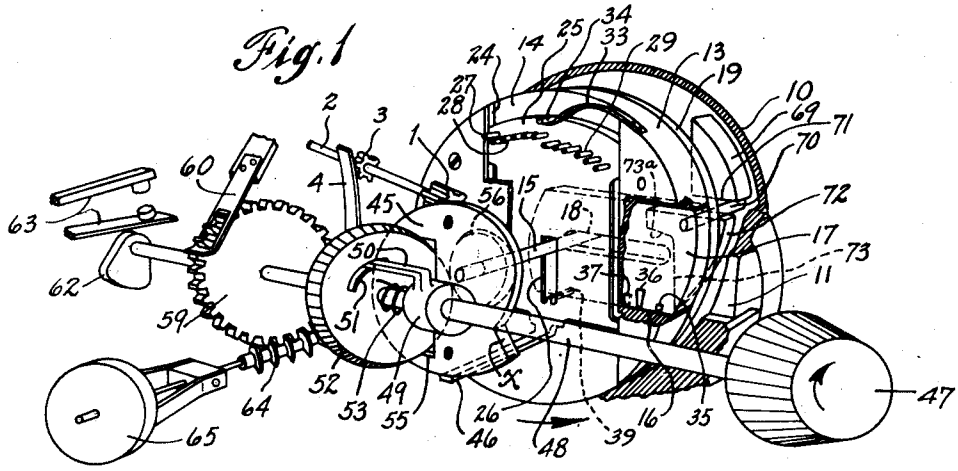
Sept. 17, 1940. R. PUDELKO ET AL 2,215,191

