United States Patent

[11] **3,565,426**

[72] Inventors **Marvin I. Glass;**
Burton C. Meyer, Chicago, Ill.

[21] Appl. No. **811,551**
[22] Filed **Mar. 28, 1969**
[45] Patented **Feb. 23, 1971**

[73] Assignee **Glass, Marvin & Associates**
Chicago, Ill.

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[54] **GAME APPARATUS REQUIRING PLAYER DEXTERITY**
10 Claims, 6 Drawing Figs.

[52] **U.S. Cl.** **273/1,** 273/156; 35/22
[51] **Int. Cl.** **A63f 9/00**
[50] **Field of Search** ..... 273/1, 1 (E); 35/22

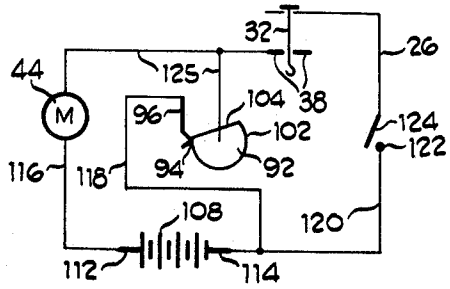
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Primary Examiner—Richard C. Pinkham
Assistant Examiner—Paul E. Shapiro
Attorneys—James F. Coffee and Gerald M. Newman

ABSTRACT: Game apparatus comprising a housing, a vertically suspended game member mounted for movement relative to the housing, a motor connected to the game member to effect oscillating movement thereof, and an electrical circuit controlling operation of the motor including a switch actuably responsive to a predetermined amount of movement of the member relative to the frame. The game member comprises a simulated skeleton carrying a number of game pieces which the game players are expected to remove without energizing the motor.



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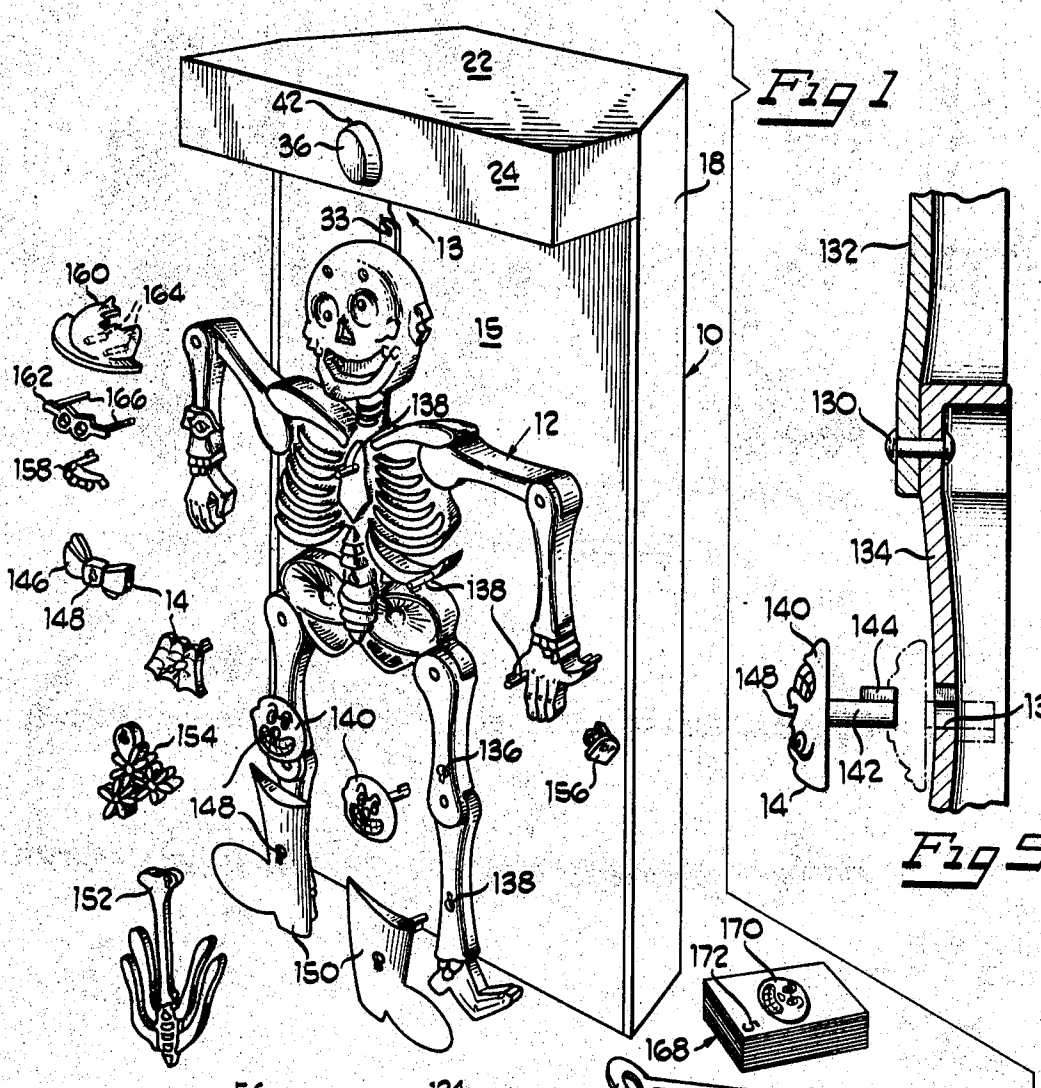


