Nov. 4, 1969 C. H. GRUBER 3,475,848

ELECTRICALLY OPERATED COIN BOX DEVICE

Filed Sept. 23, 1966 4 Sheets-Sheet 1

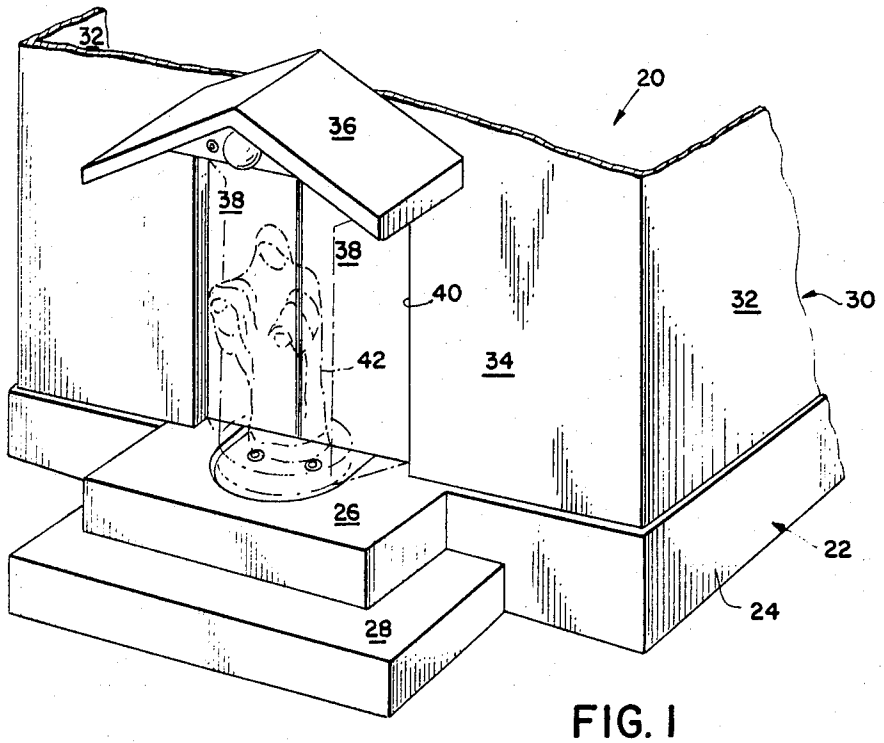


FIG. 1

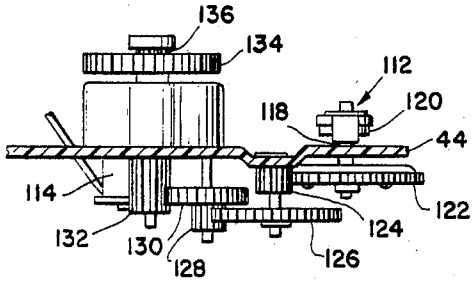


FIG. 4

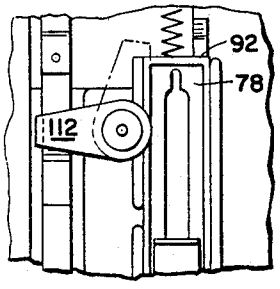


FIG. 6

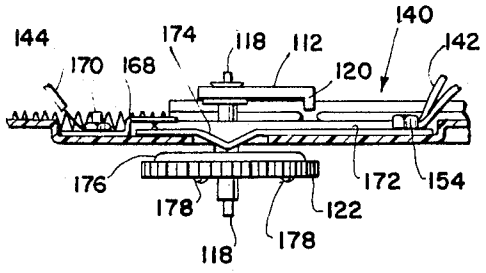


FIG. 5

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ELECTRICALLY OPERATED COIN BOX DEVICE

