E. RICHTER.

COIN ACTUATED MECHANISM.

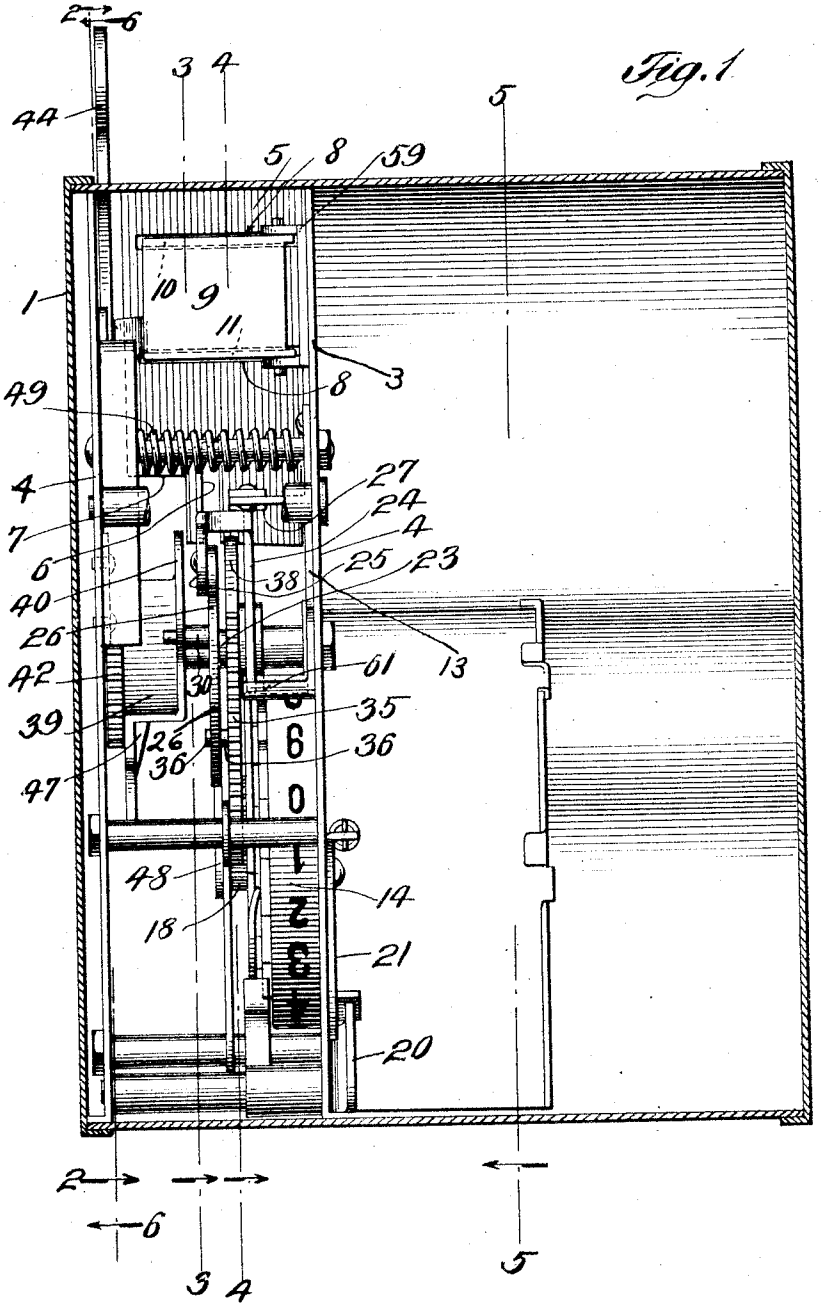
APPLICATION FILED JUNE 14, 1912. RENEWED JULY 16, 1915.

1,257,274.

Patented Feb. 19, 1918.

4 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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4 SHEETS—SHEET 2.

Fig. 3.

