

(No Model.)

H. W. PORTER.
COIN CONTROLLED MUSICAL TOY BANK.

No. 528,277.

Patented Oct. 30, 1894.

Fig. 1

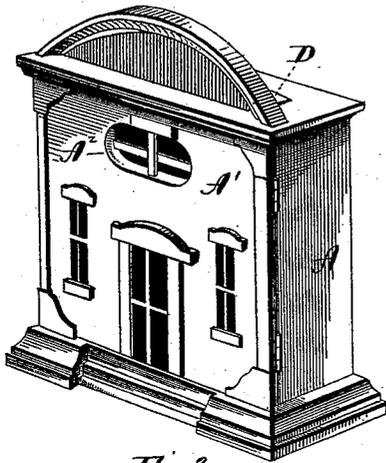


Fig. 5

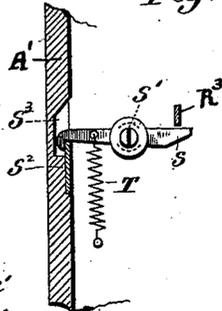


Fig. 7

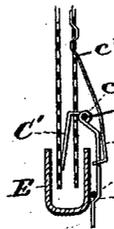


Fig. 4

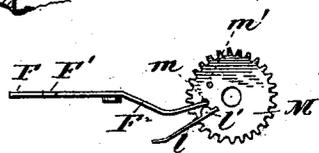


Fig. 2

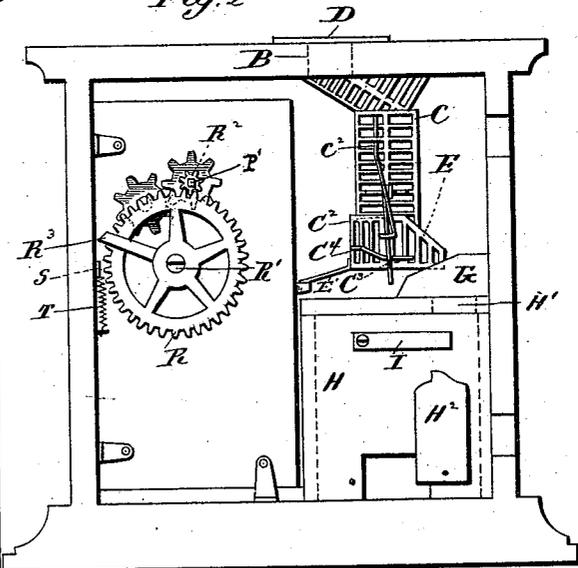


Fig. 3

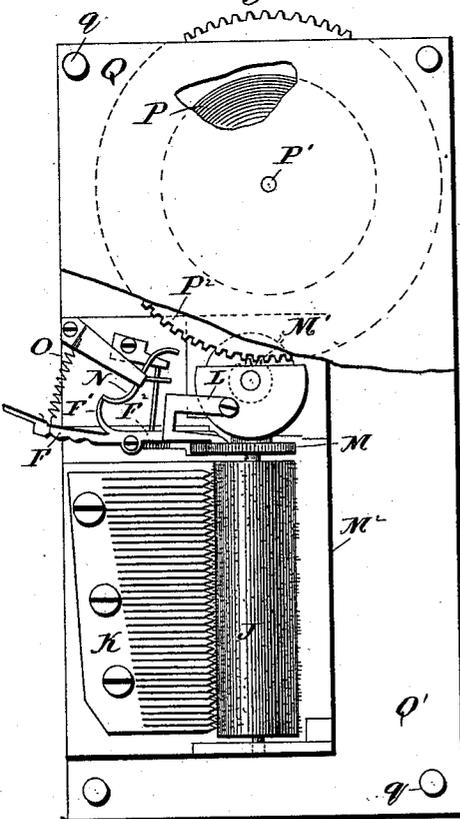
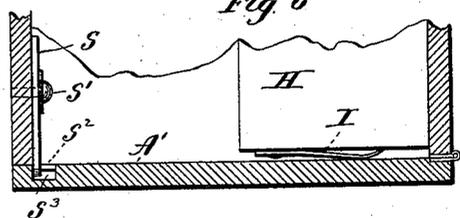


Fig. 6



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UNITED STATES PATENT OFFICE.

HENRY W. PORTER, OF FORESTVILLE, CONNECTICUT, ASSIGNOR OF ONE-HALF TO FREDERICK N. MANROSS, OF SAME PLACE.