Filed Sept. 23, 1966 4 Sheets-Sheet 2

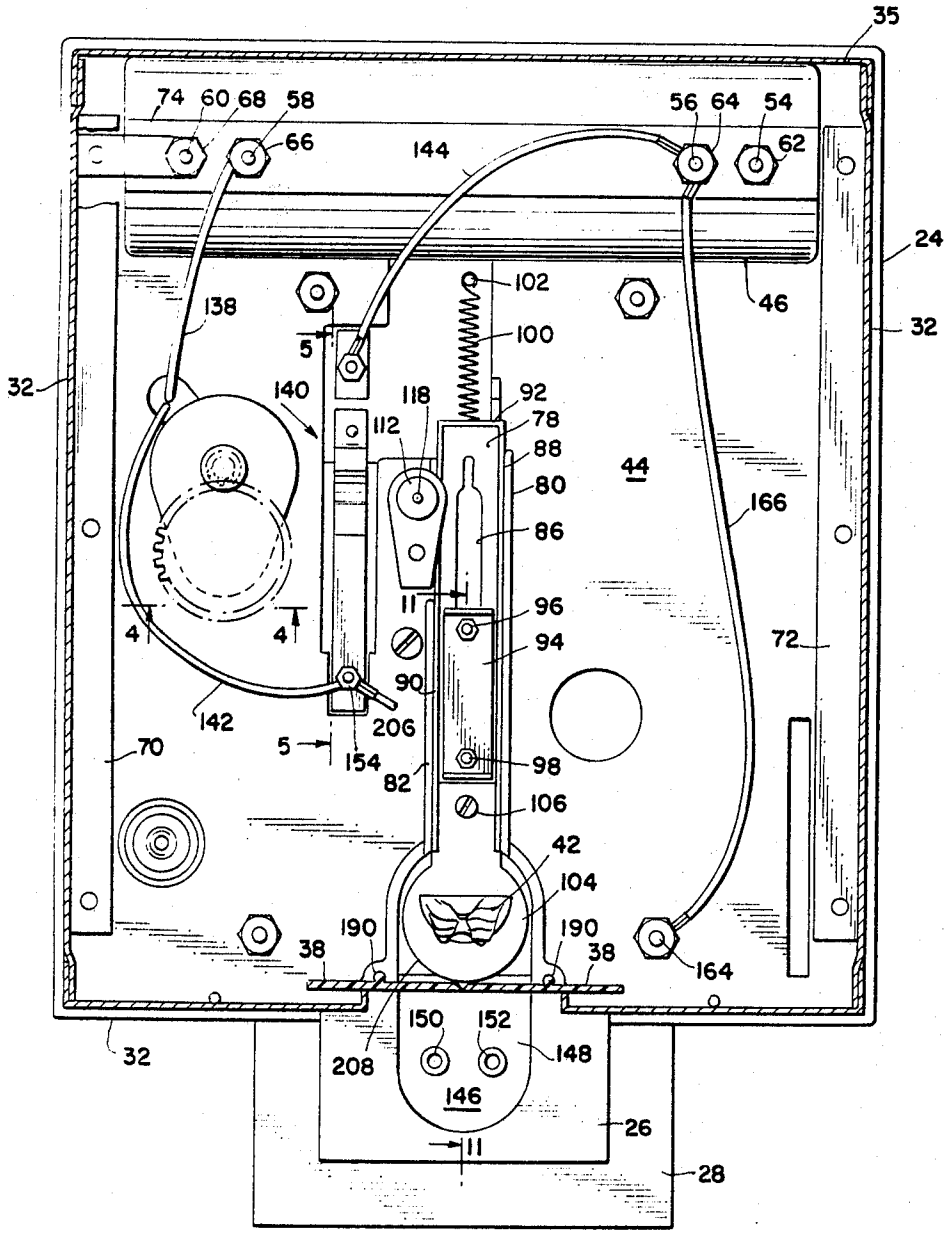


FIG. 2

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ELECTRICALLY OPERATED COIN BOX DEVICE

