 connected at one end to this pawl and at its other end to the base 18 normally urges the pawl to rock in a direction to engage

its pallet 24 with the ratchet wheel to prevent clockwise movement of the latter and at the same time release the segmental pinion from meshing engagement with such wheel. Reversely, when the ratchet-holding pallet is withdrawn from engagement with the ratchet wheel, the segmental pinion 25 is brought into engagement therewith and the spring-urged movement of the ratchet wheel in a clockwise direction turns the pinion in a counter-clockwise direction. The movement of the pawl to this position is initiated upon the deposit of a coin and for this purpose an electromagnet 28 is provided in operative relation to the pallet-bearing arm of the pawl which acts as an armature. The nickel coin switch 14 is included in the circuit of this electromagnet and serves to momentarily energize it upon the passage of the nickel through the companion coin chute 11. Such movement transmitted to the pinion by the temporary release of the ratchet wheel, however, is controlled in accordance with the value of the coin deposited by the provision of adjustable, coin-governed stop means, the pinion having five teeth thereon with one tooth representing a nickel, two teeth representing a dime, and the five teeth representing a quarter, whereby the stop means automatically functions, depending on the coin value deposited, to arrest the movement of the pinion and the ratchet wheel after the escapement of one, two or five teeth.

Projecting from the segmental pinion 25 diametrically opposite the teeth thereof is a laterally-bent lug 29 which normally abuts at one radial edge against the opposing edge of the lower arm of the escapement pawl 23 to hold the pinion in position so that its first or nickel-tooth will register with the ratchet wheel upon the magnetic release of the pawl, the spring 26 constantly urging the turning of the pinion to such position. At its opposite radial edge this pinion-lug is adapted to engage one or another of three stops for limiting the turning of the pinion one, two or five teeth depending upon the denomination of the coin deposited. Two of these stops, indicated at 30, 31 are applied to the upper arm of a vertically-swinging lever 32 pivoted intermediate its ends at 33 to the base 18 at one side of and below the pinion-axis, the outer stop 30 limiting the nickel-registering travel of the pinion and the inner stop or shoulder 31, which is laterally offset from the first-named stop, limiting the dime-registering travel of the pinion. The lower arm 34 of this lever functions as an armature and extends between opposing magnets 35, 36 to be attracted to one or the other of said magnets when they are independently energized and accordingly rock the stop lever 32 in one direction or the other. The magnet 35 is included in the circuit of the dime switch 15 and is momentarily energized upon the deposit of a dime to cause the stop lever to swing in a direction to bring its outer stop 30 clear of and its inner stop 31 into the circumferential path of the pinion-lug 29 to arrest the movement of the pinion after a predetermined distance of travel. The magnet 36 is included in the circuit of the quarter switch 16 and is momentarily energized upon the deposit of a quarter to cause the stop lever to swing in the opposite direction to bring both stops 30, 31 clear of the path of the pinion-lug 29 and allow the latter to abut against a fixed stop 37 projecting from the face of the base 18 and so po-

sitioned as to permit the pinion to travel its maximum distance or five teeth.

A spring 38 connected to the stop lever in line with its pivot serves to normally urge the lever to its neutral position with its lower arm disposed centrally between the magnets 35, 36 and the outer stop 30 of the lever in line with the pinion-lug, and subsequent to the momentary energization of either magnet this spring restores the lever to its initial position.

The stop lever 32 also has an arm 39 projecting upwardly therefrom in spaced parallel relation to and radially offset from the stop arm thereof and at its free end has an insulated fork 40 which embraces the leaves of a normally open spring switch 41 included in the circuit of the electromagnet 28. Whenever the stop lever is actuated in one direction or the other in response to the energization of the coin-governed magnets 35, 36, this switch is simultaneously closed to in turn energize the electromagnet 28 to effect the temporary release of the pawl 23 from the ratchet wheel 19 to cause the latter to transmit the required movement to the pinion 25. In the case of the deposit of a quarter coin, an appreciable time is required to revolve the pinion five teeth and it is therefore necessary to latch the stop lever in its released position to maintain the switch 41 closed and the pawl-releasing magnet 28 energized during the five tooth travel of the pinion. For this purpose, a pivoted latch 42 is provided having a notch or shoulder 42^a in its top edge with which a locking lug 43 projecting laterally from the lever arm 39 is adapted to engage in that position of the lever effected by the energization of the magnet 36. A spring 44 connected to this latch normally urges it to swing upwardly toward its latching position. The free end or nose of the latch 42 is disposed in the circumferential path of travel of the pinion-lug 29 adjacent the fixed stop 37 so that just prior to such lug encountering such stop, it strikes the latch and swings it downward to unlatch it from the lever arm 39 and allow the parts to return to their initial or normal position.

