

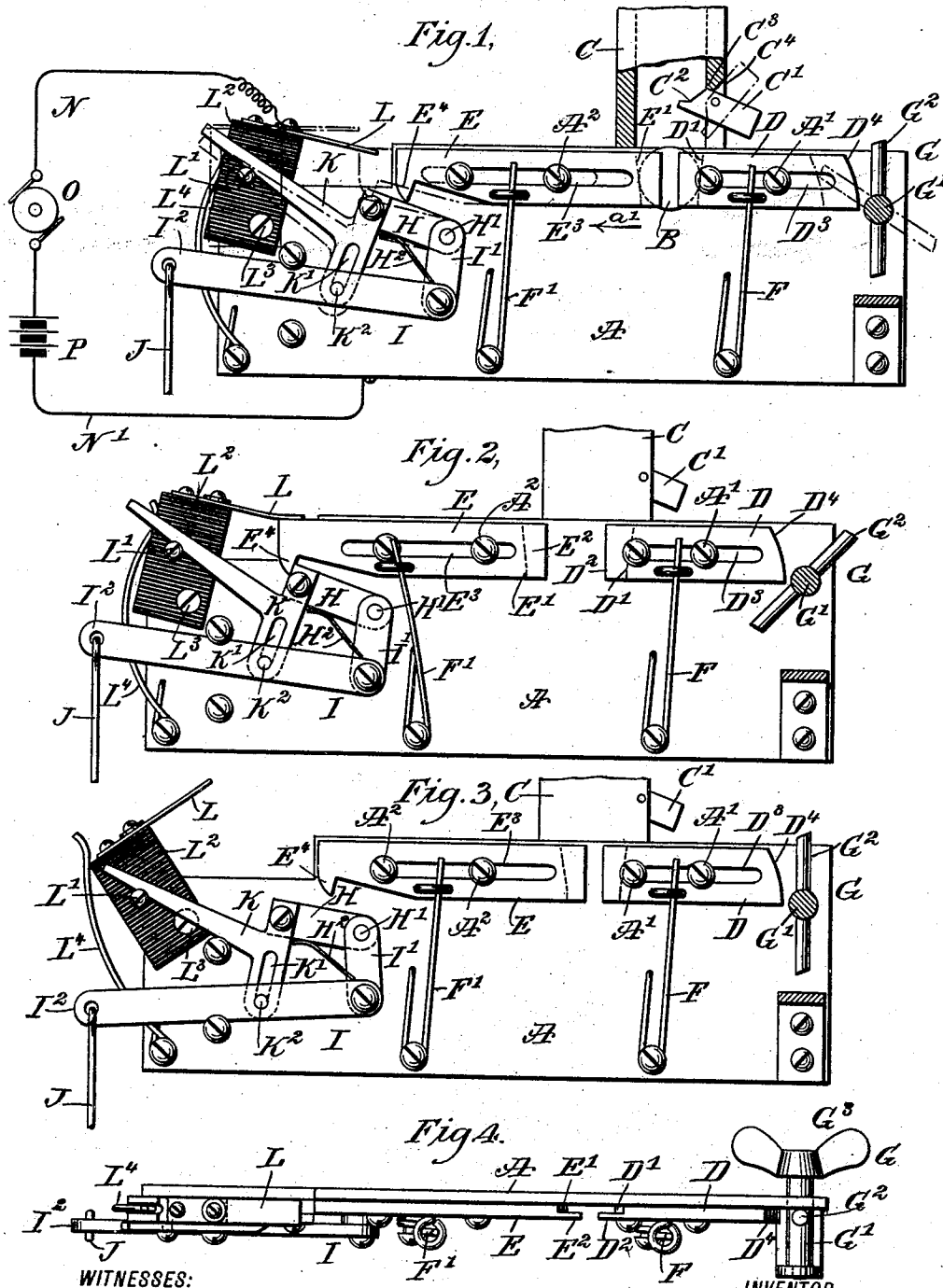
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H. MEYER.
COIN CONTROLLED MECHANISM.