Fig 1

Fig 5

Fig 4

INVENTORS
MARVIN I. GLASS
BURTON C. MEYER

BY James J. Coffee
ATTORNEY

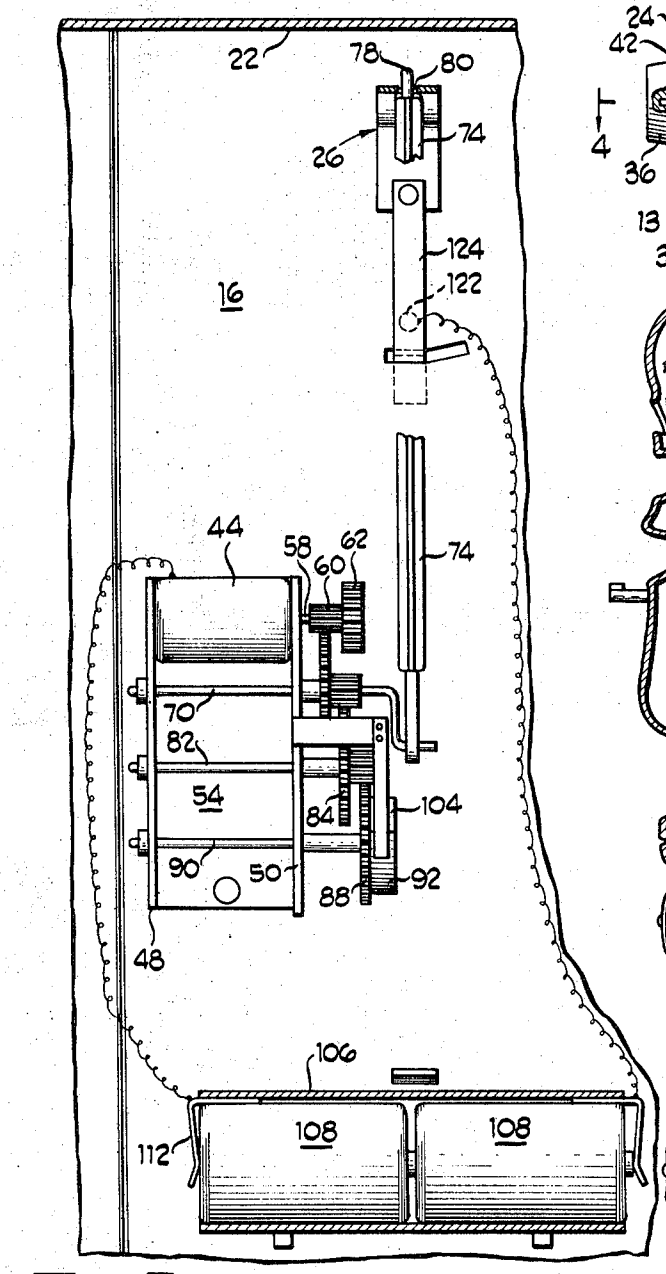


Fig 3

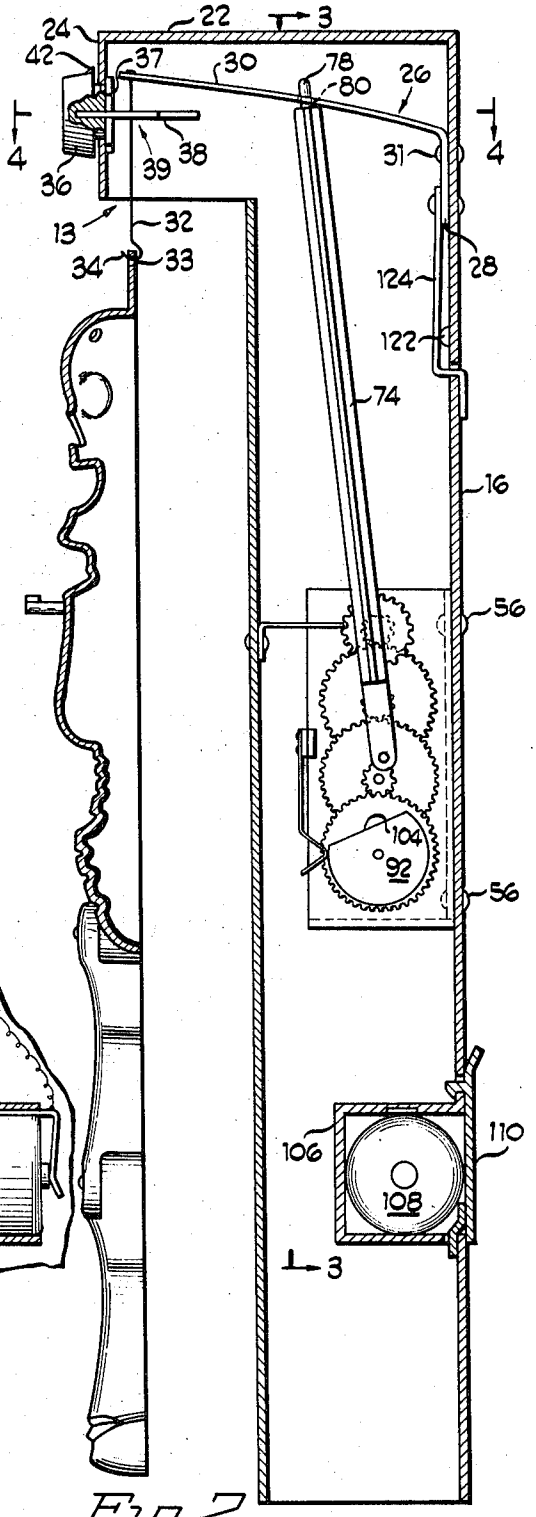


Fig 2

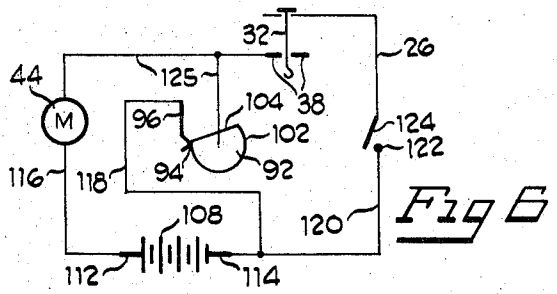


Fig 6

INVENTORS
MARVIN I. GLASS
BURTON C. MEYER

BY James D. Coffee
ATTORNEY

GAME APPARATUS REQUIRING PLAYER DEXTERITY

DISCLOSURE

This invention relates in general to games. In particular, this invention is directed to a game of skill having an animated device which visually and audibly signals the unsuccessful performance of an act associated with the game.