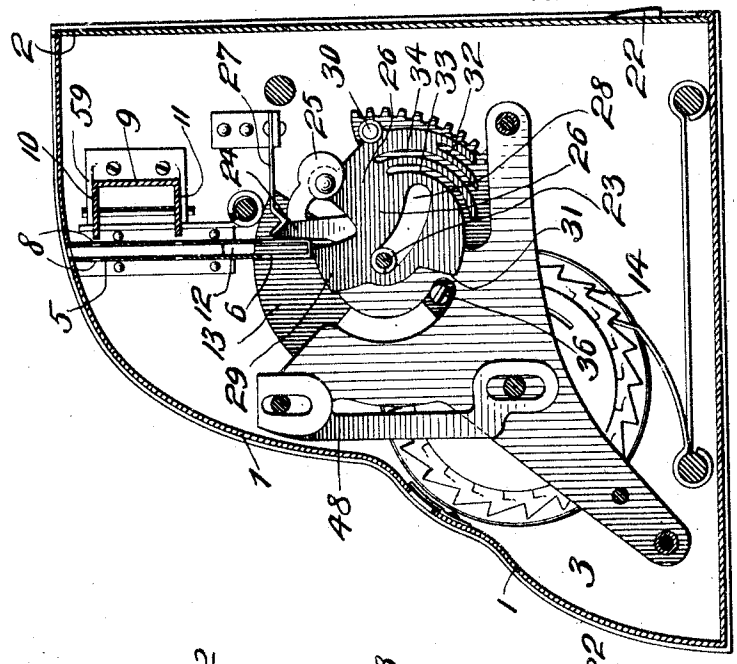
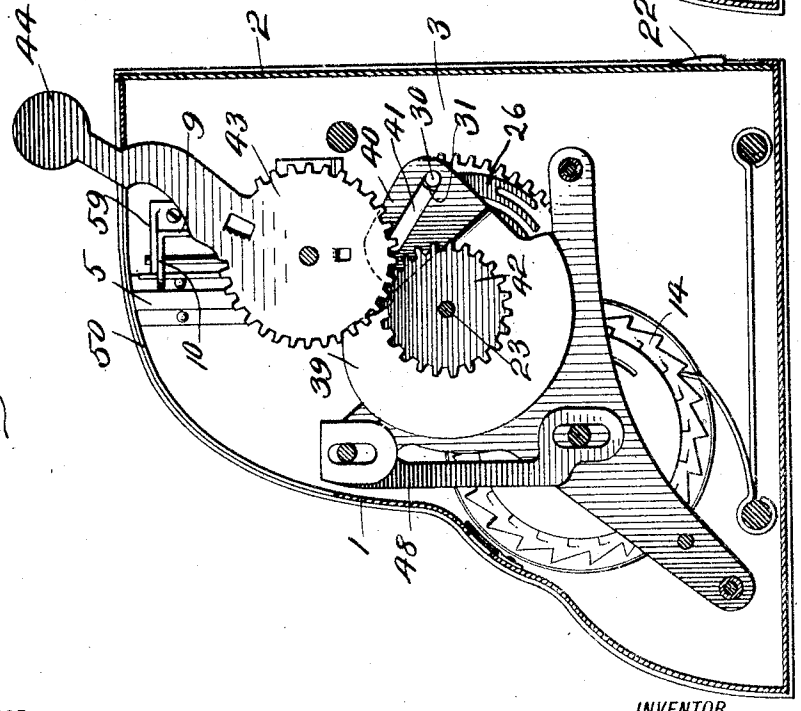


Fig. 2.



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4 SHEETS—SHEET 3.

Fig. 3.

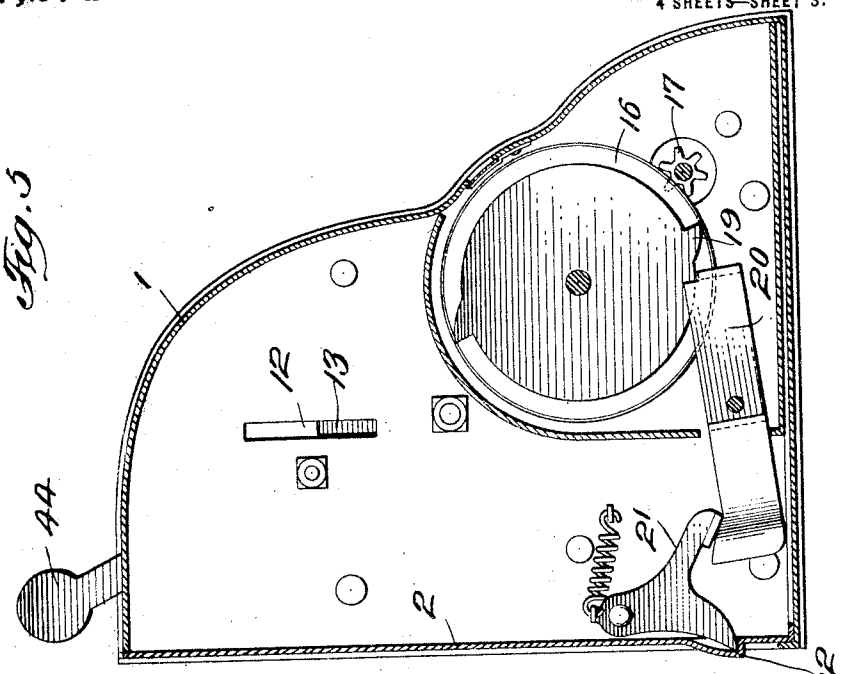
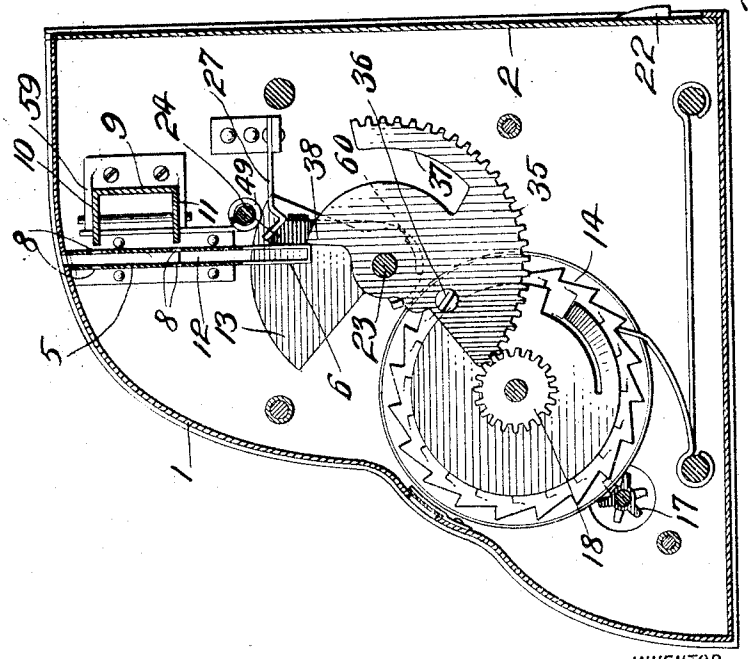


Fig. 4.



