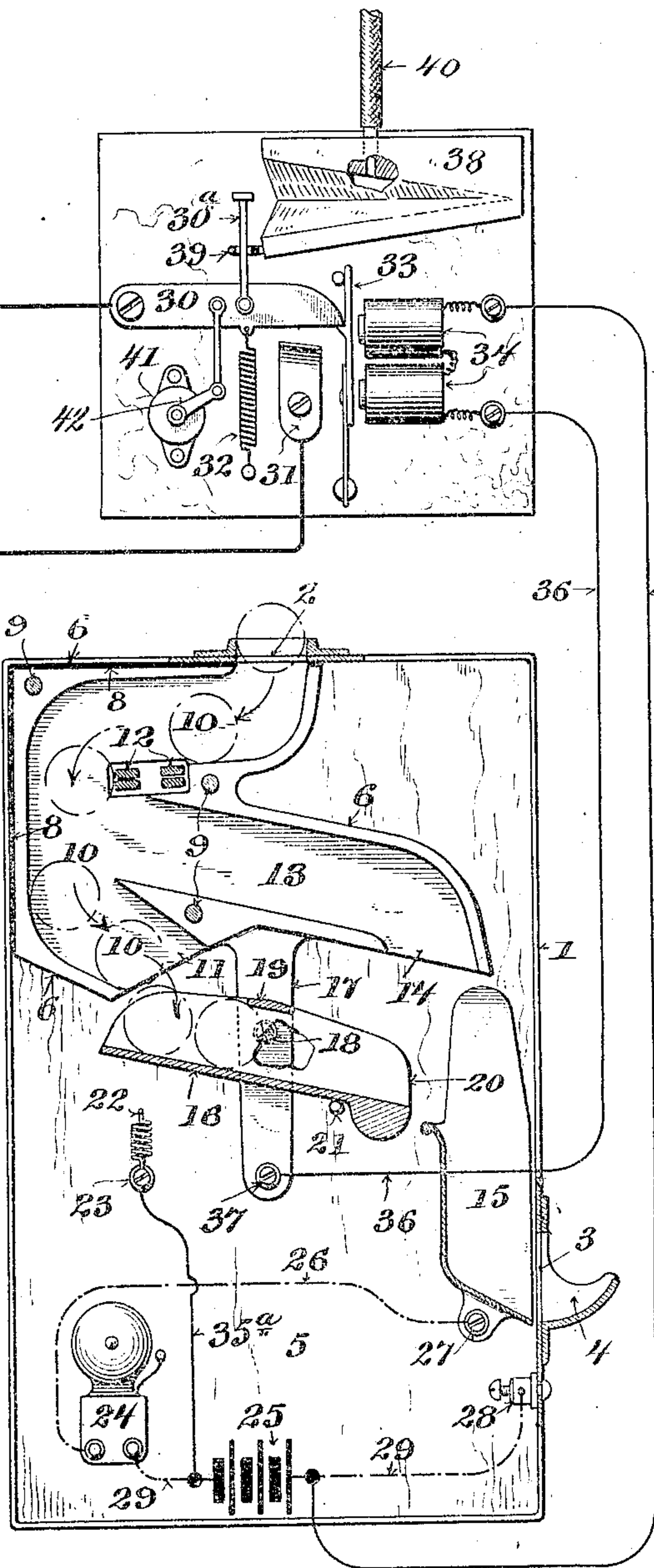


COIN CONTROLLED ELECTRIC CIRCUIT CLOSER.

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934,565.

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UNITED STATES PATENT OFFICE.

JOHN B. OBERMEIER, OF MILWAUKEE, WISCONSIN.

COIN-CONTROLLED ELECTRIC-CIRCUIT CLOSER.

934,565.

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To all whom it may concern:

Be it known that I, JOHN B. OBERMEIER, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Coin-Controlled Electric-Circuit Closers; and I do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention is to provide a coin-controlled electric circuit closer to be used in starting musical instruments or the like which are driven by electric motors.

