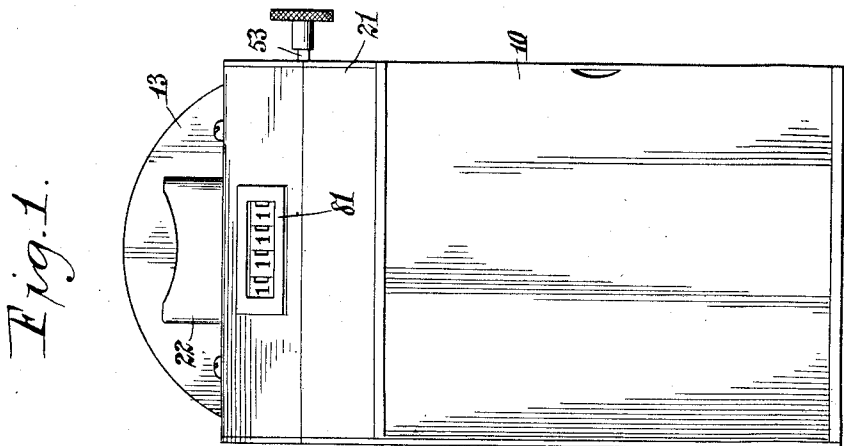
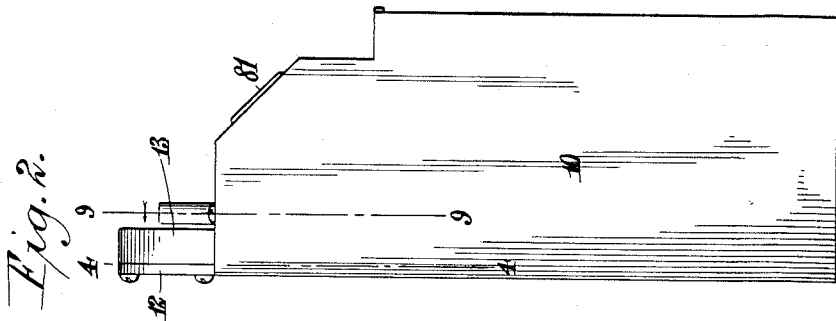
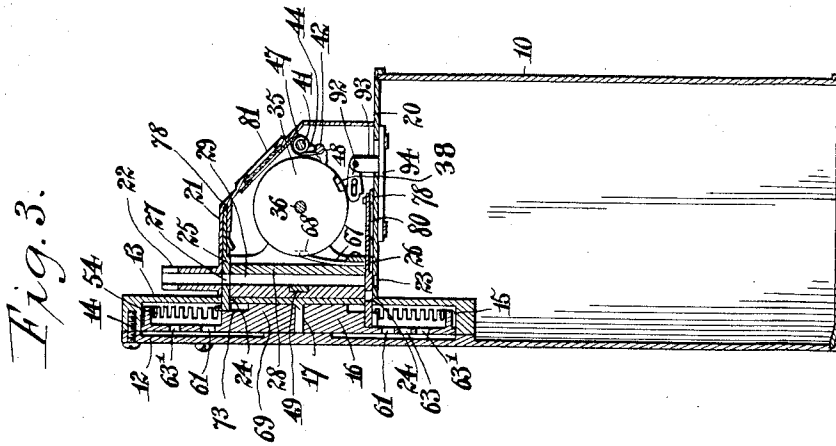


1,023,912.

Patented Apr. 23, 1912.

4 SHEETS—SHEET 1.



Witnesses:
Christ Feinle, Jr.,
Wm. J. Smith

Inventor,
Andrew Zettervall.
By *Victor J. Evans,*
Attorney.

1,023,912.

4 SHEETS—SHEET 2.

Fig. 5.

