

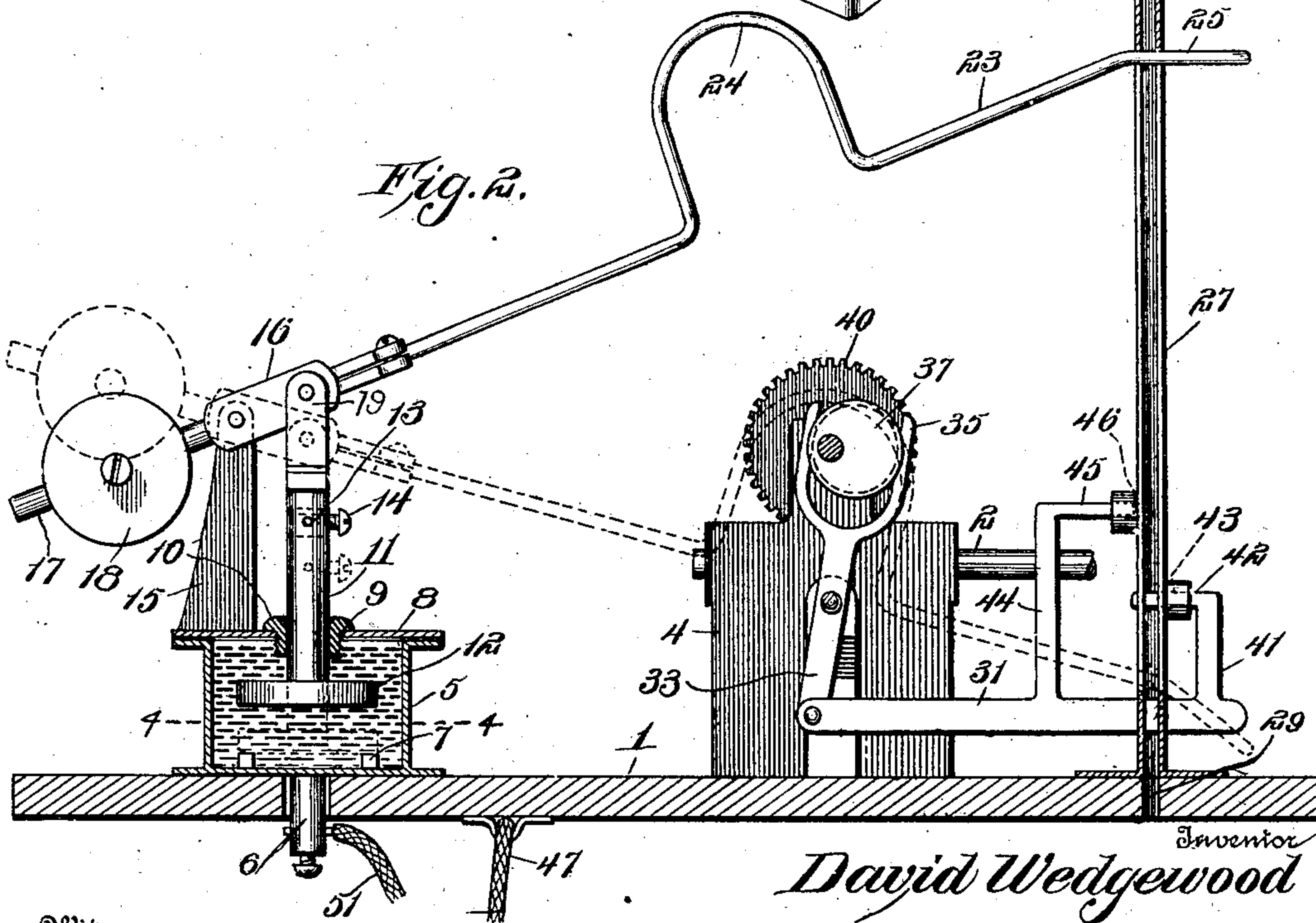