The game apparatus of the invention generally comprises a housing having a vertically suspended articulated game member, in the manner of simulated skeleton, which is constructed to support a number of removable objects at various locations thereon. The suspension apparatus forms an electric switch which is actuated for short time periods responsive to movement of the skeleton as the game players remove the objects therefrom. The switch is coupled to an electric motor which operates responsive to a given accumulation of time during which the switch is closed to cause animated movement of the skeleton, indicating penalization of the game player.

The primary object of this invention is to provide animated game apparatus suitable for use by a number of game players.

Another object of this invention is to provide animated game apparatus for use in a game of skill wherein unskillful play is indicated by amusing animation of the apparatus.

A further object of this invention is to provide game apparatus for use in a game of skill comprising a vertically suspended articulated simulated skeleton carrying removable objects thereon, and an electric switch positioned to be closed responsive to movement of the skeleton for effecting amusing motorized movement thereof.

Additional objects of this invention will become apparent to those versed in the game art upon an understanding of the following detailed description of the game apparatus taken in conjunction with the accompanying drawings, in which a preferred embodiment of the game apparatus is shown, and wherein:

FIG. 1 is a perspective view of the game apparatus of the invention including an upright housing 10 and a vertically suspended simulated skeleton 12;

FIG. 2 is an enlarged, side elevational cross-sectional view of the game apparatus shown in FIG. 1;

FIG. 3 is a fragmentary, front elevational cross-sectional view of the game apparatus taken along line 3–3 of FIG. 2;

FIG. 4 is a top cross-sectional view of the game apparatus taken along line 4–4 of FIG. 2;

FIG. 5 is a fragmentary, elevational cross-sectional view of a portion of the simulated skeleton showing a typical articulated joint thereof and an interlocking, keyed playing piece carried on the skeleton; and

FIG. 6 is a schematic diagram of the electrical system of the game apparatus.

Turning now to FIG. 1 of the drawings, the game apparatus of the invention generally comprises a vertical housing 10 having an articulated, simulated skeleton 12 which is vertically suspended from the top of the housing at 13 and is adapted for movement relative thereto. A number of removable playing pieces 14 in the manner of skeleton related objects are provided and adapted to be carried in interlocking relation on the simulated skeleton. During the course of the game play, the players are expected to skillfully remove the playing pieces from the skeleton without causing undue movement thereof.

As best seen in FIGS. 2, 3 and 4, the housing includes a vertical front wall 15, a generally parallel, spaced apart rear wall 16, and a pair of side walls 18 and 20 forming an enclosure for suitable enclosing the mechanism and electrical power source of the apparatus. A top 22 extends forwardly in overhanging relationship to the front wall 15, forming an overhang having a fascia 24 for concealing the skeleton suspension structure 13.

Suspension structure 13 comprises a generally L-sahped cantilever bracket 26 fabricated of resilient, electrically conductive material such as spring steel. The bracket includes a short vertical leg 28 secured to the interior of rear wall 16, as by rivets 31, and a long, generally horizontal leg 30 which extends forwardly from the rear wall at a slight upward incline, to a point rearwardly adjacent fascia 24. An electrically conductive link 32, having a hook 34 formed at its lower end, is vertically suspended from the free end of bracket 30. The skeleton hangs freely from the bracket 30, by an eyelet 33. Thus, the cantilever bracket provides a resilient support for animation of the articulated skeleton to provide an unusual method for signifying penalization of a game player in accordance with the rules of play.

A control knob 36, accessible from the exterior of the fascia, is journaled in the fascia wall at 37 and supports a flat, generally horizontal, electrically conductive plate 38 having a diamond-shaped opening 40 receiving link 32 therethrough. Link 32 and plate 38 form the electrical contacts of a normally open switch 39 which closes responsive to manual movement of the skeleton. By rotatably moving the knob, the effective size of plate opening 38 may be varied to increase or decrease the switch's sensitivity to movement of the skeleton. As best seen in FIG. 4, plate 38 is horizontal and the vertical projection of opening 40 is at a maximum for providing a relatively insensitive switch 39. On the other hand, by rotating the plate 30° in either the clockwise or counterclockwise direction, the vertical projection of the opening is reduced and the switch is substantially more sensitive to movement of the skeleton. The sensitivity setting of the switch may be indicated by a pointer 42 at the periphery of the knob.