The switch 17, which is of the yieldable lead type and which controls the operation of the apparatus to which the coin device is applied, is positioned alongside the ratchet wheel in operative relation to the insulated tappet lug 45 extending from the outer arm of a vertically-swinging lever 46 pivoted intermediate its ends on the ratchet wheel and stud 20 and having a spring 47 connected thereto for normally urging the lever in a direction to bring the tappet lug away from the switch to effect its closing. A stop pin 48 projecting from the face of the base 18 and engaging a slot 49 in the switch-controlling lever serves to limit the movement of such lever in opposite directions. On its inner arm this lever has a laterally-bent lug 50 and projecting from the face of the ratchet wheel 19 is a cooperating trip pin 51, which, when the ratchet wheel moves in a clockwise direction as a result of the deposit of a coin or coins in the device, causes a receding of the pin from the lug a distance of one, two or five teeth, depending on the denomination of the coin deposited, with the spring 47 acting to turn the lever 46 in a direction to cause the switch 17 to close. At a predetermined time in the reverse or counter-clockwise movement of the ratchet wheel, its pin 51 engages the lug 50 and turns the switch-controlling lever in a direction to open the switch.

The counter-clockwise movement of the ratchet wheel is effected by a feed pawl 52 which is normally disengaged from such wheel but which is adapted to be brought into and out of engagement with the wheel to turn it a distance of one tooth after each unit operative cycle of the coin-controlled apparatus has been completed. To accomplish this end, this pawl is pivoted at 53 to one arm of a vertically-swinging lever 54 fulcrumed at 55 on the base 18, while the other arm thereof is adapted for connection, for example, to a reciprocable part 56 of the coin-controlled apparatus and which part functions to rock said lever and accordingly bring the pawl 52 into operative engagement with the ratchet wheel. The pawl is urged toward the periphery of the ratchet wheel by a spring 57 and a stop pin 58 is provided for limiting and maintaining the pawl in proper relation to the ratchet wheel. Thus, at each reciprocating stroke imparted to the part 56 at the end of a unit operation of the apparatus to which this coin device is applied, the ratchet wheel is moved a distance of one tooth in a counter-clockwise direction and when the lever 54 has been rocked a number of times equal to the number of unit or nickel coin values deposited, the ratchet wheel is turned backward a corresponding number of teeth to accordingly effect the automatic opening of the switch 17 and the stoppage of the coin-operated apparatus after all the deposited coins have been registered and full value received therefor.

I claim as my invention:

1. In a device of the character described, a switch, a ratchet wheel normally urged to turn in a direction to cause the closing of said switch and movable different distances in proportion to the value of a deposited coin, an operative connection between said wheel and said switch, an escapement pawl having a tooth at one end thereof normally disposed in engagement with said wheel for preventing its turning in one direction and having a segmental pinion at its other end movable into and out of engagement with said wheel for governing its coin-determining distance of travel, said pinion being normally released from said wheel and being normally urged to turn in one direction to a predetermined position and movable in the opposite direction by said wheel to one or another of a plurality of positions as determined by the value of a deposited coin, means governed by the deposit of a coin for effecting the release of said escapement pawl from and the engagement of said segmental pinion with the ratchet wheel, and selectively-controlled stop means rendered operative by the deposit of different denomination coins for limiting the movement of said pinion a distance of one, two or more teeth while engaged with the ratchet wheel to govern the intermittent travel of the latter as determined by the denomination of the coin or coins deposited.

2. In a coin device of the character described, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, an escapement pawl having a tooth at one end normally engageable with the wheel for preventing its turning in one direction and a revolvable toothed detent at its other end engageable with said wheel when the pawl-tooth is released therefrom to limit the degree of intermittent movement of the ratchet wheel in its switch-

closing direction as determined by different denomination coins, and stop means governed by such different denomination coins for limiting the rotation of said toothed detent and the companion travel of the ratchet wheel.