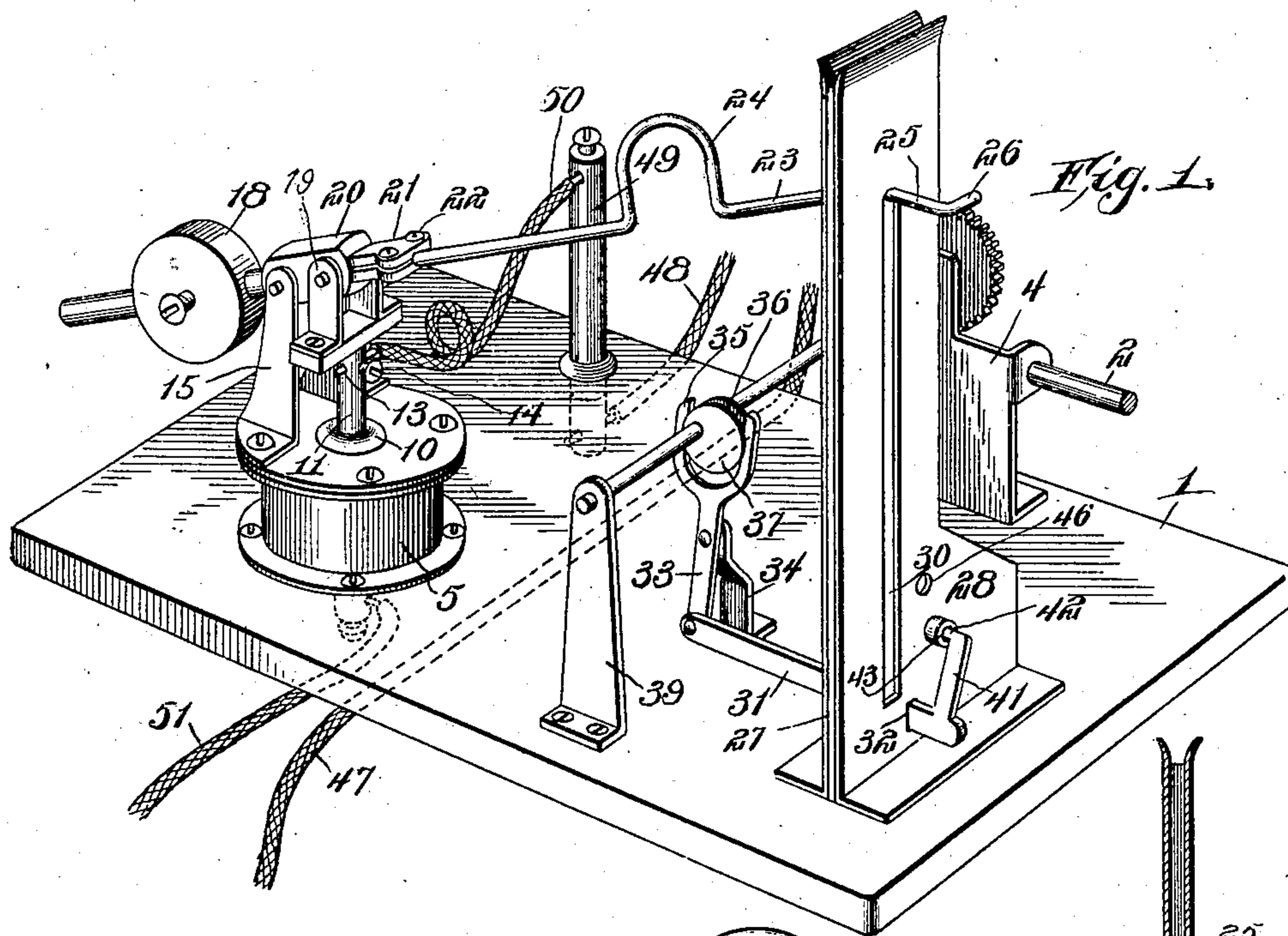
No. 884,247.

