Feb. 16, 1960 H. E. WILLIAMS 2,924,909

COIN CONTROLLED PUPPET APPARATUS

Filed Oct. 2, 1956 4 Sheets-Sheet 1

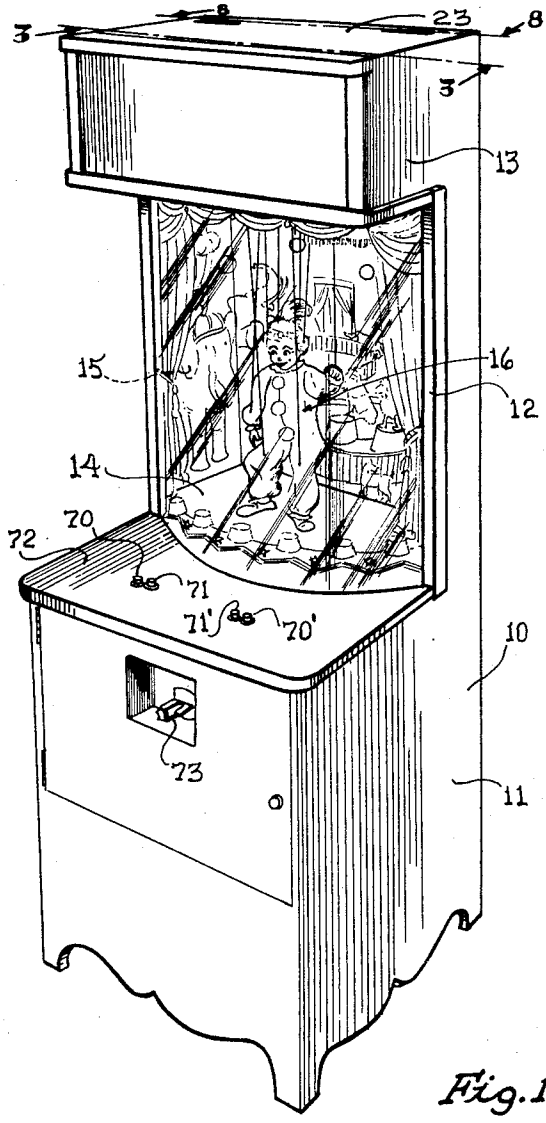


Fig. 1.

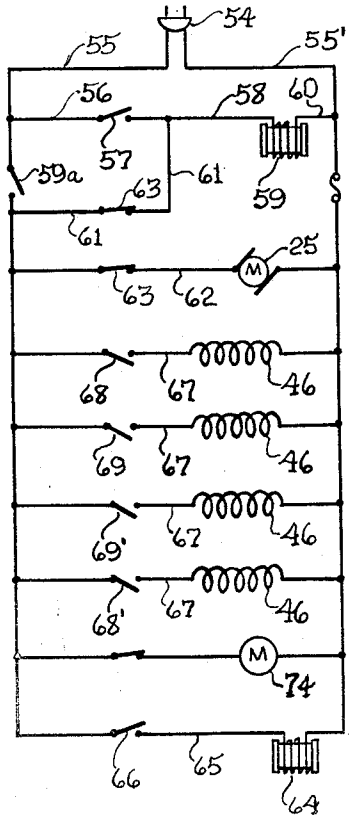


Fig. 2.

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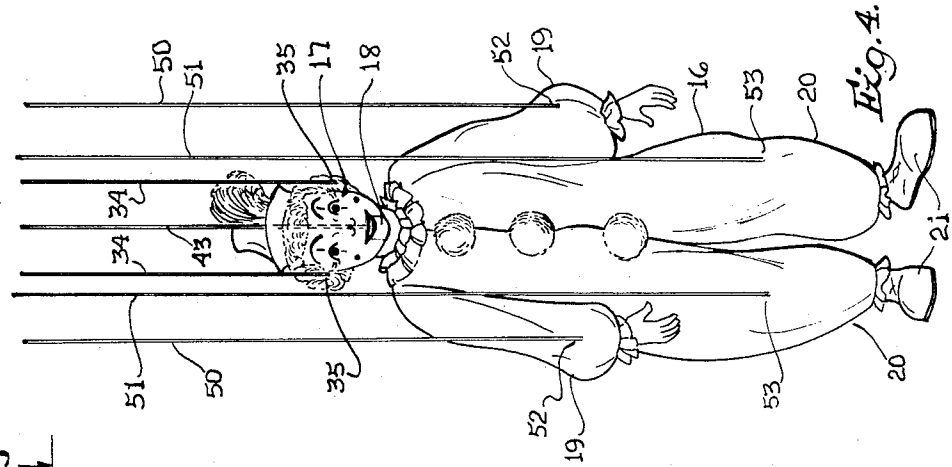


