

W. R. CHRISTIE.
REGISTERING TOY BANK.

No. 422,116.

Patented Feb. 25, 1890.

Fig. 1.

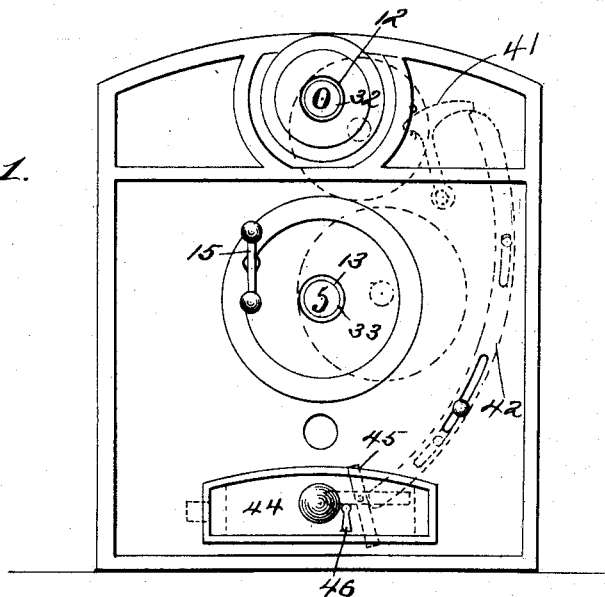
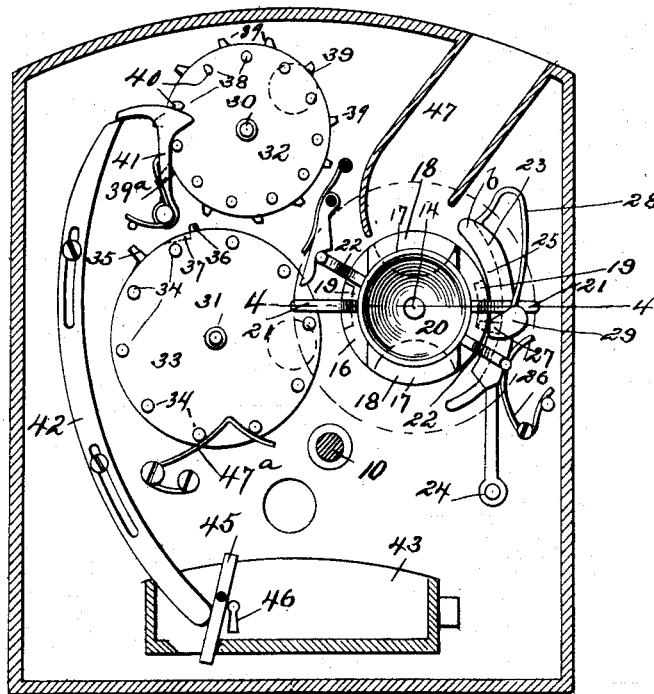


Fig. 2.



WITNESSES:

W. R. Christie
W. R. Christie

INVENTOR:

W. R. Christie

BY

Munn & Co.