A U-shaped frame comprising vertical, spaced apart parallel side walls 48 and 50, and an integral back wall 54 is secured to the interior of the rear housing wall 16 by rivets 56. An electric motor 44 is supported between frame walls 48 and 50 and includes a horizontal shaft 58 extending through wall 50 which carries a small drive gear 60 and a larger gear 62. A ratchet-type noisemaker 64 is secured to the interior of front wall 15 by a rivet 66 and is positioned so that its free end cooperates with the teeth of gear 62 to provide an audible clicking sound during energization of the motor.

Drive gear 60 cooperates with a large gear 68 carried on a horizontal shaft 70 suitably journaled between frame walls 48 and 50. Gear 68 is carried outwardly of frame wall 50 and the extreme right end of shaft 70, as seen in FIG. 3, is bent to form a crank 72.

A long, generally vertical, electrically nonconductive arm 74 is journaled at 73 on the end of crank 72. A pin 78 is formed at the upper end of arm 74 which is received through an opening 80 provided approximately centrally of bracket arm 30. Thus, as motor 44 is energized and rotates crank 72, arm 74 moves up and down to cause vertical movement of the skeleton. Due to the articulated construction of the skeleton, its movement is amusing to the game players.

Shaft 70 also carries a small gear 81 which cooperates with a large gear 84 on a third shaft 82. Shaft 82 is journaled between frame walls 48 and 50 and supports a pinion gear 96 at its end. The pinion gear cooperates with a large timing gear 88 secured to a fourth shaft 90 which also carries an electrically conductive cam 92. The cam cooperates with an electrical contact 94 of a suitably positioned switch arm 96.

Switch arm 96 is secured to a horizontal extension 98 of frame side wall 50 and is carried on an electrically insulating block 100 which isolates it from the frame. The frame and shaft 90 are suitably fabricated of electrically conductive material to provide an electrical path to conductive cam 92. The cam includes a generally circular radial portion 102 and a flat, chordal portion 104. Thus, a switch is formed by the contact 94 of switch arm 96 and the conductive cam. The switch is closed when the radial portion 102 of cam 92 engages contact 94, and the switch is open when chordal portion 104 is adjacent arm contact 94.

Alternatively, the cam may be constructed of electrically nonconductive material and its radial portion 102 may cooperate with contact 94 of the switch arm to urge it outwardly into engagement with a suitably positioned stationary switch contact, not shown. A battery box 106 is provided integral with the rear wall 16 of the housing for accommodating

dry cell batteries **108** which provide the electrical power for motor **44**. A removable cover **110** is provided for access to the battery compartment to replace the batteries should the need so arise. The battery box includes spring terminals **112** and **114** at opposite poles of the batteries.

As seen in the schematic diagram shown in FIG. **6**, in addition to FIGS. **2** and **3**, spring terminal **112** has an electrical conductor **116** extending directly to motor **44**. A second electrical conductor **118** is connected from spring terminal **114** to switch arm **96** to provide an electrically conductive path through the frame and conductor **116** for energizing motor **44** when switch contact **94** engages radial portion **102** of cam **92**.

A parallel conductive path to motor **44** is provided by a wire **120** connected from spring terminal **114** to a button contact **122** secured interior of the rear wall which cooperates with a switch blade **124** pivotally mounted on the lower rivet **31**. Lower rivet **31** also carries the bracket **26** which provides a conductive path to switch **39**. By suitably moving switch blade **124** sideways, out of or into engagement with button contact **122**, the electrical circuit to switch **39** may be opened or closed, respectively. A conductor **125** is connected between plate **38** and the motor frame to complete the parallel electrical path to motor **44** when the switch blade **124** and switch **39** are closed.