PATENTED APR. 7, 1908.

D. WEDGEWOOD.
COIN CONTROLLED APPARATUS.

APPLICATION FILED MAY 29, 1906.

2 SHEETS—SHEET 1.



Witnesses

Louis R. Heinichs
D. W. Gould.

David Wedgewood

By Victor J. Evans.

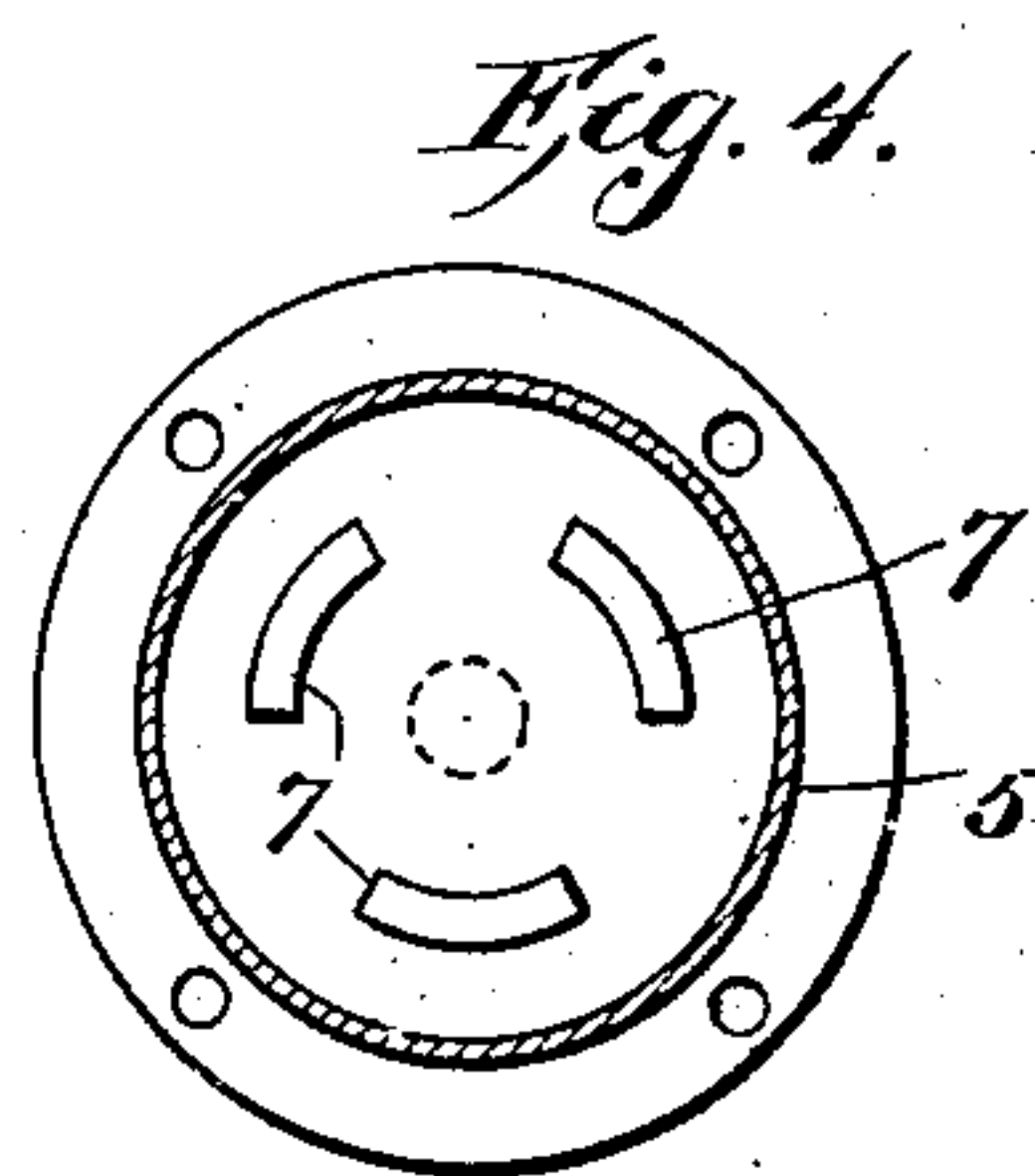
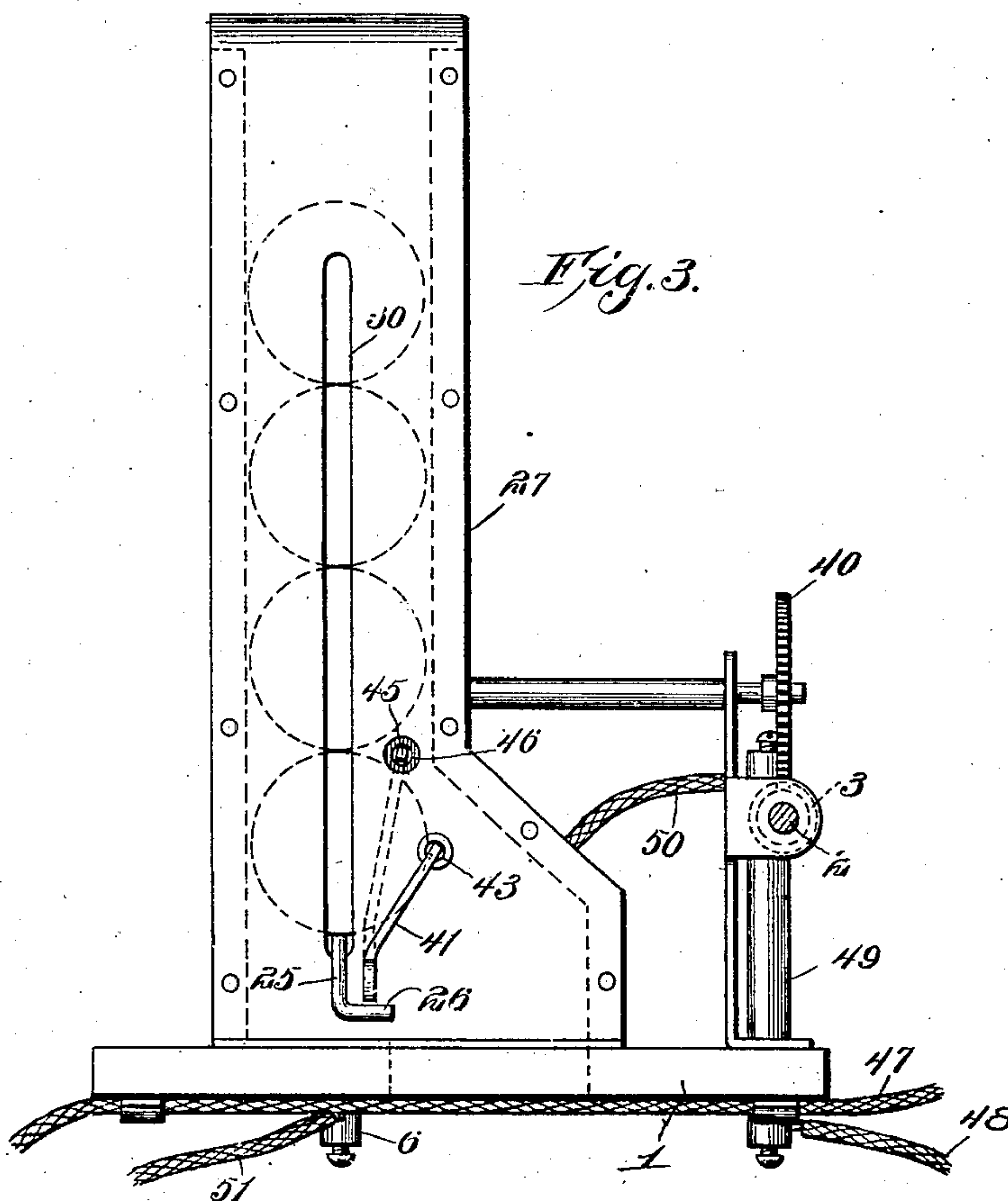
Attorney