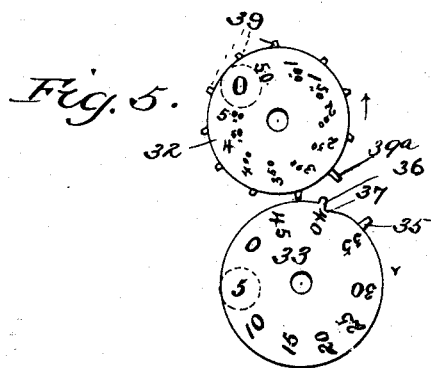
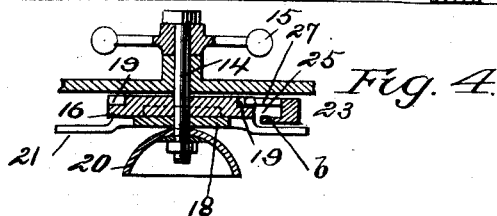
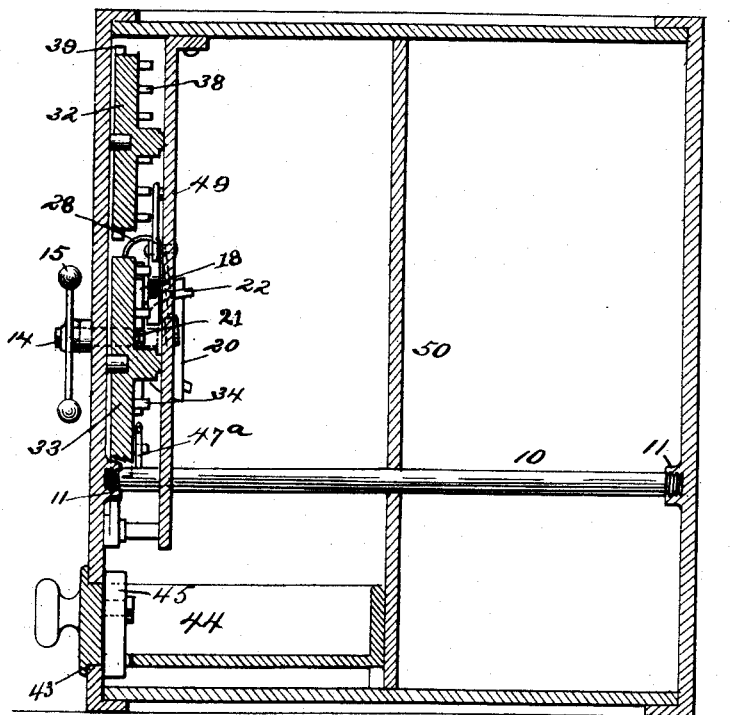
ATTORNEYS.

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Fig. 3.



WITNESSES:

W. R. Christie.
Bedgwick

INVENTOR:

W. R. Christie

BY

Mum & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM R. CHRISTIE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
JUNGERMAN BROTHERS, OF SAME PLACE.

REGISTERING TOY BANK.

SPECIFICATION forming part of Letters Patent No. 422,116, dated February 25, 1890.

Application filed July 23, 1889. Serial No. 318,441. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. CHRISTIE, of New York city, in the county and State of New York, have invented a new and useful
5 Improvement in Toy Banks, of which the following is a full, clear, and exact description.

My invention relates to an improvement in toy banks, and has for its object to provide a means whereby the amount of pennies, nickels, or coin of any denomination which the
10 bank is constructed to receive contained in the bank, together with the amount dropped in, will be recorded and rendered visible from the outer face of the bank.

A further object of the invention is to provide a means whereby an alarm will be sounded when a coin is dropped into the bank, and also wherein the bank will remain
15 locked until a predetermined amount has been deposited.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate
25 corresponding parts in all the views.

Figure 1 is a front elevation of the bank.

Fig. 2 is a vertical section through the bank, illustrating the mechanism in side elevation, the back plate of said mechanism being removed. Fig. 3 is a central vertical section
30 through the bank, taken at a right angle to the view shown in Fig. 2. Fig. 4 is a diametrical section taken on line 4 4 of Fig. 2, and Fig. 5 is a side elevation of the front faces of the registering-disks.

In carrying out the invention the body of the bank is made in three pieces—one piece consisting of a rectangular hollow casting open at front and rear, and a back and a front plate, the latter carrying the operative mechanism—all of which pieces are held
40 firmly together so as to provide a central chamber by means of a rod 10, having a right and a left screw produced upon its respective ends, which rod is screwed into correspondingly-threaded sockets 11, formed upon the
50 inner face of the front and the rear sides of the bank. By uniting the frame of the bank

in this manner it is impossible to determine from an exterior view how the several parts are united, as there are no bolts, screws, or other fastening devices visible.

In the upper portion of the bank at the front an opening 12 is made, and a second opening 13 is produced at or near the center, as shown in Fig. 1. At one side of the opening 13 a spindle 14 is projected from the outer face of the bank inward through the same, the outer end of which spindle is provided with an attached or integral knob or handle 15, of any suitable construction, whereby the spindle may be conveniently turned.