The particular object of this invention is to provide a coin-controlled circuit-closer with means, whereby a coin of smaller denomination or a different value from that required in operation may be expelled from the machine without closing the circuit, if such coin be placed in the device.

Said invention also contemplates a magnetic attachment for detecting slugs of the same dimensions and weight as that of the coin required to actuate the circuit-closer.

The invention therefore consists in certain peculiarities of construction and combination of parts as hereinafter set forth with reference to the accompanying drawing and subsequently claimed.

The drawing illustrates a diagrammatic view of a coin-controlled circuit closing mechanism embodying the features of my invention, the parts being shown connected by a system of wires constituting the necessary conductors for the electric circuits.

Referring by numerals to the drawing, 1 indicates a lock-controlled metallic casing provided with a coin-receiving slot 2 and a discharge-slot 3, through which slots coins of different value from that required to actuate the mechanism are discharged, as well as slugs of various sizes, these coins or slugs being received into a metallic pocket 4 secured to the outer wall of the casing coincident to the discharge-slot. Secured within the casing is a partition or base 5 of any suitable insulating material, upon one side of which is mounted a channeled bracket 6, the bracket being insulated from the adjacent walls of said casing by a fiber strip 8. This bracket consists of a pair of coinciding

plates secured together by screws 9, the front plate being removed to better illustrate the channels or coin runways. A runway 10 of the bracket has its mouth fitted to the coin-receiving slot 2, the said runway being thereafter horizontally disposed for a slight distance and then abruptly turned in a vertical direction, terminating with a horizontally disposed discharge-mouth 11. At the junction of the upper horizontal and vertical sections of the runway 10 is secured a common horseshoe magnet 12, which magnet constitutes a slug detector and forms part of the lower wall of said upper horizontal runway portion over which the coins travel. Intersecting the vertical portion of the runway 10 and directly under the magnet, is a branch runway 13, which runway is horizontally inclined and has a vertically disposed discharge mouth 14. This branch runway is provided to receive slugs which are deflected therein by the magnet and thereafter discharged into a metallic hopper 15, which hopper is conveniently located upon the base 5 under the discharge mouth 14 of said branch runway and spaced apart from the casing so as to be insulated therefrom.

A trough 16 is pivotally supported by depending arms 17 of the bracket, the arms being provided with apertures into which are mounted trunnions 18 of the trough. The side-walls of said trough are connected by an upper centrally disposed bridge-piece 19, which bridge-piece is of such a height from the trough-bottom that a coin of a certain diameter and value will be checked thereby. One end of the trough is disposed directly under the discharge-mouth 11 of the runway 10. The opposite end of the trough is weighted and arranged to coincide with the mouth of the hopper 15, in which coinciding position said trough is normally held, by gravity, resting upon a stop-pin 21 with its bottom slightly inclined, thereby forming a chute which bridges the distance between runway 10 and the hopper. The bottom of the hopper is adjacent to the discharge slot 3 of the casing and serves to deflect coins or slugs into the pocket 4, such coins or slugs when so deflected rest partly in the pocket and partly upon the hopper-

bottom for the purpose of closing an alarm-circuit to be hereinafter more fully described.

Disposed under the lighter or high end of the trough is an electric circuit terminal 22, the terminal being shown in the form of a spring-coil and attached to a binding-post 23 carried by the base 5. An electric-bell 24 and battery 25 are also shown within the casing 1, but it is understood that these elements may be otherwise conveniently located if desired. The bell is connected by a conductor-wire 26 to a binding-post 27 secured to the hopper, there being a binding-post 28 secured to the casing, which binding-post is connected by a conductor-wire 29 to the battery and from thence to the bell. Thus when a coin or slug is resting in the pocket 4, it will be seen that the said coin or slug will act as a circuit-closer between said pocket and hopper and thereby cause the bell to sound an alarm.

