(No Model.) 3 Sheets—Sheet 1

G. RAAB.

COIN CONTROLLED MUSIC BOX.

No. 473,342. Patented Apr. 19, 1892.

Fig. 1.

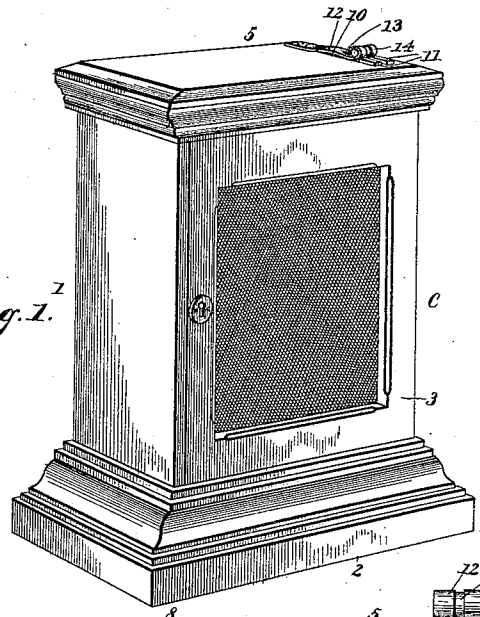
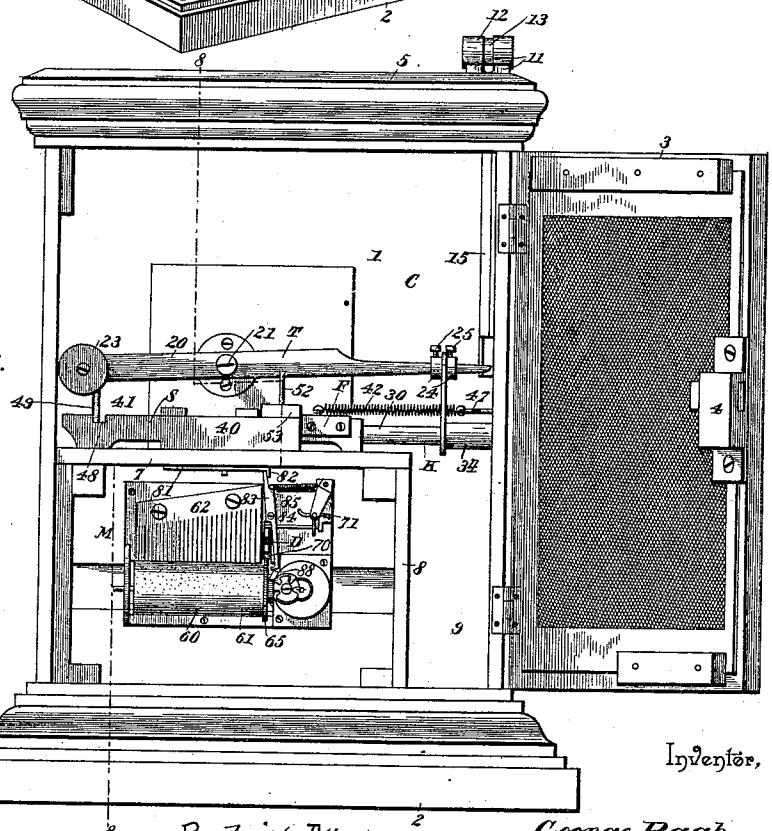


Fig. 2.



Witnesses;

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(No Model.) 3 Sheets—Sheet 2.

G. RAAB.

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Fig. 3.