COIN-CONTROLLED SETTING MECHANISM FOR ENERGY DISPENSING DEVICES

Filed Aug. 31, 1937 2 Sheets-Sheet 1

Fig. 1



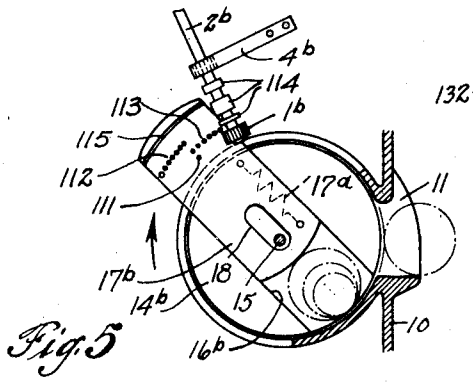


Fig. 5

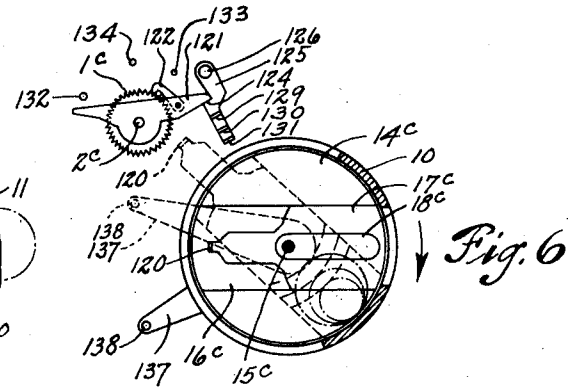


Fig. 6

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COIN-CONTROLLED SETTING MECHANISM FOR ENERGY DISPENSING DEVICES

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Fig. 7

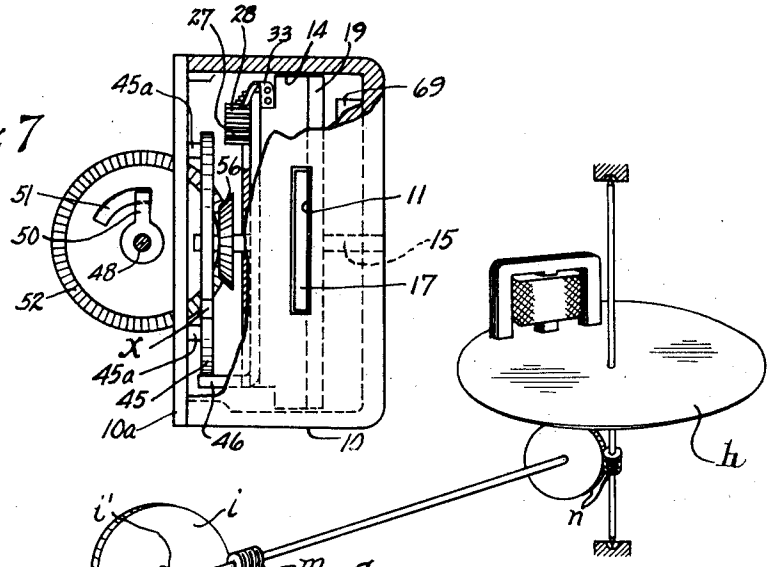


Fig. 3

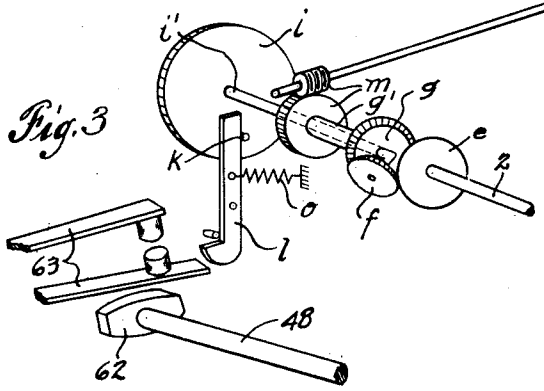
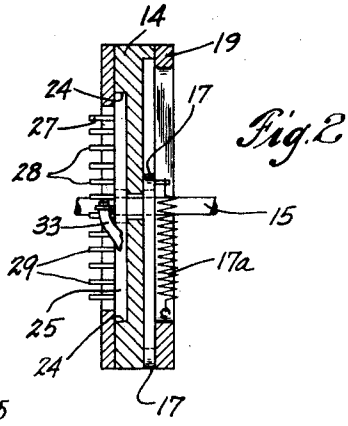


Fig. 2



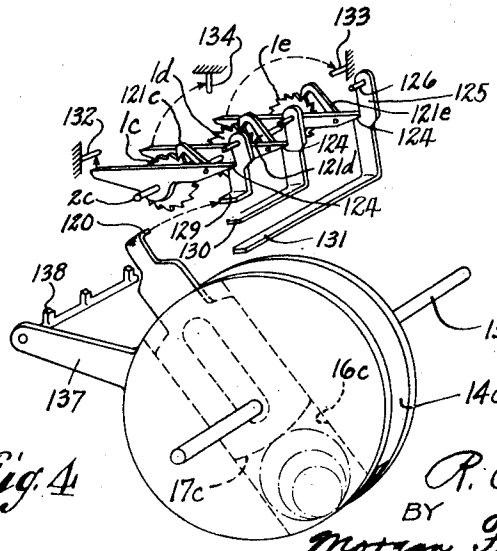


Fig. 4

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UNITED STATES PATENT OFFICE

2,215,191

COIN-CONTROLLED SETTING MECHANISM FOR ENERGY DISPENSING DEVICES

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Application August 31, 1937, Serial No. 161,742
In Switzerland September 4, 1936

17 Claims. (Cl. 194—3)

The invention relates to new and useful improvements in coin-controlled setting mechanisms for energy dispensing means, and more especially to such improvements in the type of mechanism wherein the amount of energy made available is dependent on the size or value of an inserted coin.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

Of the drawings:

Fig. 1 is a perspective view of a coin-controlled mechanism embodying the invention;

Fig. 2 is a detailed detached central section through the coin receiving disc and associated parts;

Fig. 3 is a partly diagrammatic perspective of the mechanism for dispensing a predetermined amount of energy;

Fig. 4 is a view similar to Figure 6, but with the parts in separated positions for the sake of clearness.

Figs. 5 and 6 each show other forms of said setting means;

Fig. 7 is a partial elevation and a partial section through Fig. 1.

Objects of the invention are to provide in an energy dispensing means, such as a prepayment electricity meter, means controlled and set by the insertion of coins of different sizes and values for permitting the flow of electricity or like dispensing of energy to an amount corresponding to the value of the inserted coin; to provide such a mechanism which is of simple, sturdy and compact construction, and is reliable in operation; to provide such a mechanism having relatively few parts and those of compact and simple construction and of small size, while avoiding complicated and extensive moving of parts; to provide mechanism wherein many of the main parts are mounted integrally together, having movement one upon the other, and employing rotational movements in so far as practicable.

To these ends a rotatable disc is provided having a coin slot adapted to receive a coin flatwise of the disc, there being a slide or equivalent member in the slot which is moved inwardly, resiliently by an inserted coin a distance equal to the diameter of the coin, and an interponent mechanism automatically coacts with the so positioned slide to variably position a limit switch, or other energy measuring device, to dispense energy corresponding in amount or value to the particular coin inserted. More particularly, there are provided a relatively thin rotatable disc, within a closed casing, having a diametrally disposed coin slot in one flat face thereof. In the front of the slot is a resiliently held slide which is moved backwardly by the insertion of a coin a distance equal to the diameter of the coin. Slidably mounted on the opposite face of said rotatable disc is a plate, which moves transversely to the slide and is governed by the position of the slide to move proportionately to the value of the inserted coin. On this plate are a plurality of series of different numbers of teeth, the amount of movement imparted to the plate bringing one or another series of teeth into register to correspondingly rotate a pinion as the aforesaid disc is automatically rotated, the pinion setting the limit switch or other energy measuring device correspondingly to the amount of its own rotation, as determined by the inserted coin. Thus practically all the important mechanism is mounted together on the thin rotatable disc. It will be understood that the foregoing general description and the following detailed description as well are exemplary and explanatory but not restrictive of the invention.