WITNESSES:

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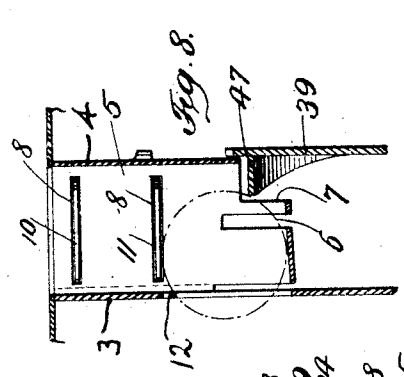
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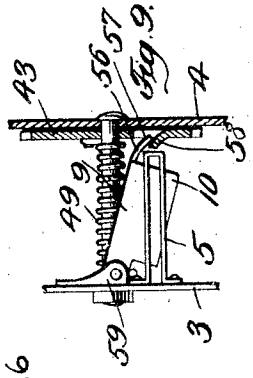
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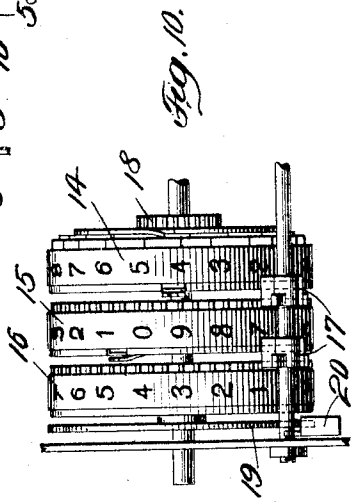
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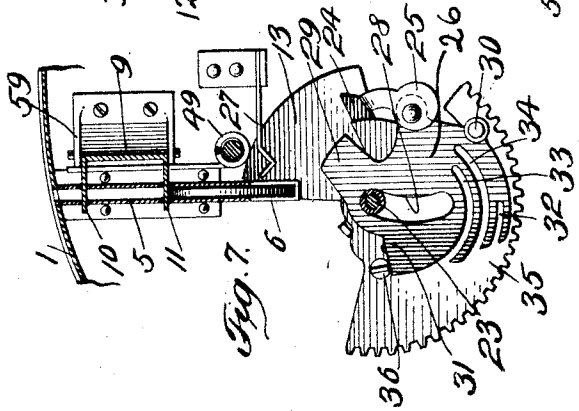
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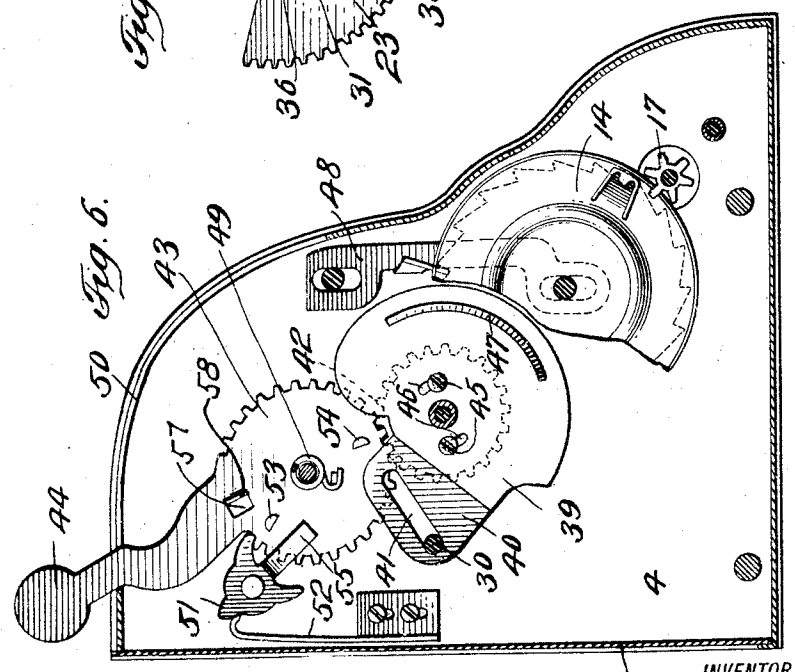
4 SHEETS—SHEET 4.











WITNESSES:

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UNITED STATES PATENT OFFICE.

EMANUEL RICHTER, OF CHICAGO, ILLINOIS.

COIN-ACTUATED MECHANISM.

1,257,274. Specification of Letters Patent. Patented Feb. 19, 1918.

Application filed June 14, 1912, Serial No. 703,617. Renewed July 16, 1915. Serial No. 40,327.

To all whom it may concern:

Be it known that I, EMANUEL RICHTER, a citizen of the United States of America, residing at 4841 Prairie avenue, Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Actuated Mechanisms, of which the following is a specification.

My invention relates to improvements in coin actuated mechanisms, and more particularly to a type thereof adapted to actuate a differentially operative mechanism in a degree determined by the dimensions of the coin delivered to said coin actuated mechanism.

