

(No Model.)

2 Sheets—Sheet 1.

W. R. CHRISTIE.
REGISTERING TOY BANK.

No. 478,404.

Patented July 5, 1892.

Fig. 1.

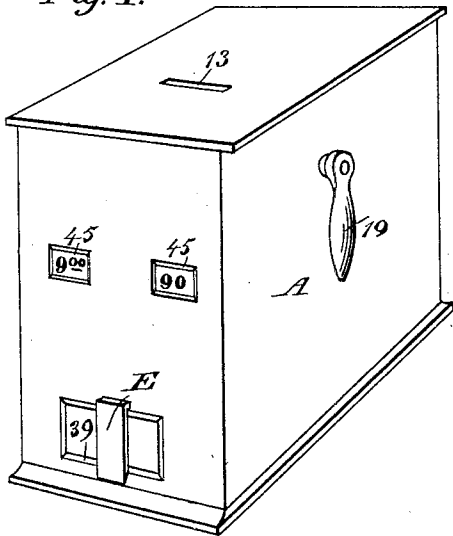


Fig. 2.

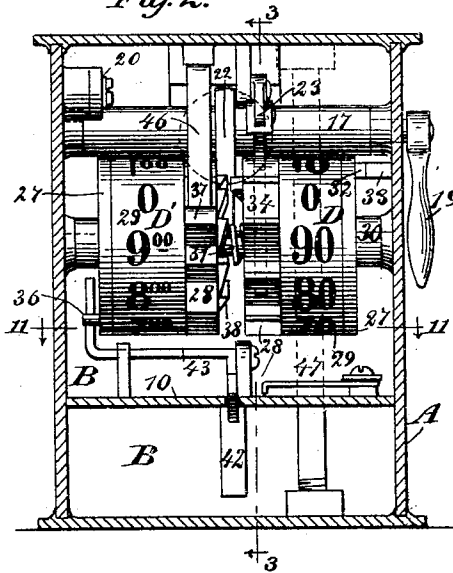


Fig. 3.

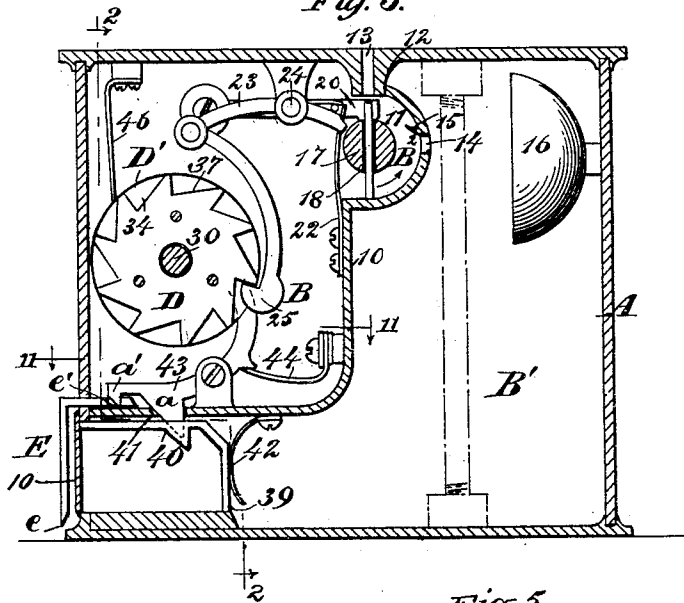


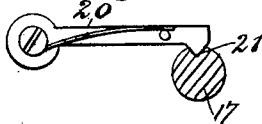
Fig. 5.



WITNESSES:

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C. Sedgwick

Fig. 4.



(No Model.)