Upon the spindle near its inner end a disk 16 is rigidly fastened, having produced upon the inner face at the periphery diametrically-opposite recesses 17, as best shown in Fig. 2, which recesses are covered by a plate 18, secured to the disk, imparting to the recesses the contour of a pocket, the base-wall of which pockets is circular and the outer ends are open. These pockets are adapted to receive the coin placed in the bank.

In the inner face of the disk 16 diametrically-opposite peripheral recesses 19 are produced, the said recesses being located midway between the pockets, as illustrated in Figs. 2 and 4. Upon the inner end of the
80 spindle 14 a gong 20 is also secured. From opposite sides of the disk 16, immediately over the recesses 19, horizontal downwardly-extending arms 21 are secured, and adjacent to the said horizontal arms curved arms 22
85 are radially projected from the inner face of the disk, adapted, as the disk is rotated, to act upon a hammer and sound the gong. A curved throat-plate 23 is located at the outer face of the disk, close thereto, yet sufficiently
90 removed to permit the disk to rotate, the upper end of which throat-plate is free to move laterally, the lower end being pivoted to the front plate of the bank, as illustrated at 24 in Fig. 2. The inner side edge of the throat-
95 plate is provided with a recess 25, following the contour of the disk 16, the inner face being made to extend over this recess, as illustrated at *b* in section, Fig. 4, and in dotted lines in Fig. 2, forming a channel to
100 receive the periphery of the coin deposited in the bank, which coin is held steady as it is

carried downward by the flange of the throat-plate extending over the recess. This throat-plate is normally held approximately close to the disk by a contacting-spring 26, as shown in Fig. 2, and the space between the disk and the contiguous channel-way of the throat-plate is regulated by means of a pin 27, projecting from the said channel-way and extending in one of the side recesses 19 of the disk, as is also illustrated in dotted lines in Fig. 2.

From the upper outer end of the throat-plate a spring-wire 28 is downwardly curved, carrying at its outer end a hammer 29. This hammer is vibrated as the disk 16 rotates by means of the curved arms 22, which service is the principal function of the said arms.

Upon posts 30 and 31, cast, preferably, integral with the inner face of the front of the bank, two registering-disks 32 and 33 are respectively journaled. The lower registering-disk 33 has produced upon its outer face a series of figures, as illustrated in Figs. 1 and 5, commencing from 0 and ascending by fives until the figure 45 is reached. When the bank is adapted to receive nickels only, the above is the preferred arrangement of the figures employed. If pennies are to be placed in the bank, the gradation of the figures may be varied accordingly, and so when other coins are desired to be deposited, it being the object of the invention to provide a bank capable only of receiving coin of one denomination. When the figures upon the disk 33 are arranged as illustrated, the figures upon the upper disk commence from 0 and ascend by fifties to, for instance, the sum five hundred, representing five dollars, at which amount the bank shown in the drawings may be opened.

Upon the inner face of the lower disk 33 a series of pins 34 are arranged extending at a right angle outward from the disk, one pin being located opposite each figure upon the front face of the disk, and from the periphery of the said disk 33 two teeth 35 and 36 are projected, the tooth 36 being the smaller, and the periphery of the disk immediately in front of the said tooth 36 is provided with a recess 37, as illustrated in dotted lines in Fig. 2 and in positive lines in Fig. 5. The upper disk is likewise provided upon the inner face with a series of pins 38, arranged in similar manner to those upon the lower disk, and upon the periphery of the upper disk 32, between each of the pins, a tooth 39 is formed, one tooth 39^a being longer than the others. The pins 38 are arranged equidistant apart, with the exception of one pair, which pins are wider apart than the rest, and their opposed faces are beveled, as illustrated at 40 in Fig. 2.