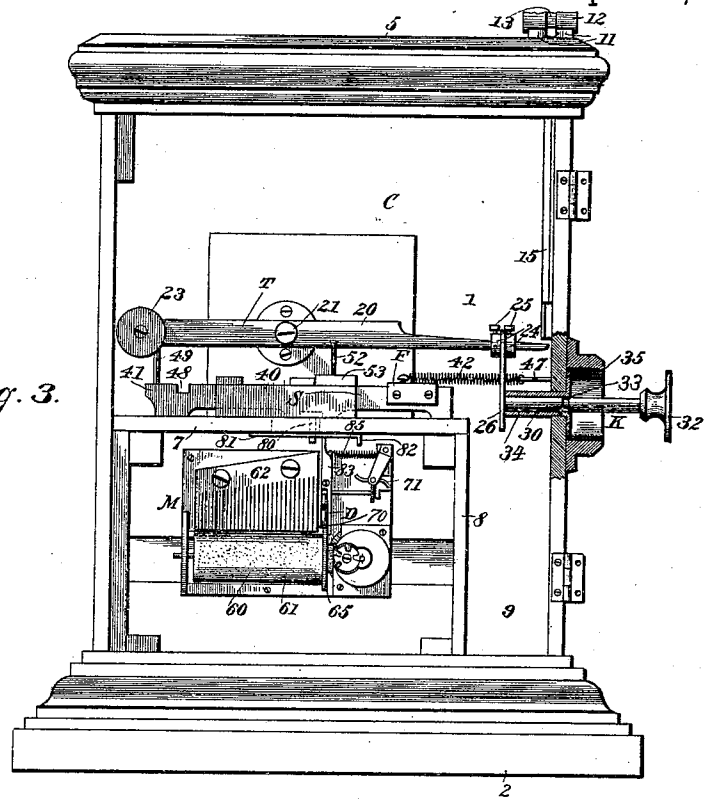


Fig. 4.

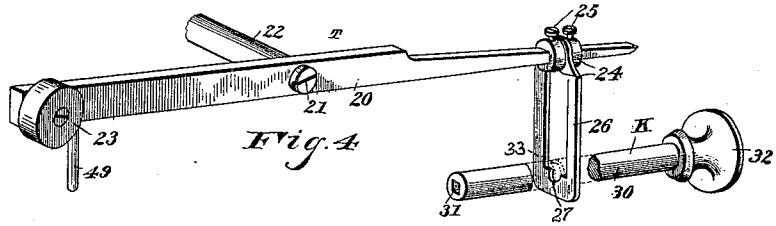
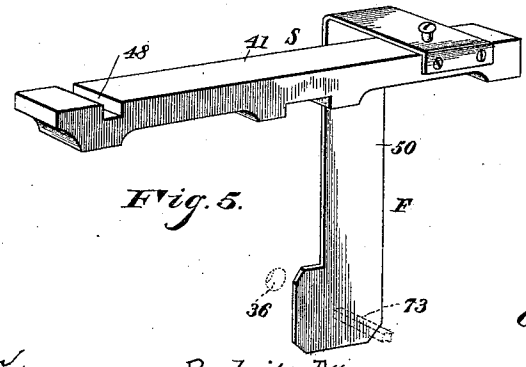


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

G. RAAB.

COIN CONTROLLED MUSIC BOX.

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Fig. 6.

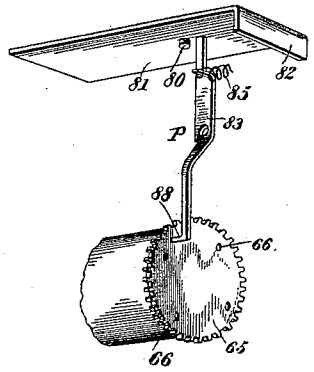


Fig. 8.

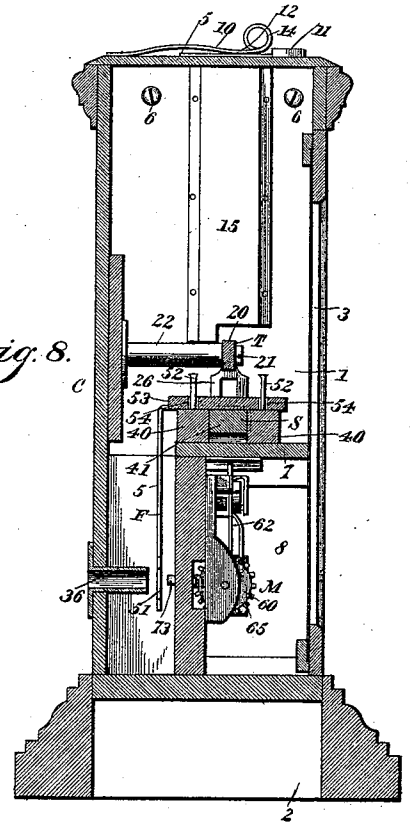
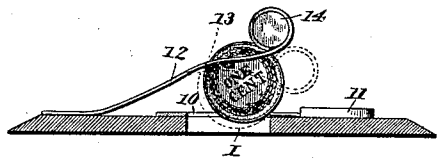


Fig. 7.



Witnesses;

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UNITED STATES PATENT OFFICE.

GEORGE RAAB, OF CLEVELAND, OHIO.

COIN-CONTROLLED MUSIC-BOX.

SPECIFICATION forming part of Letters Patent No. 473,342, dated April 19, 1892.

Application filed December 16, 1891. Serial No. 415,250. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RAAB, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Coin-Controlled Music-Box, of which the following is a specification.