2 Sheets—Sheet 2.

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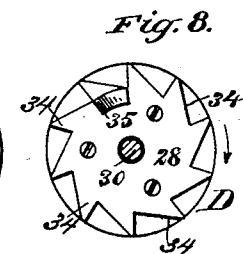
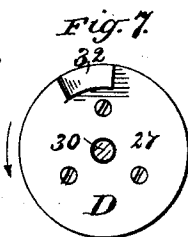
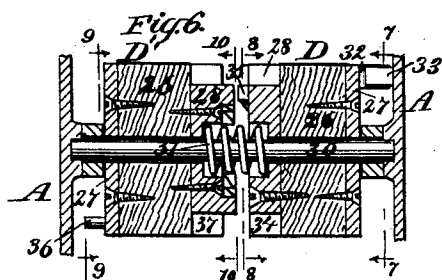


Fig. 11.

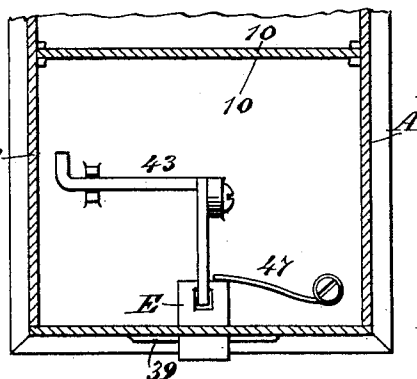
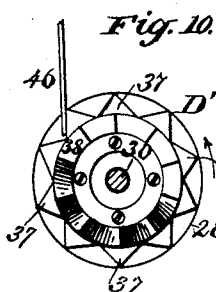
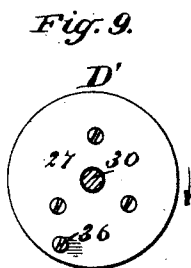
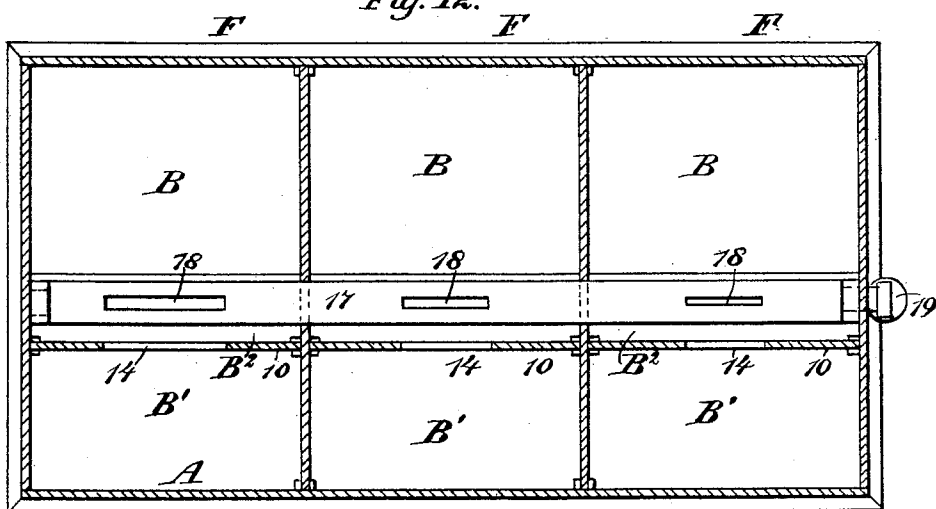


Fig. 12.



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INVENTOR:

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ATTORNEYS

UNITED STATES PATENT OFFICE.

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

REGISTERING TOY BANK.

SPECIFICATION forming part of Letters Patent No. 478,404, dated July 5, 1892.

Application filed April 17, 1891, Serial No. 389,330. (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 Registering-Banks, of which the following is a full, clear, and exact description.

My invention relates to an improvement in registering-banks, and has for its object to provide a bank of simple and economic construction, into which coins of any predetermined denomination may be introduced and the amount of coins of different denominations placed in the bank be indicated upon suitable
15 dials.

A further object of the invention is to construct a bank which will be opened only when a predetermined amount has been placed within it or which may be made to open at
20 any time desired.

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 and letters of reference indicate corresponding parts in all the views.