Filed Sept. 23, 1966 4 Sheets-Sheet 3

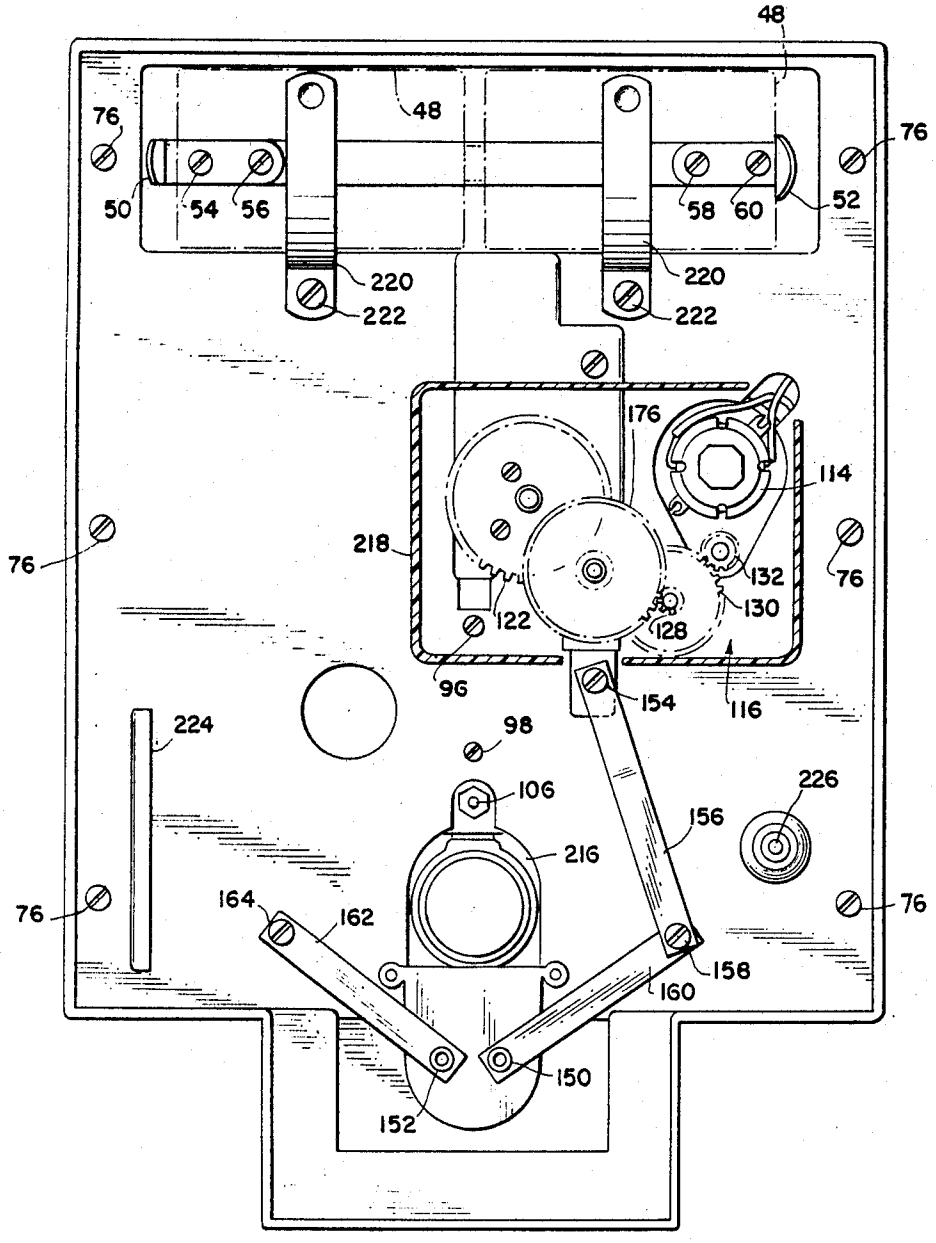


FIG. 3

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ELECTRICALLY OPERATED COIN BOX DEVICE