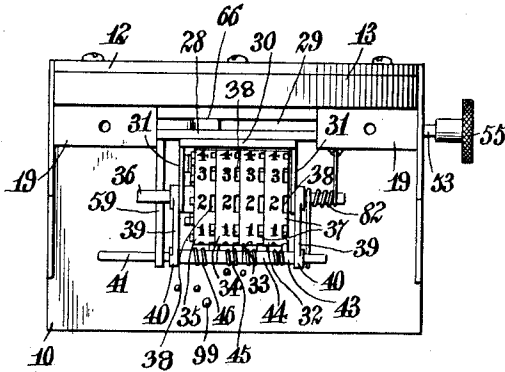
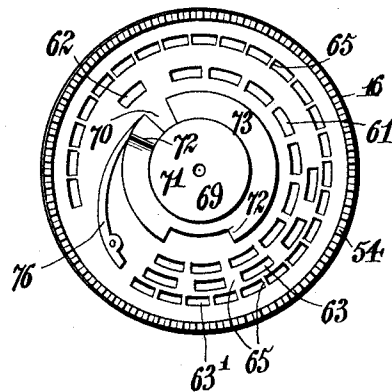


Fig. 7.



Christ Feinke, Jr.,
Wm. Feinke.

Andrew Zettersall.

By *Victor J. Evans,*
Attorney.

1,023,912.

Patented Apr. 23, 1912.

4 SHEETS—SHEET 3.

Fig. 8.

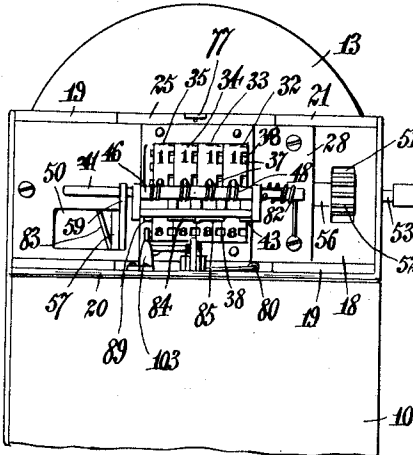
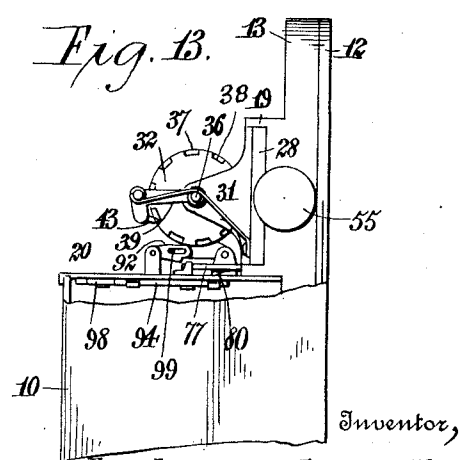
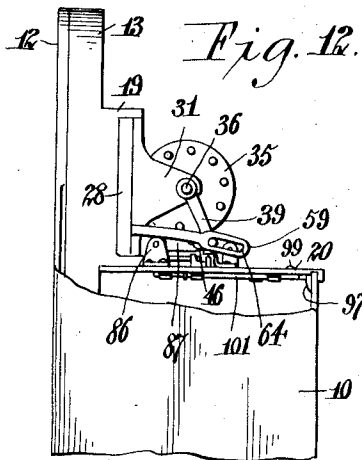
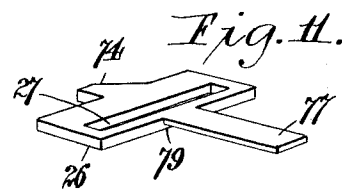
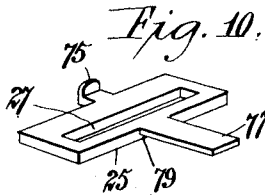
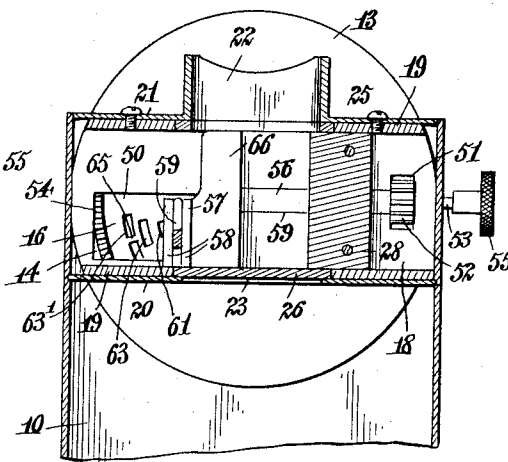


Fig. 9.