3. In a coin device of the character described, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, an escapement pawl having a tooth at one end normally engageable with the wheel for preventing its turning in one direction and a normally disengaged revolvable toothed detent at its other end adapted to mesh with said ratchet wheel when the pawl-tooth is released therefrom and to be driven thereby during an intermittent movement of such wheel, and electrically-controlled, coin-initiated means disposed in the path of movement of the toothed detent for limiting its movement to one or another of a plurality of positions to govern the degree of movement of the ratchet wheel in its intermittent switch-closing direction.

4. In a coin device of the character described, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, an escapement pawl having a tooth at one end normally engageable with the wheel for preventing its turning in one direction and a normally disengaged revolvable toothed detent at its other end adapted to mesh with said ratchet wheel when the pawl-tooth is released therefrom and to be driven thereby during an intermittent movement of such wheel, and a plurality of stop means disposed to limit the movement of said detent one, two or more teeth relative to the ratchet wheel to govern the intermittent travel of the latter as determined by corresponding denomination coins.

5. In a multiple-coin registering device, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, a two-armed escapement pawl having a tooth on one arm thereof for engagement with the ratchet wheel to prevent its turning in a switch-closing direction and a revolvable, toothed detent mounted on the other arm of said pawl for meshing engagement with said wheel when the pawl-tooth is disengaged therefrom, and stop means for limiting the movement of said detent one, two or more teeth, as determined by different denomination coins, to in turn govern the intermittent travel of the ratchet wheel in its switch-closing direction.

6. In a multiple-coin registering device, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, a two-armed escapement pawl having a tooth on one arm thereof for engagement with the ratchet wheel to prevent its turning in a switch-closing direction and a revolvable, toothed detent mounted on the other arm of said pawl for meshing engagement with said wheel when

the pawl-tooth is disengaged therefrom, a spring connected to said revolvable detent for urging it to its normal position in predetermined registering relation with said ratchet wheel, and stop means for limiting the movement of said detent, when turned in the opposite direction by said ratchet wheel and as determined by the deposit of different denomination coins, to in turn govern the intermittent proportionate travel of the ratchet wheel in its switch-closing direction.

7. In a multiple-coin registering device, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, a two-armed escapement pawl having a tooth on one arm thereof normally in engagement with the ratchet wheel to prevent its turning in a switch-closing direction and a revolvable toothed detent mounted on the other arm thereof for meshing engagement with said wheel when the pawl-tooth is disengaged therefrom, said revolvable detent including means for normally urging it to return to a predetermined position when released from engagement with the ratchet wheel, coin-initiated means operatively connected to said escapement pawl for temporarily releasing its tooth from the ratchet wheel and bringing its revolvable detent into engagement with said wheel, a plurality of stop means disposed in the path of movement of said revolvable detent for limiting its degree of movement to one or another of a plurality of positions and accordingly the displacement of the ratchet wheel in a switch-closing direction and multiple coin-actuated devices operatively connected to said stop means for governing the same to limit the movement of the revolvable detent to one or another of its positions as determined by the coin or coins deposited.

8. In a multiple-coin registering device, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction toward a switch-opening position, an escapement pawl disposed in operative relation with the ratchet wheel and normally engaged therewith to prevent its turning in a switch-closing direction, said pawl having a revolvable multi-toothed detent thereon adapted to mesh with said wheel for governing its degree of movement in such direction upon the disengagement of the escapement pawl therefrom, means rendered operative upon the deposit of one or another of a plurality of different denomination coins for arresting the movement of said revolvable detent in one or another of a plurality of positions as determined by the denomination of the coin deposited and for correspondingly arresting the degree of movement of the ratchet wheel in its switch-closing direction, and multiple coin-actuated means in governing relation with said pawl and its revolvable detent for simultaneously releasing the pawl from the ratchet wheel upon the deposit of any denomination coin and rendering said arresting means operative to stop the movement of said wheel at one or another of its positions as determined by the denomination of the coin or coins deposited.

9. A coin device of the character described, comprising a switch, a ratchet wheel having a trip element thereon for controlling said switch

and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction to a switch-opening position, an escapement pawl disposed in operative relation with the ratchet wheel and normally engaged therewith to prevent its turning in a switch-closing direction, said pawl having a revolvable toothed detent thereon adapted to mesh with and be actuated by said ratchet wheel when said escapement pawl is released for governing the degree of motion of the ratchet wheel in its switch-closing direction, a plurality of stop means arranged to arrest the movement of the revolvable detent at different radial points, coin-governed electrical means for releasing said escapement pawl from the ratchet wheel, and coin-governed electrical means simultaneously operable to render said stop means selectively operable to arrest the movement of the revolvable detent and the ratchet wheel after the rotation of such parts a given distance as determined by the denomination of the coin or coins deposited.