COIN-CONTROLLED MUSICAL TOY BANK.

SPECIFICATION forming part of Letters Patent No. 528,277, dated October 30, 1894.

Application filed November 27, 1893. Serial No. 492,104. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. PORTER, of Forestville, in the county of Hartford and State of Connecticut, have invented a new
5 Improvement in Coin-Controlled Musical Toy Banks; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and
10 exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, a view in perspective of one form which a toy-bank constructed in accordance
15 with my invention may assume; Fig. 2, an enlarged view of the bank, with the bank-door removed; Fig. 3, a detached view in rear elevation of the music-box and operating mechanism employed in the bank; Fig. 4, a detached view showing the stop-wheel which is
20 connected with the drum of the music-box, and the stop-arm and guard-finger which co-operate with the said stop-wheel; Fig. 5, a broken view partly in elevation and partly
25 in vertical section showing the spring-actuated latch which normally holds the door of the bank in its closed position; Fig. 6, a broken detail view in horizontal section through the bank-case, showing the latch and
30 spring which co-operate with the bank-door; Fig. 7, a broken view in vertical section through the lower end of the coin-chute, showing the mechanism for locking the operating-pan in its elevated position.

35 My invention relates to an improvement in coin-controlled machines, and more particularly to a toy-bank containing a music-box mechanism, which is released for playing whenever a coin is dropped into the bank
40 through a slot provided for it therein, the object of my present invention being to produce a simple, ornamental and attractive toy-bank, which may only be opened for access to the accumulated coins when a pre-
45 determined number have been deposited therein.

With these ends in view, my invention consists in certain details of construction and combinations of parts as will be hereinafter
50 described and pointed out in the claims.

As herein shown, the case A, of the bank

is made of wood, and designed to suggest a bona-fide bank, its real door A' having a heavy false door and barred windows, and being constructed with a barred opening A²,
55 through which the music is more distinctly heard, but as to the style of the case, that may be widely varied. The top of the case is formed with a slot B, which receives the offsetting or angled upper end of a vertically
60 arranged perforated or open-work coin-chute C, suspended from the top of the case, and covered at its upper end by a metal plate or escutcheon D. The lower end of the said coin-chute is entered into the upper open edge of
65 a horizontally arranged perforated operating-pan E, secured to the outer end of an operating-arm E', which forms an extension of an operating-lever F, to be described hereinafter. The outer end of the pan E, extends
70 into a deflector G, mounted upon the top of the vault H, and diverting the coins thereinto through an opening H' in the top thereof.

I do not limit myself to constructing the coin-chute as described, but by angling or
75 offsetting its upper end and making it of perforated material, I guard against the setting off of the mechanism of the bank by means other than coins. I therefore prefer to employ the construction shown and described or one substantially like it. By preference also I provide the lower end of the chute with mechanism for locking the operating-pan in its elevated or normal position.
80 This mechanism, which is shown in Figs. 2 and 7 of the drawings, comprises a tripping-arm C', which is located within the lower end of the chute, in position to be engaged and deflected by the coins passing through the same, and a locking-arm C², located outside of the chute, and constructed at its
90 lower end with a locking-shoulder C³, which engages with a locking finger C⁴ carried by the operating-pan E, already described. By preference the said tripping and locking-arms are formed from a single piece of wire,
95 bent between its ends to form a coil c receiving a pin c' applied to the outer face of the chute, and constituting a bearing on which the wire swings. A very light spring c² applied to the chute engages with the locking-
100 arm C², and exerts a constant effort to press

the same inward, and hence engage the shoulder C³ with the locking-finger C⁴ and to maintain the tripping-arm in its inclined position in which it is engaged by the coin.

5 It will be understood that when a coin drops down in the chute, it will strike the tripping-arm, and force the same outward against the tension of the spring c², whereby the locking-arm will also be thrown outward and its locking-shoulder C³ carried away from the locking-finger C⁴, leaving the operating-pan free to be depressed immediately by the falling coin. When the pan is restored to its elevated position, which it will be automatically
10 when the music-box stops playing, the spring c² will at once operate to restore the tripping-arm C³, and the locking-arm C³ to their normal positions, and lock the pan in its elevated position. This mechanism increases the difficulty of surreptitiously causing the music-box to play either by the introduction of other means than coins into the chute, or by jarring the bank. I do not limit myself to using this mechanism, because I may discard it, but by
15 preference I shall use it.