Witnesses: —

Christ Feinle, Jr.
[Signature]

Inventor,
Andrew Zettervall.

By Victor J. Evans,
Attorney.

1,023,912.

Patented Apr. 23, 1912.

4 SHEETS—SHEET 4.

Fig. 14.

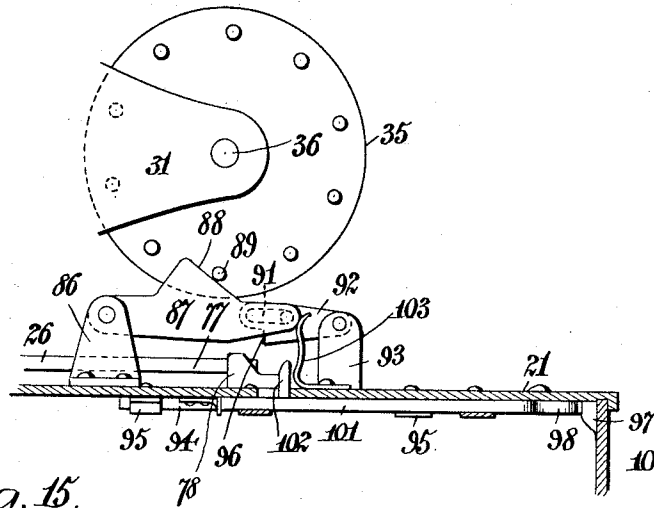


Fig. 15.

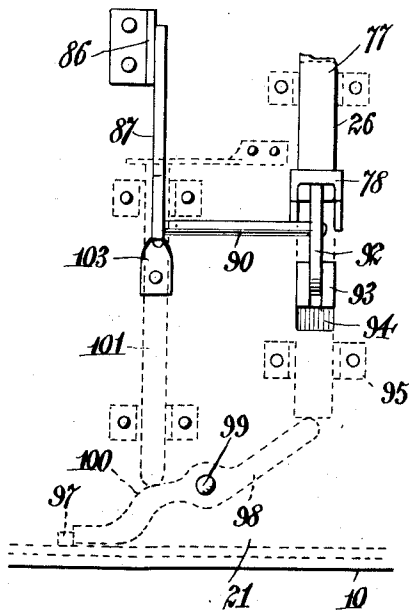
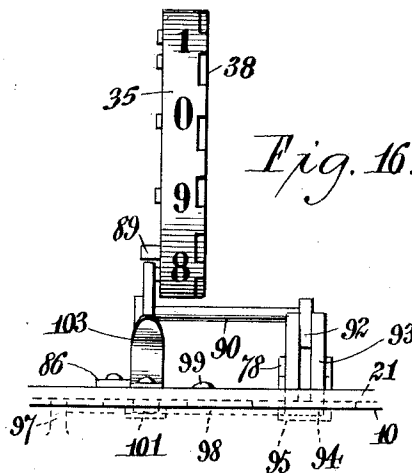


Fig. 16.



Witnesses:—
Christ Feinle, Jr.,
[Signature]

Inventor,
Andrew Zettervall.
By Victor J. Evans,
Attorney.

UNITED STATES PATENT OFFICE.

ANDREW ZETTERVALL, OF LOS ANGELES, CALIFORNIA.

REGISTER.

1,023,912.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed October 10, 1911. Serial No. 653,762.

To all whom it may concern:

Be it known that I, ANDREW ZETTERVALL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Registers, of which the following is a specification.

The invention relates to registers, and more particularly to the class of coin registers for use on depositories, such as toy banks or the like.

The primary object of the invention is the provision of a register in which coins of different values may be registered on depositing the same within a bank or other receiver therefor.

Another object of the invention is the provision of a register in which the valves of coins deposited within a receptacle or bank may be determined accurately and registered, so that a complete account may be had as to the sum deposited, without mental calculation on the part of the depositor, the register being automatic in operation.

A further object of the invention is the provision of a register, wherein the coin chute may be automatically opened and closed to permit the insertion of the coins into the registering mechanism, and the subsequent dropping thereof into the depository. Thus, in this manner, the coin will be impeded for a predetermined time, whereby the register will accurately indicate the value thereof before it is deposited within the depository.