30 Figure 1 is a perspective view of a bank adapted to receive coin of one denomination. Fig. 2 is a vertical section through such a bank, taken upon the line 2 2 of Fig. 3. Fig. 3 is a vertical section taken on the line 3 3 of Fig. 2. Fig. 4 is a detail view illustrating a latch applied to the coin-receiving shaft. Fig. 5 is a detail view illustrating the means for throwing two dial-disks into engagement. Fig. 6 is a longitudinal section through the
40 dial-disks. Fig. 7 is a section taken upon the line 7 7 of Fig. 6, showing the outer face of the cent-dial. Fig. 8 is a section on the line 8 8 of Fig. 6, illustrating the inner face of the cent-dial. Fig. 9 is a section on the line 9 9 of Fig. 6, illustrating the outer face of the dollar-dial disk. Fig. 10 is a section on the line 10 10 of Fig. 6, illustrating the inner face of the dollar-dial disk. Fig. 11 is a horizontal section taken practically on the lines 11 11 of
50 Figs. 2 and 3, and Fig. 12 is a horizontal section taken above the coin-receiving shaft and

illustrating a bank divided into compartments and the shaft as arranged to receive coins of different denominations and deliver them to the several compartments.

In describing the construction of the bank in detail I will confine myself to a bank of but one compartment and adapted to receive coin of but one denomination.

The casing A of the bank may be of any desired shape; but said casing is preferably made rectangular. The interior of the bank is divided into two compartments B and B', through the medium of a partition 10, which connects at its upper end with the top of the casing and extends vertically downward at or near the center of the casing and at a point above the bottom of the casing the partition is carried forward to an engagement with the front of the casing, and the ends of the partition engage with the sides of the casing. The upper portion of the partition 10 is semicircular, and the convex portion thereof is within the compartment B'. The upper end of the semicircular portion 11 of the casing is preferably made to engage with the back of the throat 12, which throat surrounds a slot 13, produced in the top of the casing, and through the said slot the coin is introduced into the bank, as is best shown in Fig. 3. In the central portion of the semicircular section 11 of the partition a horizontal opening 14 is made, of a size to permit the ready passage of the coin of predetermined denomination. At the upper wall of the opening 14 a guide-flange 15 is formed, which extends upwardly within a pocket B², formed by the semicircular contour of the upper portion of the partition.

In the compartment B' a gong 16 or equivalent alarm device is located, the said gong being secured to the back of the casing A, in front of the opening 14 in the pocket portion of the partition, and in the sides of the casing a shaft 17 is journaled, which shaft is provided with a slot or opening 18, extending through from side to side, the said slot or opening 18 in the shaft being adapted to correspond in dimensions to the dimensions of the slot 13 in the casing and normally register with said slot. The shaft, consequently, passes through the pocket B² and the shaft is

revolved, preferably through the medium of a handle 19, attached at one end outside of the casing, and when the opening in the shaft registers with the opening 13 in the casing a spring-pressed pawl 20, pivoted to one side of the casing, enters a groove 21 in the shaft, which groove is preferably V-shaped, as shown in Fig. 4. The noise of the pawl entering the slot in the shaft and the resistance offered indicates to the operator that the shaft-opening is in position to receive another coin. Immediately in front of the slotted portion of the shaft a spring 22 is located, the lower end of which spring is secured to the partition 10 within the compartment B and below the pocket B², and at one side of the spring, within the compartment B, the upper end of an elbow-lever 23 is fulcrumed, preferably upon a stud 24, projecting downward from the top of the bank-casing. The upper member of the elbow-lever is preferably curved, the convex edge being uppermost, and the lower member is likewise curved, the convex face being opposed to the partition 10, and the lower end of the lower member of the elbow-lever is provided with a head 25. The inner end of the upper member of the elbow-lever is so located that when a coin is in the slot of the shaft 17 and the shaft is turned the coin will engage with said member and elevate the head 25 of the lower member.