Referring now in detail to the embodiment of the invention illustrated by way of example in the accompanying drawings, an energy measuring device, not shown, but which may be of any desired character, such as a switch in an electrical circuit, is controlled by variably settable means so that it will be open after a certain amount of electricity has been consumed, dependable upon the variable setting of the control mechanism. As embodied, the setting means comprises a broad faced pinion 1 fixed on a shaft 2, which communicates with and operates the setting mechanism. On the shaft 2 is a suitable detent mechanism comprising a small pinion 3 with which coacts a spring detent 4. The flat spring 4 presses against two of the teeth of pinion 3. Any rotation of the pinion 3 will cause further pressure on spring 4, and such rotation will not occur until sufficient torque is

placed on the pinion to overcome the spring. The coin-controlled mechanism is inclosed within a casing 10 having a coin-admitting slot 11, the casing being broken away in the drawings to show the inclosed mechanism. Within the casing is a relatively thin, flat coin-receiving disc 14, having an annular periphery 13, and fixed on a shaft 15. Formed in one flat face of the disc 14 is a coin-receiving slot or channel 16, which extends transversely or diametrally of the disc, and is normally in alinement with the coin-receiving slot 11 of the casing. Slidably mounted in the channel 16 is a slide 17, having a slot 18 through which the shaft 15 passes. The slide 17 is normally resiliently held to the front end of its slot by a spring 17^a, in tension between a pin fixed to slide 17 and a pin fixed to the inner annular face of plate 19, but is resiliently slidable backwardly in the channel when a coin is pushed into the channel 16 through the slot 11 in the casing. A flat, annular closure plate 19 fits on the flat face of the disc 14 over the coin channel and the slide 17.

The invention includes means governed or set by the slide 17 to set the energy dispensing means for a predetermined quantity of energy. As embodied, on the opposite flat face of the disc 14 is formed a diametrally disposed guideway 24, within which is reciprocably mounted a thin, flat plate 25 having therein a slot 26 which straddles the shaft 15 to permit movement of the plate. Projecting outwardly from the flat outer face of the plate 25 are three series of pins or teeth 27, 28 and 29, the number of teeth in the series being proportional to the value of the coins which the machine is designed to receive. The teeth are adapted to engage selectively with the pinion 1, dependent on the position of the plate 25, and to rotate the pinion proportionately to the number of teeth which are thus placed in line with the pinion. The plate 25 is resiliently impelled outwardly by a spring 33, fixed to the periphery 13 of the disc 14, and engaging beneath a pin 34 projecting outwardly from the upper end of the plate 25.

The positioning of the plate 25 to bring the proper series of pins or teeth into register with the pinion 1 is governed or set by the position of the slide 17 in its slot, and the position of the slide is determined by the diameter of the coin inserted. As embodied, there are formed in the bottom edge of the slide 17 three notches or recesses 35, 36 and 37 corresponding to the three series of teeth 27, 28 and 29. Fixed to the plate 25, and projecting through the disc 14 and in engagement with the lower side of the slide 17, is a finger 39 adapted to cooperate with whichever slot 35, 36 or 37 is brought into register therewith by an inserted coin.

Means are provided for effecting a slightly delayed action on the settling means for the plate 25 after the coin is deposited, and this means coacts with the manual means for closing the switch and rotating the disc 14 to effect the setting corresponding to the deposited coin. As embodied, a non-rotating cam 45 is mounted in fixed position, by means of studs 45^a mounted in the flat end plate 10^a of casing 10, and in engagement with the rim of the cam is a finger 46 fixed to and extending out from the bottom part of the plate 25, the cam 45 and finger 46 holding the plate 25 retracted against the action of its spring 33. A manually-operated knob 47 on the exterior of the casing is fixed on a shaft 48, which shaft extends into the casing and is provided with the usual frictional damper or control. Fixed on shaft 48 is a collar 49, and integral with and extending from the collar 49 is an angled finger 50 which extends into an arcuate slot 51, formed in a beveled pinion 52 mounted loosely on the shaft 48. The pinion 52 is under impulsion in a clockwise direction by means of a spring 53 coiled about shaft 48, and connected to the hub 49 and to the pinion 52. The pinion 52 extends through a slot 55 formed in the stationary cam 45, and the pinion meshes with a beveled pinion 56 fixed on the shaft 15 of the disc 14. Also fixed on shaft 48 is a detent mechanism comprising a toothed wheel 59, and a spring detent 60 which holds the shaft 48 in position, but permits rotation in the direction indicated by the arrow on knob 47. Suitable switch-closing means are mounted on the shaft 48, shown as a cam 62 which closes the terminals 63 of the power switch. A suitable centrifugal brake is also provided in connection with the gear wheel 59, and comprises a worm 64 meshing with the gear wheel 59 and having a centrifugal brake 65 mounted on its shaft.