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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID WEDGEWOOD, OF PETERBORO, ONTARIO, CANADA.

COIN-CONTROLLED APPARATUS.

No. 884,247.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed May 29, 1906. Serial No. 319,372.

To all whom it may concern:

Be it known that I, DAVID WEDGEWOOD, a subject of the King of Great Britain, residing at Peterboro, in the Province of Ontario and Dominion of Canada, have invented new and useful Improvements in Coin-Controlled Apparatus, of which the following is a specification.

This invention relates to an improvement in coin controlled apparatus designed primarily for attachment to electric meters and adapted in use to control the operation of the meter, and therefore, the supply of current, for a predetermined time in accordance with a coin to be deposited in the apparatus.

The main object of the invention is the construction of an attachment of the class described in which a plurality of coins may be successively introduced during, or previous to the operation of the machine, the construction providing for the automatic control of the machine by such coins in succession, whereby a number of coins of the predetermined value may be introduced into the machine and the automatic operation of the latter maintained in ratio corresponding to the cumulative amounts of the deposited coins.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a perspective view of a device constructed in accordance with my invention. Fig. 2 is a vertical section of the same, parts being shown in elevation. Fig. 3 is an end view of the same, and Fig. 4 is a section on line 4—4 of Fig. 2.

Referring particularly to the drawings, my improved apparatus comprises a base 1, preferably positioned immediately adjacent the ordinary form of electric meter (not shown). The motor shaft 2, common to such meters, is extended beyond the meter casing and terminally provided with a worm gear 3, said shaft being preferably supported in a bracket 4 rising from the base 1.

The circuit breaker included in the apparatus is supported on the base 1, preferably including a cylindrical receptacle 5 supported directly upon the base, the bottom of the receptacle being provided with a binding post extension 6 to project through and extend below the base. The upper surface of the receptacle bottom is provided with

contact points 7, preferably three in number and arranged in a concentric plane, as clearly shown in Fig. 4. The binding post 6 is, of course, in metallic connection with the points 7, so that said post serves in effect as an extension of said points. The receptacle 5 is provided with a cover 8 designed to close the upper end thereof and formed with a central opening 9 to receive a gasket 10, preferably of yielding and insulating material, as rubber or the like. A plunger 11 is movable through the gasket 10, carrying at its lower end a head 12 designed when the plunger is at the limit of its lower downward movement to engage and form an electrical contact with the points 7, as will be obvious. The plunger 11 is, in effect, a binding post for the second terminal of the brake, being for such purpose provided with an opening 13 and a set screw 14 traversing the plane of the opening, as is usual.

Bracket arms 15 extend in spaced relation from the cover 8, pivotally supporting at their upper ends, a lever 16, hereinafter termed the contact lever. Rearwardly beyond the pivotal point, the lever is extended in the form of a rod 17, on which is adjustably mounted a counter-poise 18 designed to overbalance the forward portion of the lever and to normally maintain the rear end thereof depressed. The upper end of the plunger 11 is provided with a bifurcated bracket 19, the vertically extending arms of which are pivotally connected to the lever, in advance or forward of the pivotal point. By preference, the body of the lever comprises a rectangular block 20 in the rear end of which is secured the rod 17, while in the forward end is secured a pair of superimposed plates 21 arranged for clamping engagement through the medium of screws 22 and centrally and longitudinally provided with semi-cylindrical recesses in their approximate faces to provide for the reception of a rod 23 extending forwardly from the lever to the desired extension. While preferring this specific form of lever, it is obvious that the same is not primarily essential, and I contemplate any specific construction of lever that may be desired. The rod 23 at some distance forward of its connection with the lever body, is bent upwardly into U form, as at 24, to provide for the downward movement of the lever without interference with the operating parts to be later described. The forward end of the lever is bent at an

angle to the main length thereof, as at 25, with the terminal of such portion 25 bent laterally to provide an extension 26, for a purpose which will hereinafter appear.

