United States Patent

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[54] SELF-ACTUATED ROCKING AMUSEMENT DEVICE

10 Claims, 6 Drawing Figs.

[52] U.S. Cl. 46/147
[51] Int. Cl. A63h 13/18
[50] Field of Search 46/147, 115, 116, 105, 106, 107, 99, 101, 119, 120

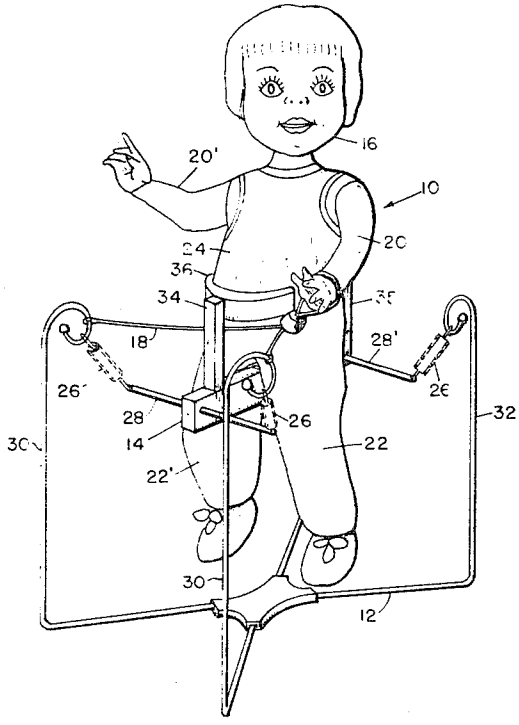
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ABSTRACT: A self-actuated rocking amusement device is described wherein a toy such as a rocking doll having automatically reciprocating limbs is positioned on a support such as a seat which is resiliently supported from a frame. A member of the toy such as a doll limb is connected by an easily attachable tether to the frame. Tether connected limb motions thus induce rocking motions of the doll toy with motions of the other doll limbs being effective to enhance rocking of the doll.



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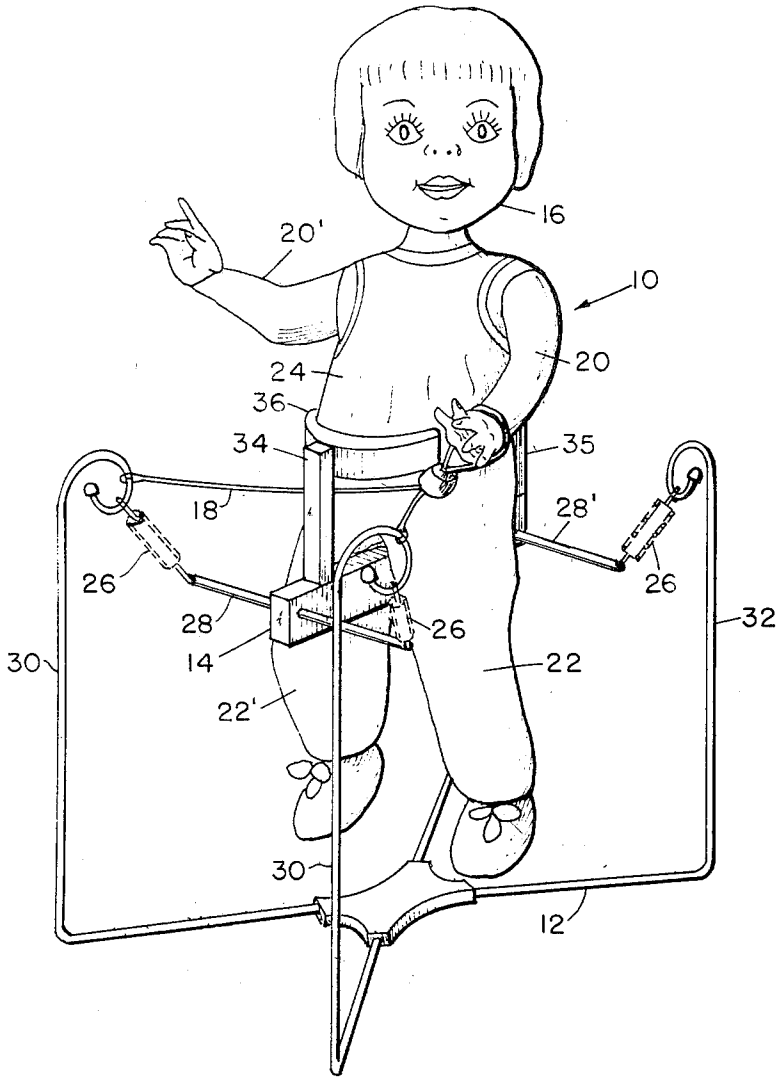