This invention relates to coin-controlled apparatus, and more especially to that class thereof wherein the insertion of the coin causes the delivery of a key; and the object of the same is to provide a construction whereby the operating mechanism for the musical instrument may be wound with the key and its retaining-pawl tripped by the replacing of the key.

A further object is to provide a guard over the key-hole to prevent the insertion and use of ordinary keys, and to provide means whereby the weighted lever cannot be operated by inverting the entire device.

Other objects and advantages will appear in the following specification and claims, wherein is set out at length a description of this improved device, to be taken in connection with the accompanying three sheets of drawings, wherein—

Figure 1 is a perspective view of this device ready for operation. Fig. 2 is a front elevation thereof with the door open. Fig. 3 is a similar view with the parts in position after the coin has dropped. Fig. 4 is a perspective detail of the trip-lever and key. Fig. 5 is a similar view of the slide and guard, showing the key-hole in dotted lines. Fig. 6 is a perspective detail of the retaining-pawl, its spring, and the operating angle-plate. Fig. 7 is a sectional detail of the spring at the upper end of the chute, showing a coin thereunder. Fig. 8 is a vertical section on the line 8 8 of Fig. 2, but with the door closed.

Referring to the said drawings, the general elements of this machine, designated by reference-letters, are as follows: C is the casing having a coin-insertion opening I. T is the trip-lever, which is operated by the coin. S is the slide released by the trip-lever and which moves a guard or fraud-preventer F away from the key-hole, and in its movement also throws out the key K. D is the driving mechanism, which can be then wound by the key; and M is the musical instrument which is driven by this mechanism when the key is reinserted in its socket, whereby the slide is pushed back and its angle-plate operates the retaining-pawl P to release it from engagement with the musical instrument and allow the latter to run. The general co-operation of the elements as thus indicated is effected by their specific constructions, as hereinafter more fully described.

The casing C.—This may be of any desired size and construction, preferably about as shown in the drawings—that is to say, a rectangular body 1 is mounted on a base 2, a door 3 closing the front of the body and having a lock 4, and a top 5 is mounted on the upper end of the body by pins or screws 6, which are removable from the interior, so that after the door is opened the top can be taken off, as will be readily understood. Within the body are partitions 7 and 8, as may be necessary, to provide supports for the mechanism hereinafter described and to form a box or receptacle 9 for the coin.

The insertion-opening, spring, and chute I.—Through the cover 5 is formed a slot over whose upper end is an escutcheon 10, having at one end enlarged guides 11, between which a coin can be passed, and 12 is a spring secured to the cover at the other end of the escutcheon and having a slot 13, registering with that in the cover, and a handle 14. Within the casing is a chute 15, which leads down to a point above the trip-lever T, whence a coin which is passed therethrough will be free to fall into the receiving-box 9.

The trip-lever T.—20 is a bar or rod pivoted at 21 between its ends to a bracket 22, projecting from the back of the casing, one end of this rod having a weight 23 and the other end standing under the mouth of the chute 15. Near this end are two collars 24, adjustable by means of set-screws 25, and 26 is a link clamped between the collars and hanging from the bar, the lower end of this link having a reduced notch 27.

The key K.—The key proper comprises a cylindrical shank 30, having in one end a square hole 31, at the other end a head or knob 32, and its body being annularly grooved, as at 33. 34 is a socket passing through the

side wall of the casing in alignment with the slot in the link 26, and 35 is a ring-shaped rosette secured on the outside of the casing in position to embrace the head or knob of the key when in place so that said knob can not be grasped to withdraw the key. At the back of the casing is a key-hole 37, through which the shank of the key may be passed to engage its hole 31 with the driving mechanism.

The slide S.—Between guides 40, mounted on the partition 7, moves a bar 41, forming the body of the slide, and this is drawn toward the link 26 by a contractile spring 42, which leads preferably through the link to an eye 47, mounted in the side wall of the casing. In the upper face of the bar 41, near its other end, is formed a recess 48, in which is adapted to be seated a pin 49, which depends from the weighted end of the trip-lever, the length of parts being such that when the key K is pushed in the slide S is moved to permit the pin 49 to drop into the recess 48, and this will cause the link 26 to rise so that its notch 27 engages the groove 33 in the shank of the key, which at that time stands just in position.

The fraud-preventer F.—50 is a plate secured to the body 41 of the slide and leading down to a point 51, which stands over the inner end of the key-hole when the slide is in and the pin 49 rests in the recess 48. In addition to this plate, pins 52 rise from the guides 40, and a weight 53, having holes 54, is mounted loosely on said pins, the whole being located on that side of the pivot 21 of the trip-lever T opposite from the weighted end 23 of said lever. The first device or "guard" prevents a key being inserted in the key-hole unless the key K is withdrawn, and the second device prevents the possibility of causing the trip-lever to operate by inverting the entire machine when the weight 23 would move by gravity, because when so inverted the weight 53 moves on the pins 52 and holds the trip-lever in its locked position.