10. A coin device of the character described, comprising a switch, a ratchet wheel having a trip element thereon for controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction to a switch-opening position, an escapement pawl disposed in operative relation with the ratchet wheel and normally engaged therewith to prevent its turning in a switch-closing direction, said pawl having a revolvable toothed detent thereon adapted to mesh with and be actuated by said ratchet wheel when said escapement pawl is released for governing the degree of motion of the ratchet wheel in its switch-closing direction, a plurality of stop means arranged to arrest the movement of the revolvable detent at different radial points, certain of said stops being borne by a member adjustable to different positions to render them selectively operative or inoperative, and coin-governed electrical means operatively connected to the escapement pawl and the stop-bearing member for simultaneously releasing the former from the ratchet wheel and selectively adjusting said stop-bearing member to one or another of its positions.

11. A coin device of the character described, comprising a switch, a ratchet wheel having a trip element thereon for controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl for turning said wheel in the opposite direction to a switch-opening position, an escapement pawl disposed in operative relation with the ratchet wheel and normally engaged therewith to prevent its turning in a switch-closing direction, said pawl having a revolvable toothed detent thereon adapted to mesh with and be actuated by said ratchet wheel when said escapement pawl is released for governing the degree of motion of the ratchet wheel in its switch-closing direction, a plurality of stop means arranged to arrest the movement of the revolvable detent at different radial points, certain of said stops being borne by a member adjustable to different positions to render them selectively operative or inoperative as determined by certain denomination coins and the remaining stop being fixed to limit the maximum turning of the detent as determined by a maximum denomination coin, coin-governed electrical means operatively connected to the escapement pawl and the stop-bearing member

for simultaneously releasing the former from the ratchet wheel and selectively adjusting said stop-bearing member to one or another of its positions, and means rendered operative to releasably latch the stop-bearing member in its inoperative position during the maximum turning of said detent.

12. In a device of the character described, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl arranged to engage said wheel for turning it in a switch-opening direction, a coin-controlled escapement pawl engaging said ratchet wheel and having a revolvable detent thereon engageable with said wheel when the pawl is released therefrom to govern its degree of movement in a switch-closing direction, said detent including means for normally urging it to an initial position in predetermined relation to and in the same direction as that in which the ratchet wheel is normally urged, a stop for limiting the movement of the detent in such urged direction, and other stop means selectively adjustable into the path of travel of said detent for limiting its movement in the opposite direction when engaged with the ratchet wheel.

13. In a device of the character described, a switch, a ratchet wheel having a trip element controlling said switch and including means for normally urging it to turn in a switch-closing direction, a feed pawl arranged to engage said wheel for turning it in a switch-opening direction, a coin-controlled escapement pawl engaging said ratchet wheel and having a revolvable detent thereon engageable with said wheel when the pawl is released therefrom to govern its degree of movement in a switch-closing direction, said detent including means for normally urging it to an initial position in predetermined relation to and in the same direction as that in which the ratchet wheel is normally urged, a stop for limiting the movement of the detent in such urged direction, and other coin-controlled stop means disposed in the path of travel of said detent for limiting its movement in the opposite direction when engaged with the ratchet wheel, said last-named stop means including a pair of opposing magnets included in coin-controlled switch circuits adapted to be closed upon the deposit of different denomination coins, a stop-bearing arm in operative relation at one end between said magnets for displacement thereby in one direction or the other and provided at its other end with a pair of stops companion to different denomination coins, and a spring for normally retaining said arm in a neutral position between said magnets and with one of its stops in the turning path of said revolvable detent.

14. In a device of the character described, a switch-controlling ratchet wheel having means for normally turning it in a switch-closing direction, an escapement pawl arranged to engage said wheel to prevent its turning in a switch-closing direction, said pawl having a revolvable multi-toothed detent thereon including means for turning it in one direction to an initial position and engageable with the ratchet wheel for actuation thereby in the opposite direction when said pawl is released to limit the degree of turning of said wheel in a switch-closing direction to one or another of a plurality of positions, a feed pawl engageable with said ratchet wheel for turning it in a switch-opening direction, a magnet for actuating said escapement pawl to its released position, a switch included in the circuit of said mag-

net, and displaceable means including a part having stop elements thereon arranged to be engaged by said revolvable detent to arrest its movement and that of the ratchet wheel in different predetermined positions and a part normally engageable with said switch to maintain it open and adapted to effect its closing whenever said means is displaced out of its normal position.

