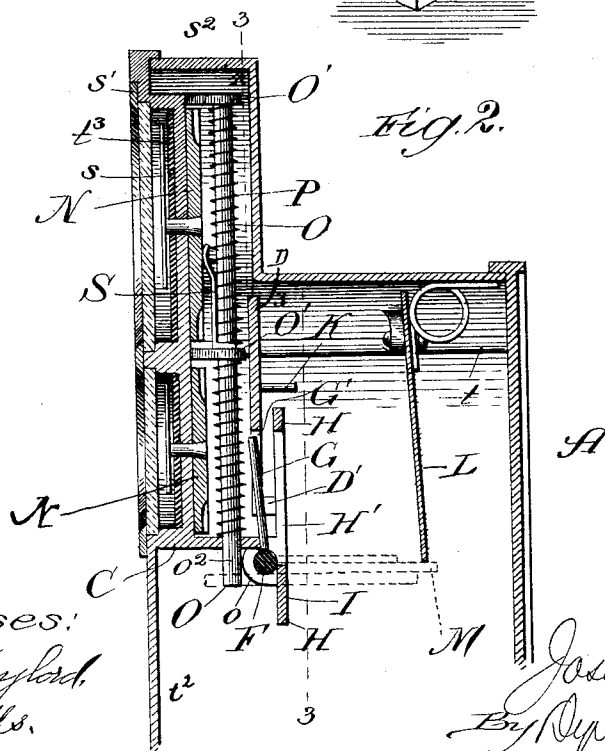
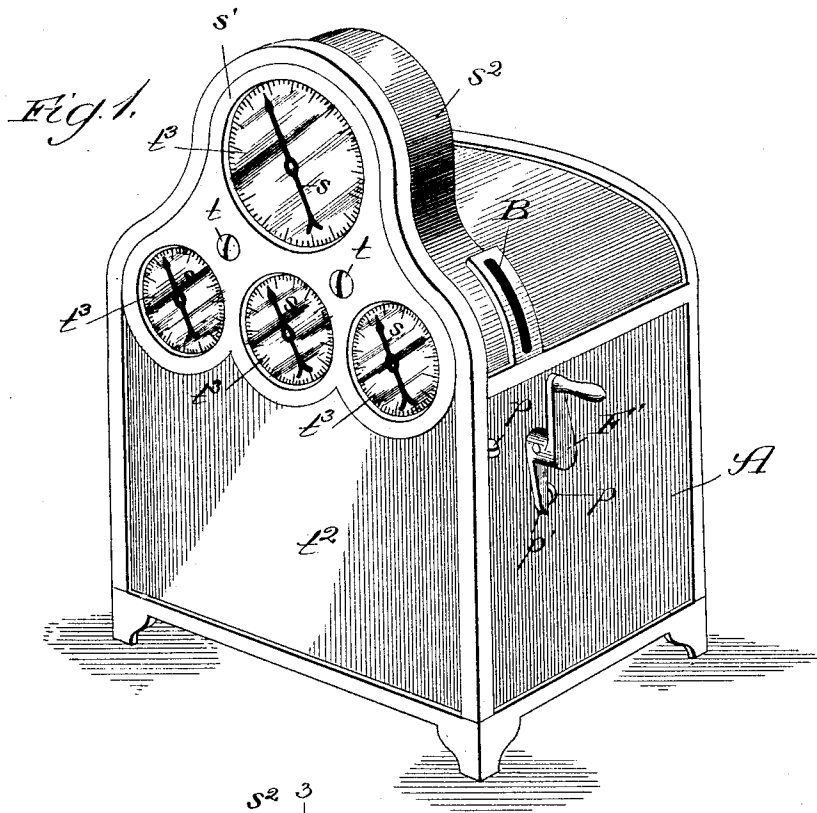


J. C. F. DICK.
REGISTERING MONEY BOX.

No. 482,004.

Patented Sept. 6, 1892.



Witnesses:

Edw. E. Gaylord,
A. D. Wells.