The main object of the invention is to provide a coin actuated mechanism adapted to actuate a differentially operative mechanism, such as a register for use in coin receptacles or banks, wherein a coin of variable denomination delivered to a chute will cause the accurate positioning of the main actuating member of the coin mechanism so as to cause it to transmit movement to said differentially operative mechanism in a variable degree proportionate to the denomination of the coin delivered to the chute. A further object is to provide such a mechanism wherein the main actuating member will be normally inoperative as to said differentially operative mechanism, and will be made operative in relation thereto only by the depositing in a fixed chute of a coin of any denomination. A still further object is to provide a device of the character described embodying a main actuating member having an oscillatory movement about either of two pivots, said member being adapted to transmit movement to the differentially operative mechanism when oscillating about one pivot, and to be inoperative with relation thereto when oscillating about the other pivot, the coin delivered to the chute determining the amount of movement about said last named pivot to establish the desired operative relation of said oscillatory member to the means transmitting movement therefrom to said differentially operative mechanism. A still further object is to provide a device of the character herein described, embodying therein a fixed coin chute adapted to receive coins of different denominations, and a differentially operative mechanism, wherein said mechanism is adapted to be actuated to a variable degree as determined by the denomination of the coin deposited in said chute, by means of an oscillatory member under the control of a main actuating member having a constant quantity of movement. A still further object is to provide a device of this character employing a fixed chute, wherein upon the initiation of the movement of the controlling lever, access to the coin will be prevented and the coin will be confined within the chute in a manner to insure the proper control of the main actuating member thereby. A still further object is to provide a device of this character embodying a fixed chute adapted to receive coins of different denominations and permit movement of said coins therein under the control of the main actuating member to accurately position said main actuating member to impart a variable movement to the differentially operative mechanism or register. A still further object is to provide in a device of this character having a fixed chute with a discharge slot in the bottom thereof, means whereby said discharge slot is closed until after the main actuating mechanism has assumed its operative position relative to the interposed mechanism transmitting the movement of said actuating member to said differentially operative mechanism, while insuring the discharge of the coins from the chute prior to the return movement of the operating lever, thus preventing a repetition of the operation of said main actuating means by means of a single coin. A still further object is to provide a device of the character immediately above specified wherein the coin at a predetermined moment will be positively forced from the chute so as to eliminate any possibility of its sticking in the chute and thus interfering with any of the operative mechanisms in the machine or permitting the repetition of the movement of the actuating mechanism without the insertion of another coin. A still further object is to provide a device of this character wherein the main actuating member will be comprised of two members, one of which is adapted to have movement independently of the other member to insure the accurate positioning of said member, and simultaneously therewith during the actual actuation of the differentially operative mechanism, means being provided for preventing movement of one of said members till the other is in the proper operative or inoperative relation to the transmission mechanisms interposed be-

tween said actuating member and the differentially operative mechanism. A still further object is to provide in a mechanism of this character, means whereby the main operating lever is so controlled as to necessitate a full stroke thereof in either direction before a return stroke thereof, in order to prevent a repeated partial actuation of the differentially operative mechanism before the ejection or discharge of the coin, means being provided whereby this controlling mechanism will be automatically actuated at the end of each stroke of said operating lever to permit the reversal of the direction of movement of the lever after the completion of each stroke. A still further object is to provide a device of this character having a fixed chute adapted to receive coins of different denominations, and means adapted to confine the coins deposited within this chute to prevent the removal thereof and at the same time limit that movement thereof necessary to accurately position the main actuating member, which means will be actuated prior to the initial actuation of the said main actuating member in order to prevent such excessive movement of the coin as might make said main actuating member inoperative. And a still further object is to provide in conjunction with a coin actuated mechanism of this character and a differentially operative mechanism actuated thereby, means under the control of said differentially operative mechanism whereby the coins discharged from said coin actuated mechanism will be inaccessible until said differentially operative mechanism has been operated to a certain predetermined extent, at which time said means will be automatically rendered inoperative to permit access to said coins.

The invention consists in such novel features of construction, and combination of parts, as are hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings:—

Figure 1 is a rear view in vertical section of a coin actuated mechanism embodying my invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

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

Fig. 4 is a section on the line 4—4 of Fig. 1;

Fig. 5 is a section on the line 5—5 of Fig. 1;

Fig. 6 is a section on the line 6—6 of Fig. 1;

Fig. 7 is a detail elevation of the main actuating mechanism, and the interposed member transmitting movement therefrom to the differentially operative mechanism;

Fig. 8 is a detail view of the coin chute and the ejector mechanism;

Fig. 9 is a detail plan view of the coin chute shutter and controlling lever; gear and

Fig. 10 is a detail view of the registering or differentially operative mechanism usually connected with my coin actuated mechanism.

Like numerals refer to like parts throughout the several views.

My invention is especially applicable for use in connection with so-called registering banks, adapted to receive coins of different denominations, wherein the essential characteristics are that the registering mechanism shall be actuated by a controlling lever operating a coin actuated mechanism between which and the registering mechanism is interposed a transmission mechanism, the quantity of movement of said interposed mechanism being variable in accordance with the dimension of the coin inserted in the bank. When a certain amount has collected in the bank, as determined by the registering mechanism, means are automatically actuated to release the closure of the bank in order to permit access thereto for the removal of the accumulated coins.

In the form of my invention shown, the bank casing is indicated by the numeral 1, and the removable closure therefor by the numeral 2. Mounted within the casing 1 are plates 3, 4, spaced apart by means of suitable tie rods. Carried by one of these plates as 3, and alined with a slot in the casing 1, is a chute 5 projecting toward the other side plate but spaced away therefrom sufficiently to leave clearance for the operating lever. This chute is so mounted as to have gravity cause the coins to be sent to the bottom thereof, which bottom is closed with the exception of the slot 6 extending centrally therethrough, and the recessed portion 7 adjacent to the free end thereof. Extending through both sides of the chute 5 are the horizontal parallel slots 8 adapted to receive the two tongues 10 and 11 of a receiving shutter 9, the function of which is to prevent the withdrawal of a coin from the chute and at the same time confine the coin adjacent to the bottom of the chute in a manner to form a resistance to the movement of the coin by the main actuating member in a manner to react upon this member so as to position it relative to the interposed mechanism in a manner to vary the quantity of movement of this transmission mechanism as determined by the diameter or denomination of the said coin.