Fig. 4.

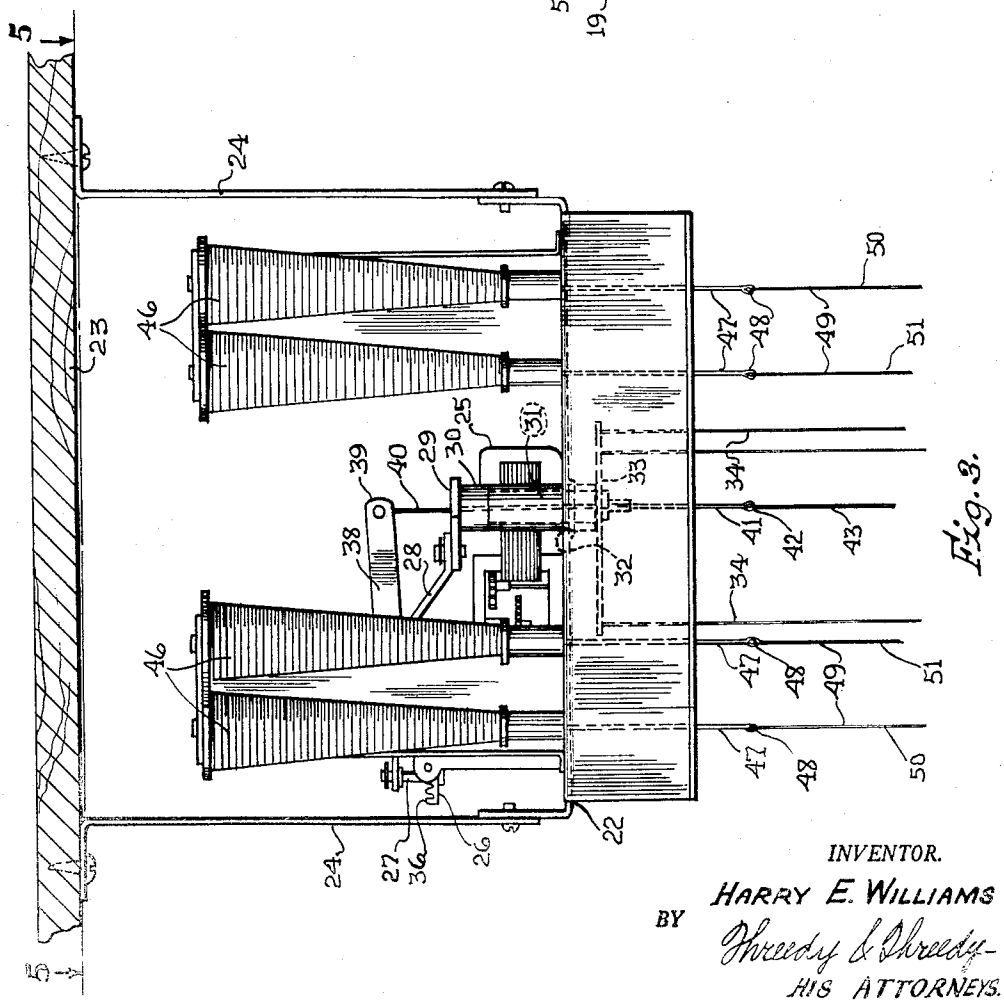


Fig. 3.