The said vault H is furnished with a swinging door H, through which the coins are removed. A spring I, secured to the front wall of the vault, is provided for throwing the door
20 A' of the bank open, when the same is released, but this spring may be located elsewhere, or dispensed with if desired. So too the chute, pan, deflector, and vault may be differently constructed and arranged, for it is obvious that a variety of constructions may be resorted to for causing the coin to actuate an operating-arm when dropped into the bank. The said arm is attached, as before mentioned, to the operating-lever F, which forms a part
25 of the music-box mechanism, the same also comprising a drum J, a comb K, a spring-guard L, a train including a stop-wheel M, and a fan N, controlling the actuation of the said train, which it is not deemed necessary to particularly illustrate and describe, inasmuch as it is of ordinary construction. The said lever F is constructed with a stop-arm F', arranged to be moved into the path of the fan N, under the action of the spring
30 O, attached to the outer end of the lever, and with a stop-arm F², having its inner end bent inward to enter a small opening m, (Fig. 4) formed in the outer face of the stop-wheel M, which also carries a pin m', the function of which is to lift the finger l of the guard L, and hence the lip l' located at the inner end of the said finger, away from the opening m, to permit the bent end of the stop-finger F² to enter the same. I may here mention that when the operating-lever F is depressed under the impact of a coin upon the pan E, the bent end of the stop-arm is lifted and withdrawn from the hole or opening m in the stop-wheel, at which time the lip l' of the said finger l of the guard immediately
35 slides under the same, and temporarily closes the opening, so that the bent end of the arm

which then rides upon the outer face of the lip, is prevented from immediately re-entering the opening, which is very soon exposed
40 again by the action of the pin m' which engages with the said finger and moves it against its spring tension until the lip is cleared from the opening and moved out from under the said end of the stop-arm which thereafter
45 rides upon the surface of the wheel. Then when in the rotation of the wheel the pin passes beyond the range of the finger, the same springs back, and the edge of its lip engages with the bent end of the stop-arm and remains in this position of readiness to slide over the hole and under the arm the moment the latter is retracted therefrom. I do not, however, limit myself to the particular mechanism shown and described for stopping and
50 starting the music-box mechanism.

The actuating-mechanism of my improved device, consists as herein shown, of a heavy spiral spring P, mounted upon a winding-arbor P', also carrying a main wheel P², which meshes into the main pinion M' of the music-box train, as clearly shown in Fig. 3 of the drawings. The said arbor is mounted between two heavy movement-plates Q Q', secured together at their corners by heavy pillars q, the bed M² of the music-box mechanism being secured directly to the inner face of the front plate Q'. The arbor P' and main-wheel P² are provided with the usual ratchet-wheel and spring-actuated pawl, which are
55 not shown, but which are the same as are generally employed in clock-movements to connect the arbor, and hence the inner end of the spring, with the main-wheel. The actuating mechanism described may also vary in construction, its particular form being immaterial so long as it suffices to drive the music-box mechanism and the releasing mechanism.

The releasing mechanism comprises, as herein shown, a large wheel R, mounted upon
60 a stud R', entering the outer face of the front plate Q', the said wheel being meshed into by a pinion R², secured to the projecting outer end of the winding arbor P'. The said wheel carries a releasing finger R³, projecting beyond its edge, and designed, once in every revolution of the wheel, to engage with the inner end or tail of a latch S, hung upon a screw-stud S', entering one side of the case A of the bank, the hooked outer end of the said
65 latch being arranged to engage with a latch-plate S², secured to the inner face of the edge of the door A', the door being recessed as at S³, to permit the hooked end of the latch to engage with the plate, as clearly shown in Figs. 5 and 6. A spring T, connected with the outer end of the latch, and also secured to the side of the case, exerts a constant effort to draw the latch downward onto the plate. It will be clear from the foregoing description, that once in every rotation of the wheel R', its finger R³ will engage with and depress the tail of the latch, whereby the hooked outer end thereof will be lifted against the
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tension of the spring T, thus releasing the door, which if not additionally locked, will immediately be thrown open by the spring I before referred to.

5 The number of actuations of the music-box required to carry the releasing wheel through one entire rotation will depend upon the number of teeth it has, and the way the music-box mechanism, the actuating mechanism, and the releasing mechanism are geared
10 together.