FIG. 1

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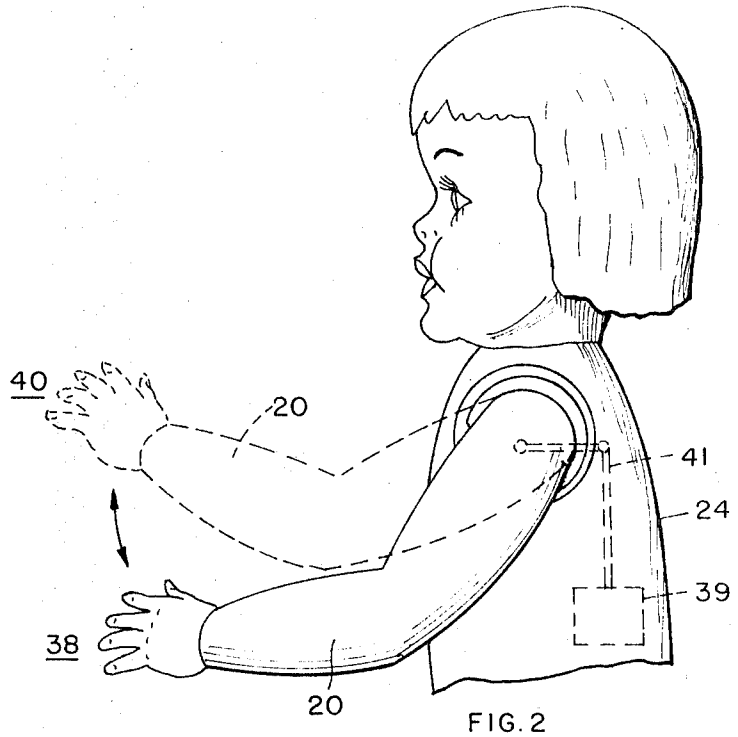


FIG. 2

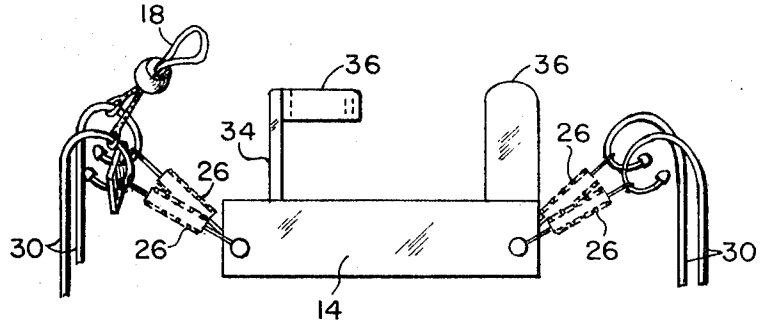


FIG. 3

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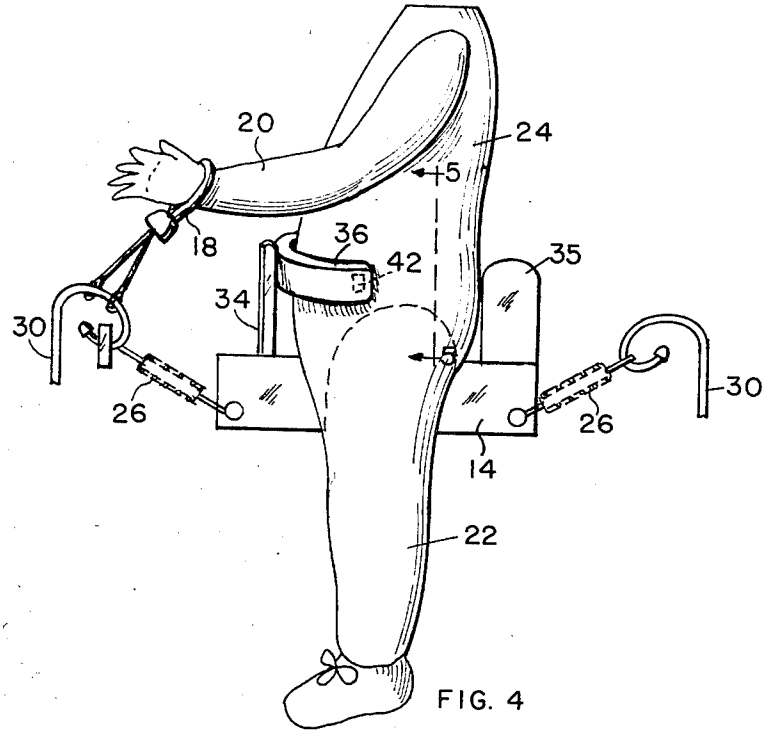