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NO MODEL.



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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED MECHANISM.

SPECIFICATION forming part of Letters Patent No. 773,405, dated October 25, 1904.

Application filed April 5, 1904. Serial No. 201,639. (No model.)

To all whom it may concern:

Be it known that I, HERMANN MEYER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Coin-Controlled Mechanism, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved coin-controlled mechanism designed for starting the motor or other actuating mechanism of a self-playing musical instrument or the like and arranged to utilize the proper coin introduced as a part of the operating device, to prevent spurious coins from being effective, and also to prevent repetition unless a new coin is introduced.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the improvement, the operating-key and its bearing, as well as the coin-chute, being in section. Fig. 2 is a like view of the same, showing the parts in a different position. Fig. 3 is a similar view of the same, showing the parts in still another position; and Fig. 4 is a plan view of the same.

The coin-controlled mechanism is shown mounted on a plate A, which may form part of the casing or frame of the machine on which the coin-controlled mechanism is to be applied. The coin B, say a nickel, is passed through a chute C to drop between adjacent beveled ends D' and E' of slides D and E, having flanges D² and E² at the beveled sides to hold the coin B against lateral displacement and against the face of the plate A, as will be readily understood by reference to Fig. 4. The slides D and E are arranged in longitudinal alinement with each other, and the said slides are provided with elongated slots D³ and E³, through which extend headed screws A' and A², forming guideways for the slides and secured to the plate A. Springs F and F', attached to

the plate A, engage the slides D and E, so as to hold the same normally in the receiving position, (shown in Figs. 1 and 3)—that is, for retaining the coin B between the adjacent sides D' and E', as previously explained, and shown in Fig. 1. The slides D and E are adapted to be shifted from the right to the left in the direction of the arrow a' at the time a coin is between the slides by the use of a key G under the control of the operator and preferably consisting of a shaft G', mounted to turn in suitable bearings held on the frame A, the shaft being provided with diametrical arms G² for engaging the outer beveled end D⁴ of the slide D to shift the latter from the right to the left against the tension of the spring F on the operator turning the handle G³, secured on the outer end of the shaft G'. When the key is turned and the slide E is moved from the right to the left, then the coin B, resting on the sides D' and E', causes a sliding movement of the slide E in the direction of the arrow a' against the tension of the spring F'. When the arm G² of the key G has passed the beveled end D⁴ of the slide D, then the latter is immediately returned by the action of the spring F to allow the coin B to drop from between the beveled sides D' and E' of the slides D and E. When the slide E is pushed from the right to the left to the end of its stroke, on turning the key G, as above described, then the slide E is locked in place, and for this purpose the outer end of the slide E is provided with a hook E⁴, adapted to be engaged by the free end of a lock-arm H, fulcrumed at H' on the member I' of a bell-crank lever I, fulcrumed on the plate A and connected at its other member, I², by a link J with the stopping mechanism of the machine on which the coin-controlled mechanism is applied. A spring H², held on the member I' of the bell-crank lever, presses the lock-arm H so as to normally hold the same in an uppermost position—that is, when the slide E is pushed from the right to the left the hook E⁴ travels on the top edge of the said lock-arm and causes the same to swing downward against the tension of its spring H² until the hook E⁴ has passed the end of the lock-arm H, and the latter is swung upward by its spring H²

to snap under the hook E^1 , thereby locking the slide E against return movement in the inverse direction of the arrow a' . (See Fig. 2.) It is understood that the throw of the key G is sufficient to move the slide E into a locking position with the lock-arm H when the proper coin B is in position between the slides; but in case a smaller coin is dropped into position between the slides and the key G is actuated then the slide E is not moved a sufficient distance from the right to the left for the hook E^1 to pass the free end of the lock-arm H , and consequently the slide E is not locked and immediately returns to its normal position by the action of its spring F' as soon as the arm G^2 of the key has passed the beveled end D^1 of the other slide, D .