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COIN CONTROLLED PUPPET APPARATUS

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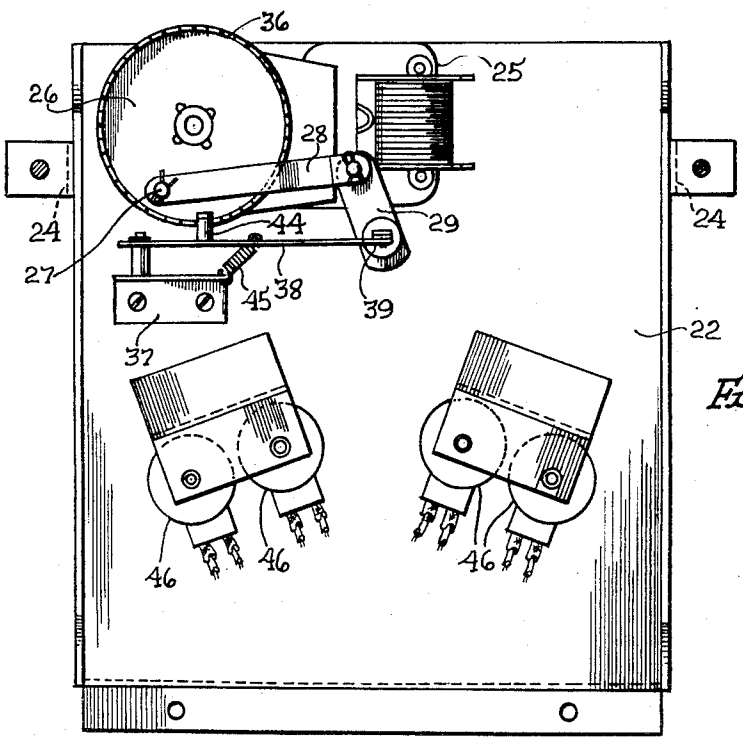


Fig. 5

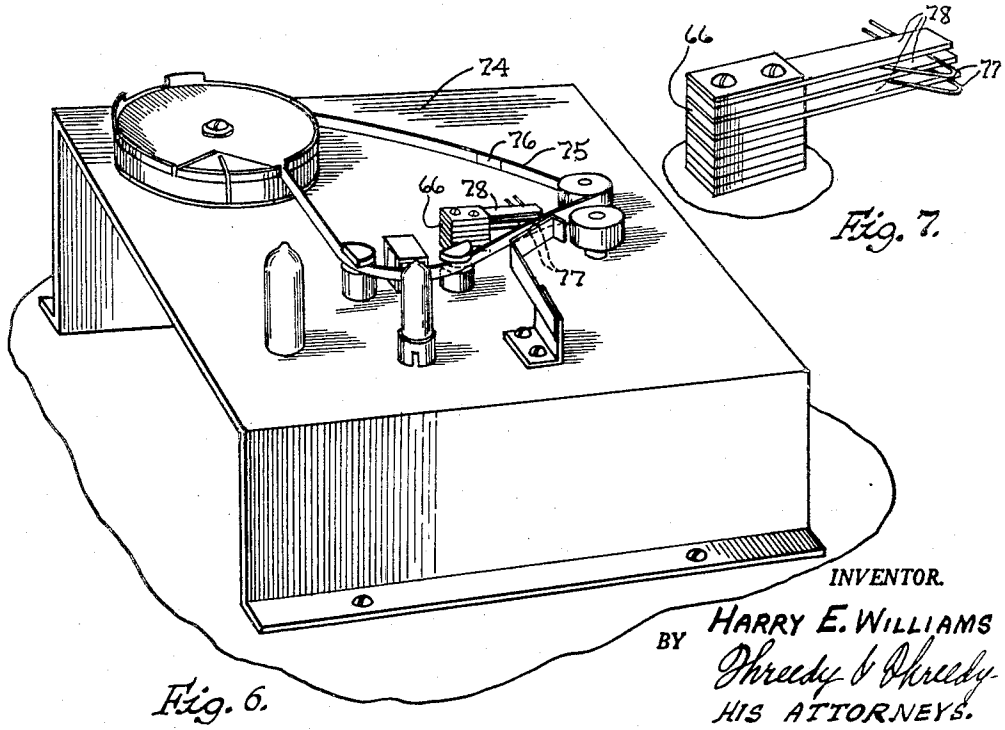


Fig. 6.