In connection with the lever 23 two disks D and D' are employed. Both disks are preferably constructed in three sections—namely, a central section 26, preferably made of wood, an outer metal section 27, and an inner metal section 28—the sections 27 and 28 being secured in any suitable or approved manner to the central section. The central section 26 is wider than the other sections, and upon its periphery numbers are produced, whereby the said section is given a dial-periphery 29, as illustrated in Fig. 2. The disk D is adapted to indicate amounts in cents and the disk D' dollars. Thus, for instance, if the bank is adapted to receive ten-cent pieces only the dial-surface of the cent-disk D will read "0," "10," and by tens up to and including "90," and the dial-face of the dollar-disk will read from "0" "1" "2" "3" dollars up to and including "9," the "0" representing "10," and when this amount of money—namely, ten dollars—has been placed in the bank the bank will be made to automatically open in a manner to be hereinafter described. The disks are mounted upon a shaft 30, secured at its extremities in the sides of the casing within the compartment B, and the two disks are normally held a slight distance apart by means of the spring 31, so that their opposed faces will be out of engagement, which result is accomplished by means of an interposed spring 31, coiled around the shaft, as is best shown in Fig. 6.

Upon the outer section 27 of the cent-disk D a lug 32 is formed, preferably near the pe-

riphery, which lug is the only projection upon the said section, as is illustrated in Figs. 5, 6, and 7. The lug 32 is provided with a beveled face and at one point in the revolution of the disk D is adapted to engage with a similar lug 33, formed upon the inner face of the casing A, as is best shown in Fig. 5, and when these two lugs are in engagement the spring 31 is compressed and the cent-disk is thrown into engagement with the dollar-disk, as when the disks are forced apart by the spring 31 they are at the limit of their end movement.

The metal section 28, which is the inner section of the cent-disk D, is provided with teeth 34 in its periphery, whereby the said section is virtually a ratchet-wheel, as the teeth are inclined, and at the base of one of the teeth 34 a lug 35 is formed upon the said section, as is best illustrated in Fig. 8.

The outer section 27 of the dollar-disk D' is provided with a pin 36, extending at a right angle therefrom, and the inner section 28 of the dollar-disk is provided upon its periphery with a series of teeth 37 and a series of circularly-arranged lugs 38, the lugs having inclined faces and being adapted to be engaged by the lug 35 upon the cent-disk, the face of which is also inclined.

Between the bottom of the casing and the horizontal section of the partition 10 a plate 39 is located, preferably T-shaped, the inner shank member of which plate extends through an opening in the front of the casing, and the front member of the plate is located outside of the opening and engages with the outer face of the casing around the opening and covering the latter. In the top of the inner or shank member of the plate a recess 40 is produced, and when the plate is in position within the casing the recess 40 is immediately beneath an opening 41 in the horizontal portion of the partition 10.

A spring 42 normally engages with the back of the closing-plate 29, and when the plate is not locked in the casing the tendency of the spring is to force it outward. Within the compartment B a lock-lever 43 is fulcrumed upon a stud located at the bottom of the compartment, and the said lock-lever is curved upward to engage with the pin 36 of the dollar-disk, as seen in Fig. 2, and the opposite or lower end of the lever is provided with two spurs *a* and *a'*. The spur *a* is preferably triangular and is adapted to extend downward through the opening 41 in the partition 10 and into the recess 40 of the locking-plate 39, and the said spur is normally held in this position by a spring 44, which engages with the lever above its fulcrum, as is best shown in Fig. 3.

In connection with the bank a key E is used, which key is essentially L-shaped, and the ends of one or both of its members are beveled, as illustrated at *e* in Fig. 2. The horizontal member of the key is provided with a slot *e'*, and in the front face of the casing A, immediately above the floor of the

compartment B, an opening is formed, through which the horizontal member of the key is introduced, and when so introduced the spur a' of the lock-lever enters the slot e' in the key.