5 A coin chute 27 is arranged at the forward end of the base, said chute comprising the usual face plates outwardly bent at the upper end to provide a flaring mouth and including an interior space of a size to receive
10 the predetermined coin. At the lower end, the chute is widened, as at 28, in one direction, and the interior of the chute is in open communication through an alined slot 29 in the base with any desired form of coin receptacle, for the storage of the coin. The
15 plates of the chute are each provided with a centrally arranged, vertically extending slot 30 to provide an opening in the chute for the reception of the angular portion 25 of the arm 23, the lengths of the slots 30 serving to limit the respective movements of the arm. The lever arm 23 is so positioned within the opening in the chute that the lateral extension 26 at the free end of said arm is normally
20 disposed in advance of the forward wall of the chute and wholly to one side of the plane of the opening.

To provide for locking the contact lever in operative or contacting position, I provide a
30 bar 31 and mount the same for sliding movement through an opening 32 formed in the chute below the slots 30 and slightly to one side thereof. The rear end of the bar 31 is pivotally connected to the lower end of a cam
35 lever 33 pivotally supported intermediate its ends upon a bracket 34 projecting from the base, and bifurcated at its upper end to provide arms 35 arranged to seat within a peripheral groove 36 of a disk 37 eccentrically
40 supported upon a rod or shaft 38, so that the revolution of said disk will rock the lever 33 and thereby reciprocate the bar 31. The shaft 38, which is disposed transverse to the length of the base is supported at one end in
45 a bracket 39, and at the opposite end in the bracket 4, said latter end of the shaft being provided with a pinion 40 in mesh with the worm gear 3 on the motor shaft 2 hereinbefore described. By this construction, the
50 operation of the motor will cause a reciprocal movement of the bar 31.

Forwardly beyond the chute, the rod 31 is provided with an angularly extending arm 41, the upper end of which is provided with a
55 rearwardly extending pin 42, designed to operate through an opening 43 formed in the wall of the chute, so that in the reciprocation of said bar, the pin 42 will be projected transverse the coin space within the chute. In
60 rear of the chute, the bar 31 is provided with a second angularly disposed arm 44 provided at its upper end with a forwardly projecting pin 45 designed to enter an opening 46 formed in the wall of the chute, so as to
65 arrange the pin transverse the coin opening

in the operation of the bar. The arms 41 and 44 are disposed at slightly different angular relations with the bar 31, and are of different lengths. The arm 41 is disposed at such angle relative to the bar 31 that the pin 70 42 of said arm coöperates with the extended portion of the chute in alinement with one wall of the coinway in the chute above the extension, while the arm 44 is of greater length than the arm 41 and disposed at a less 75 angle to the bar 31. The pin 45 of the bar 44, by this arrangement, coöperates with the coin chute practically at the juncture of the extension therewith, and within the plane of the coinway, so that the pin 45, when dis- 80 posed transverse the coinway, is in the plane of the descending coin, while the pin 42 is slightly beyond the edge of the operative coin, as will later appear.

One of the conductors, as 47, leads from 85 the meter unbroken to the point of application, the remaining conductor 48 being connected to a binding post 49 fixed in the base 1, from which binding post, a conductor 50 extends to the opening 13 in the plunger 11, 90 thus arranging one contact of the circuit breaker in the circuit, a conductor 51 leading from the binding post 6 of the fixed contact to the point of application. It is, of course, understood that the current within 95 the meter is to be directed to a suitable resistance if desired, so as to avoid burning out of the meter.

In the normal position of the parts, the free end of the bar 23 of the contact lever is 100 disposed at the upper end of the slots 30 of the coin chute, being limited in movement by the upper wall of said slots. The cam disk 37 is disposed at its forward limit of throw; that is, in a position to maintain the 105 locking bar 31 in fully retracted position. The relative disposition of the pins 42 and 43 of this bar is such that when one of said pins is within the coinway, the other is removed therefrom, so that in the normal position of the parts, the pin 42 is disposed transverse the coinway, while the pin 45 is wholly withdrawn therefrom. Assuming the parts in this position, the introduction of a coin 115 of the predetermined value into the coin chute will depress the contact lever to the limit of downward movement, causing the plunger 11 to be depressed and engage the fixed contact 7, thereby establishing or completing the circuit in an obvious manner. 120 The motor carried by the meter being started on the completion of the circuit, revolves the shaft 2 and, through the pinion 40, operates the cam disk to project the bar 31 in a forward direction. The relative arrangement of the bar 31 with the lower wall 125 or limit of the slots 30, in connection with the angular projection of the end 25 of the contact lever, is such that in the lowered position of said lever, the lateral projection 26 130