Fig. 7.

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COIN CONTROLLED PUPPET APPARATUS

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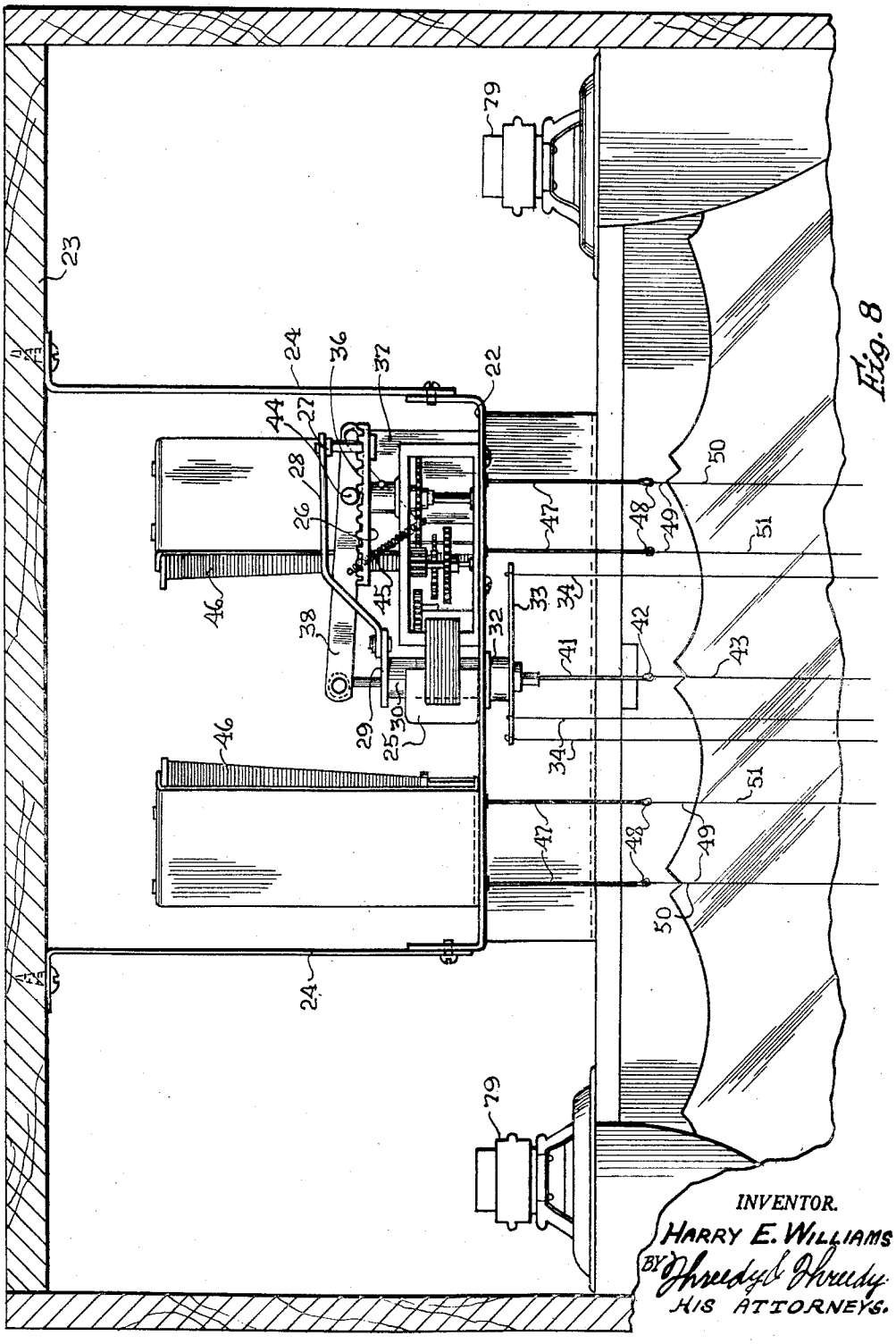


Fig. 8

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2,924,909

COIN CONTROLLED PUPPET APPARATUS

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Application October 2, 1956, Serial No. 613,423

3 Claims. (Cl. 46—245)

This invention relates to new and useful improvements in amusement apparatuses in which there is embodied an animated object in the form of a puppet.