Between the peripheries of the disks 32 and 33 at the outer side the lower end of a spring-actuated dog 41 is pivoted, the head whereof is adapted to enter the space between the pins 38, and in order that the disk may be revolved

the under surface of the inner end of the head is inclined, as likewise shown in Fig. 2, and the rear portion of the head is curved downward considerably beyond the periphery of the upper disk to contact normally with the upper end of a curved lock-bar 42, held to slide a limited distance upon the inner front face of the bank, as is also best shown in Fig. 2, the lower end of which lock-bar extends downward diagonally across an opening 43, produced in the lower portion of the front face of the bank, in which opening a drawer 44 is introduced, the said drawer being provided with a button 45 upon the inner front face and a key-hole 46, adjacent to the said button; or the said drawer may be dispensed with and a plate only be employed to close the opening 43.

The coin is introduced into a downwardly-curved chute 47, formed in the interior of the bank and constituting an integral portion of the upper plate or top, in which upper plate or top an opening is made sufficient to receive the coin and registering with the hopper. The hopper is flat, and one side of the lower end is so curved that when the disk is in position to receive the coin, the coin will be guided into the pocket of the disk.

In connection with the lower disk 33, I employ a spring-pawl 47^a, adapted to enter between and bear upon two opposed pins, as the disk rotates. This pawl materially aids in the rotation of the disk.

In the operation of the device, before the first coin is placed in the hopper the 0 upon both disks is exposed at the front of the bank. When a nickel is inserted in the slot in the top of the bank and finds its way into the pocket 17, and the disk, by means of the handle 15, is rotated to the left, the periphery of the coin, which projects beyond the pocket, contacts with the wall of the groove or channel 25 in the throat-plate 23 and gradually forces the throat-plate outward until the pin 27 is withdrawn from the recess 19, whereupon the disk may be further turned, carrying the pocket containing the coin downward and bringing an empty pocket up beneath the hopper; thence the coin is free to drop from the pocket into the chamber of the bank. At this time one of the curved arms 22 has forced the hammer 29 outward and released it, whereby the said hammer sounds an alarm, and the inner horizontal arm 21, contacting with one of the pins 34 and assisted by the pressure of the spring-pawl 47^a, rotates the disk 33 a distance equaling the space between two teeth, whereupon the figure 5 is exposed at the lower opening 13 and the spring-pawl 47^a engaging with another pair of pins effectually locks the disk in this position. At each rotation of the disk 33 the long tooth 39^a contacts with one of the short teeth 39 upon the upper disk 32, rotating the said disk a distance equaling the distance between two of its teeth, thereby exposing at the upper opening 12 the figure

50. This occurs when the next figure to be exposed at the lower opening 13 is the 0.

The bank is kept locked mainly by the outer end of the pawl 41 contacting with the upper end of the lock-bar 42, which lock-bar in turn at its lower end contacts with the button 45, attached to the drawer 44, which has been inserted in the bank, and the button turned crosswise, the inner face of the drawer contacting with the inner face of the front wall of the bank above and below the opening through which the drawer is introduced.

When sufficient money has been deposited in the bank to amount to five dollars, as the last coin is dropped into the hopper and the pocket-disk revolved the upper disk is rotated, and the head of the pawl 41, entering the wide space between the two pins 38, which have the beveled faces 40 of the upper disk, is pressed a sufficient distance over the disk to be disengaged from the top of the lock-bar 42; and at this moment, as the upper disk is turned to expose the \$5.00, the long tooth 39^a of the upper disk enters the recess 37 of the lower disk, and, bearing against the short tooth 36, revolves the lower disk a sufficient distance to expose the 0 thereon at the lower opening 13. By introducing a suitable key in the key-hole 46 of the drawer the button may be readily turned to open the drawer and remove the same by causing the ward of the key to contact with the upper end of the button, whereby the button will be carried longitudinally across the front of the drawer over the lock-bar 42, as the lock-bar is now free to move upward.

Before using the bank again after the money has been removed, the drawer is placed in position and the button turned, as shown in Fig. 2; and when the first coin is placed in the hopper and the first amount is indicated at the opening 13 the pawl 41, being entered between the regular pair of teeth, effectually forces and holds the lock-bar in contact with the button.

If it is found desirable the bank may be provided with a central partition 50, dividing it into two chambers; and when thus constructed the mechanism at one side of the bank contained in one chamber may be made to receive a nickel and the mechanism at the opposite side a penny, a dime, or a coin of other denomination.