Mechanism which is operated by pinion 1, and which controls the power switch 63, for dispensing a predetermined amount of energy, is shown in Fig. 3.

When the knob 47 is turned, the cam 62 is moved past a resilient terminal of the power switch 63, and thus temporarily closes the switch. If before knob 47 is turned no coin has been inserted into the coin channel 16, shaft 2 is not moved when knob 47 is turned, and the switch contacts 63 open again immediately. However, if a coin has been introduced into the channel 16, the turning of knob 47 causes the advance shaft 2 to be turned (which operation is more fully explained hereinafter). Shaft 2 is connected by a differential gear, *e*, *f*, *g*, and by gearing *m*, *n*, with the driving disc *h* of the meter of the automatic vending machine, and by means of the differential gearing, shaft 2 is also connected with a disc *i* carrying a pin *k*. That is, the sun wheel *e* is fixed to rotate with shaft 2, and sun wheel *g* is fixed to a sleeve *g'*, to which sleeve is also fixed said gear wheel *m*, which is driven from the meter *h*. The planet wheel *f* is rotatable on an arm fixed on a shaft *i'*, on which is fixed the disc *i*. Shaft 2 thus rotates disc *i* in one direction and the meter rotates the disc in the opposite direction. A pivoted detent hook *l* is impelled by its spring *o* into position to snap beneath the movable resilient contact of switch 63 when it is moved to circuit closing position by cam 62, which cam is turned from the knob 47. As the switch contact is moved by cam 62, the contact engages the rounded nose of lever *l* and rocks it against spring *o*, and the lever then snaps back beneath the contact, holding it in closed position. At this time the tripping pin *k* is past the lever *l*, and as meter disc *h* is driven, the disc *i* will be rotated very slowly from the meter disc through the planetary gear, and after the purchased amount of energy has been consumed, pin *k* will trip lever *l* and the power circuit will open. If additional coins are deposited in the interim, disc *i* will be rotated in the opposite direction proportionately to the value of the later deposited coins.

Suitable stop means are provided between the disc 14 and the casing 10 for maintaining the disc normally in coin-receiving position and preventing its return thereto until after an inserted coin has been deposited and the mechanism is

ready for renewed operation. As embodied, a block 69 is fixed on the inner face of the casing 10, adjacent to the disc 14 and a pin 70 projects from the outer face of the slide 17 so as to engage the straight under edge 71 of the block 69 to hold the channel 16 in alinement with the opening 11 in the casing. Also fixed on the inner face of the casing 10 is a block 72, spaced from the block 69 sufficiently to permit the pin 70 to slide freely between them, and having its outer arcuate face positioned so that pin 70 can pass in front of it after a coin has been deposited and slide 17 is at the front end of channel 16. The block 72 has an angled inner face 73, the purpose of which will be later described. When disc 14 is in rotation its periphery 13 closes the coin slot 11.

The manner of operation of the foregoing mechanism is substantially as follows: The mechanism shown is designed for the British monetary system, and is adapted to receive pennies, six pence and shilling pieces. The mechanism may be regarded as in the position of Fig. 1 with the pin 70 against the flat under face 71 of the stop block 69. A coin is inserted in the slot 11 and thereby the slide 17 is pushed backwardly against the action of its spring a distance corresponding to the diameter of the penny, and this brings the slot 35 in the lower edge of the slide into register with the pin 39, which is fixed to the lower end of plate 25, and due to the movement of slide 17, pin 70 slides along the under surface 71 of stop block 69 until it is free therefrom. Pinion 52 has been under rotative impulsion from spring 53 but has been held from rotation because pin 70 was held by stop block 69. Now that pin 70 is free, spring 53 rotates beveled pinion 52 until the left-hand end of the slot 51 engages the bent finger 50. In the position now occupied by disc 14, the coin slot 11 is closed, but finger 46 has not yet dropped from x on the stationary cam 45. When knob 47 is turned, the holding finger 46 drops from x and thereupon the spring 33 lifts plate 25 so far as is permitted by the depth of the slot 35 into which the finger 39 passes. This brings the single tooth 27 on plate 25 in register with the pinion 1, and the customer thereupon imparts a half rotation to the knob 47, and as the pinions 52 and 56 are geared 1 to 2 this imparts a complete rotation of the disc 14. During that rotation tooth 27 engages pinion 1 and the pinion is rotated one tooth, and sets the setting mechanism to furnish a penny's worth of power. The coin drops from the slot 16 into a receptacle within the casing, the slide 17 is projected outwardly to the front end of the slot 16 by its spring, and pin 70 comes up outside the curved exterior of the block 72 and engages the bottom face 71 of the stop block 69, and the mechanism again stops in the position of Fig. 1. The finger 50, by the rotation of the knob 47, is brought to the forward end of the slot 51, and the pin 70 prevents rotation of the pinion 52 and the parts are in the position of Fig. 1.