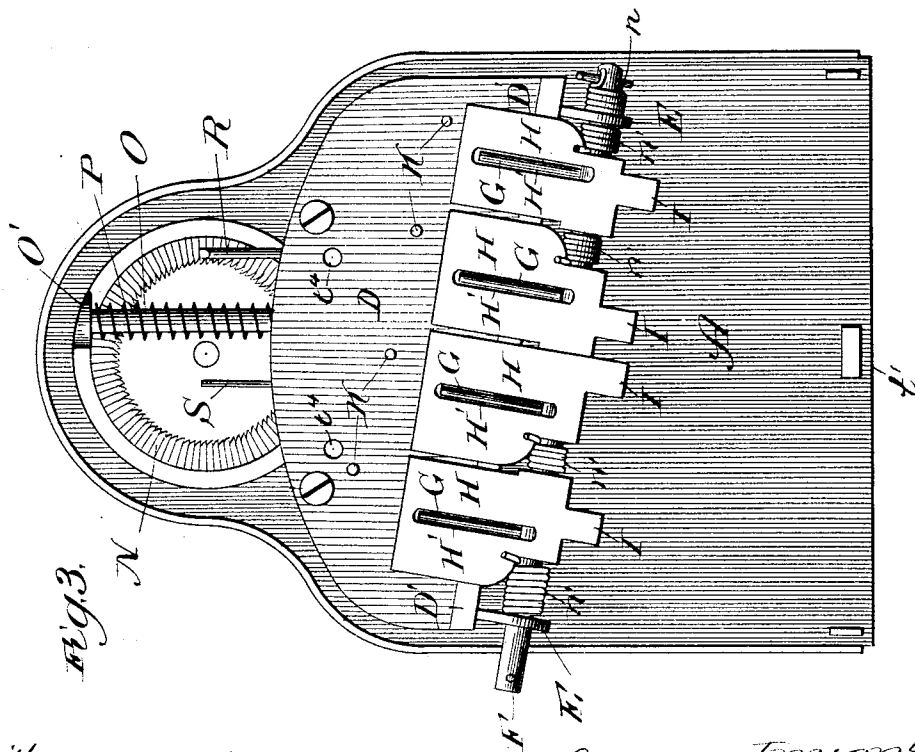
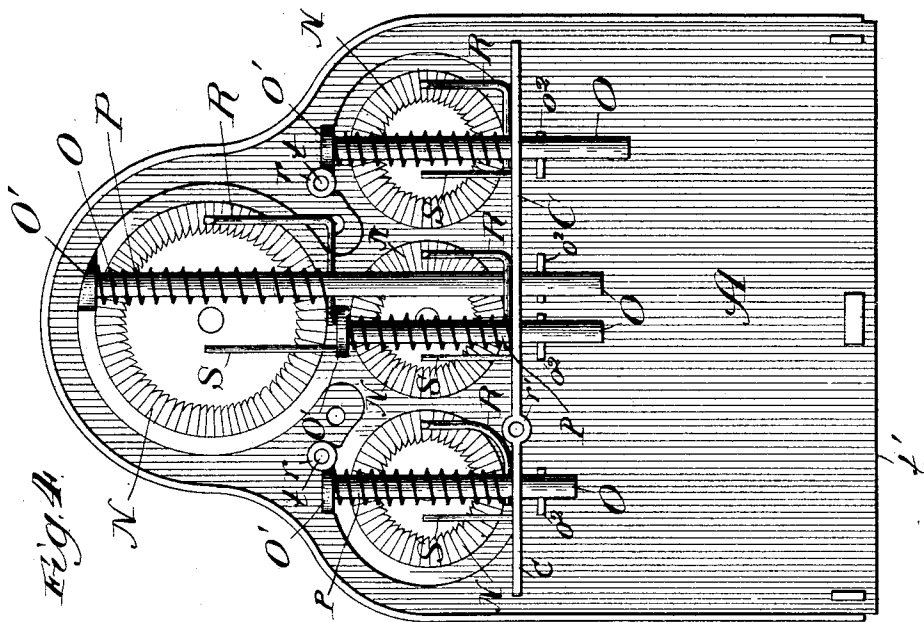
Inventor:

Joseph C. F. Dick
By *Superintendent of Deposits*
U.S. Treasury

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Witnesses:
E. C. Mayford.
Clifford W. White.

Inventor:
Joseph C. F. Dick
By *Deperpith & Deperpith*
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH C. F. DICK, OF CHICAGO, ILLINOIS.

REGISTERING MONEY-BOX.

SPECIFICATION forming part of Letters Patent No. 482,004, dated September 6, 1892.

Application filed June 27, 1891. Serial No. 397,704. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. F. DICK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Registering Money-Boxes, of which the following is a specification.