A principal object of the invention is the provision in such amusement apparatus of a puppet, the action of which is controlled by a mechanism under the manual control of the operator.

A further object of the invention is the provision in an amusement apparatus of a puppet, the actions of which are electrically induced by electric means manually controlled in rhythm to a musical number played by a record or sound tape playing machine.

Yet another object of the invention is the provision of an amusement apparatus which will afford a high degree of amusement and which, because of its simplicity, is operable by a child as well as an adult.

A still further object of the invention is the provision in an amusement apparatus of the type hereinafter more fully described, of a novel arrangement for deenergizing the operating mechanism after a predetermined period of operation of such mechanism.

A still further object of the invention is the provision in an amusement apparatus of a puppet, the actions of which are manually controlled in rhythm to a musical number played by a record or tape playing machine and in which machine there is an arrangement for stopping the operation of the apparatus after a predetermined period of operation.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

Fig. 1 is a perspective view of the amusement apparatus embodying my invention;

Fig. 2 is a schematic diagram of an electric circuit embodied in the invention;

Fig. 3 is a fragmentary sectional elevational view taken substantially on line 3—3 of Fig. 1;

Fig. 4 is a perspective view of a puppet embodied in the invention;

Fig. 5 is a sectional plan view taken substantially on line 5—5 of Fig. 3;

Fig. 6 is a perspective view of a tape playing machine embodied in the invention;

Fig. 7 is a perspective view of a cut-off switch embodied in the invention;

Fig. 8 is a fragmentary sectional elevational view taken substantially on line 8—8 of Fig. 1.

My invention contemplates the use of a cabinet 10 preferably of a construction and design such as shown in Fig. 1.

Such cabinet includes a base portion 11, a viewing intermediate section 12, and a head portion 13. The viewing section 12 comprises a front closure 14 formed of transparent material so that the interior of the section 12 may be readily seen. The interior walls of the section 12 are decorated with objects such as indicated at 15 to provide eye appeal. Within this viewing section 12 is arranged a puppet 16 comprising an oscillatory head 17 having a movable chin 18. The puppet 16 also has flexible arms 19 as well as flexible legs 20, the legs 20 carrying feet 21 in the form of shoes. So far as my present invention relates, the construction of the puppet may be such as is conventionally employed in puppets.

In the head portion 13 of the cabinet 10 is arranged the mechanism for supporting and actuating the puppet 16. This mechanism comprises a mounting platform 22 suspended from the top wall 23 of the cabinet by means of suspension bars 24. On this platform 22 is a motor 25 which has suitable driving connection with a disc 26 rotatable in a horizontal plane. Eccentrically connected as at 27 to the disc 26 is an arm 28 which has connection to a link 29 carrying a sleeve section 30 mounted coaxially with a fixed post 31 carried by the mounting plate 22.

The sleeve 30 has an extended portion 32 which extends through the post 31. The lower end portion of the extension 32 is reduced, and mounted upon this reduced portion is a horizontal plate 33. To the ends of this plate 33 are attached in any suitable manner cords 34, the ends of which are connected as at 35 to the head 17 of the puppet.

The arrangement is such that when the disc 26 is rotated by action of the motor 25, the sleeve 30 will be oscillated through the medium of the links 28 and 29 to oscillate the head 17 relative to the body of the puppet, thereby to move the head from side to side relative to its supporting body.

The peripheral edge of the disc 26 is provided with spaced teeth 36 (Figs. 5 and 8). Pivotally mounted on a bracket 37 carried by the mounting platform 22. is an arm 38. The arm 38 at its free end portion 39 (Figs. 3 and 5) carries a depending rod 40 which is mounted for reciprocal movement through the sleeve 30 and post 31, with an end portion 41 projecting below the plate 33. To this end portion 41 is secured as at 42 a cord 43, the opposite end of which passes through a suitable opening in the head 17 of the puppet and is secured to the chin 18 of the puppet so as to impart a vertical pivotal movement to the latter. This movement of the chin 18 of the head 17 of the puppet is accomplished by providing on the arm 38 a pin 44 which rests upon and is successively engaged by the teeth 36.