Filed Sept. 23, 1966 4 Sheets-Sheet 4

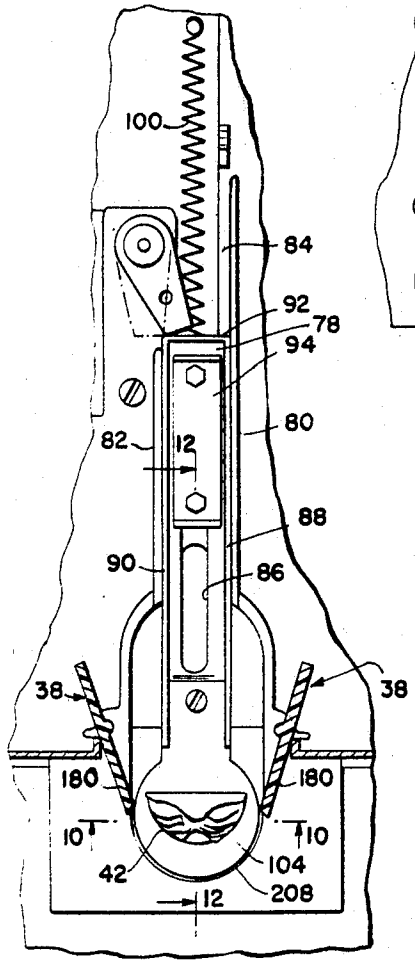


FIG. 7

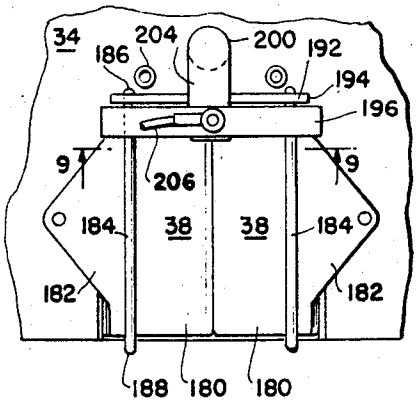


FIG. 8

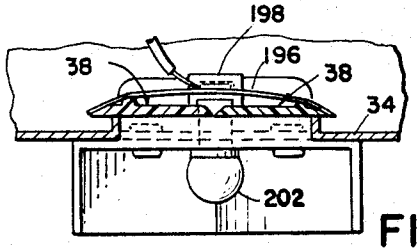


FIG. 9

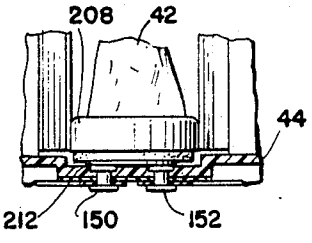


FIG. 10

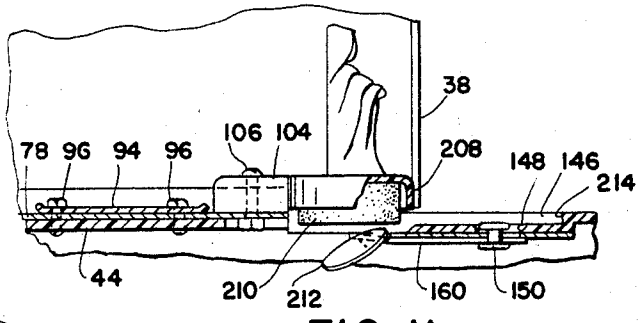


FIG. 11

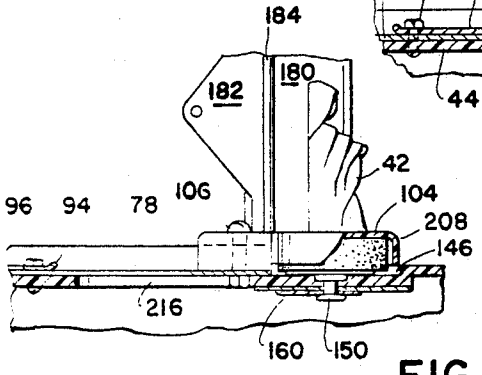


FIG. 12

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United States Patent Office 3,475,848 Patented Nov. 4, 1969

3,475,848

ELECTRICALLY OPERATED COIN BOX DEVICE

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Filed Sept. 23, 1966, Ser. No. 581,637
Int. Cl. A63h 33/24
U.S. Cl. 46—3 11 Claims

ABSTRACT OF THE DISCLOSURE

Electrically operated coinbox device having a support platform for a coin which will enable substantially unimpeded sliding movement of a coin in at least one direction and a slider movable relative to the support for engaging a coin disposed thereon and sliding the coin off of the support.

This invention relates to an electrically operated coinbox device which can be used both as a toy and a saver for coins.

It is a primary object of the present invention to provide entertainment and amusement.

Another object of the present invention is to provide an electrically operated coinbox device which serves as a saver for coins.

It is a further primary object of the present invention, in addition to the foregoing objects, to provide an electrically operated coinbox device described above which is portable, simple in operation, fantastic and uncanny in action, and which can be manufactured and sold at a reasonable cost.

It is a yet still further primary object of the present invention, in addition to each of the foregoing objects, to provide coin-moving apparatus for use within an electrically operated coinbox device described above which is simple in operation, reliable, and which can be manufactured easily and at a reasonable cost.

The invention resides in the combination, construction, arrangement and disposition of the various component parts and elements incorporated in an improved electrically operated coinbox device constructed in accordance with the principles of this invention. The present invention will be better understood and objects and important features other than those specifically enumerated above will become apparent when consideration is given to the following details and description, which when taken in conjunction with the annexed drawing describes, discloses, shows and illustrates a preferred embodiment of the present invention and what is presently considered to be the best mode of practicing the principles thereof. Other embodiments or modifications may be suggested to those having the benefit of the teachings herein, and such other embodiments or modifications are intended to be reserved especially as they fall within the scope and spirit of the subjoined claims.