It will be observed that the frame of the bank—namely, its sides, top, and bottom—is united by a single rod 10, having a right-hand thread at one end and a left-hand thread at the other end, the threaded ends whereof enter correspondingly-threaded sockets in the front and rear faces of the bank.

The rod 10 is manipulated in the following manner: The drawer 44 having been withdrawn, a pair of pliers bent to suitable shape is introduced into the opening in which the drawer is usually situated and the rod is clamped by the said pliers, the threaded ends of the rod are introduced into their respective

sockets, and the rod is turned by the said pliers until all the parts have been brought to a secure and firm contact.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a toy bank, the combination, with a rotary disk having diametrically-opposite pockets formed therein, and a chute leading downward from one wall of the bank to the pockets, of a spring-actuated curved throat-plate held contiguous to one side of the disk, a bell attached to the disk, and a hammer attached to the throat-plate, all combined for operation substantially as shown and described.

2. In a toy bank, a money-receiving mechanism comprising a rotary disk provided with diametrically-opposite pockets, curved arms projected from the disk, a bell secured to the disk, a curved spring-actuated throat-plate held contiguous to one peripheral surface of the disk, and a hammer attached to the said throat-plate, capable of being vibrated by the said arms, substantially as shown and described.

3. A money-receiving mechanism for toy banks, comprising a disk having produced therein diametrically-opposite pockets and peripheral recesses between the pockets, arms projected from the disk, a bell attached to the disk, a curved spring-actuated throat-plate held contiguous to the peripheral surface of the disk, provided with a pin adapted to enter one of the recesses between the pockets, and a hammer provided with a spring-shank or handle secured to the said throat-plate, adapted to be vibrated by the said arms, substantially as and for the purpose specified.

4. In a toy bank, the combination, with a money-receiving mechanism comprising a rotary disk provided with diametrically-opposite pockets, curved arms projected from the said disk, a bell secured to the disk, a spring-actuated throat-plate held contiguous to one peripheral surface of the disk, and a hammer attached to the throat-plate, capable of being vibrated by the said arms, of horizontal arms projected from the upper surface of the disk, registering-disks having figures arranged upon their outer faces, and spaced pins projected from their inner faces, and spring-actuated pawls contacting with the pins of the several registering-disks, all combined to operate substantially as shown and described.

5. In a toy bank, the combination, with a money-receiving mechanism comprising a rotary disk provided with diametrically-opposite pockets, curved arms projected from said disk, a bell secured to the disk, a curved spring-actuated throat-plate held contiguous to one peripheral surface of the disk, and a hammer attached to the said throat-plate and capable of being vibrated by the said arms, of horizontal arms projected from the rotat-

ing pocket-disk, an upper and a lower registering-disk having produced upon their outer faces a series of numbers, and provided with a series of pins upon their outer surfaces and peripheral teeth, the teeth of one registering-disk being adapted to contact with the teeth of the other, and spring-actuated pawls contacting with the teeth of each of the said registering-disks, substantially as 5
10 and for the purpose specified.

6. In a toy bank, the combination, with a money-receiving mechanism comprising a rotary disk provided with diametrically-opposite pockets, curved arms projected from said disk, a bell secured to the disk, a curved spring-actuated throat-plate held contiguous to one peripheral surface of the disk, and a hammer attached to the throat-plate, capable of being vibrated by the said arms, of 15
20 horizontal arms projected from the pocket-disk, registering-disks arranged one above

the other, having figures produced upon their outer faces, pins projected from their inner faces corresponding in number to the figures and provided with peripheral teeth arranged 25
substantially as described, the teeth of one registering-disk being adapted to contact with the teeth of the other, spring-actuated pawls adapted to contact with the pins of the registering-disks, the pawl of the upper disk 30
being provided with an elongated head, a plate adapted to close an opening in the bank, a button attached to the inner face of the plate, and a lock-bar contacting with the pawl of the upper registering-disk and the button 35
of the said plate, substantially as shown and described.

WILLIAM R. CHRISTIE.

Witnesses:

J. F. ACKER, Jr.,
C. SEDGWICK.