When the indicating-disks are in proper position, the numbers upon their dial-faces may be read through openings 45, produced in the front of the casing, as shown in Fig. 1, and the head 25 of the elbow-lever 23 is in engagement with the ratchet-teeth 34 of the cent-disk D.

In operation the coin, having been passed downward through the slot 13 and the throat 12, enters the slot or opening in the shaft 17. The lower edge of the coin engages with the base-wall of the pocket B², and when the shaft is rotated in the direction indicated by the arrow in Fig. 3 one edge of the coin travels upward in engagement with the wall of the pocket and the other is carried to an essentially-horizontal position in engagement with the spring 22, and as the shaft rotates the coin also engages with the inner end of the upper member of the elbow-lever 23, pressing down the said member, and thereby elevating the head 25 of the lever, which action causes the cent-disk D to be revolved the distance of one tooth 34, showing "10," indicating cents, at the opening 45 in the casing, supposing the coin to be the first one placed in the bank. As soon as the coin has turned sufficiently to align with the slot 14 in the pocket the spring 22 acts and forces the coin through the slot 14 to an engagement with the gong 16, thus ringing an alarm. At the same time the lever 23 is released and its head drops downward to engage with another tooth 34 of the cent-disk. After nine dimes have been placed in the bank the cent-disk will show the number "90" at the opening 45, and when the next dime is introduced and the disk D is revolved the lug 35 upon its ratchet-surface will be forced into engagement with one of the lugs 38 upon the toothed section of the dollar-disk D' by reason of the lugs 32 and 33—one upon the cent-disk and the other upon the casing—being brought in engagement, and the dollar-disk will be revolved the distance of one tooth, which will present at the opening 45 of said disk the dial-surface marked "\$1," and the moment the dollar-disk has been thus revolved the lugs 32 and 33 disengage and the spring 31 forces the disks apart, and the dollar-disk will not be again revolved until the cent-disk has made one revolution or is moved the distance of ten teeth. In order that the dollar-disk may not slip backward, but remain in the position in which it is set, a spring 46 is secured at one end to the casing, engaging at its other end with one of the teeth 37. (See Figs. 2 and 10.) A spring 47 is located in the compartment B, normally having a bearing against the inner end of the key E. (See Fig. 11.) If the key has been placed in the bank, as shown in Fig. 3, before the first coin is introduced, it is

locked in position by reason of the spur a' of the lock-lever entering the opening in the key, and the cover-plate 39, which has been forced to place, is also locked in position by the spur a of the lock-lever. After the dollar-disk has made nearly one revolution, registering nine dollars, when the dollar-disk is again turned the distance of a tooth the pin 36 thereon will press downward the upper end of the lock-lever and disengage the spur a' from the key and the spring 47 will act to throw the key out from the bank. The cover-plate 39, however, at this time is not yet unlocked, and to release the plate it is necessary that the longer member of the key be introduced into the key-slot of the casing, and the spur a is thereby elevated out of engagement with the cover-plate, at which time the spring 42 will act to throw the plate out. It is evident, however, that if the key E is not placed in the bank when the first coin is manipulated the cover-plate may be taken out and the coin emptied from the bank at any time desired, as the spur a of the lock-lever may be thrown upward out of engagement with the cover-plate by means of the key or an equivalently-shaped implement.

In Fig. 12 I have illustrated a bank composed of a series of independent compartments F, each of which compartments is subdivided into compartments B and B', and the mechanism in these compartments corresponds to that heretofore described in connection with the single-coin bank. When the bank is made up of a series of compartments, each compartment is adapted to receive a coin of different denomination, and but one coin-shaft 17 is employed, extending from side to side of the bank, as is likewise shown in Fig. 12. The said shaft is provided with a number of slots 18, corresponding to the number of compartments, and if three compartments are used in the construction of the bank one may be adapted to contain dimes, another quarters, and the other half-dollars, the slots in the shaft being made of sufficient length to just receive such coins, and if a coin be placed in each of the slots of the shaft and the shaft is revolved each coin will be delivered to its special compartment, the gong will be rung in each compartment, and a dial-periphery will be changed to indicate the banking of each coin, and these actions will take place simultaneously.