IN THE DRAWING

In the drawing:

FIG. 1 is a perspective view of the front portion of an electrically operated coinbox device configured to give the appearance of a haunted house according to the present invention, illustrating in phantom, the operation wherein a figurine moves outwardly thereof to mysteriously and uncannily cause the disappearance of a coin, or the like, from the front porch of the house;

FIG. 2 is a top plan view of the electrically operated coinbox device of FIG. 1 with the roof of the house removed;

FIG. 3 is a bottom plan view of the electrically operated coinbox device according to the present invention with the gear housing cover and the coin receiving compartment removed;

FIG. 4 is an elevational cross-sectional view taken along line 4—4 of FIG. 2;

FIG. 5 is a cross-sectional elevational view taken along line 5—5 of FIG. 2 illustrating the control switch thereof in the unactuated and inoperative position;

FIG. 6 is a top plan enlarged view of a portion of the mechanism shown in FIG. 2 illustrating a part of the operation thereof;

FIG. 7 is a top plan view of a portion of the apparatus shown in FIG. 2 illustrating a further step in the operation thereof;

FIG. 8 is an elevational partial view of the door mechanism of the electrically operated coinbox device constructed in accordance with the present invention as seen from the interior of the house or device;

FIG. 9 is a partial bottom plan cross-sectional view taken along line 9—9 of FIG. 8;

FIG. 10 is a partial cross-sectional elevational view taken along line 10—10 of FIG. 7;

FIG. 11 is a partial cross-sectional elevational view taken along line 11—11 of FIG. 2;

FIG. 12 is a partial cross-sectional elevational view taken along line 12—12 of FIG. 7.

Referring now to the drawing, there is shown and illustrated an electrically operated coinbox device configured to have the appearance of and to represent a model of a haunted house and designated generally by the reference character **20**.

The device **20** comprises a base structure **22** fabricated to present the appearance of a sill-like foundation wall **24** of generally rectangular configuration, a front porch **26** projecting generally laterally outwardly therefrom generally intermediate of the front thereof and a front step **28** extending around three sides of the front porch **26**.

The device or house **20** further comprises a generally box-like structure **30** extending generally upwardly from the base structure **22** comprising side wall panels **32**, a front wall panel **34**, a rear wall panel (not shown) and roof structure (also not shown). A front porch roof structure **36** projects generally laterally outwardly from the front wall panel **34** in spaced relationship with the front porch **26**. A plurality of door panels **38** are pivotally associated with the front wall panel **34** generally extending between the roof structure **36** and the front porch **26** to provide for closure of a door opening **40** provided in the front wall panel **34**. A figurine **42** is particularly adapted to move generally outwardly through the door panels **38** and over the front porch **26**, as hereinafter more fully described, to effect the removal of a coin placed upon the front porch **26**.

With particular reference now to FIG. 2 of the drawing, the base structure **22** further comprises a generally planar support surface **44** extending substantially entirely within the foundation walls **24** thereof. The support surface **44** is provided with a generally semi-cylindrical upstanding battery housing portion **46** for containing therewithin a plurality of series connected cells **48** (see FIG. 3). A plurality of contact members **50** and **52** are secured within the battery housing portion **46**, as by means of screws **54**, **56**, **58** and **60**, which are in turn secured by means of nuts **62**, **64**, **66** and **68**.

The box-like structure **30** is provided with a pair of generally opposed flanges **70** and **72** projecting generally inwardly from the side wall panels **32** thereof to enable the box-like structure **30** to be secured with the base structure **22**, as by means of screws, or the like. A contact strip **74** extends from the nut **60** to the flange

70 and is secured therewith by means, such as the screws 76, to provide electrical contact between the box-like structure 30 and the battery terminal 52.

A slide member 78 is slidably associated with the base structure 22. A plurality of ribs 80 and 82 are provided extending generally upwardly from the support surface 44 is generally parallel relationship to define therebetween a groove 84 to provide for guiding the slide member 78. The slide member 78 is provided with an elongate slot and a pair of generally parallel upstanding side walls 88 and 90. The slide member 78 is further provided with a generally upstanding end wall 92 so that the slide member 78 is of generally channel-shape configuration having the end wall 92 closing one end of the channel. A slide member hold-down 94 is positioned within the channel between the slide member side walls 88 and 90 and secured with the support surface 44, as by means of grooves 96 and 98 extending generally vertically through the slot 86. Biasing means, such as a tension spring 100 secured with the slide member 78 at the end of the slot 86 adjacent the end wall 92 and with the support surface 44, as by means of an upstanding post member 102 biases the slide member 78 generally inwardly of the device or house 20. A figurine support platform 104 is secured with the front end portion of the slide member 78 as by means of a screw 106. The slide member 78, figure and support platform 104 and figurine 42 comprise or define a slide mechanism 108.

A slide moving mechanism, designated generally by the reference character 110, provides movement of the slide mechanism 108 generally forwardly or outwardly of the house or device 20. The slide moving mechanism comprises the biasing spring 100, a cam member 112, an electric motor 114 and a gear mechanism or transmission 116.