Extending through the plate 3 is a discharge slot 12, communicating with the chute 5, the coin in the chute escaping through this slot into the casing 1. To pre-

vent the premature escape or discharge of a coin, I provide an oscillatory shutter 13, mounted on the shaft 23 and normally obstructing the slot 12, but being adapted to open this slot at a predetermined interval of the actuation of the device.

Mounted adjacent to the bottom of the plates 3 and 4 is a differentially operative mechanism comprising a registering mechanism including therein a plurality of digit wheels 14, 15 and 16 having a carrying or transfer mechanism 17, the first of these digit wheels having attached thereto by means of a pawl and ratchet mechanism, a gear 18, through which this mechanism is actuated.

The last of these wheels as 16, has mounted thereon a tappet 19, adapted to actuate a lever 20 controlling the spring pressed pawl 21, adapted to seat in a socket 22 in the closure 2. When this wheel 16 has been actuated to the desired extent, the lever 20 will be oscillated and will disengage the pawl 21 from its socket 22 in a manner to permit the removal of the closure 2 to afford access to the coin receiver.

Mounted upon the shaft 23 is what may be termed the main actuating member, comprising a right angular arm 24 carrying a projection 25 upon which is pivotally mounted an oscillatory plate 26. The arm 24 is acted upon by a spring detent 27, the function of which is to hold this arm stationary until the plate 26 has passed through the slot 6, engaged the coin and forced it against the arm 11 of the receiving shutter 9, whereupon the resistance encountered by the said plate will overcome the said detent 27 and cause said arm 24 to oscillate simultaneously with the plate 26.

Hence it will be observed that the main actuating member comprises two elements, one of which as the plate 26 is adapted to oscillate independently of the other as the arm 24 for that portion of its operative movement necessary to accomplish the setting of the member, and then operate simultaneously therewith to accomplish the actuating of the registering or differentially operative mechanism through the interposed transmission mechanism. The plate 26 is provided with a segmental slot 28 inclosing the shaft 23, the arc of which extends about the point of pivotal connection of the plate 26 with the extension 25, as a center.

The plate 26 is provided with an extension 29 having a curved periphery adapted to enter the slot 6 in the chute 5 and force a coin contained in said chute upwardly until it engages the arm 11 of the delivery shutter 9.

The plate 26 also carries a stud 30 preferably provided with an anti-friction sleeve, and between the projection 29 and said stud 30 are a shoulder 31 and three slots 32, 33, and 34, concentric with the axis of the shaft 23, which shoulder and slots constitute a coupling means whereby a differential movement may be imparted to the registering mechanism through the interposed transmission mechanism. The position of said shoulder and the length of said slots define the extent of movement of said transmission mechanism and the point of initial engagement between the plate 26 and said transmission mechanism.

The stud 30 is carried by the pivotally mounted plate 26.

Mounted upon the shaft 23 is a segmental gear 35 meshing with the gear 18, this gear constituting the transmission mechanism interposed between the main actuating mechanism and the differentially operative mechanism or register. Carried by the said gear 35 is a post 36 adapted to be engaged by the shoulder 31 or enter any of the slots 32, 33, 34 and engage the plate 26 at the end thereof. The said gear 35 is also provided with a slot 37 in which the extension 25 is adapted to have movement when the plate 26 is in the operative position relative to said gear 35 or while the said plate is having movement to set it in the operative relation thereto under the control of a coin contained in the chute 5.

The segmental gear 35 has merely an oscillatory movement about the shaft 23, and is provided with a shoulder 38 adapted to abut against the lower portion of the chute 5 to insure the accurate positioning of these parts as the coin controlled mechanism is restored to normal.

The plate 26 is actuated by means of oscillatory plate 39, mounted upon the shaft 23, which plate has an offset portion 40 having a cam slot 41 therein adapted to inclose the stud 30 upon said plate 26.

Upon one side of this plate 39 is a gear 42 in mesh with a gear 43 carried by the controlling lever 44, the gear 42 being connected to the plate 39 by means of studs 45 moving in slots 46 in said plate, thus affording lost motion between said gear and the controlling lever 44 sufficient to cause the actuation of the shutter 9 prior to any movement of the main actuating mechanism.

Carried upon the plate 39 upon the side thereof opposite to the gear 42, is a cam 47 adapted to enter the recess 7 and force the coin from the chute through the slot 12, at a time when said discharge slot is exposed through the actuation of the discharge shutter 13.

Acting upon the member 14 of the registering mechanism, and also upon the segmental gear 35, is a gravity pawl 48, which serves to prevent the overrunning of either said member 14 or said segmental gear, the

return movement of said gear automatically raising said pawl so as to permit the free movement of the gear while the ratchet teeth carried by the member 14 shown in dotted lines in Fig. 6 of the drawings, will raise this pawl so as to cause it to clear said rack.

The controlling lever 44 is provided with a retractive spring 49, tending to restore it to normal. This lever moves in an elongated slot 50 in the casing 1, and the construction of parts is such that with each actuation of the device it is necessary to oscillate this lever to the full extent.