On the free end of the lock-arm H is fulcrumed an operating-arm K , engaging a projection L' on the body L^2 of a contact-plate L and adapted to engage the top of the slide E , as plainly illustrated in Fig. 2. The body L^2 of the contact-plate L is made of an insulating material, such as hard rubber, and is fulcrumed at L^3 on the plate A and pressed on by a spring L^4 to normally hold the contact-plate L in contact with the slide E at the time the latter is in a locked position, as indicated in Fig. 2. The arm K is provided with an elongated slot K' , into which projects a pin K^2 , held on the member I^2 of the bell-crank lever I to properly guide the arm K at the time the swinging motion is given to the lock-arm H , as previously explained. The contact-plate L is connected with the wire N of an electric circuit, having its other wire, N' , connected with the plate A , and consequently with the slide E , and the said electric circuit contains a motor O for driving the machine on which the coin-controlled mechanism is applied, electricity being furnished by a battery or other suitable source of electric supply P , as plainly indicated in Fig. 1.

The operation is as follows: When the several parts are in the normal position, (shown in Fig. 1,) then the electric circuit is broken, and consequently the motor O is at a standstill, as the contact-plate L is out of contact with the slide E . When a proper coin B is dropped through the chute C into position between the slides D and E and the operator now turns the key G , then the slides D and E , together with the coin B , are shifted from the right to the left, and the slide E is finally locked against return movement by the lock-arm H , while the slide D returns to its normal position as soon as the arm G^2 of the key G has passed the curved end D^1 of the said slide. When this takes place, the coin B drops into a receptacle provided for the purpose. When the hook E^1 of the slide E in its movement from the right to the left imparts a downward-swinging motion to the lock-arm H , then the operating-arm K by acting on the projection L' imparts an outward-swinging motion to

the contact-plate L against the tension of the spring L^4 , so that the free end of the contact-plate L rises above the top of the advancing slide E , and as soon as the lock-arm H snaps under the hook E^1 then the arm K allows a downward-swinging motion of the contact-plate L for the latter to move in contact with the top of the slide E to close the circuit. When this takes place, the motor O is started to actuate the machine—say, for instance, a self-playing musical instrument—and when the end of the musical piece is reached the link J is actuated to impart a swinging motion to the bell-crank lever I , so that the member I^1 thereof causes the lock-arm H to push the slide E still farther in the direction of the arrow a' until the free end of the said lock-arm H has passed the hook E^1 , and when this takes place the slide E immediately returns to its normal position by the action of its spring F' . During the additional forward movement given to the slide E by the lock-arm H the latter actuates the arm K , so that an upward-swinging motion is given to the contact-plate L to move the latter out of engagement with the slide E , and consequently break the circuit to bring the motor O to a standstill, which, however, does not take place until after the lock-arm H has released the hook E^1 and the slide E is returning to its normal position.

In case an improper coin—that is, a coin of less diameter than a nickel—is passed between the slides D and E and the key G is turned then the slide E is not locked in place by the lock-arm H , but returns to its normal position as soon as the key-arm G^2 has passed the end D^1 of the slide D . The spurious coin now drops downward from between the slides.

Continuous playing of the instrument is prevented in case the operator holds the arm G^2 in engagement with the slide D after the same has been pushed to its extreme left position and the slide E has been locked in place by the lock-arm H , as above described, on account of the lock-arm H imparting a still farther forward movement to the slide E when the end of the musical piece is reached, so that the coin B drops out from between the slides D and E even if the slide D is held in its innermost position by the action of the key G .

In order to prevent the coin B , introduced between the slides as described, from being drawn back out of the chute C by attaching the coin to a string, for instance, the following device is provided: In the lower end of the chute C is fulcrumed a pawl C' , projecting into the path of the coin sliding down the chute C , the inner end of the pawl being for the purpose provided with a beveled portion C^2 , which when struck by the coin causes the pawl C' to swing into the position shown in dotted lines in Fig. 1 to allow the coin to pass between the slides D and E , as previously explained. As soon as the coin has passed the pawl C' then the latter, owing to its outer

end being overbalanced, swings back to its normal position, (shown in Fig. 1,) and consequently when the operator pulls the coin upward it abuts against the under side of the inner end of the pawl, and since the swinging motion of this pawl is limited it is evident that the coin cannot be drawn up through the chute. As soon as the string breaks the coin drops downward between the sides D' and E' of the slides D and E, of which the slide E is in a locked position by the lock-arm H, as shown in Fig. 2. By reference to Fig. 1 it will be seen that the swinging motion of the pawl C is limited by shoulders C³ and C⁴, formed in the side wall of the coin-chute C.