thereof is disposed slightly in advance and below the operative plane of the forward end of the locking bar 31. As this bar advances, the pin 42 is withdrawn from the coinway and the coin permitted to move laterally into the extension 28 of the coin chute and drop into the coin receptacle. The forward movement of the bar 31 also disposes the free end thereof above the lateral extension 26 of the contact lever, holding said lever in lowered or contacting position. This position of the bar 31 will be maintained until the cam disk has made a complete revolution and withdrawn the end of the bar from holding position with relation to the lever, so that the contact and, therefore, the supply of current will be maintained during a practically complete revolution of the cam disk. As the revolution of the shaft 2, and therefore the movement of the cam disk, may be regulated in accordance with the amounts of current to be supplied for the particular coin, it is obvious that an equal amount of current will, in the operation of the machine, be always supplied under the influence of the particular coin. The withdrawal of the bar 31 from holding position permits the counter-poise 18 to return the lever to normal or elevated position, thereby breaking the circuit and cutting off the supply of current at the point of use.

The above operation has been described in the use of the machine with a single coin. It is highly desirable, however, in order to avoid unnecessary delay and momentary lack of power, that a number of coins of the predetermined value be deposited in the coin chute. Provision is made in the above described structure for such deposit of duplicate coins, which are so supported as to have successive operative effect upon the mechanism.

Referring particularly to Fig. 3, wherein is illustrated a plurality of coins, it will be noted that the lowermost or operative coin is disposed upon the free end of the contact lever with the edge resting against the pin 42. The second coin is resting above and in contact with the operating coin, and also above the operative path of the pin 45 of the arm 44. With a number of coins arranged in the chute for successive operation, the forward movement of the bar 31 under the influence of the cam disk will withdraw the pin 42 from engagement with the operating coin and permit said coin to move into the coin receptacle, as previously described. This movement of the bar 31 also projects the pin 45 transverse the coinway and thereby supports the second coin in elevated position. In this arrangement of the parts, the contact lever is being held in operative position by the bar 31, the operating coin having been discharged into the coin receptacle. As the bar 31 returns to normal position, tending to

permit the contact lever to move to inoperative position, the pin 45 is gradually withdrawn from the coinway, permitting the second coin to fall on to the contact lever and hold the same in operative position until the bar 31 returns to a fully projected position and locks the lever. The coins are thus successively and automatically moved into operative relation with the lever, the locking bar 31 serving, when returned to normal position, to permit a breaking of the circuit, to automatically release the lowermost coin and permit it to gravitate to an operative relation with the contact lever.

The device is wholly automatic, and the length of current supply is limited solely by the number of coins placed in the coin chute. As said chute may be of any size desired, it is obvious that the apparatus permits of the deposit of any number of the predetermined coins at one time, which coins are successively and automatically disposed in operative position in the operation of the apparatus.

Having thus described the invention what is claimed as new, is:—

1. The combination with an electric meter, of a coin controlled apparatus included in the service circuit from the meter, said apparatus comprising circuit terminals normally spaced to break the service circuit, and coin actuated means to close the service circuit, said means being initially operated by the weight of the coin, and means independently of the coin for locking the closing means in operative position, the locking means releasing the coin from operative relation to the closing means immediately succeeding its initial function as a locking means.

2. The combination with an electric meter, of a coin controlled apparatus included in the service circuit from the meter, said apparatus comprising circuit terminals normally spaced to break the service circuit, and coin actuated means to close the service circuit, said means being initially operated by the weight of the coin, and means independent of the coin for locking the closing means in operative position, the locking means including an element arranged for releasing the coin from operative relation to the closing means and preventing the operative influence of the succeeding coin.

3. A coin controlled apparatus comprising a circuit closer, means to permit a coin to operate said closer, and means independent of the coin for automatically locking the circuit closer in the position resulting from the operation of the coin, said means normally holding the coin in position to maintain the circuit closer in operative position and securing the succeeding coins in a position to prevent their acting on the circuit closer.