My invention relates to an improvement in money-boxes of the character popularly known as "toy banks." The common use of boxes of this nature is generally confined to children, and their popularity is very largely due to their beneficial influence in directing the youthful mind into channels of thriftiness as a means of acquiring material wealth. It is generally known, however, that the mere act of saving money does not present extraordinary charms to the child, and the discomforts of economy easily overcome any better influence which the use of toy-banks was intended to foster. As a means of adding to the inducement to save by depositing occasional coins in money-boxes which cannot be opened except at a certain time or with a special key these boxes have been given many and various attractive qualities, and it is with a similar view that the present invention has been made.

The purpose of the invention is to contribute to the attractive qualities of the box a desirable feature by which the amount of coin of various denominations introduced into the box may be automatically registered and visually disclosed.

I am aware that a toy bank provided with a registering device has heretofore been produced; but the mode of operating the registering device has ordinarily involved an amount of discrimination in introducing the coin which is not only rarely found in the child but troublesome under any circumstances.

The further object of my invention therefore is to improve the construction of money-boxes in this particular, whereby the coin, of whatsoever denomination, may be introduced into the same slot and the registering mechanism will be caused to operate to register any coin upon its appropriate dial.

My invention consists in the general and specific details of construction and combina-

tion of parts, all as hereinafter more fully set forth.

In the drawings, Figure 1 is a view in perspective of a self-registering money-box made in accordance with my invention. Fig. 2 is a central vertical section of the upper part thereof. Fig. 3 is a rear elevation of the forward part of the interior operating mechanism, taken at the line 3 3 of Fig. 2, part of the casing being removed for the purpose of the view; and Fig. 4 is a rear elevation of the interior mechanism, taken at the line 4 of Fig. 2, part of the casing being removed.

A represents the exterior casing, preferably made of sections fitting together and secured by bolts *t*, extending from front to rear. The bottom may be hinged or otherwise arranged at *t'*, Fig. 3, to be locked with an ordinary Yale lock or other similar lock or with a bolt of peculiar construction. It is deemed unnecessary to show this feature in detail, as it is common.

The outlines of the case A may be such as the taste of the manufacturer shall direct. I have shown it as presenting the forward part of greater height than the rear part, this forward part containing the registering mechanism. The front plate *f* is provided with recesses *f'* to receive the dials and pointers *s*. It is preferable to cover the dials with crystals, to secure which in place the frame *s'* may be applied. The lower part of the box A constitutes the money-receptacle. The coin-slot is preferably provided in the curved part of the top *s*² of the box, as indicated at B. Within the box and extending along the middle of the front thereof is a plate or ledge C, which serves to separate the coin-receiving part from the registering mechanism and also to furnish a bearing and support for various details of the mechanism, as presently described. A vertical plate D extends entirely across the interior upper part of the box at a point a short distance from the front plate and is held in position by screws entering lugs *r r'*, projecting from the front plate, the lug *r'* being for convenience produced by enlarging the plate C. Through this plate D bolt-holes *t* are formed to receive the bolts *t*. The plate D may be rounded at the top or not, as shown; but its lower edge inclines downward and

is expanded to provide a shoulder D', this shoulder forming the coinway. At opposite ends of the lower side of the plate D depending ears E are formed and perforated to receive a rod F. This rod F extends through the side wall of the box and carries at its outer extremity a crank-handle F', the limit of movement of which is established by studs p, engaging the extension p' of the handle, as shown in Fig. 1. Extending vertically upward from the rod F at predetermined points thereon are wires or fingers G, to receive which slots G' are cut into the lower part of plate D.

Mounted upon the rod F through the medium of perforated enlargements or ears o are shelves H, (the ears being preferably on the shelves, as shown in Fig. 2,) each of which is provided with a slot H', these slots being continued to extend along the upper side of the ear o. The dimension of the slot is such as to permit the wire finger G to pass freely through it. A spring n at the end of the rod F causes the same normally to remain in the position shown in Fig. 3—viz., with the fingers G pointing upward. A series of springs n', bearing at one end upon the plate D and at the other end upon a shelf H, serves to maintain the shelves in their vertical position, as indicated in the drawings. (See Fig. 3.) At the lower end of each shelf H a depending or tail piece I is provided, the purpose of which will be presently described. It will be observed that the fingers G are free to turn with the rod F under the operation of the handle F' and normally pass through the shelves H without tipping the latter. When, however, a coin is interposed between a finger and its adjacent shelf by its insertion through the coin-slot and upon the coinway, the turning of the handle F' causes the turning, also, of one of the plates or shelves H—namely, that one against which the coin rests—the coin being held at this point in the manner presently described.