FIG. 4

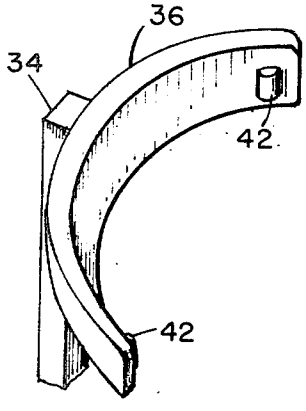


FIG. 5

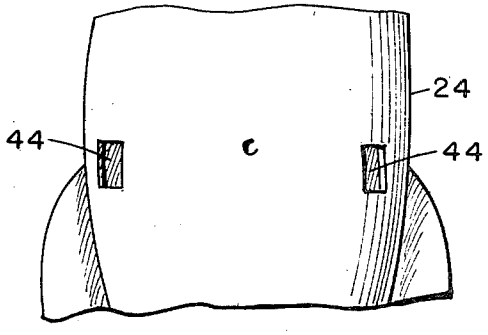


FIG. 6

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SELF-ACTUATED ROCKING AMUSEMENT DEVICE

BRIEF DESCRIPTION OF THE Invention

The self-actuated amusement device formed in accordance with the invention utilizes a toy having an automatically movable member. The toy is supported by a seat which is resiliently mounted to a frame to sustain rocking motions initiated by the movable member. The movable limb member is secured to the frame so that motions of this secured member may impart a rocking motion on the toy. When in addition to the movement of the secured member other unsecured members are attached to the toy and are caused to move, enhanced toy rocking is obtained, i.e. laterally from side-to-side as well as from back to front.

In an illustrative embodiment a doll having automatically reciprocatingly movable arms and legs is balanced on a seat suspended with springs from a resilient frame. An arm of the doll is connected through a tether to the frame in a manner whereby motions of this tether connected arm applies a rocking force on the doll and induces doll-rocking motions. The motions of the other doll limbs effectively shift the center of gravity of the doll thus induce additional doll rocking motions for enhanced amusement effect.

It is, therefore, an object of the invention to provide an automatically repetitively reciprocating rocking toy which may be easily assembled by a child and is simple in its operation.

DESCRIPTION OF DRAWINGS

This object and others may be understood from a description of an illustrative embodiment of the invention which is described as follows in conjunction with the drawing wherein

FIG. 1 is a perspective view of an illustrative embodiment of a rocking doll toy in accordance with the invention;

FIG. 2 is a side view of a doll utilized with the rocking doll toy shown in FIG. 1 and is illustrative of the type of doll limb motions employed;

FIG. 3 is a side view, in perspective, of the frame and doll-sized seat employed with the rocking toy in accordance with the invention;

FIG. 4 is a side view of the rocking toy illustrated in FIG. 1 to show lateral retention of the body portion of the doll to the seat;

FIG. 5 is an enlarged perspective view of the lateral supporting member employed with the doll seat in the rocking toy FIG. 1;

FIG. 6 is a front view of the body portion of the doll employing recess means cooperating with the lateral supporting member to retain a doll.

DESCRIPTION OF EMBODIMENT

With reference to Fig. 1, an illustrative embodiment of a rocking doll toy 10 in accordance with the invention is shown including a doll-sized frame 12, a doll-sized seat 14 and a doll 16 balanced upon the seat. A tether 18 interconnects the left arm 20 of the doll 16 to the frame 12. The tether may be formed of a string or a resilient rubberlike rope. The tether is threaded through a choke ring 19 to form a loop 21 which is wrapped around the wrist of the doll arm 20.

The doll is provided with reciprocatingly movable legs 22–22′ and arms 20–20′ by means of a suitable motor (shown in FIG. 2) located in the central body portion 24 of the doll 16. The motor is battery driven and controllable by any desired means.

The seat 14 is resiliently suspended from the frame 12 by means of springs 26 located at the ends of rocking levers 28–28′ attached to the seat. The other ends of the springs 26 are attached to ends of upwardly extending poles 30 of the frame. These frame poles 30 are mounted in cantilever fashion and formed of a resilient wire material to enhance the resiliency of the frame.

The tether 18 is connected to the pair of poles 30 located in front of the doll 16 and is looped around the wrist of the doll arm 20. The doll 16 is balanced on the seat 14 and restrained from either falling forwardly towards the tether connected frame poles or backwardly be means of a forward upright member 34 attached to the seat 14 and a backward upright member 35 respectively. The upright members 34—35 engage the body portion 24 of the doll 16 at locations selected to maintain the doll balanced on the seat. A laterally extending member 36 is attached to the forward upright member 34 to partially encircle the central body portion 24 of the doll and provide lateral support preventing the doll from falling sideways off the seat 14.