4. A coin controlled apparatus for electric meters comprising means for closing the

meter circuit by the deposit of a coin, and means independent of the coin to alternately and automatically release succeeding coins into closing position and locking the circuit closing means in coin operated position.

5 5. A coin controlled apparatus for electric meters comprising means for closing the circuit by the weight of one coin of a series, and means independent of the coin for discharging the coin and locking the circuit closing means in operative position, the operation of said latter means permitting a subsequent coin of the series to move into operative position.

15 6. A coin controlled apparatus for electric meters comprising a coin operated means for closing the circuit, and means for discharging the coin from operative position, said means operating independently of the coin and serving to secure the parts in coin operated position after the discharge of the coin and hold succeeding coins beyond operative position.

20 7. A coin controlled apparatus for electric meters arranged to receive a simultaneous deposit of a number of coins, said apparatus comprising means for closing the circuit by a coin of the series, and means operating independently of the coin to automatically permit the succeeding coins to assume an operative position and simultaneously lock the circuit closing means in operative position.

25 8. An electric meter coin controlled apparatus including a coin chute to simultaneously receive a series of coins, means for closing the circuit by the first coin of the series, and means for locking the parts in operative position independent of the operating coin, said means serving to lock out the succeeding coins of the series.

30 9. An electric meter coin controlled apparatus comprising a chute to simultaneously receive a series of coins, locking means operating independently of the coins to hold the parts in position resulting from the operation of the first coin of the series, said locking means being arranged to support the successive coins out of operative position.

35 10. An electric meter coin controlled apparatus comprising a chute to simultaneously receive a series of coins, locking means operating independently of the coins to hold the parts in position resulting from the operation of the first coin of the series, said locking means being arranged to support the successive coins out of operative position, and means for operating the locking means to release the parts from coin operated position and simultaneously permit the operative movement of the next succeeding coin of the series.

40 11. An electric meter coin controlled apparatus comprising a chute, a circuit closer

in the meter circuit, an arm connected to the circuit closer and disposed transverse the chute, and means operating independently of the coin for locking said arm in the position assumed under the operation of a coin deposited in the chute, said means permitting successive operative movement of the coins.

45 12. A coin controlled apparatus comprising a circuit closer, a lever operatively connected therewith, a coin chute, the end of the lever being disposed transverse the chute, a shaft operated in the movement of the meter, a locking bar disposed transverse the chute, a cam carried by the shaft for operating said bar, and pins projecting from said bar and arranged for travel transverse the coinway of the chute.

50 13. A coin controlled apparatus comprising a circuit closer, a lever operatively connected therewith, a coin chute, the end of the lever being disposed transverse the chute, a shaft operated in the movement of the meter, a locking bar disposed transverse the chute, a cam carried by the shaft for operating said bar, and pins projecting from said bar and arranged for travel transverse the coinway of the chute, one of said pins being disposed above the operative position of the influencing coin.

55 14. A coin controlled apparatus comprising a circuit closer, a lever operatively connected therewith, a coin chute, the end of the lever being disposed transverse the chute, a shaft operated in the movement of the meter, a locking bar disposed transverse the chute, a cam carried by the shaft for operating said bar, and pins projecting from said bar and arranged for travel transverse the coinway of the chute, the forward end of the bar being adapted in operative position to lock the lever of the circuit closer in coin influenced position.

60 15. A coin controlled apparatus comprising a circuit closer, a lever operatively connected therewith, a coin chute, the end of the lever being disposed transverse the chute, a shaft operated in the movement of the meter, a locking bar disposed transverse the chute, a cam carried by the shaft for operating said bar, and pins projecting from said bar and arranged for travel transverse the coinway of the chute, one of said pins being disposed above the operative position of the influencing coin, the other of said arms being disposed in position to support the coin in influencing relation to the lever.

In testimony whereof, I affix my signature in presence of two witnesses.

DAVID WEDGEWOOD.

Witnesses:

SAMUEL BROWN,
JOHNSON GREER.