Plainly it will be a simple matter to arrange for a complete rotation of the releasing wheel once in twenty-five, fifty, or a
15 hundred, or any other number of actuations. It is clear too that the specific releasing mechanism may be varied from the construction shown. It is not necessary that the door should be automatically thrown open when
20 the releasing mechanism has been actuated to permit it to be opened. If desired, the door may be provided with a lock in addition, in which case the releasing of the door would have to precede its being opened by
25 the key of the lock.

It is thought that it is only necessary to say of the operation of the device that when a coin is dropped into it, the music-box mechanism, and hence the actuating mechanism,
30 are released, whereupon the actuating mechanism drives the music-box mechanism until the drum thereof has completed one rotation, when the drum, and hence the actuating mechanism, are automatically arrested. While
35 the actuating mechanism is running, it is also operating the releasing mechanism, which moves one step forward, so to speak, toward the releasing of the bank-door. If desired, the releasing mechanism might be
40 constructed to be driven by the actuating mechanism by some step-by-step or equivalent movement, instead of being driven positively thereby, as herein provided for.

From the foregoing it will be understood
45 that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

50 My improved mechanism is not limited to use in toy banks, but may be utilized in what I may term "catch-penny" mechanisms designed to be placed upon a counter or in some other conspicuous place so as to attract
55 the attention of customers and guests who will drop their coins into it for the purpose of hearing the music-box play. In such a use of the invention, the door might or might not be furnished with releasing devices operated at predetermined times by the mechanism employed for actuating the music-box.

I am aware that it is old to provide a toy-bank with a coin-controlled music-box which will play every time a coin is deposited in the bank, and I do not claim that construction
65 broadly.

I am aware that it is old to provide a toy

savings bank with a releasing mechanism comprising a lever, a wheel and a latch, all constructed to operate to permit the bank to
70 be opened after a predetermined number of coins have been introduced into the bank in such a manner as to operate the said mechanism step by step. I am also aware that a device containing a coin-controlled music-box
75 is not new. I do not, therefore, claim either of those constructions broadly.

Having fully described my invention, what I claim as new, and desire to secure by Letters
80 Patent, is—

1. In a coin-controlled toy bank, the combination with an automatically stopped music-box mechanism adapted to be directly operated upon and released by a coin, of an actuating mechanism for driving the music-
85 box mechanism, after it has been released for operation as described, and controlled in being stopped and started thereby, a releasing mechanism driven by the actuating mechanism, and controlled by the music-box mechanism, and operating after a predetermined
90 number of actuations thereof, and a locking device connected with the bank door, and operated to prepare for the opening of the same, by the said releasing mechanism, substantially as described.

2. In a coin-controlled toy bank, the combination with an automatically stopped music-box mechanism adapted to be operated upon and released by a coin, of an actuating
100 mechanism for driving the music-box mechanism, and controlled in being started and stopped thereby, and a releasing mechanism actuated by the driving mechanism, and controlled by the music-box mechanism, and operating after a predetermined number of actuations of the device to prepare for the opening of the bank, and a latch arranged to normally hold the bank-door closed, and adapted to be acted upon by the releasing mechanism, substantially as described.

3. In a coin-controlled toy-bank, the combination with a music-box mechanism, of an actuating mechanism for driving the same, and a releasing mechanism driven by the
115 actuating mechanism, and controlled by the music-box mechanism and operated after a predetermined number of actuations thereof, and including a wheel carrying a projecting finger, and a latch controlling the opening of
120 the bank-door and arranged to be engaged by the finger of the said wheel, substantially as described.

4. In a coin-controlled music-box mechanism, the combination with a case therefor, of
125 a chute mounted in the case, an actuating mechanism comprising a spring and train mounted between two heavy movement-plates, a music-box applied to the inner face of one of the said plates, and geared into the said actuating mechanism, and releasing
130 mechanism connecting the music-box mechanism with the lower end of the coin-chute, substantially as described, whereby the mu-

sic-box is set in operation by the dropping of a coin into the said chute.

5 In a coin-controlled music-box mechanism, the combination with a chute through
10 which the coins pass, of an operating pan located at the lower end of the chute, and a locking mechanism comprising a tripping-arm located in the chute in position to be engaged and deflected by the coins, a locking-arm connected with the said tripping arm and operated thereby and arranged to lock

the pan in its elevated position, and a spring for restoring the said tripping and locking-arms into their normal positions after operation, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HENRY W. PORTER.

Witnesses:

LULU I. BEACH,
HOWARD C. BEACH.