Pins or studs K are provided in the plate D adjacent to the shelves at different distances above the coinway D' to intercept coins of different diameters, the first pin, or that nearest the slot B', being farthest from the coinway D' and the last pin, or that farthest from the slot B', being nearest the coinway.

The drawings indicate a device to receive and register coins of the denomination of quarters, five-cent pieces, pennies, and dimes, and it follows from the arrangement adopted that a coin of the denomination of a quarter-dollar, for example, would be prohibited from passing along the coinway beyond the first pin K and by this obstruction would be held between the first finger G and plate H, while a five-cent piece would pass to the second pin, a penny to the third pin, and a dime to the fourth pin.

It may here be stated that the plates H operate, respectively, the registering device on

the four dials shown through the medium of vertical spring-controlled rods engaged by the extensions or tail-pieces I. Each shelf H being separated from the others, the one operating the dial for a particular coin introduced is alone caused to turn under the turning of the handle, registering the particular coin introduced and retained there.

Extending downward from the upper wall of the case A at a point adjacent to the outer extremity of the plates or shelves H when down is a spring-plate L. This spring-plate L is capable of outward displacement under the pressure of the coin carried between the finger G and shelf H when turned downward under the operation of the handle F', and when the coin passes below the lower extremity of the plate L the latter returns to its normal vertical position, as indicated in Fig. 2, in which in dotted lines is illustrated a coin M. When the handle is released to permit the finger and shelf to return under the action of their springs, the lower edge of the plate L offers an obstruction to the return of the coin, without, however, preventing the rising of the finger and shelf, and the coin is thereby tipped out from between the finger and plate, between which it is held, and permitted to fall into the bottom of the box.

Instead of a single spring-plate L a number of spring-fingers may be supplied—one for each shelf—to effectuate the operation in substantially the same way as that illustrated.

The registering mechanism is shown in detail in Figs. 2 and 4, and comprises a number of radially-serrated disks N, one for each pointer s, the serrations presenting a radical ratchet upon the face exposed to the interior of the box. Adjacent to each disk N is a vertically-movable rod O, capable of moving vertically under impact of the tail-piece I in lug-bearings O' at the upper end, these bearings being formed upon the front wall of the box, and at their lower ends in apertures formed in the ledge C. Each rod O is surrounded by a spring P, serving to hold it in its lower position, and the limit of its upward play is controlled by pins o' in the manner shown in Fig. 4. Passing through each rod below the spring is a bent pawl R, the point of which is turned toward the adjacent disk N and engages the radical ratchet thereon. I find it convenient to use the inserted end of each pawl R as a bearing for the lower end of each spring P. Extending upward from each nearest bearing device—such as the ledge C or one of the lugs O'—is the spring-finger S, the opposite end of which bears upon the face of the disk N adjacent to it and holds it against displacement on its journal.

It will be noted that the uppermost disk N is provided with one hundred serrations, while the three lower ones are provided with but fifty. This is done in view of the reasonable probability that the pennies introduced and which are registered by the upper disk will

largely exceed in number the coins of greater denomination. In view of its elevated position, however, I prefer to extend the inner end of the pawl R, operating the one-cent disk, which inner end passes through and projects beyond the rod O to a point where it will rest upon the adjacent ledge O' for the rod operating the five-cent disk, thus providing a secure lower bearing for the spring on the one-cent-disk-operating rod.

The operation is as follows: A coin of whatever denomination within the limit of the apparatus being inserted into the coin-slot B, falls upon the coinway D' and rolls down until it is stopped by contact with the appropriate pin or stud K. The handle F' is thereupon turned, causing all the fingers G to pass through the slot H' in their adjacent shelves H, except the finger adjacent to the coin, and this finger turns down its shelf, the coin pressing outward and passing the spring-plate L, and the extension or tail-piece I elevates the adjacent rod O, together with the attached spring-pawl R, and revolves the disk N, and with it its pointer or index-finger, the extent of one notch. Thus before the coin introduced can fall into the money-box below its presence is registered on the proper dial. The sum of all the dials indicates the quantity of money in the box.

Any number of denominations of coin may be provided for in the construction of the box, provided that these various denominations are found in coins of different diameters. This may be done without material variation from the details of construction above described, and, as will be perfectly obvious, a less number of denominations may be provided for in the same manner. The details of construction are of course capable of variation, and I do not mean to confine my invention to the specific details in any particular as illustrated, except to the extent that specific limitation is contained in the claims appended to the specification. Such well-known additional devices as means for registering a complete revolution of the pointer upon the separate dials or the addition of an audible signal or other useful or ornamental features to increase the attractiveness of the money-box may be added, and, as before stated, the outline may be of any kind the manufacturer shall prefer.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a self-registering money-box, an inclined horizontal coinway, stops at intervals above and varying in their distance from the coinway, and a registering device and an actuator therefor at each stop, comprising two parts respectively on opposite lateral sides of the way, connected by an introduced coin, to operate substantially as described.