A still further object of the invention is the provision of a register in which coins of predetermined values may be counted, and on the recordation of a predetermined sum thereby, the depository will be automatically opened for the removal of the coins therefrom.

A still further object of the invention is the provision of a register which is simple in construction, reliable, efficient and easy in operation, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a front elevation of a bank with the register constructed in accordance with the invention mounted thereon. Fig. 2 is an end elevation thereof. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2. Fig. 5 is a top plan view of the register with its casing removed. Fig. 6 is a fragmentary end elevation thereof, the same being broken away. Fig. 7 is a plan view of the rotatable disk for controlling the tripping mechanism of the register, and looking toward its inner face. Fig. 8 is a front elevation of the register mechanism. Fig. 9 is a sectional view on the line 9—9 of Fig. 8. Fig. 10 is a detail perspective view of one of the closure slides. Fig. 11 is a detail perspective view of another closure slide. Fig. 12 is an edge elevation, showing the operating mechanism in shifted position. Fig. 13 is a similar view, looking toward one end, or the end opposite to the one shown in Fig. 8. Fig. 14 is a fragmentary side elevation of the register on an enlarged scale, showing in detail the door operating mechanism. Fig. 15 is a top plan view thereof. Fig. 16 is a fragmentary front elevation.

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

Referring to the drawings by numerals, 10 designates a body which forms a money bank or depository, the same being of the ordinary well-known construction, and has at its front a slidable door which permits access to be had to the bank or depository for the emptying thereof. Upon the top of the bank or depository body is mounted a registering mechanism, as will be presently described.

The body 10 of the bank or depository is provided with an extension plate forming a continuation of one of its side walls, and rises vertically a distance above the top thereof. Secured to the inner face of the extension plate 12 in any suitable manner is a circular-shaped or disk-like base plate 13, the same being formed with an outturned peripheral rim 14 adapted to abut against the inner face of the said extension plate 12 to provide a circular chamber 15 in one side of the base plate, in which is rotatably supported a rotatable tripping disk 16, the lat-

ter being journaled upon a spindle 17 mounted centrally in the base plate 13 and projecting into a suitable recess formed in the extension plate 12 of the body, the tripping disk 16 being adapted to control registering mechanism, presently to be described. On the opposite face of the base plate 13 is a transversely arranged raised bed 18, from which extend outwardly at opposite ends bearing ears or lugs 19, on which are detachably mounted the bottom and top sections 20 and 21 of a housing for inclosing the registering mechanism, the top section 21 of the housing being formed with a medial vertically extending chute 22, in which are introduced coins to the registering mechanism, the bottom section being formed with a delivery slot 23 which permits the passage of the coin interiorly of the body of the bank or depository.

Formed between the ears or lugs 19 are suitable guide ways, opening into elongated slots 24 cut into the base plate 13, at opposite sides of the bed 18 thereon, and in these slots are mounted slides 25 and 26, respectively, the same being adapted to normally close the chute 22 and the slot 23, the slides being controlled or actuated by the disk 16 when rotated. Each of the slides 25 and 26 is provided with an elongated slot 27, which is adapted to be brought into registration with the chute 22, or the slot 23, so that a coin may pass into the registering mechanism, or the body 10 of the bank or depository.

Mounted on the bed 18 upon the base plate 13 is a supporting plate 28, the same being spaced from the bed 18, so as to form a coin passage 29 therebetween, and in alinement with the coin chute 22 and the delivery slot 23, thus permitting a coin dropped into the chute 22, when the slides 25 and 26 have been shifted to bring the slots 27 therein in registration with the passage 29, to pass through the latter and into the body 10 of the bank or depository.

Mounted upon the supporting plate 28 is a bracket 30 having spaced parallel bearings 31, between which are arranged a series of rotatable counting or registering wheels 32, 33, 34 and 35, respectively, the same being loosely journaled upon an axle or spindle 36 held in the bearings 31 of the bracket, each of said counting or registering wheels being coöperative with a toothed or ratchet disk or gear 37 fixed thereto, so that upon rotating one ratchet disk, the companion wheel will rotate therewith. The counting or registering wheels are each formed with a notch 38 adapted to register with any one of the spaces between the teeth of the adjacent ratchet wheel or disk 37, so that at predetermined intervals, two of the counting or registering wheels may be simultaneously rotated, or all of the same may

simultaneously rotate, in a manner presently described.