The cam member 112 is of generally elongate configuration and is structurally associated, adjacent one end portion thereof, to a generally vertically extending shaft 118. A generally downwardly extending actuating finger 120 is structurally associated with the cam 112 adjacent the other end portion thereof adapted to engage the rear wall 92 of the slide member 78 upon rotation of the shaft 118. A gear train, comprising gears 122, 124, 128, 130, 132, 134 and 136 structurally operatively associates the shaft 118 with the armature shaft of the electric motor 114, the gears 122–136 defining the gear mechanism or transmission 116 so that rotation of the armature of the motor 114 will produce a slow speed rotation of the cam 112 and actuating finger 120 thereof.

The motor 114 is connected with the battery terminal 52 by means of an electric wire 138 and with a cam controlled switch 140 by means of an electric wire 142. The cam control switch 140 is in turn connected with the battery terminal 50 by means of an electric wire 144. The electric motor 114 is therefore connected in series with the cam control switch 140 and the battery cells 48.

The front porch 26 of the house or device 20 is provided with a coin-receiving depression 146, defined, in part, by a coin-receiving surface 148 extending generally horiontally forwardly of the door opening 40. A plurality of contacts 150 and 152 are provided, in spaced apart relationship extending through the coin-receiving surface 148 adapted to be electrically bridged by means of a coin, or the like, placed within the coin-receiving depression 146. The coin-receiving contact 150 is in electrical communication with the wire 142, by means of a terminal screw 154, a bridge or contact element 156, a terminal screw 158 and a bridging or contact element 160. The coin-receiving contact 152 is connected with the electric wire 144 by means of a bridging or contact strip 162, a terminal screw 164 and an electrical wire 166. Accordingly, the coin-receiving contacts 150 and 152 are connected in parallel with the cam control switch 140 and the electric motor 114 will be energized either by a closing of the cam control switch 140 or by means of electrical bridging of the contacts 150 and 152.

Referring now more particularly to FIG. 5 of the drawing, the cam control switch 140 comprises a fixed contact member 168 secured with the support surface 44 and in electrical communication with the wire 144 by means such as a terminal screw 170 and a movable contact member 172 secured with the support surface 44 in generally cantilevered relationship and in electrical communication with the wire 142 by means of the terminal screw 154. The movable contact member 172 is provided, generally intermedially thereof, with an offset portion 174 adapted to engage a circular camming member 176 structurally associated with the gear 122, as by means of screws 178 for rotation therewith. The camming member 176 is particularly constructed and arranged to close the cam controlled switch contacts 172 and 168 after a short initial period of rotation of the gear 122, camming member 176 and cam member 112 and to retain the switch contacts 168 and 172 electrically connected for a complete cycle of rotation thereof. Accordingly, it may be readily seen that upon positioning a coin or other bridging member across the contacts 150 and 152, the motor 114 will rotate, rotating the gear 122, camming member 176 and cam 112 and the cam controlled switch 140 will maintain the energization of the motor 114 for a complete cycle of operation, even after the coin has been removed from engagement with the contacts 150 and 152.

With particular reference now to FIGS. 7, 8 and 9, each of the door panels 38 comprises a generally rectangular portion 180, a generally triangular portion 182 and a rib portion 184 extending generally vertically adjacent the intersection of the generally rectangular portion 180 and the generally triangular portion 182. The rib portions 184 each extend both upwardly and downwardly beyond the generally rectangular portions 180 and the generally triangular portions 182 to define pivotal post portions 186 and 188. The lower post portions 188 are particularly adapted to be engaged with apertures 190 provided in the support surface 44 and the upper post portions 186 are particularly adapted to be engaged with apertures 192 provided extending through a flange member 194 extending generally horizontally inwardly from the front wall panel 34 adjacent the upper edge of the door opening 40. Accordingly, the door panels 38 are mounted for generally vertically pivotal movement between closed positions thereof as shown in FIGS. 8 and 9 and open positions thereof as shown in FIG. 7. A spring member 196 is secured with the front wall panel 34, as by means of an insulating mounting means 198 engaged with the spring 196 generally centrally thereof. The outwardly extending end portions of the spring 196 therefore engage the generally triangular portions 182 of the door panels 38 to bias the door panels 38 to the closed position as shown in FIGS. 8 and 9.

The front wall panel 34 is further provided with a threaded aperture 200 to removably receive the base portion of a lamp bulb 202. The spring 196 is further provided with a generally upstanding contact projection 204 adapted to engage the contact button (not shown) on the end of the base of the lamp bulb 202. The contact portion 204 of the spring 196 is electrically connected with the terminal screw 154, as by means of an electric wire 206. Accordingly, the lamp bulb 202 is electrically connected and parallel with the motor 114, by means of the spring 196, wire 206, box-like structure 30 and contact strip 74 so that the lamp 202 will be lit during energization of the motor 114.