15. In a device of the character described, a switch-controlling ratchet wheel having means for normally turning it in a switch-closing direction, an escapement pawl arranged to engage said wheel to prevent its turning in a switch-closing direction, said pawl having a revolvable multi-toothed detent thereon including means for turning it in one direction and a stop lug for limiting its movement in opposite directions, said detent being engageable with said ratchet wheel for actuation thereby in the opposite direction when said pawl is released to govern the degree of turning of the ratchet wheel in a switch-closing direction, a feed pawl engageable with the ratchet wheel for turning it in a switch-opening direction, a magnet for actuating said escapement pawl to its released position, a switch included in the circuit of said magnet, a fixed stop complementary to said detent stop lug for limiting the maximum turning of the detent in the direction actuated by the ratchet wheel, a pivoted member including a part having spaced stops thereon arranged in advance of said fixed stop and adapted, in different positions of said member, to be engaged by said detent-stop for limiting the movement of the detent in different radial positions and a part engageable with said switch to govern its opening and closing, a spring connected to said member for normally maintaining it in a position in which one of its stops is in the path of travel of the detent stop lug and in which the switch is open, and means in operative relation to said member for swinging it in one direction or the other to momentarily bring the other of its stops into the operative path of the detent stop lug or to withdraw both of such stops out of such path to cause the detent to turn its maximum toward said fixed stop and to simultaneously bring the switch-engaging part of said member into switch-closing position when the latter is moved in one direction or the other.

16. In a device of the character described, a switch-controlling ratchet wheel having means for normally turning it in a switch-closing direction, an escapement pawl arranged to engage said wheel to prevent its turning in a switch-closing direction, said pawl having a revolvable multi-toothed detent thereon including means for turning it in one direction and a stop lug for limiting its movement in opposite directions, said detent being engageable with said ratchet wheel for actuation thereby in the opposite direction when said pawl is released to govern the degree of turning of the ratchet wheel in a switch-closing direction, a feed pawl engageable with the ratchet wheel for turning it in a switch-opening direction, a magnet for actuating said escapement pawl to its released position, a fixed stop complementary to said detent stop lug for limiting the maximum turning of the detent in the direction actuated by the ratchet wheel, a pivoted member including a part having spaced stops thereon arranged in advance of said fixed stop and adapted, in different positions of said member, to be engaged by said detent-stop for limiting the movement of the detent in different radial positions and a part engageable with said

switch to govern its opening and closing, a spring connected to said member for normally maintaining it in a position in which one of its stops is in the path of travel of the detent stop lug and in which the switch is open, means in operative relation to said member for swinging it in one direction or the other to momentarily bring the other of its stops into the operative path of the detent stop lug or to withdraw both of such stops out of such path to cause the detent to turn its maximum toward said fixed stop and to simultaneously bring the switch-engaging part of said member into switch-closing position when the latter is moved in one direction or the other, and a latching lever disposed in operative relation to said pivoted member for latching it in its stop-withdrawn position during the maximum turning of the revolvable detent, said lever having its free end disposed in the turning path of the detent stop lug to be tripped thereby to its unlatched position when said detent reaches the end of its maximum turning.

17. In a coin control, a switch, a ratchet wheel having means for normally turning it in a direction to close the switch, a feed pawl for turning

5 said wheel in a switch-opening direction, a rotatable multi-toothed detent arranged for engagement with said ratchet wheel for governing its movement in step by step fashion to a switch-closing position and including means for normally turning it in the same direction as the ratchet wheel and for limiting its movement in such direction, the ratchet wheel being adapted to transmit motion to such detent in the opposite 10 direction, an escapement pawl pivoted intermediate its ends and having a pallet at one end thereof normally engageable with the ratchet wheel for resisting its turning in its normal direction, said rotatable detent being mounted on the 15 other arm of said pawl and normally disengaged from the ratchet wheel, and electric coin-controlled means including a magnet for momentarily releasing said escapement pawl from and bringing said detent into engagement with the 20 ratchet wheel and a plurality of magnet-governed stops for limiting the turning movement of the detent at different radial points to govern the step by step travel of the ratchet wheel in its switch-closing direction.

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