Operationally, when switch **124** is closed, movement of the skeleton closes switch **29**, energizing motor **44** for a period of time equal to the time during which the switch is closed. Motor **44** drives timing gear **88** and cam **82** through an arc which is commensurate to the time which switch **39** is closed. Generally, the switch is only closed for short periods of time which causes a series of small movements of gear **82** and arm **74**. These movements are usually sufficiently small to effect a slight movement of the skeleton. After a series of switch closings during which contact **94** is opposite cam portion **104**, radial surface **102** of the cam eventually engages contact **94** of the switch arm to complete the parallel electrical path to the motor which causes continuous motor operation for a relatively long period of time. The motor is energized until chord **104** of the cam wheel is again opposite contact **94** at which time the circuit opens. Energization of the motor during this relatively long period of time drives arm **74** which causes the skeleton to jump up and down.

Referring now to FIG. **5**, a representative articulated joint such as an elbow, hip or knee of the skeleton depicted in FIG. **1**, is shown. The articulated joint includes a supporting joint member **132**, a supported joint member **134**, and a loose pin **130** for loosely connecting the two joint members together.

At numerous locations on the skeleton, keyed openings **136** and extended keyed shafts **138** are provided for receiving playing pieces **14**, each of which have a given point value. As best seen in FIG. **5**, a simulated knee cap **140** having a pin **142** with a rectangular key element **144** is provided for engaging the complementary shaped keyed opening **136**. As noted in FIG. **1**, a bow tie **146** includes a keyed opening **148** which receives a complementary shaped keyed shaft **138** which enables the playing piece to be selectively removed by a game player. Other keyed playing pieces may include a pair of boots **150**, an umbrella **152**, a bouquet **154**, a ring **156** and false teeth **158**. A hat **160** and spectacles **162** are clamped on the skeleton by hat pins **164** and spectacle frames **166**, respectively. Each of the playing pieces includes an opening on the front side thereof for receipt of a playing key member **182**, which is manually manipulated by the players for removal of the playing pieces from the skeleton.

Finally, the game apparatus of the invention includes a deck of game cards **168**, each bearing an illustration **170** of one of the playing pieces **14**, such as representively shown in FIG. **1**. Game cards **168** also include a member of joker cards which may be used to represent any game piece of the player's choice.

Each of the game cards, except the joker cards bear a point value **172** which indicates the number of scoring points a player obtains for successfully removing a game piece corresponding to the illustration on that card. The game points for each game piece vary according to the difficulty which a player is likely to encounter in removing it from the skeleton. The more difficult the game piece is to remove, the greater its point value. Alternately, the point value of each game piece may appear directly on the piece.

Prior to the play of the game, each playing piece is positioned at its appropriate location on the skeleton and rotated 180° so that the male and female portions of the interlocking keyed members are diametrically offset to make their removal more difficult. Switch blades **124** is closed and the sensitivity knob **36** is adjusted to provide a difficult or a relatively easy game, in accordance with the skills of the game players. Two game cards **168** are distributed, face down, to each game player and the remaining cards are placed face down to provide a drawing pile. One card from the drawing pile is turned face up to start a discard pile.

Beginning with the first game player, with each subsequent player taking a turn in rotation, the first player by means of key **182**, may attempt to remove any playing piece **14** from the skeleton which is shown on the cards in his hand or on the top of the discard pile. Alternatively, the player may pick a fresh card from the drawing pile, but if he picks a fresh card, he must remove the item illustrated on that card. A joker allows the game player to remove any playing piece from the skeleton, but after its use, the joker is placed on the bottom of the discard pile.

Upon selecting a playing piece, the game player attempts to skillfully remove it with key **182** from the skeleton without causing movement of the skeleton which will close switch **39** and energize the motor. While short energizing periods of the motor might not be detrimental to the player, a number of short energizations will be accumulated on cam **92** and will rotate it so that radial portion **102** engages contact **92**. This switch completed the parallel path which causes a relatively long energization of the motor and violent jumping of the skeleton. A player who causes the skeleton to jump is penalized by not being allowed to keep the item and the playing card is placed on top of the discard pile for possible use by another game player.