2. In a self-registering money-box, an approximately-horizontal coinway, a stop for the coin in its movement on the coinway, a spring-sustained shelf on one side and a pivoted fin-

ger on the other side of the coinway, a handle for turning the finger on its pivot, and a register-operating device in the line of movement of the shelf, said shelf and finger being adapted normally to pass each other in the movement and connected to move together by an introduced coin, substantially as described.

3. In a self-registering money-box, a coinway arranged at the upper part of the box, a tilting shelf on one side of the coinway and a tilting-finger on the other side of the coinway and adapted to pass the shelf without engaging the same and to engage the same on the introduction of a coin, and a tripping device supported in the box and arranged to engage the coin carried by the tilting shelf and cause the coin to fall into the receptacle below, substantially as described.

4. In a self-registering money-box, in combination, an inclined coinway, stops for the introduced coin arranged above and at varying distances from the coinway, a rod at one side of the coinway, spring-controlled fingers supported on said rod, spring-controlled slotted shelves on the other side of the coinway opposite to the fingers, a registering device for each stop having its operating mechanism in the line of movement of the shelf, a trip located in the box and adapted to engage the coin and cause it to fall from the shelf when the latter returns after it is tilted, and a handle to turn the rod carrying the fingers, substantially as described.

5. A self-registering money-box having dials in its face, pointers on said dials, mechanism to revolve said pointers a definite space at each motion, a coinway in the rear of the registering mechanism, fingers at one side of the coinway and shelves on the other side, both made pivotal and adapted to operate together on the introduction of a coin, an extension of the shelves to engage the register-operating mechanism, a coin-receptacle below, and a trip arranged to engage the coin and cause it to be removed from the shelf as the shelf returns, substantially as described.

6. In a self-registering money-box, in combination, an inclined coinway, a coin-receptacle below the same, stops above the coinway and arranged at varying distances therefrom, a rod below the coinway extending out through the wall of the box and provided with a handle, fingers secured to the rod, and a spring upon the rod normally retaining the same in position to cause the fingers to point upward, a shelf pivoted on the shaft at each finger and having a tail-piece or extension, the finger and shelf being on opposite sides of the coinway, a slot in the shelf to permit the finger to pass through the same, and a registering device engaged to be operated by the tail-piece of the shelf in the movement, substantially as described.

7. In a self-registering money-box, in combination, an inclined coinway, stops above the coinway, arranged at varying distances there-

from, a spring-retained upsetting shelf having an extension and arranged on one side of the coinway and a spring-retained finger on the opposite side of the coinway, slots in the
 5 coinway and the shelves to permit the passage of the finger, a trip device supported in a box to extend downward to a point adjacent to the end of the shelf when upset, a registering mechanism, and a connection between the
 10 registering mechanism and the shelf, operative when the latter is upset, substantially as described.

8. In a self-registering money-box, in combination, a coinway D', rod F, fingers G, pivotally supported on the spring retaining-rod
 15 F normally in a vertical position, shelves H, extensions I on the shelves, register-dials, serrated disks, and spring-controlled rods carrying pawls to engage the serrations, said rods
 20 being arranged to be engaged and elevated by the extensions I when the shelves are down, substantially as described.

9. In a self-registering money-box, the combination of the following elements: register

dials and fingers s, radially-serrated disks N, 25 carrying the fingers, rods O, with their surrounding retaining-springs P and having a vertical movement against the resistance of the springs, pawls R, secured to the rods and engaging the serrations of the disks N, a slot- 30 ted coinway, stops arranged at intervals above the coinway at varying distances therefrom, rod F, arranged below and parallel with the coinway, a handle for turning said shaft against the resistance of the spring thereon, 35 fingers and slotted shelves mounted upon the shaft at opposite sides of the coinway, said shelves having an independent movement controlled by the springs, a trip L, spring-controlled to extend normally adjacent to the 40 outer end of the shelf when down, and a coin-receptacle below, the parts being arranged to operate substantially as described.

J. C. F. DICK.

In presence of—

DOUGLAS DYRENFORTH,
 M. J. FROST.