Mounted upon the axle or spindle 36 carrying the counting or registering wheels 32 exteriorly of the bracket 30, are swinging link arms 39, the same being formed at their outer ends with heads 40, in which are fixed spaced parallel bars 41, and 42, respectively, the latter serving as a stop for pawls 43, 44, 45 and 46, respectively, the same being formed with sleeves 47 loosely surrounding the bar 41, and these pawls are adapted for engagement in the ratchet disks or gears 27 and the notches 38 for moving the counting or registering wheels 32, 33, 34 and 35 in successive order.

Fixed to the sleeve 47 of each pawl is a spring finger 48, the same being engaged with the stop bar 42 and is designed to move the pawl into engagement with the adjacent ratchet gear or disk 37 or notch 38, for the moving of the counting or registering wheels.

Upon the periphery of each counting or registering wheel is arranged a series of numerals, ranging from 0 to 9 in successive or consecutive order. The wheels 32 are adapted to designate the hundredths of units, the wheel 33 the tenths, the wheels 34 are the unit wheels, so that the values of coins may be registered when the registering mechanism is actuated on the dropping of coins within the bank or depository, in a manner presently described.

Formed in the bed 18 on the base plate 13 is a longitudinal groove or guide way 49, one end of which opens into an elongated opening 50, while its opposite end opens into a slot 51, in which latter is mounted a cog or rack pinion 52 fixed to a rotatable stud shaft 53 journaled in the bed, the pinion 52 being adapted to mesh with cog teeth 54 out-turned from the rotatable disk 16 at the periphery thereof. Upon the outer end of the shaft 53 is fixed a knurled hand wheel or knob 55, so that upon rotation thereof, the said disk 16 will be turned within the chamber 15.

Slidably mounted within the guide way or slot 49 in the bed 18, is a bar 56, the same being formed at one end with a bearing 57 movable in the opening 50, and provided with parallel ears 58, between which is arranged a trip lever 59, the inner end of which is formed with a trip nose 60 adapted for engagement in slots 61, 62, 63 and 63' formed in circular rows in the rotary disk 16, concentrically with respect to the axis thereof, while the slot 62 is disposed slightly out of alinement with the row of slots 61. The outer end of the lever 59 is formed with an elongated slot 64, in which is loosely engaged the bar 41, so that when the nose trips over the separating web 65 between the slots 62, 63 and 64 in the rotary disk on the rotation of the latter, the pawls will be actu-

ated for their engagement with the respective ratchet gears or disk 37 and notches 38 for the turning of the counting or registering wheels of the registering mechanism.

- 5 This slide bar 56 has formed thereon a cross gage 66, which latter is traversible in the coin passage 29 between the bed 18 and the supporting plate 28, so that when a coin is passed into the passage 29, the gage 66 will
10 contact therewith and sustain the slide bar 56 in adjusted position, so that the tripping lever will be actuated on the turning of the rotary tripping disk 16 for operating the registering mechanism, whereby the same
15 will register the value of the coin, in a manner presently described.

- Fixed in the bracket 30 is a plurality of spring arms 67 which are provided at their free ends with projections 68 adapted to en-
20 gage with the ratchet gears or disks 37, so as to prevent the accidental or free turning of the registering wheels, but to permit them to be rotated when engaged by the pawls, when operated by the tripping device, heretofore described.