The musical instrument M.—In the present case I have shown this instrument as consisting of a cylinder 60, having pins 61 in its face, and a comb 62, having fingers of graduated length, which are engaged by said pins, the whole forming what is popularly known as a "music-box;" but I desire to be understood as reserving the right of substituting any other well-known rendering-instrument which will operate in substantially the same manner and may be driven by a spring or weight. Connected with the cylinder is a gear 65, having holes or teeth 66 in one end or face, as shown.

The driving mechanism D—I have shown in outline a spring-actuated clock mechanism having a driving-gear 70 meshing with the gear 65 on the musical instrument, and also having a fan 71 geared thereto for rapid rotation to regulate the movements of parts, a squared shaft 73 on the winding-arbor standing opposite the key-hole 36 and adapted to be wound by the key.

The retaining-pawl P.—From the slide S depends a rod 80, which passes through the partition 7, and secured to the lower end of this rod is an angle-plate 81, whose lip 82 is adapted to engage the upper end of a pawl 83. The latter is pivoted at 84 between its ends and is drawn against the operation of said lip by a spring 85, while its opposite (and in the present instance lower) end has a tip or finger 88, which by the spring is thrown normally into engagement with the holes or teeth 66 on the gear 65, so as to check the rotation of the cylinder 60 of the musical instrument.

With the above construction of parts the operation of my machine is as follows: The device being prepared for use and its door locked, it is left in a conspicuous place, accompanied, of course, by signs to attract the notice and to give instructions and directions for use. The customer approaching places a coin in the insertion-opening I, passing it between the guides 11 and seating it in the slot 13 in the spring 12, as seen in Fig. 7. The handle 14 is then depressed, whereby the coin is shot with considerable force through the escutcheon 10 and down the chute 15 and passing out the lower end thereof it strikes the trip-lever T, turns it on its pivot, thereby releasing the slide, whose spring 42 draws it toward the socket 34, and as the link 26 disengages the key K when the lever descends the movement of the slide will throw the key, with its head, beyond the rosette, as seen in Fig. 3. Following instructions, the customer then takes the key out, passes it into the key-hole 36, and winds the driving mechanism. The movement of the slide causes the angle-plate 81 to move so that its lip 82 disengages the retaining-pawl, the spring 85 then throws the finger 88 of the pawl into engagement with the holes or teeth 66 on the gear 65, and hence when the customer commences to wind the driving mechanism the musical instrument is held against movement, so that the winding does not cause the running of the machine. After the driving mechanism is wound tightly the key is withdrawn and replaced in its original position, as seen in Fig. 2. As this is done, the slide is pushed back, so that the pin of the trip-lever falls into the recess and the link rises to re-engage the groove in the shank of the key; but the return movement of the slide causes the lip of the angle-plate to trip the retaining-pawl and the musical instrument is then free to run under the stored force of the driving mechanism. When this energy is expended—that is, when the machine has run down—the tune or tunes will have been finished, and the above-described operation must be repeated in order to work the instrument further.

The sizes and shapes of the parts shown may be varied to a considerable extent without departing from the spirit of my invention, and the machine is susceptible of a considerable degree of modification and elaboration both in its details and in some of its essential

features, two of which are indicated above. The ornamentation and finishing of the machine are matters of taste.

For the sake of clearness I will state that the word "rendering," as herein used, refers to that portion of my machine which renders a return for the money paid. In the present case a musical instrument M is described and shown as connected with and driven by the driving devices D; but, as above stated and as will be understood, this musical instrument may be replaced by vending mechanism to sell small articles or liquids which are delivered by the machine to the customer, or measuring mechanism and the like which will measure his weight, height, strength, or lung-capacity, or which will take his photograph, tell his fortune, or do such other things as are well known in machines of this class.

What is claimed as new is—

1. An inlet-opening for coin-receptacles, comprising a slotted escutcheon mounted over a slot through the body-wall of the receptacle, a grooved guide at one end of the escutcheon, and a leaf-spring secured to said wall at the other end thereof and having a slot smaller than the coin to be used and registering with the other slot, and a handle at its free end, as and for the purpose set forth.