If a shilling be inserted in the coin-receiving opening 11, the mechanism operates as already described, and the slot 36 in slide 17 is brought into register with the finger 39, and the plate 25 is moved outwardly by its spring the distance permitted by slot 36, so as to bring all three series of teeth 27, 28 and 29 into register with the broad faced pinion 1, which is advanced twelve teeth, as the disc 14 is rotated by knob 47, and gives a corresponding setting to the limit switch, so that it will dispense a shilling's worth of power. If a six pence is inserted in the mechanism, the slot 37 is brought into register with the finger 39, and teeth 27 and 28, will rotate the broad faced pinion 1 six teeth and give the corresponding setting to the limit switch.

If a coin should be inserted of any denomination other than those for which the mechanism is designed, it will push in the slide 17, and release the mechanism for rotation, but as none of the slots 35, 36 and 37 are brought into register with the finger 39, the gear teeth would not actuate the pinion 1 and no setting of the switch would result. If the knob 47 is not manually rotated through an entire half revolution, the slot in the disc 14 is not brought back into register with the coin-receiving slot 11 in the casing, and it is necessary to manually complete the half rotation of the knob 47 before another coin can be inserted. The stop 69 and pin 70 will prevent overthrow of the mechanism by the knob 47. In the event that with fraudulent intent a coin is made to stick in the chute 16 of the disc 14, the mechanism may be operated to secure a setting of the value of the coin, but as the coin did not drop out by gravity into the receptacle within the casing, as the disc 14 completes its rotation the pin 70 is in retracted position and will pass up on the inner side face 73 of the stop 72, and when it engages the face 73^a the mechanism will be stopped in a position where the coin cannot be extracted, nor can the mechanism be operated again until the casing has been opened by an authorized person.

In Fig. 5 is shown a different form of the settable means for proportionately rotating the pinion 1^b (corresponding to pinion 1). Therein the disc 14^b is rotatively mounted in the casing 10 and has the coin-receiving slot 16^b and the coin-actuated, spring-pressed slide 17^b, corresponding to the similarly numbered parts in the preceding figures. The use of various coins is shown by the broken-line circles in this figure and in Figs. 4 and 6. The shaft 2^b carrying pinion 1^b is resilient and is free at its inner end and so is laterally movable against detent spring 4^b (these reference numerals indicating like parts as the same numerals in previous figures) and the spring here also acts to resiliently hold pinion 1^b and 2^b in operative position. This figure is also shown adapted to the British coinage. The rear end of slide 17^b extends from the rear of disc 14^b and on the slide are three series of pinion-actuating teeth 111, 112 and 113, which are selectively brought into line with the pinion 1^b by the size of the deposited coin, as will be clear from Fig. 5. A plurality of spaced-apart rollers 114 are mounted on shaft 2^b, and on the face of slide 17^b is formed an arcuate rib 115. The three coins outlined represent a penny, a shilling and a six-pence. It will be seen that the penny brings the single tooth 111 in line to advance pinion 1^b a single tooth; the shilling will bring teeth 112 and 113 in line to advance pinion 1^b twelve teeth; and the six-pence will bring only the series of teeth 112 in line to advance pinion 1^b six teeth. In each of these cases the arcuate rib 115 will pass through one of the spaces between two of the rollers 114. However, if a coin of different size is inserted, the rib 115 will engage one of the rollers 114 and will lift shaft 2^b and pinion 1^b against its spring 4^b, out of operative relation with all of the teeth.

In Figs. 4 and 6 is shown another form of actuating means wherein there are within the casing 10 a coin drum 14^c, a coin chute 16^c and a