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

1. In a coin-controlled mechanism in combination, a locking-slide, means for guiding the same, means for supporting a coin in contact therewith through which a force may be employed to advance said slide, means for locking said slide against return, a motor controlled by said last means, and independent means for advancing said slide beyond its normal locked position to release said coin.

2. In a coin-controlled mechanism in combination, a locking-slide, and a second slide, said slides being adapted to receive a coin therebetween, means for advancing said second slide, means for locking said locking-slide in an advanced position, means independent of said second slide for advancing said locking-slide beyond its locked position, and a motor controlled by the position of said locking-slide.

3. A coin-controlled mechanism comprising slides adapted to hold a coin therebetween, one of the slides being operated for advancing a coin, the same being manually controlled, and the other slide being a locking-slide, a locking device for holding the locking-slide against return movement, and means independent of said operating-slide for advancing said locking-slide.

4. A coin-controlled mechanism comprising a locking-slide and an operating-slide adjacent thereto, said slides being adapted to receive a coin therebetween whereby said operating-slide may advance said locking-slide, a movable member, a locking-arm attached thereto and adapted to lock said locking-slide in an advanced position, a circuit adapted to be closed when said locking-slide is in said advanced position, and means for actuating said movable member to advance said locking-slide.

5. In a coin-controlled mechanism in combination, a locking-slide, and an operating-slide adapted to support a coin therebetween whereby said locking-slide may be advanced by said operating-slide, a lever, a spring-pressed arm

carried thereby and disposed adjacent to said locking-slide, said locking-slide having a hook adapted to engage with said arm, a motor adapted to be controlled by the position of said locking-slide, and means for actuating said lever to advance said locking-slide and release the same.

6. A coin-controlled mechanism, comprising slides for holding a coin between them, one of the slides being the operating-slide, for moving the slides and the coin in one direction, and manually controlled, and the other slide being the lock-slide, a locking device for holding the lock-slide against return movement, and a contact for closing a motor-circuit and controlled by the said locking device, the contact being insulated and arranged to make contact with the lock-slide on locking the latter against return movement.

7. A coin-controlled mechanism provided with a lock-slide having a hook, a locking device adapted to engage the said hook to hold the lock-slide against return movement, and an insulated contact-plate mounted to rock and controlled by the said locking device.

8. A coin-controlled mechanism provided with a lock-slide having a hook, a locking device adapted to engage the said hook to hold the lock-slide against return movement, and an insulated contact-plate mounted to rock and controlled by the said locking device, the said contact-plate being arranged to swing out of the path of the advancing lock-slide and in contact with the same as soon as the lock-slide is locked by the locking device.

9. A coin-controlled mechanism provided with a spring-pressed lock-slide having a hook, a spring-pressed pivoted locking-pawl adapted to engage the hook, to hold the lock-slide against return movement, a pivoted spring-pressed contact-plate, and an arm connected with the said pawl and engaging the said contact-plate.

10. A coin-controlled mechanism provided with a spring-pressed lock-slide having a hook, a spring-pressed pivoted locking-pawl adapted to engage the hook, to hold the lock-slide against return movement, a pivoted spring-pressed contact-plate, an arm connected with the said pawl and engaging the said contact-plate, the said arm having a slotted guiding portion, and a bell-crank lever carrying a pin on one arm, for engaging the said slotted guiding portion, the said pawl being fulcrumed on the other arm of the bell-crank lever.

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

HERMANN MEYER.

Witnesses:

THEO. G. HOSTER,
JNO. M. RITTER.