To avoid any possibility of a return movement of this lever prior to the maximum direct movement thereof, I provide a double acting pawl 51 controlled by a spring 52, which pawl is automatically oscillated at the end of either the direct or return movement by the studs 53 and 54, carried by the gear 43, with the arm 55 carried by said pawl. It will thus be observed that the lever 44 with its gear 43 is capable of movement in one direction only, and that as it approaches the limit of its movement the studs 53 or 54 will oscillate the pawl 55 and thus permit the reversal of this movement. This means is provided to prevent a continuous actuation of the differentially operative mechanism or register by a repeated partial reciprocation of this lever while a coin is in the chute 5.

The receiving shutter 9 is also actuated by a direct application of power thereto from the controlling lever 44, the means used being a tongue 56 carried by the shutter 9 and adapted to enter a slot 57 in the controlling lever 44 to be moved in one direction, and to be engaged by a formed up abutment 58 upon said lever to restore it to its normal position.

The shutter 9 is mounted to rotate freely upon pivots journaled in the bracket 59. The lost motion between the gear 42 and the plate 39 permits the actuation of this shutter prior to the initial movement of said plate 39.

The hub of the arm 24 is provided with a recess 60 adjacent to the shaft 23, and extending from the plate 13, and seated in said recess is an extension 61, so that the shutter 13 is actuated in synchronism with the main actuating mechanism.

The operation of the herein described device is substantially as follows:—

The cover 2 has a sliding fit with the casing 1, and as it is placed in position, the lower edge thereof engaging the pawl 21 will actuate said pawl to permit the passage of the cover 2 and permit said pawl to enter the recess 22 to lock the cover in position in a manner to prevent the opening of the bank under any circumstances except by the accumulation of coins of a value as determined in the construction of the bank.

Coins of any denomination, when it is desired to deposit them in the bank, are inserted in the open mouth of the chute 5, and descend by gravity to the bottom of this chute.

In the accompanying drawings the construction is such as to accommodate the bank to pennies, nickels, dimes and quarters only, although, if desired, a bank may be constructed in accordance with my invention to accommodate coins of larger denomination.

When the mechanism is in its normal position, the parts will be in the relation shown in Figs. 1 to 6 inclusive, with the shutter 13 obstructing the discharge slot 12, the shoulder 31 spaced away from the abutment 36, and the arm 24 engaged by the detent 27.

If the lever 44 be thrown downwardly in the slot 50 without depositing a coin in the chute 5, the gear 43 will actuate the plate 39 in a manner to cause the cam slot 41 to oscillate the plate 26 upon the pivot connecting it with the extension 25, causing the entire plate 26 to pass the stud 36 without engaging same, thus permitting the main actuating member to be operated without actuating the differentially operative mechanism or register. The pawl 51 being set as shown in Fig. 6 will permit this movement of the controlling lever, but will prevent a return movement thereof until the lever has had its maximum throw. As this lever concludes its maximum throw, the contact 54 engaging the extension 55 will reverse the position of the pawl 51 and thus permit the return movement of this controlling lever in a manner to restore the parts to normal. In the meanwhile, upon the initiation of the movement of this lever, and prior to the actuation of the plate 39, the receiving shutter 9 will be actuated to prevent the insertion of a coin in the chute 5.

If on the contrary a coin be inserted in the chute 5, and the controlling lever thrown downwardly, the shutter 9 will be actuated in a manner to project this shutter across the chute 5 above the coin. After the actuation of this shutter to prevent the escape of the coin from the chute 5, the plate 39 will be rotated so as to cause the cam slot 41 therein to oscillate the element 26 of the main actuating mechanism about the pivot connecting it with the extension 25 until the extension 29 of said member in its upward movement enters the slot 6 and engages the rim of the coin.

If this coin be a quarter, which fits snugly between the tongue 11 and the bottom of the chute, the movement of this plate 26 about the pivot connecting it with the projection 25 will be comparatively small, thus positioning the shoulder 31 of this plate so that it will engage the stud 36 and arrest further pivotal movement of this plate upon the said pivot. Thereupon the force exerted

by the said handle 44 will serve to rotate the entire plate 26 about the shaft 23 and with it the segmental gear 35 about the shaft 23, imparting the maximum rotation to the said gear 35 and causing a corresponding actuation of the differentially operative mechanism or register, this mechanism carrying from wheel to wheel thereof in the usual, well known manner.

As the plate 26 ceases to rotate upon the pivot carried by the extension 25 of the arm 24, which movement is independent of the said member 24 of the main actuating mechanism, the stress upon this pivot will free the arm 24 from the spring detent 27 and cause both parts of this main actuating to rotate simultaneously. The rotation of the arm 24 will also cause a similar movement of the discharge shutter 13, thus opening the discharge slot 12 so that when the pressure upon the coin from the extension 29 ceases, the coin may escape through this slot into the casing 1. In case of any tendency of a coin to choke this chute, however, the ejector eccentric 47 will, toward the end of the direct oscillatory movement of the plate 39, force the coin from the chute 5 through the said discharge slot 12, the recess 7 being provided to permit this operation, and the pitch of the cam being such as to cause it to act upon coins of different diameters.

If, however, the coin be a dime, which has the smallest diameter of all coins with which the machine is adapted to be used, the extension 29 will force the dime upwardly in the chute 5 until it engages the extension 10, this upward movement of the plate 26 bringing the short slot 34 into register with the stud 36, thus permitting a greater movement of the said plate 26 prior to its engagement with said stud than when a quarter is used in the chute and reducing the rotative movement of the stud thereunder to the extent of the lost motion prior to this engagement.