In practice, the electric-motor controlling-switch mechanism shown in the drawing above the casing, is preferably located upon the opposite side of the base 5 from that illustrated and within said casing, as are also the bell and battery, these parts being so shown only for the purpose of illustration. The motor-controlling switch comprises a movable circuit closing member, which in this instance is shown in the form of a pivoted switch-arm 30 adapted to be drawn between stationary contact-plates 31, by a coil-spring 32. One wire of the motor-circuit is connected to the switch-arm and the other wire of said circuit is connected to the contact-plates, the parts as illustrated in the diagram being shown in their open position and the motor-circuit broken. The end of the switch-arm 30 in this position rests upon a nose of a spring-controlled armature 33. The armature is actuated in opposition to its spring, by a pair of electro-magnets 34, these magnets being connected by a conductor-wire 35 to the battery 25, thence by wire 35^a to the circuit-terminal 22, and a conductor-wire 36 to a binding-post 37 fixed in one of the arms 17 of the bracket. A bellows 38 having an eye 39 is disposed above the switch-arm 30, which arm has secured thereto a headed rod 30^a that passes through the eye 39 of the bellows, there being a vacuum pipe 40 in connection with said bellows, whereby the latter is actuated.

In order to register each operation of the machine or musical instrument to which my coin-controlled mechanism is attached, I have shown a register-mechanism 41 of any desired form attached to the switch-arm 30. The crank-arm 42 of the register-shaft is in link-connection with the switch-arm, and with each operation of the latter the register

is moved a unit. Thus when the coins deposited in the casing are removed, they may be checked up with the operations of the machine to prevent fraud.

It is understood that in piano-players or like instruments to which my device is attached, the motor being started, the instrument plays a single piece of music, said motor being so timed in conjunction with a vacuum-pump or suction mechanism that the latter is actuated at the end of each piece of music. The suction-mechanism (not shown) is connected to the pipe 40 of the bellows, and when the suction takes place the said pipe 40 causes the bellows to contract momentarily. The eye 39 then engages the head of rod 30^a and lifts the switch-arm to the position shown in the drawing. The motor-current in which position is broken, and the bellows thereafter sinks, as the vacuum has also been interrupted. Now should a coin of the required value and dimensions be inserted into the casing through the receiving slot, it would pass through the runway 10, as indicated by the arrow, and be deposited in the pivoted trough, where it would be checked by the bridge-piece. The weight of the coin causes the trough to swing down and contact with the spring 22. This closes an electric-circuit through wires 35, 35^a, the magnets 34 and battery 25. The magnets being energized cause a release of the switch-arm from the armature, and the spring of the former draws said switch-arm down between the contact-plates, thus completing the motor-circuit.

If a coin smaller than that required to operate the device be dropped into the casing, it will pass under the bridge-piece of the trough and finally rest in the pocket 4, where it will close the bell-circuit and thus produce an alarm. Should a slug be inserted in the casing, it will be caught by the permanent magnet as it drops into the vertical portion of the runway 10. The weight of the slug in this case will cause it to swing around the adjacent leg of said magnet from which it will drop, by gravity, and be inserted into the branch runway. The slug will then be finally deposited into the pocket 4 and produce an alarm signal similar to that previously described.

I claim:

A coin-controlled electric-circuit closer, comprising a vertical runway, a U-shaped metallic trough located under the runway, one end of the trough being counter-weighted; trunnions extending from the exterior surface of the trough side-walls, metallic bearings for the trunnions, a bridge-piece connecting the interior surfaces of said trough-walls at a predetermined distance

from the trough bottom, a motor-controlling switch-mechanism, and an electric-circuit for the switch-mechanism, having one of its terminals in connection with the metallic
5 trough bearing and the opposite terminal adapted to engage the trough when the latter is swung in one position.

In testimony that I claim the foregoing I

have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

JOHN B. OBERMEIER.

Witnesses:

GEO. G. FELBER,
GEO. W. YOUNG.