slide 17c, corresponding to the similarly numbered parts in the other figures. The rear part of slide 17c is formed into a narrow arm terminating in a transversely extending lug 120 adapted to selectively actuate any one of a plurality of ratchet wheels of a pawl and ratchet mechanism 1c. Said mechanism comprises a plurality of side-by-side ratchet wheels 1c, 1d and 1e fixed on shaft 2c of the switch setting mechanism. Loosely mounted on shaft 2c are three side-by-side pawl levers 121c, 121d and 121e, each carrying a spring-pressed pawl correspondingly marked 122c, 122d and 122e, engaging a corresponding ratchet wheel. The forward end of each pawl lever is held against its spring by a notch 124 in a corresponding spring-pressed lever 125, pivotally mounted at 126. These three levers 121c, 121d and 121e are of different lengths, corresponding to the diameters of the coins used, and they have at their lower ends, respectively, transversely extending fingers 129, 130 and 131, positioned at different radial distances with respect to the center of rotation of lug 120 of the coin positioned slide 17c, and are adapted to be selectively engaged by the finger 120 on the slide 17c when the corresponding coin is inserted. A series of stops 132, 133 and 134 limit the movement of corresponding lever 121 under the impulsion of its spring after it has been released by its detent notch 124. If a penny is inserted, lug 120 engages finger 129 and the corresponding lever 121 is freed and feeds ratchet 1c one tooth when the tail of the lever engages its stop pin 132. Fixed on the rotatable coin disc 14c is an outwardly projecting arm 137, having at its outer end a contact pin 138, and as the disc 14c rotates, pin 138 will engage the forward end of the actuated lever 121 and will swing it backwardly until it is again engaged and stopped against detent notch 124 on its particular holding lever. On the deposit of six-pence, the particular lever 121 will swing until it strikes pin 134, and it will feed the corresponding ratchet wheel 1c six teeth; and in like manner, on deposit of a shilling, a lever 121 will swing until stopped by pin 133 and will feed its ratchet wheel twelve teeth. If a coin of any other size is inserted, the lug 120 will pass between two of the fingers 129, 130 and 131 and the setting mechanism will not be actuated.

The invention is obviously not tied to the monetary system selected in the described examples of construction, also the number of coin values, which can be employed in a prepayment apparatus of this kind, may be more or less than three by suitably revising the coin actuating unit and corresponding operating mechanism.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What we claim is:

1. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin receiving slot, a rotatable drum, a coin channel in said drum having its entrance at the periphery of the drum and disposed transversely to its axis, a slide in said channel movable transversely to the drum axis by an inserted coin proportionally to the size of the coin, said slide closing the entrance to said channel at the periphery of the drum when in register with the coin receiving slot, and a plurality of movable operating members associated with said slide and movable by said slide to selected positions relative to said settable means, said positions corresponding to different diameters or values of coins for which the mechanism is designed, said operating members being selectively engageable with the settable means to dispense a corresponding amount of energy.

2. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin admitting opening, a flat circular rotatable disc, a receiving channel formed in a flat side of said disc for receiving a coin parallel to said flat side, a slide in said channel movable by an inserted coin proportionally to the diameter of the coin, a guideway in the opposite, flat face of said disc disposed transversely to said channel, a member slidable in said guideway and having a plurality of sets of teeth spaced apart radially of the disc, a pinion adapted to be operated by said teeth and connected to said settable means to measure the dispensed energy, and connections between said slide and slidable member whereby the coin effected position of the slide positions said slidable member to bring a desired set of teeth in register with the pinion when the disc is rotated to operate said pinion.

3. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin admitting opening, a flat circular rotatable disc, a receiving channel formed in a flat side of said disc for receiving a coin parallel to said flat side, a slide in said channel spring-impelled to close the slot at the periphery of the disc and movable by an inserted coin proportionally to the diameter of the coin, a guideway in the opposite, flat face of said disc disposed transversely to said channel, a member slidable in said guideway and having a plurality of sets of teeth spaced apart radially of the disc, a pinion adapted to be operated by said teeth and connected to said settable means to measure the dispensed energy, and connections between said slide and slidable member whereby the coin effected position of the slide positions said slidable member to bring a desired set of teeth in register with the pinion when the disc is rotated to operate said pinion.

4. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin admitting opening, a flat circular rotatable disc, a receiving channel formed in a flat side of said disc for receiving a coin parallel to said flat side, a slide in said channel movable by an inserted coin proportionally to the diameter of the coin, a guideway in the opposite, flat face of said disc disposed transversely to said channel, a member slidable in said guideway and having a plurality of sets of teeth spaced apart radially of the disc, spring means impelling said member in one direction and means governing the action of said spring means in relation to the rotation of the disc, a pinion adapted to be operated by said teeth and connected to said settable means to measure the dispensed energy, and connections between said slide and slidable member whereby the coin effected position of the slide positions said slid-

able member to bring a desired set of teeth in register with the pinion when the disc is rotated to operate said pinion.

5. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin admitting opening, a flat circular rotatable disc, a receiving channel formed in a flat side of said disc for receiving a coin parallel to said flat side, a slide in said channel spring-impelled to close the slot at the periphery of the disc and movable by an inserted coin proportionally to the diameter of the coin, a guideway in the opposite, flat face of said disc disposed transversely to said channel, a member slidable in said guideway and having a plurality of sets of teeth spaced apart radially of the disc, spring means impelling said member in one direction and means governing the action of said spring means in relation to the rotation of the disc, a pinion adapted to be operated by said teeth and connected to said settable means to measure the dispensed energy, and connections between said slide and slidable member whereby the coin effected position of the slide positions said slidable member to bring a desired set of teeth in register with the pinion when the disc is rotated to operate said pinion.

6. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin admitting opening, a flat circular rotatable disc, a receiving channel formed in a flat side of said disc for receiving a coin parallel to said flat side, a slide in said channel movable by an inserted coin proportionally to the diameter of the coin, a guideway in the opposite, flat face of said disc disposed transversely to said channel, a member slidable in said guideway and having a plurality of sets of teeth spaced apart radially of the disc, a pinion adapted to be operated by said teeth and connected to said settable means to measure the dispensed energy, connections between said slide and slidable member whereby the coin effected position of the slide positions said slidable member to bring a desired set of teeth in register with the pinion when the disc is rotated to operate said pinion, and means for starting said disc rotating immediately on the deposit of a coin.

7. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin admitting opening, a flat circular rotatable disc, a receiving channel formed in a flat side of said disc for receiving a coin parallel to said flat side, a slide in said channel movable by an inserted coin proportionally to the diameter of the coin, a guideway in the opposite, flat face of said disc disposed transversely to said channel, a member slidable in said guideway and having a plurality of sets of teeth spaced apart radially of the disc, a pinion adapted to be operated by said teeth and connected to said settable means to measure the dispensed energy, connections between said slide and slidable member whereby the coin effected position of the slide positions said slidable member to bring a desired set of teeth in register with the pinion when the disc is rotated to operate said pinion, and means for bringing the coin channel slide and the teeth equipped slide into cooperating relation after the disc has begun rotating.

8. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin-receiving slot, a rotatable drum, a coin channel in said drum having its entrance at the periphery of the drum and disposed transversely to its axis, a slide in said channel and means resiliently holding it in non-actuating position, the slide being movable for various distances along said channel by inserted coins of various denominations to positions corresponding to the diameter of an inserted coin, movable means carried by the drum and variably positionable to set the energy dispensing device to dispense a quantity of energy proportional to the value of an inserted coin and means on said slide adapted to engage said variably positionable means to selectively position said variably positionable means in accordance with the position of said coin-moved slide.

9. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination an enclosing casing having a coin-admitting slot, a rotatable member having a coin-receiving channel, a slide in said channel positioned in accordance with the size of an inserted coin, a pinion connected to settable means which are also connected to means to measure the dispensed energy, and means for proportionately rotating said pinion including series of pins arranged in different arcuate paths and corresponding in number to the values of received coin, and means positioned by said slide and having said pins fixed thereto for bringing into operative relation with said pinion the pins corresponding to the value of a particular deposited coin.

10. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination means settable to measure the dispensed energy, an enclosing casing having a coin-admitting slot, a rotatable member having a coin-receiving channel, extending transversely to the axis of rotation of said member, a slide in said channel positioned in accordance with the size of an inserted coin, a toothed wheel connected to said means settable to measure the dispensed energy, and means adapted to be connected to said toothed wheel for proportionately rotating said toothed wheel, including members mounted on said rotatable member and selectively engageable with said wheel to rotate it different distances, said members normally being held out of engagement with said wheel by said slide, and means on said positionable slide and moved therewith in accordance with the size of a deposited coin for permitting a selected member to engage said toothed wheel in accordance with the value of the deposited coin.

11. A coin-controlled setting mechanism for an energy dispensing device including in combination settable means to measure the dispensed energy, an external enclosing casing having a coin admitting opening, a thin, flat rotatable disc having along a flat face thereof a coin channel adapted to receive a coin through said opening, a slide within said channel and movable along the channel by an inserted coin a distance corresponding to the size of the coin, a pinion connected to said settable means to measure the dispensed energy, and connections between said slide and pinion for rotating said pinion varying amounts dependent on the position of said member as determined by the inserted coin, comprising an interponent slidably and resili-

ently mounted on the flat face of the disc opposite said slide and a plurality of sets of teeth on said interponent corresponding to the value of received coins, and means for moving the interponent proportionately to the movement of said slide to bring a selected set of teeth into position to actuate said pinion.

12. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination settable means to measure the dispensed energy, an external enclosing casing having a coin admitting opening, a flat rotatable disc having along a flat face thereof a coin channel adapted to receive a coin through said opening, a member within said channel and movable along the channel by an inserted coin to a position corresponding to the size of the coin, a pinion connected to said settable device to measure the dispensed energy, selectable devices adapted to engage and actuate said pinion, and means adapted to move one of said selectable devices into position to engage said pinion, said member controlling the movement of said last-mentioned means.

13. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination settable means to measure the dispensed energy, an enclosing casing having a coin admitting opening, a rotatable disc having a radially disposed coin channel formed therein and extending inwardly from the periphery of the disc, a slide reciprocable in said channel and resiliently held to close the peripheral opening of the slot, said slide being moved inwardly in its channel by an inserted coin a distance corresponding to the size of the coin, means for normally holding said disc in coin-receiving position and for releasing the disc for a unit rotation on insertion of a coin and the inward movement of said slide thereby, a pinion connected to said settable means to measure the dispensed energy, an interponent reciprocably mounted on said disc to move transversely to said slide, a plurality of series of teeth mounted at different radial distances on said interponent for imparting different amounts of rotation to said pinion, connections between said slide and interponent whereby the interponent and its series of teeth are positioned to correspond to the deposited coin, and means for preventing the disc returning to coin-receiving position unless the coin is discharged from the channel within the casing.

14. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination settable means to measure the dispensed energy, an enclosing casing having a coin admitting opening, a rotatable disc having a radially disposed coin channel formed therein and extending inwardly from the periphery of the disc, a slide reciprocable in said channel and resiliently held to close the peripheral opening of the channel, said slide being moved inwardly in its channel by an inserted coin a distance corresponding to the size of the coin, means for normally holding said disc in coin-receiving position and for releasing the disc for a unit rotation on insertion of a coin and the inward movement of said slide thereby, a pinion connected to the said settable means to measure the dispensed energy, an interponent reciprocably mounted on said disc to move transversely to said slide, a plurality of series of teeth mounted at different radial distances on said interponent for imparting different amounts of rotation to said pinion, and connections between said slide and interponent whereby the interponent and its series of teeth are positioned to correspond to the deposited coin.

15. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination settable means to measure the dispensed energy, an enclosing casing having a coin admitting opening, a rotatable disc having a radially disposed coin channel formed therein and extending inwardly from the periphery of the disc, a slide reciprocable in said channel and resiliently held to close the peripheral opening of the channel, said slide being moved inwardly in its channel by an inserted coin a distance corresponding to the size of the coin, means for normally holding said disc in coin-receiving position and for releasing the disc for a unit rotation on insertion of a coin and the inward movement of said slide thereby, a pinion connected to said settable means to measure the dispensed energy, an interponent reciprocably mounted on said disc to move transversely to said slide, a plurality of series of teeth mounted at different radial distances on said interponent for imparting different amounts of rotation to said pinion, connections between said slide and interponent whereby the interponent and its series of teeth are positioned to correspond to the deposited coin, and means for imparting rotation to said disc when released by its holding means.

16. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination settable means to measure the dispensed energy, an enclosing casing having a coin admitting opening, a rotatable disc having a radially disposed coin channel formed therein and extending inwardly from the periphery of the disc, a slide reciprocable in said channel and resiliently held to close the peripheral opening of the channel, said slide being moved inwardly in its channel by an inserted coin a distance corresponding to the size of the coin, means for normally holding said disc in coin-receiving position and for releasing the disc for a unit rotation on insertion of a coin and the inward movement of said slide thereby, a pinion connected to said settable means to measure the dispensed energy, an interponent reciprocably mounted on said disc to move transversely to said slide, a plurality of series of teeth mounted at different radial distances on said interponent for imparting different amounts of rotation to said pinion, connections between said slide and interponent whereby the interponent and its series of teeth are positioned to correspond to the deposited coin, means for imparting rotation to said disc when released by its holding means, a spring impelling said interponent into operative relation with said slide, and a cam controlling the action of the spring on the interponent.

17. A coin-controlled setting mechanism for an energy dispensing device settable to dispense measured quantities of energy, including in combination settable means to measure the dispensed energy, an enclosing casing having a coin admitting opening, a rotatable disc having a radially disposed coin channel formed therein and extending inwardly from the periphery of the disc, a slide reciprocable in said channel and resiliently held to close the peripheral opening

of the channel, said slide being moved inwardly in its channel by an inserted coin a distance corresponding to the size of the coin, means for normally holding said disc in coin-receiving position and for releasing the disc for a unit rotation on insertion of a coin and the inward movement of said slide thereby, a pinion connected to said settable means to measure the dispensed energy, an interponent reciprocably mounted on said disc to move transversely to said slide, a plurality of series of teeth mounted at different radial distances on said interponent for imparting different amounts of rotation to said pinion, connections between said slide and interponent whereby the interponent and its series of teeth are positioned to correspond to the deposited coin, means for imparting rotation to said disc when released by its holding means, means for bringing the connections between the slide and interponent into operation after the disc has begun rotating, and manual means external to the casing for completing the unit rotation of said disc.

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