It will be observed that whatever the denomination of the coin, the extent of movement of the plate 26 of the main actuating mechanism under the control of the plate 40 and lever 44 is constant, the different operations resulting from the variance in the arc described by said plate 26 and the resulting difference in the initiation of the operative movement of the differentially operative mechanism of the transmission mechanism between it and said main actuating mechanism, relative to the movement of said plate 26.

Hence the length of the slots 32, 33, 34, will determine the interval between the initial movement of the plate 26 about the pivot connecting it with the extension 25 and the initial movement of the differentially operative mechanism or register, or the interposed transmission mechanism between it and said main actuating mechanism.

Upon the reversal of the throw of the lever 44, all of the parts will be restored to normal, the pawl 48 tending to prevent overrunning of the segmental gear 35 and the shoulder 38 upon said gear accurately positioning this gear preparatory to the next actuation of the mechanism.

It will be observed that if more than one coin be inserted in the chute 5 at a time, the shutter 9 will block the movement of the controlling lever 44, and that if after the first movement of the lever 44 it be attempted to insert another coin in the slot, the tongue 10 of the shutter 9 will prevent such action.

The spring detent 27 is required to hold the member 24 against movement while the other member 26 of the main actuating mechanism is rotating about its pivot in a manner to bring the shoulder 31 or the slides 32, 33, 34 into the proper position to engage the stud 36, the mere insertion of the coin resulting in the selection of the proper slot or shoulder to cause the operation of the differentially operative mechanism or register in proportion to the coin inserted in the chute 5.

It will also be observed that the plate 26 of the main actuating mechanism is capable of movement independently of the arm 24 of this mechanism, to position said plate in the proper relation to secure the desired operative movement of the differentially operative mechanism, or register, as determined by the diameter of the coin inserted in the said chute 5, and that upon the engagement of the arm 29 with the coin, the continued movement of the plate 26 carries with it the arm 24 so as to occasion simultaneous movement of both elements of said main actuating mechanism during the interval when said mechanism is operative relative to the differentially operative mechanism or register.

It is not my intention to limit the invention to the precise details of construction shown in the accompanying drawings, it being apparent that such may be varied without departing from the spirit and scope of the invention.

Having described my invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. A device of the character herein described, embodying therein a differentially operative mechanism, a fixed coin chute adapted to receive coins of different denominations, a main actuating mechanism provided with eccentrically supported means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engage-

ment with any coin in said chute, and means operative with a continued movement of said setting means and at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism.

2. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute, a main actuating mechanism provided with eccentrically supported means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means in said chute for limiting the movement of a coin therein by said main actuating mechanism, and means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism.

3. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute, a pivotally mounted main actuating mechanism provided with eccentrically supported means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism, and manually operative controlling means adapted to actuate said main actuating mechanism.

4. A device of the character herein described embodying therein a differentially operative mechanism, a coin chute, a main actuating mechanism comprising a pivotally supported arm having pivotally mounted thereon and eccentrically of the pivot thereof a plate adapted to be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, said arm and said plate being adapted to move simultaneously and in unison after said plate has been set, and selective coöperating means carried by said plate and adapted to actuate said differentially operative mechanism.

5. A device of the character herein described embodying therein a differentially operative mechanism, a coin chute, a main actuating mechanism comprising a pivotally supported arm having pivotally mounted thereon and eccentrically of the pivot thereof a plate adapted to be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, said arm and said plate being adapted to move simultaneously and in unison after said plate has been set, a spring detent whereby said arm is held against movement until said plate has been set, and selective cooperating means carried by said plate and adapted to actuate said differentially operative mechanism.

6. A device of the character herein described embodying therein a differentially operative mechanism, a coin chute, a main actuating mechanism comprising a pivotally supported arm having pivotally mounted thereon and eccentrically of the pivot thereof, a plate adapted to be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, said arm and said plate being adapted to move simultaneously and in unison after said plate has been set, selective coöperating means carried by said plate and adapted to actuate said differentially operative mechanism, a manually operative controlling lever, an oscillatory member movable about the same axis as said arm, provided with means adapted to transmit movement to said plate, whereby said plate is adapted to receive movement about its own pivot and also about that of said arm, and connections between said controlling lever and said oscillatory member.

7. A device of the character herein described embodying therein a differentially operative mechanism, a coin chute, a main actuating mechanism comprising a pivotally supported arm having pivotally mounted thereon and eccentrically of the pivot thereof a plate adapted to be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, said arm and said plate being adapted to move simultaneously and in unison after said plate has been set, selective coöperating means carried by said plate and adapted to actuate said differentially operative mechanism, a manually operative controlling lever, an oscillatory cam plate, a stud carried by said first named plate and acted upon by said cam plate, whereby said first named plate is adapted to be oscillated upon its own pivot and about the pivot of said arm, and entrained gears carried by said cam plate and said controlling lever.

8. A device of the character herein described embodying therein a differentially operative mechanism, a coin chute, a main actuating mechanism comprising a pivotally supported arm, a plate pivotally mounted thereon and eccentrically of the pivot thereof, said plate being adapted to be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, a stud upon said plate, said arm and said plate being adapted to move simultaneously and in unison after said plate has

been set, selective coöperating means carried by said plate adapted to actuate said differentially operative mechanism, a manually operative controlling lever, an oscillatory plate having a cam slot therein inclosing said stud, whereby said first named plate is adapted to be oscillated upon its own pivot and about the pivot of said arm to operate said actuating mechanism, and to be restored to normal, and entrained gears carried by said cam plate and said controlling lever.