As hereinbefore pointed out, the door panels 38 are biased to the closed position thereof by the spring 196. The figure support platform 104 is provided with a generally arcuate front end portion 208 so that forward movement of the slide mechanism 108 will move the

door panel 38 to the open position thereof, as shown in FIG. 7.

The underside of the figurine support platform 104 is provided with means for engaging at least one surface of a coin, or the like, positioned on the coin-receiving surface 148, such as frictional coin-engaging means 210 and slidably moving the coin 212 relative to the coin-receiving surface 148. The coin-engaging means 210 may, for example, comprise a foam plastic material having high frictional qualities. Accordingly, upon movement of the engaging means 210 generally forwardly relative to the coin-receiving surface 148, with the coin 212 being positioned thereon, the engaging means 210 will tend to move the coin generally forwardly against the front wall 214 of the coin-receiving depression 146. The front wall portion 214 will preclude the coin 212 from moving forwardly relative to the coin-receiving depression 146. Upon movement of the slider mechanism 108, and the engaging means 210 generally rearwardly, that is, from the position shown in FIG. 12, the coin 212 will be slidably moved relative to the coin-receiving surface 148 generally rearwardly and inwardly of the box-like structure 30 enabling the coin 212 to drop generally downwardly through an aperture 216 into a coin-receiving compartment (not shown) secured with the bottom of the support surface 44.

The gear mechanism 116 is enclosed, on the bottom of the support surface 44 by means of a gear cover 218. The cells 48 are secured within the battery housing 46 by means of cell support straps 220 secured with the support surface 44, as by means of screws 222. The coin-receiving compartment may be secured with the support surface 44 as by engaging an elongate aperture 224 provided therein and by engaging a threaded aperture 226, also provided thereon.

In operation, therefore, if a coin 212 is placed on the coin-receiving surface 146 in bridging relationship with the contact 150 and 152, the motor 114 and the lamp 202 will be energized. Rotation of the motor 114 will cause rotation of the gears of the gear mechanism 116, resulting in rotation of the gear 122, the cam 176 and the cam 112. Rotation of the cam 176 will close the cam actuated switch 140 to maintain the motor 114 and the lamp 202 energized regardless of movement of the coin 212 out of bridging engagement with the contacts 150 and 152.

Upon continued rotation of the cam 112, as shown in FIG. 6, the actuating finger 120 thereof engages the rear wall 92 of the actuating slide 78, as shown in phantom in FIG. 6. Continued rotation of the cam 112 moves the slide 78 generally forwardly as shown in FIG. 7 so that the figurine support platform 104, and particularly the arcuate front edge 208 thereof pushes the door panels 38 open and the engaging means 210 moves over the top surface of the coin 212, as shown in FIGS. 7 and 12. Continued movement of the cam 212 past the position shown in phantom in FIG. 7 enables the spring 100 to rapidly withdraw the slide 78 generally rearwardly and inwardly of the box-like structure the coin 212 from the support surface 148 and enabling the door panels 38 to close due to the biasing of the springs 196. The cam controlled switch 140 continues rotation of the motor 114 and cam 112 enabling completion of the cycle of operation.

The whole effect is an uncanny one. The figurine appears to slowly move outwardly of the house and over the coin on the front porch thereof and then to rapidly disappear back into the house at which time the coin appears to have mysteriously disappeared.

The lighted lamp over the porch adds to the eeriness of the effect, as does the sound of the motor and gears.

It is to be understood that terminology such as "upper," "lower," "front," "rear," "forwardly," "rearwardly," "upwardly," and "downwardly," as used in the preceding description and in the subjoined claims, along with other similar directional terminology, is to be construed and interpreted in its normal and accepted sense. However, such terminology is not to be construed or interpreted in a limiting sense either in the preceding description or the subjoined claims, since the same is used merely to facilitate an understanding of, and to clearly set forth and particularly define the present invention.

While the invention has been shown, illustrated, described and disclosed in terms of an embodiment or modification which it has assumed in practice, the scope of the invention should not be deemed to be limited by the precise embodiments or modifications herein shown, illustrated, described or disclosed, such other embodiments or modifications as may be suggested to those having the benefit of the teachings herein being intended to be reserved especially as they fall within the scope of the claims here appended.