- Formed on the rotary disk 16, centrally thereof, is a hub 69, the latter being formed with notches 70 and 71, respectively, the latter being of slightly greater length than
30 the notch 70, and both of these notches are formed with cam surfaces 72, merging into an annular raceway 73 formed in the outer face of the hub 69 at the periphery thereof, the notch 71 being adapted to receive a cam
35 projection 74 formed on the slide 26, so that the slot 27 therein will register with the passage 29, but upon the turning of the disk 16 the cam projection 74 will ride out of the slot 71 and engage the raceway 72, thereby
40 holding the slide in position for a predetermined period of time, so that the slot 27 will not register with the passage 29, thereby closing one end of the same, while the notch 70 is adapted to receive an L-shaped
45 cam projection 75 formed on the slide 25, and when engaged therein will permit the slot 27 in said slide to register with the passage 29, but upon the turning of the disk 16, the said slide will be automatically
50 moved, whereby its slot 27 will be thrown out of registration with the passage 29 and its projection 75 will ride upon the raceway surface 72. Thus, in this manner, the slide 25 will close the other end of the pas-
55 sage 29 for a predetermined period of time.

- Projecting from the periphery of the hub 69 and formed on the rotary disk 16 is a cam rib 76, which is adapted to act upon the trip nose 60 of the lever 59, which latter is
60 connected to the ears 58 of the bearing 57 by means of a pivot. Thus, the said lever 59 will be caused to be moved in a direction toward the periphery of the rotary disk 16 upon the turning of the latter, so that upon
65 the opening of the slide 25 a coin will drop

into the passage 29 and during the continued rotation of the disk 16, the trip nose 60 of the lever 59 will ride over the cam rib 76, thereby causing the lever to move in the reverse direction, so that the gage 66 on the
70 slide bar 56 will engage the coin and hold the lever in a position, whereby the trip nose 60 will aline with the proper slots 61, 62, 63 or 63', the slots 61 being ten in number, the slot 62 being one in number, the slots 63
75 being five in number, and the slots 63' being twenty-five in number, so that the said trip lever 59, when adjusted according to the size of the coin, will be thrown in proper relation to the slots of a number corresponding
80 to the valuation of the said coin, whereby the said slots, when engaged by the trip nose 60 of the lever will cause the same to be rocked the required number of times for the turning of the registering wheel or wheels
85 for the proper registering of the valuation of the coin in the passage, which will be subsequently delivered into the bank or depository.

The slides 25 and 26 are formed with rear guide extensions 77, which are slidably engaged in eyes 78 formed on the top and bottom sections 20 and 21 of the casing or housing for the registering mechanism, and acting against the eyes 78 and shoulders 79
90 formed on the guide extensions 77 of the slides are expansion spring members 80, which tension the slides for automatically moving the same, when the cam projections 68 and 74 thereof register with the notches 70 and 71, respectively, in the hub 69 of the disk 16 for intermittently opening the coin
95 passage 29, when the rotary disk 16 is turned. However, on the turning of the disk, the slides 25 and 26 will be automatically closed
100 for holding a coin within the passage 29, for a limited time, so that the registering mechanism will register the valuation thereof.

The top section 21 of the housing or casing for the registering mechanism is provided with a sight opening 81, which enables the reading of the counting or registering
110 wheels 32, 33, 34 and 35, so that at a glance a person may determine the exact amount of money deposited within the bank or depository.

Surrounding the shaft 53 is a coiled expansion spring 82, one end thereof being fixed to the supporting plate 28, while its
120 opposite end engages the bar 41 and serves to swing the latter to normal inoperative position, after the same has been moved by the trip lever 59, so that the pawls 43, 44, 45 and 46 will engage and rotate the counting
125 or registering wheels.

Interposed between the bearings 57 and working against one end of the supporting plate 28 is an expansion spring 83, which
130 serves to move the slide bar 56 to normal po-

sition, after the lever has been shifted for the engagement of the gage 66 with a coin in the passage 29 and the latter has been freed therefrom.

5 Formed on the pawls 45 and 46 are laterally extending fingers 84 and 85, respectively, the finger 85 being adapted to overlap and engage the pawl 45, while the finger 84 is adapted to overlap and engage the pawl 10 43, so that when the notches 38 and the spaces between the ratchet gears or disks 37 register with each other, the pawls 43, 44, and 45 will simultaneously engage therein and be sustained in such engagement for 15 moving the counting or registering wheels 33, 34 and 35 in unison, and in this manner the registering wheels may be rotated for registering the total sum aggregating the amount of ten dollars in coin, whereupon the 20 registering wheels will be shifted simultaneously for resetting the same to make visible the noted indicia thereon, whereupon the register may be further actuated for recounting coins of values of one cent, five cents, 25 ten cents, and twenty-five cents, until the registering mechanism has registered the total sum of ten dollars, whence the operation will again be repeated.