9. A device of the character herein described, embodying therein a differentially operative mechanism, a fixed coin chute, a main actuating mechanism comprising two oscillatory elements, one of which is adapted to have movement upon its own axis independently of the other and is provided with a series of graduated abutments whereby said actuating mechanism may be automatically set to impart variable movement to said differentially operative mechanism through engagement of said element with a coin in said chute, both of said elements being adapted to operate simultaneously about the axis of said other element after said first named element is set, a gear carried by said differentially operative mechanism, a segmental rack, the axis of which is coincident with that of said other element, and a stud carried by said segmental gear and adapted to be engaged by said abutments, whereby while said elements are simultaneously actuated said differentially operative mechanism will be actuated.

10. A device of the character herein described, embodying therein a differentially operative mechanism, a gear through which said mechanism is actuated, a coin chute, a main actuating mechanism comprising a pivotally supported arm having pivotally mounted thereon and eccentrically of the pivot thereof, a plate adapted to be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, said arm and said plate being adapted to move simultaneously and in unison after said plate has been set, a series of graduated abutments upon said plate, a segmental gear moving about the same axis as said arm, and adapted to engage said gear upon said differentially operative mechanism, and a stud carried by said segmental gear and adapted to be engaged by said abutments upon said plate respectively, as determined by the denomination of the coin in said chute, said segmental gear having a way therein whereby said plate and said arm are adapted to have movement independently of said gear to accomplish the setting of said plate.

11. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute, adapted to receive coins of different denominations, having an inlet slot at the top thereof, a closed bottom, and a discharge slot adjacent to said bottom, a main actuating mechanism provided with means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism, a manually operative controlling lever, a plate operated thereby and adapted to transmit movement from said controlling lever to said main actuating mechanism, and a cam carried by said plate and adapted to enter said chute opposite said discharge slot to eject coins of different denominations therefrom, whereby coins are delivered through said discharge slot after said main actuating mechanism has been set.

12. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute, adapted to receive coins of different denominations, having an inlet slot at the top thereof, a closed bottom, and a discharge slot adjacent to said bottom, a main actuating mechanism provided with means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism, a shutter adapted to be normally projected across, and to close, said discharge slot, means adapted to actuate said shutter to permit the escape of a coin, and an ejector actuated by said main actuating mechanism whereby after the setting of said mechanism a coin in said chute will be ejected therefrom.

13. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute, adapted to receive coins of different denominations, having an inlet slot at the top thereof, a closed bottom, and a discharge slot adjacent to said bottom, a main actuating mechanism comprising a pivotally supported arm having pivotally mounted thereon and eccentrically of the pivot thereof, a plate adapted to be automatically set to impart variable movement to said differentially operative mechanism through the engagement thereof with a coin in said chute, said arm and said plate being adapted to move simultaneously and in unison after said plate has been set, selective coöperating means carried by said plate and adapted to actuate said differentially operative mechanism, a shutter adapted to normally close said discharge slot,

means connecting said shutter with said arm, and an ejector actuated by said main actuating mechanism, whereby after the setting of said main actuating mechanism, the coin in said chute will be ejected therefrom.

14. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute having an inlet slot, transverse openings in said chute adjacent to said inlet opening, a main actuating mechanism provided with means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism, a shutter adapted to pass through said openings in said chute and limit the movement of the coins therein, under said main actuating mechanism, to accomplish the setting thereof, manually operative controlling means adapted to actuate said main actuating mechanism, and coöperating means carried by said controlling means and said shutter, whereby said shutter is actuated through the movement of said controlling means.

15. A device of the character herein described, embodying therein a differentially operative mechanism, a fixed coin chute having an inlet slot, transverse openings in said chute adjacent to said inlet slot, a main actuating mechanism provided with means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism, an oscillatory shutter adapted to pass through said openings in said chute and limit the movement of the coin therein, under said main actuating mechanism to accomplish the setting thereof, manually operative controlling means adapted to actuate said main actuating mechanism, a tongue on said shutter, and means carried by said controlling means whereby said shutter is oscillated through the movement of said controlling means to close and open said chute.

16. A device of the character herein described embodying therein a differentially operative mechanism, a fixed coin chute having an inlet slot, transverse openings in said chute adjacent to said inlet slot, a main actuating mechanism provided with means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism, an oscillatory shutter adapted to pass through said openings in said chute and limit the movement of the coin therein under said actuating mechanism, to accomplish the setting thereof, manually operative controlling means adapted to actuate said main actuating mechanism, a tongue on said shutter, means carried by said controlling means whereby said shutter is oscillated through the movement of said controlling means to close and open said chute, and a lost motion connection between said controlling mechanism and said main actuating mechanism whereby said shutter is actuated prior to the actuation of said main actuating mechanism.

17. A device of the character herein described embodying therein a casing, a closure therefor, a differentially operative mechanism, a fixed coin chute, a main actuating mechanism provided with means whereby it may be automatically set to impart variable movement to said differentially operative mechanism through engagement with a coin in said chute, and means operative at different points in the movement of said main actuating mechanism for variably actuating said differentially operative mechanism.

In testimony whereof I have affixed my signature in presence of two witnesses.

EMANUEL RICHTER.

Witnesses:
OTTO MUNK,
JULE ZELENKA.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."