2. In a coin-controlled apparatus, the combination, with the coin-chute, a centrally-pivoted trip-lever weighted at one end and with its other end standing beneath the chute, and a spring-actuated slide engaged by said lever when in its normal position, of a push-rod for the slide, extending to the exterior of the casing, a link depending from the light end of the trip-lever and having a notch engaging a groove in said rod when the latter is pushed in, a retaining-pawl tripped by the slide when pushed in, and rendering mechanism adapted to be engaged by said pawl, as and for the purpose set forth.

3. In a coin-controlled apparatus, the combination, with the coin-chute, a centrally-pivoted trip-lever weighted at one end and with its other end standing beneath the chute, and a spring-actuated slide engaged by said lever when in its normal position, of a push-rod for the slide, extending to the exterior of the casing, connections between the trip-lever and push-rod when the latter is pushed in, a retaining-pawl tripped by the slide when pushed in, and rendering mechanism adapted to be engaged by said pawl, as and for the purpose set forth.

4. In a coin-controlled apparatus, the combination, with the coin-chute, a pivoted and weighted trip-lever with its lighter end standing beneath the chute, a spring-actuated slide having a recess engaged by a pin on the lever when the slide is in its normal position, and rendering mechanism tripped by the movements of the slide, of a socket through the casing, a push-rod passing through said socket and engaging the slide, the rod having a groove in its body, collars mounted by set-screws on the lighter end of the trip-lever, and a link clamped between said collars with its slotted body embracing said rod and having a notch in the lower end of the slot closely fitting said groove, as and for the purpose set forth.

5. In a coin-controlled apparatus, the combination, with the coin-chute, a weighted and pivoted trip-lever whose lighter end stands below said chute, a spring-actuated slide normally held against the tension of its spring by said lever, and a push-rod for the slide, of an angle-plate carried by the slide and having a lip, a centrally-pivoted retaining-pawl, a spring drawing one end thereof toward the lip, a finger at the other end thereof, and rendering mechanism engaged by said finger, as and for the purpose set forth.

6. In a coin-controlled apparatus, the combination, with the coin-chute, a centrally-pivoted trip-lever standing about horizontal in the casing with a weight at one end and its other end under the chute, tripping devices operated by the movements of said lever, and rendering mechanism adapted to be engaged by said devices, of upright pins astride the lever adjacent its lighter end, and a weight heavier than that on the lever and having holes sliding loosely over the pins, as and for the purpose set forth.

7. In a coin-controlled apparatus, the combination, with a weighted and pivoted lever, a spring-actuated slide engaged thereby, and rendering mechanism tripped by the movements of the slide, of a socket through the casing in line with the slide, a key adapted to be passed through said socket, a key-hole in the casing, driving mechanism connected with said rendering mechanism and having a squared shaft standing opposite the key-hole, and a guard mounted on the slide covering the key-hole in the normal position of the slide and adapted to uncover it when the key is withdrawn from said socket, as and for the purpose set forth.

8. In a coin-controlled apparatus, the combination, with a pivoted lever, a spring-actuated slide engaged thereby, and rendering mechanism tripped by the movements of the slide, of a socket through the casing in line with the slide, a key adapted to be passed through the slide, a key-hole in the casing, and driving mechanism connected with said rendering mechanism and having a squared shaft standing opposite the key-hole, as and for the purpose set forth.

9. In a coin-controlled apparatus, the combination, with the casing, rendering mechanism therein, a driving mechanism also therein and having a squared shaft, a key-hole through the casing opposite said shaft, a retaining-pawl, and tripping devices for said pawl, of a socket through the casing in line with the tripping devices, a rosette in the form of a ring surrounding the socket on the exterior of the casing, and a key comprising a shank of a size to enter the socket or the key-hole and a head of a size to stand wholly within

the outer line of said rosette when the key is in place, as and for the purpose set forth.

10. In a machine of the class described, the combination, with the casing, a musical instrument, a driving mechanism connected therewith and having a squared winding-arbor, a key-hole in the casing opposite said arbor, and a retaining-pawl, of a slide moving in guides and having a recess, an angle-plate connected with the slide and engaging said pawl, a coin-chute in the casing, a centrally-pivoted trip-lever having a weight at one end, a pin depending from this end and adapted to engage said recess, the latter end of the lever standing beneath said chute, a link depending from this end and having a reduced notch in its lower end, a contractile spring leading from the slide through the link and connected with the casing, a socket in the casing in line with the link and having a rosette around its outer end, and a key whose shank is adapted to be passed through the key-hole or the socket and has a groove engaging said notch when the pin engages the recess, the outer end of the key having a head which at this time stands wholly within the outer line of said rosette, all substantially as hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE RAAB.

Witnesses:
H. E. FOSTER,
J. C. POMEROY.