Rising from the top of the body 10 of the 30 money bank or depository, at one side of the registering wheel 35, is a vertical bearing 86, to which is pivoted a trip pawl 87, the same being formed with a cam tooth 88, with which is adapted to engage a pin 89 35 projecting laterally from the said registering disk 36, the pawl 87 at its free end being formed with a lateral rod 90 which engages in an elongated slot 91 formed in a pawl 92 pivoted to a bearing 93 fixed to and rising 40 from a slide bar 94 held in guides 95 fixed to the under face of the top of the body 10. The pawl 92 upon the tripping of the pawl 87 by the registering wheel 35 is adapted to be lowered, so that its engaging tooth 96 45 will drop into the path of movement of the rear extension 77 of the slide 26, so that upon movement of the latter the said bar 94 will be caused to shift therewith.

50 Formed on the inner face of the door 11 is a keeper lug 97, with which engages a locking catch 98 pivoted at 99 to the under face of the top of the money depository or bank 10. The said catch 98 is formed with a heel 100, against which contacts a slide 55 101, the same being formed with an upturned projection 102 adapted to engage a spring finger 103 fixed to the top of the bank 10, the said spring 103 being designed to hold the trip pawl 87 in lowered position, 60 and releases it when the upturned projection 102 engages with the said spring. The rear end of the catch 98 is disposed in the path of the slide bar 94, so that when the same is moved, the said catch will be thrown 65 out of engagement with the keeper lug 97,

thereby permitting the door 11 to be opened for access to the interior of the bank. Of course, it is understood that the door 11 is freed when a predetermined amount of coin has been deposited in the bank 10, as will be obvious. 70

What is claimed is:

1. In a register, a base having a circular chamber in one face and a guide way extending laterally across the opposite face, a 75 rotatable disk mounted in said chamber and having concentric rows of spaced slots with respect to its axis of movement, a coin gage movable in said guide way, registering mechanism mounted upon the base forwardly of said coin gage, a coin chute having communication with said gage, and means carried by the gage and operated by the disk for actuating said registering mechanism on the introduction of a coin 85 into the chute.

2. In a register, a base having a circular chamber in one face and a guide way extending laterally across the opposite face, a 90 rotatable disk mounted in said chamber and having concentric rows of spaced slots with respect to its axis of movement, a coin gage movable in said guide way, registering mechanism mounted upon the base forwardly of said coin gage, a coin chute having communication with said gage, means 95 carried by the gage and operated by the disk for actuating said registering mechanism on the introduction of a coin into the chute, closure slides intersecting the coin chute above and below the said coin gage, and means on the disk for alternately opening and closing said closure slides. 100

3. In a register, a base having a circular chamber in one face and a guide way extending laterally across the opposite face, a 105 rotatable disk mounted in said chamber and having concentric rows of spaced slots with respect to its axis of movement, a coin gage movable in said guide way, registering mechanism mounted upon the base forwardly of said coin gage, a coin chute having communication with said gage, means 110 carried by the gage and operated by the disk for actuating said registering mechanism on the introduction of a coin into the chute, closure slides intersecting the coin chute above and below the said coin gage, means on the disk for alternately opening and closing said closure slides, and a casing 115 entirely inclosing the said registering mechanism and having a sight opening therein. 120

4. In a register, a base having a circular chamber in one face and a guide way extending laterally across the opposite face, a 125 rotatable disk mounted in said chamber and having concentric rows of spaced slots with respect to its axis of movement, a coin gage movable in said guide way, registering mechanism mounted upon the base for- 130

wardly of said coin gage, a coin chute having communication with said gage, means carried by the gage and operated by the disk for actuating said registering mechanism on the introduction of a coin into the chute, closure slides intersecting the coin chute above and below the said coin gage, means on the disk for alternately opening and closing said closure slides, a casing entirely inclosing the said registering mechanism and having a sight opening therein, and means acting on the coin gage for moving the same to normal position upon the release of a coin therefrom.