The bank is held together by locating the top and bottom edges of the front, back, and side pieces in channels produced in the top and bottom plates of the bank, whereupon all portions of the casing of the bank are locked together by a rod or rods threaded right and left and screwed into sockets formed in the top and bottom plates, as shown in Figs. 2 and 3.

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

1. In a registering-bank, the combination,

with the registering mechanism and an actuating or trip lever engaging with said mechanism, of a shaft mounted to turn and provided with a coin-slot extending through from side to side, the slotted portion of the shaft being opposite one end of the trip or actuating lever, a spring independent of the shaft and located in front of the shaft slot or opening, adapted to force a coin carried by the shaft through its opening, and a compartment for coin located at one side of the shaft and provided with an opening to receive the coin when it is forced from the shaft by said spring, substantially as shown and described.

2. In a registering-bank, the combination, with a casing, a pocket formed within the casing, semicircular in general contour and provided with an opening therein, an alarm device located opposite the convex surface of the pocket, a registering mechanism, and a trip-lever engaging with the mechanism and facing the concaved surface of the pocket, of a coin-receiver consisting of a shaft held to revolve in the pocket and provided with a coin slot or opening, the said slot or opening being adapted at a point in the revolution of the shaft to face the trip-lever and the opening in the pocket, and a propelling mechanism adapted to act upon a coin while carried by the shaft when the coin-opening in the shaft is opposite the opening in the pocket, substantially as and for the purpose specified.

3. In a registering-bank, the combination, with a casing, a pocket formed within the casing and provided with an opening therein, a registering mechanism, and a trip-lever engaging with the mechanism and facing one side of the pocket, of a coin-receiver consisting of a shaft held to revolve in the pocket and provided with a coin slot or opening, said slot or opening being adapted at a point in the revolution of the shaft to face the trip-lever and the opening in the pocket, as and for the purpose specified.

4. In a registering-bank, the combination, with a casing, a pocket formed within the casing and provided with an opening therein, a registering mechanism, and a trip-lever engaging with the mechanism and facing one side of the pocket, of a coin-receiver consisting of a shaft held to revolve in the pocket and provided with a coin-opening, the said

coin-opening being adapted at a point in the revolution of the shaft to face the trip-lever and the opening in the pocket, an alarm device located at one side of the pocket in front of the opening therein, and a spring located at one side of the shaft and adapted for engagement with the coin when located in the slot of the shaft, as and for the purpose set forth.

5. In a registering-bank, the combination, with a registering mechanism, of a cover or lock plate located beneath the mechanism, a lock-lever fulcrumed above the plate and provided with spurs adapted to enter an opening in said plate, the upper end of the lock-lever being actuated by the registering mechanism, and a removable key engaging with the lock-lever, whereby the lock-lever and lock-plate may be disengaged, substantially as described.

6. In a registering-bank, the combination, with a casing divided into compartments and provided with an opening in one face leading into one compartment and a plate closing said opening and provided with an inwardly-extending section, of a registering mechanism, a lock-lever provided with a spur adapted to enter the inwardly-extending portion of the plate, and a key entered into an opening above the plate, the said key being spring-pressed and provided with an opening to receive a spur located upon the lock-lever, the key being removable from the casing, substantially as and for the purpose specified.

7. In a registering-bank, the combination, with a casing and a partition dividing the casing into compartments, the said casing being provided with an opening leading into one of the compartments, and a plate closing said opening and extending within the inwardly-extending section, of a key extending within the casing over the plate, a lock-lever fulcrumed over the plate and provided with spurs entering the openings in the plate and in the key, a registering mechanism, and a trip connection between the registering mechanism and the lock-lever, as and for the purpose set forth.

WILLIAM R. CHRISTIE.

Witnesses:

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EDGAR TATE.