If a player successfully removes an item from the skeleton any other player who has a game card bearing an illustration of that item may appropriate the item from the successful game player and keep the points indicated on the item. The game card of the successful player is then discarded to the bottom of the discard pile. The deck is played through once and then all remaining game cards are played out. If a card is used from a player's hand, he replaces it from the top of the drawing pile. At the end of the game, the player with the most points as determined by the total of the points of the game pieces he has successfully removed, is the winner.

While the game apparatus of the invention has been described with respect to a simulated skeleton, other embodiments such as simulated Christmas tree with removable ornaments may be utilized with equal effect.

It is obvious that upon study by those skilled in the art, the disclosed invention may be altered or modified without departing from its inventive concept.

We claim:

1. Game apparatus comprising a frame, a game member mounted on said frame for movement relative thereto; an electric motor carried by said frame and drivingly connected with said game member to effect oscillating movement thereof; and an electrical circuit means for controlling the operation of said motor, including switch means responsive to a predetermined amount of externally initiated movement of said game member relative thereto for incremental periods of time to influence said circuit means a predetermined fixed amount to independently actuate said motor to effect continuous oscillating movement of said game member for a fixed period of time.

2. Game apparatus according to claim 1, including movable support means carried by said frame for holding said game

member in vertically suspended relation thereto said switch means comprising a first switch, said support means including one contact element of said first switch which is movable in response to movement of said game member relative to the second contact element of said first switch which is fixed to said frame.

3. The game apparatus as set forth in claim 2 wherein said first switch is normally open and closes for an incremental period of time responsive to said predetermined amount of movement of the game member causing momentary operation of the motor moving it an incremental amount, and wherein said switch means includes a second switch parallelly connected with said first switch and positioned for cooperation with said motor and closing upon completion of an accumulation of incremental movements by said motor sufficient to influence said second switch said predetermined amount for effecting the independent oscillating movement of the game member.

4. The game apparatus as set forth in claim 3 wherein said second switch comprise a cam wheel driven by said motor wherein the sensitivity of the first switch responsive to movement of the game member may be varied; wherein said support means includes a resilient bracket, and including additionally; audible sound means for indicating operation of said motor.

5. The game apparatus as set forth in claim 4 wherein said game member comprises a simulated, articulated skeleton adapted to carry a number of removable, simulated skeleton accessory game pieces; said game pieces being keyed in interlocking relation on said skeleton and adapted to be manually removed therefrom without causing movement of the game member and consequent closure of said switch means.

6. The game apparatus as set forth in claim 5 including additionally: a plurality of game cards bearing illustrations of said skeleton accessories for indicating those accessories which a game player may remove from the skeleton, and wherein said accessories have point values which are accumulated by game players who remove said accessories without causing said second switch to close.

7. The game apparatus according to claim 1, including additionally: a number of game pieces carried on said game member and adapted to be manually removed therefrom without causing movement of the game member and consequent operation of the motor.

8. The game apparatus according to claim 7 wherein said game member comprises a simulated articulated skeleton and wherein said game pieces comprise simulated accessories for said skeleton, which are keyed in interlocking relation thereon.

9. Game apparatus comprising: a housing having a bracket swingably supporting a depending, electrically conductive link carrying a suspended, movable game member; an electrically conductive horizontal plate defining a small opening receiving said link and forming a normally open, first switch; a source of electric current; an electric motor including motor driven means for accumulating incremental movements of said motor; electric means including said first switch for connecting said source to said motor for moving it in incremental amount responsive to sufficient movement of said game member for incremental periods of time; said electric means including a second switch parallelly connected with said first switch and positioned for operating the motor responsive to accumulation of a fixed given total amount of movement of said motor; and means coupling the motor to the bracket for imparting rapid movement to the game member for a fixed period of time upon accumulation on said motor driven means of a sum of incremental movements equal to said fixed given total amount of movement.

10. The game apparatus as set forth in claim 9 wherein said game member comprises an articulated skeleton having a number of removable, interlocked playing pieces.