5. In a register, a base having a circular chamber in one face and a guide way extending laterally across the opposite face, a rotatable disk mounted in said chamber and having concentric rows of spaced slots with respect to its axis of movement, a coin gage movable in said guide way, registering mechanism mounted upon the base forwardly of said coin gage, a coin chute having communication with said gage, means carried by the gage and operated by the disk for actuating said registering mechanism on the introduction of a coin into the chute, closure slides intersecting the coin chute above and below the said coin gage, means on the disk for alternately opening and closing said closure slides, a casing entirely inclosing said registering mechanism and having a sight opening therein, means acting on the coin gage for moving the same to normal position upon the release of a coin therefrom, and means for rotating the disk.

6. In a register, a base plate having a circular chamber in one face and a guide way in its opposite face, a coin gage slidable in said guide way, registering mechanism mounted upon the base plate forwardly of the coin gage, a rotatable disk mounted within the circular shaped chamber in the base and having rows of spaced perforations arranged concentrically with respect to the axis of rotation of the disk, the perforations in the rows varying in number with respect to each other, a trip member connected with the coin gage and the registering mechanism and operated by the perforations in the disk on the rotation thereof, and a coin chute communicating with the coin gage.

7. In a register, a base plate having a circular chamber in one face and a guide way in its opposite face, a coin gage slidable in said guide way, registering mechanism mounted upon the base plate forwardly of the coin gage, a rotatable disk mounted within the circular shaped chamber in the base and having rows of spaced perforations arranged concentrically with respect to the axis of rotation of the disk, the perforations in the rows varying in

number with respect to each other, a trip member connected with the coin gage and the registering mechanism and operated by the perforations in the disk on the rotation thereof, a coin chute communicating with the coin gage, and mechanism alternately opening and closing the coin chute at opposite sides of the gage.

8. In a register, a base plate having a circular chamber in one face and a guide way in its opposite face, a coin gage slidable in said guide way, registering mechanism mounted upon the base plate forwardly of the coin gage, a rotatable disk mounted within the circular shaped chamber in the base and having rows of spaced perforations arranged concentrically with respect to the axis of rotation of the disk, the perforations in the rows varying in number with respect to each other, a trip member connected with the coin gage and the registering mechanism and operated by the perforations in the disk on the rotation thereof, a coin chute communicating with the coin gage, mechanism alternately opening and closing the coin chute at opposite sides of the gage, and means for manually rotating the disk.

9. In a register, a base plate having a circular chamber in one face and a guide way in its opposite face, a coin gage slidable in said guide way, registering mechanism mounted upon the base plate forwardly of the coin gage, a rotatable disk mounted within the circular shaped chamber in the base and having rows of spaced perforations arranged concentrically with respect to the axis of rotation of the disk, the perforations in the rows varying in number with respect to each other, a trip member connected with the coin gage and the registering mechanism and operated by the perforations in the disk on the rotation thereof, a coin chute communicating with the coin gage, mechanism alternately opening and closing the coin chute at opposite sides of the gage, means for manually rotating the disk, and means for moving the trip member out of the path of the perforations in the disk when being rotated.

10. In a register, a base plate having a circular chamber in one face and a guide way in its opposite face, a coin gage slidable in said guide way, registering mechanism mounted upon the base plate forwardly of the coin gage, a rotatable disk mounted within the circular shaped chamber in the base and having rows of spaced perforations arranged concentrically with respect to the axis of rotation of the disk, the perforations in the rows varying in number with respect to each other, a trip member connected with the coin gage and the registering mechanism and operated by the perforations in the disk on the rotation thereof, a coin chute communicating with the coin gage, mecha-

nism alternately opening and closing the coin chute at opposite sides of the gage, means for manually rotating the disk means for moving the trip member out of the path
5 of the perforations in the disk when being rotated, and means on the disk for automatically shifting the coin gage out of the path of the coin chute and subsequently re-

leasing the same for its engagement with a coin when inserted therein. 10

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

ANDREW ZETTERVALL.

Witnesses:

SEBALD L. CHEROSKE,
H. KENNEDY.

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