The arrangement is such that as the disc 26 is rotated, the teeth 36 will successively engage the pin 44 and pivot the arm 38 against the action of a return spring 45 to reciprocate the rod 40 in the direction of its long axis, thereby to impart pivotal movement to the chin 18 to simulate opening and closing of the mouth of the puppet 16.

On the platform 22 are mounted solenoid coils 46, each of which includes a solenoid rod 47 (Fig. 3). The ends of these rods 47 are connected as at 48 to cords 49. The cords 49 are arranged in pairs, the pairs of cords being indicated in Fig. 3 at 50 and 51. The ends of the cords 50 are connected in any suitable manner as at 52 to the arms 19. The ends of the cords 51 are connected likewise in any suitable manner as at 53 to the legs 20 of the puppet 16.

The arrangement is such that when the solenoids 46, the rods of which carry the cords 50, are energized, the arms of the puppet will be caused to be elevated, simulating the action of raising the arms. When the solenoids 46, the rods of which are connected to the cords 51, are energized, the legs 20 of the puppet will be lifted to simulate a dancing action of the puppet.

The circuit for effecting the operation of the motor

and for effecting energization of the puppet, is indicated schematically in Fig. 2. In this circuit a plug is indicated at 54, which is plugged into a socket having connection with a suitable power source. From one line 55, a conductor 56 extends and is connected to one side 57 of a conventional coin-actuated switch. The other side of the switch by conductor 58 is connected to a relay coil 59 which in turn has its other side connected by conductor 60 to the other power line 55'. In the line 55 is a holding switch 59*a* which is closed upon energization of the relay coil 59 to provide a holding circuit 61 for the motor 25. In each of the circuit 62 of the motor and the holding circuit 61, is a play-over switch 63 which is opened upon energization of the relay coil 64 arranged in a circuit 65, in which circuit there is a normally open switch 66. Through the circuit 65 the relay coil 64 is connected to the lines 55 and 55'. In this circuit the solenoids 46 are arranged in circuits 67, in which circuits are arranged normally open switches 68 and 68', 69 and 69'. These switches 68, 68', 69 and 69' are adapted to be manually closed by push buttons 70, 70', 71 and 71' mounted upon a horizontal wall 72 of the cabinet extending outwardly from the lower end portion of the viewing section 12 thereof.

The arrangement is such that upon deposit of a coin through the medium of a conventional coin slide 73, associated with the cabinet 10, the switch 57 will be closed and the relay coil 59 energized. Energization of this relay coil 59 will close the switch 59*a*, thereby to establish a holding circuit for the motor 25. The motor 25 when energized will operate to effect rotation of the disc 26 for the reasons hereinbefore stated.

The rotation of the disc 26 will through the mechanism hereinbefore described, effect the intermittent movement of the head and chin of the puppet during the cycle of operation of the apparatus. To effect the elevation of the arms and the movement of the legs of the puppet to simulate dancing thereof, the operator will momentarily close the switches 68 and 68' by exerting pressure on the push buttons 70 and 70'. The closing of these switches will energize the solenoid coils, the rods of which control the movement of the arms 19. When the push buttons 71 and 71' are momentarily closed, the solenoid coils 46 the rods of which control the movement of the legs 20 of the puppet, will be energized and thus effect a simulated dancing action of the puppet. From this, it is apparent that by momentarily closing the switches 70, 70', 71 and 71', the arms and legs of the puppet may be simultaneously or alternately moved to simulate the desired dancing action.