What is claimed is:

1. A coin box device comprising, in combination, a housing having a plurality of walls; a platform mounted with said housing and extending generally outwardly of one wall thereof, said platform being provided with a generally smooth and horizontal support surface for enabling a coin disposed thereon to be slidably moved thereover in at least one direction; a slide mounted within said housing and comprising at least a portion movable across said support surface along a path spaced apart from and generally parallel thereto; means for actuating said slide to move said portion along said path; and means carried by said portion of said slide for movement therewith across said support surface and for engaging a coin disposed on said support surface on a single surface thereof spaced apart from and generally parallel said support surface to slide said coin across said support surface.

2. Coin box device as defined in claim 1 wherein said coin engaging means is fabricated of a material characterized by a high co-efficient of friction.

3. Coin box device as defined in claim 2 wherein said coin engaging means comprises a resilient material.

4. Coin bor device as defined in claim 3 wherein said coin engaging means comprises a foam plastic-like material.

5. Coin box device as defined in claim 1 wherein said housing is of generally box-like configuration, said support surface extends generally laterally outwardly adjacent one surface thereof, and said slide is adapted to move generally perpendicularly said one surface enabling said coin engaging means to move a coin from said coin support surface to the interior of said housing.

6. Coin box device as defined in claim 1 further comprising means responsive to the presence of a coin on said support surface for initiating movement of said actuating means.

7. Coin box device as defined in claim 6 wherein said actuating means comprises motor means and cam means operatively associated with said motor means.

8. Coin box device as defined in claim 7 wherein said responsive means comprises a plurality of electric contracts structurally associated with said platform adapted for bridging by a coin for energizing said motor means and cam controlled switch means connected in parallel with said contacts for maintaining said motor means actuated for a complete cycle of operation.

9. Coin box device as defined in claim 1 further comprising closure means mounted relative to said housing for actuation by said slide between open and closed positions thereof.

10. Coin box device as defined in claim 1 further comprising an abutment extending generally upwardly of said support surface to preclude sliding movement of such coin thereacross in a direction away from said housing and wherein said actuating means comprises means for moving seaid slide outwardly of said housing to push the coin against the abutment and slide said portion

thereover and therepast and to subsequently move said slide in an opposite direction, withdrawing the coin from contact with the abutment.

11. A coin box device adapted for use as a toy and a savings device comprising, in combination, box-like housing structure configured to represent a house, said housing structure being provided with a door opening in one wall thereof; door panel means mounted for pivotal movement between open and closed positions relative to said door opening; a coin support surface extending generally horizontally outwardly of said structure adjacent said door opening; stop means for precluding sliding movement of a coin position on said coin support surface outwardly of said structure; a slide mechanism, said slide mechanism comprising an elongate slide member slidably associated with said support surface, a figurine support platform structurally associated with one end portion of said slide member for sliding movement through said door opening between a first position within said structure and a second position extending across said support surface and a mysteriously configured figurine mounted with said platform for movement therewith, said figurine support platform being adapted to move said doors between said open end closed positions thereof during movement of said platform between said first and second positions thereof; means for moving said slide mechanism and said figurine support platform between said first and second positions thereof, said moving means comprising an electric motor, a source of electric current, a gear mechanism operatively associated with said electric motor for rotation thereby and cam means operatively associated with said gear mechanism for rotation therewith, said cam means being operatively associated with said slide mechanism for moving said figurine support platform between said first and second positions thereof, said moving means comprising an electric motor, a source of electric current, a gear mechanism tion thereby and cam means operatively associated with

operatively associated with said electric motor for rotasaid gear mechanism for rotation therewith, said cam means being operatively associated with said slide mechanism for moving said figurine support platform between said first and second positions upon operation of said electric motor; cycle control means for operating said electric motor, said cycle control means comprising a plurality of electric contact members connected in series with said motor and said source of electric current, said electric contact members being positioned relative to said support surface and adapted to be bridged and electrically interconnected by a coin positioned thereon for initiating rotation of said electric motor and cam controlled switch means operatively associated with said gear mechanism for operation thereby, said cam controlled switch means being connected in parallel with said contact members for maintaining rotation of said electric motor for a full cycle of operation; and coin engaging means structurally associated with the lower side of said figurine support platform, said coin engaging means comprising a resilient pad characterized by high friction adapted to engage one surface of a coin positioned on said coin receiving platform to slide such coin inwardly of said door opening to enable a coin positioned on said coin support surface to mysteriously be removed from said coin support surface to a location within said structure during movement of said figurine across said coin receiving surface.

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LOUIS G. MANCENE, Primary Examiner

R. F. CUTTING, Assistant Examiner

U.S. Cl. X.R.

46—5, 243; 194—6