In the preferred form of construction of my invention it is desirable that a musical number be played so that the operator of the apparatus may cause the puppet to dance in rhythm with the music of such number. To accomplish this, I provide a record or tape sound-reproducing apparatus schematically indicate at 74. In the form of construction shown, the sound-reproducing apparatus is designed for the playing of a magnetic sound-reproducing tape 75. This sound-reproducing apparatus may be of any approved construction modified to include the following construction which is designed to control the period of operation of the apparatus embodying this invention. In this connection, I provide on the tape at a predeterminde point a conductor strip 76. This conductor strip 76 will, by movement of the tape at a predetermined time come into contact with extensions 77 of switch fingers 78 of the switch 66. The arrangement is such that when the contact strip 76 bridges the fingers 77, the coil 64 will be energized, opening the switches 63 in the circuits 61 and 62, thereby to deenergize the motor 25 and the coil 59. The deenergization of the coil 59 permits the switch 59*a* to open, thereby deenergizing the entire circuit until a coin is again deposited through the medium of the coin slide 73 to close the switch 57.

By this arrangement, I provide a simple yet effective means for stopping the operation of the apparatus at a predetermined time.

From the foregoing description, it will be apparent that a child or an adult will be greatly amused by the action of the puppet, which action is under the control of the operator who may cause the puppet to dance in rhythm with the musical number being played by the sound-reproducing apparatus. For example, if the operator desires to have only one leg of the puppet perform the dancing action as well as one arm, this may be accomplished by momentarily closing the switches which control the circuits to the solenoids which control the cords attached to the particular leg or arm to be animated in rhythm to the music.

Speakers amplifying the music from the sound-reproducing apparatus may be mounted as at 79 within the head portion 13 of the cabinet.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A coin controlled amusement apparatus of the class described comprising a puppet having flexible movable body portions consisting of a head, mouth, arms and legs, means for supporting certain of said movable body portions for independent movement relative to each other, a motor for effecting simultaneous animation of said head and mouth body portions, independent electromagnetic solenoids for effecting independent animation of said arms and legs, an electric circuit energized by a coin for effecting the simultaneous animation of said head and mouth, manually controlled independently operated push button switches in said circuit for selectively energizing said solenoids for effecting animation of said arms and legs, an endless tape sound reproducing apparatus in said circuit and energized by the coin simultaneously with the energization of said motor effecting animating means of said head and mouth, a conductor strip on said tape and adapted to momentarily open a normally closed switch in said circuit after a predetermined period of operation of said sound reproducing apparatus so as to deenergize said circuit.

2. A coin controlled amusement apparatus of the class described comprising a cord supported puppet having flexible movable body portions consisting of a head, mouth, arms and legs with the cord of said mouth having its free end attached to a rockable shaft and the cord of said head attached to a shaft rotatable through a horizontal plane, a movable disc in such apparatus having operative connection to said rockable shaft and said rotatable shaft and adapted upon rotation to cause corresponding rocking and rotational movement of said shafts, an electric motor for rotating said disc so as to effect simultaneous animation of said head and mouth, independent electromagnetic solenoids carried in a vertical plane with respect to said cord supporting puppet and providing operative connection to certain supporting cords and adapted upon energization to effect independent animation of said arms and legs, an electric circuit energized by a coin for effecting energization of said motor, manually controlled independently operated push button switches in said circuit for selectively energizing said solenoids for effecting selective animation of said arms and legs, an endless tape sound reproducing apparatus in said circuit and energized by the coin simultaneously with the energization of said motor, a conductor strip on said tape and adapted to momentarily open a normally closed switch in said circuit after a pre-

determined period of operation of said sound reproducing apparatus so as to deenergize said circuit.

3. A coin controlled amusement apparatus of the class described comprising a cord supporting puppet having flexible movable body portions consisting of a head, mouth, arms and legs, certain of said movable body portions having their supporting cords actuated by a rotatable disc whereby animation may be imparted to said certain movable body portions by rotation of said disc, an electric motor for rotating said disc, independent electromagnetic solenoids carried in a vertical plane with respect to said cord supporting puppet and providing operative connections to certain supporting cords and adapted upon energization to effect independent animation of said arms and legs, an electric circuit energized by a coin for effecting energization of said motor, manually controlled independently operated push button switches in said circuit for selectively energizing said solenoids for effecting selective animation of said arms and legs, an endless tape sound reproducing apparatus in said circuit and energized by the coin simultaneously with the energization of said motor, a conductor strip on said tape and adapted to momentarily open a normally closed switch in said circuit after a predetermined period of operation of said sound reproducting apparatus so as to deenergize said circuit.

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