The doll 16 has a center of gravity selected to occur directly above the seat at a height which encourages rocking motions.

FIG. 2 illustrates the extreme doll arm positions when actuated by the motor in the doll. As indicated the arm 20 is reciprocatingly moved between a down position at 38 and an upward position at 40. A motor 39 and actuating linkage arrangement 41 are employed to accomplish this motion. The motor 39 and linkage 41 are of conventional design and for this reason are not shown in further detail in the drawings. The indicated motion for the arm 20 in FIG. 2 is also true for the other doll limbs to enhance the rocking motion as will be described.

As illustrated in the view of FIG. 3, the seat 14 is generally horizontally disposed and supported by the springs 26 so that the doll when placed on the seat between the upright members 34—35 maintains an upright position. The FIG. 4 illustrates the doll placement on the seat and an attachment via the tether 18 to the frame 12. Note with particular reference to FIG. 5 and 6 the complementary fitting tongues 42 and grooves 44 located on the lateral member 36 and body portion 24 respectively. These tongues and grooves provide enhanced forward and lateral doll support when the doll is placed upon the seat 14.

In the operation of the rocking doll toy, the limb actuating mechanism located within the body of the doll is energized. The various limbs then move in a reciprocating manner as illustrated for the arm 20 in FIG. 2. The moving arm 20 connected to the frame 12 by tether 18 applies a rocking force to the doll causing a forward and backward as well as lateral pivoting of the doll 16. The shoulder-high connection of arm 20 assures an enlarged pivot action on the doll which rocks in all directions on the seat 14. Since the limbs 20′, 22 and 22′ are also moved, their motions effectively introduce a shifting of the center of gravity of the doll. This shifting of the doll's center of gravity further enhances the rocking of the doll.

Having thus described an automatically actuated rocking doll toy the objects and amusement effects can be understood. The assembly of the doll is conveniently accomplished by a child and the rocking toy is operated without unbalancing the seated toy.

What I claim is:

1. A self-actuated amusement device comprising:
   - a toy including a body portion and provided with a movable member mounted for reciprocal motion to the body portion;
   - a motor in said toy in operative association with the movable member to reciprocate same;
   - a frame and a support resiliently mounted to the frame, with said toy being balanced on the support for resilient movement therewith, and
   - means for securing said movable member to said frame whereby actuation of said motor will cause reciprocating motion relative to the frame to impart a reciprocating rocking force on the toy and the resiliently mounted support of said resiliently support-mounted body portion.

2. A self-actuated amusement device for rocking a toy comprising:
   - a doll-sized ground-supported frame defining an elevated suspension structure shaped to suspendingly support a doll seat therefrom;

a doll having a limb which is repetitively movable relative to a central body portion of the doll;

a doll-sized seat resiliently suspended from the frame suspension structure to resiliently sustain rocking motions;

said doll being uprightly balanced upon the seat, said seat being provided with doll supporting member means sized and shaped to engage the central body portion of the doll to prevent doll unbalance generally along a first rocking direction;

a tether connected between the movable limb generally along said first rocking direction to the frame suspension structure restrain movement of the tether-connected limb relative to the frame and thus impart a rocking force on the doll and seat in response to motions of said limb whereby automatically induced doll limb motions induce rocking motions of the entire doll.

3. The self-actuated rocking amusement device as claimed in claim 2 and further including:

a lateral support member attached to the seat and extending in a generally lateral direction from said first rocking direction to engage the doll central body portion at lateral locations to prevent doll unbalance along said lateral directions.

4. The self-actuated rocking amusement device as claimed in claim 2 wherein said lateral support member and the central doll body portion are provided with complementary fitting grooves and tongues to firmly maintain the doll balanced on the seat.

5. The self-actuated rocking amusement device as claimed in claim 3 wherein the doll-supporting means further includes forwardly and backwardly located doll support members uprightly extending a distance selected to engage the central body portion of the doll.

6. A self-actuated repetitively rocking doll toy comprising:

a doll-sized frame formed of uprightly extending cantilever mounted arms arranged to suspendingly support a doll-sized seat between them, said arms being formed of resilient wires for enhanced doll-rocking motions;

a doll having limbs which are repetitively movable relative to a central body portion of the doll;

a doll-sized seat suspendingly supported from the frame arms near top ends thereof to resiliently sustain forward and backward and lateral rocking motions;

said doll being uprightly balanced upon the seat, said seat being provided with forwardly and backwardly located upright support members sized to engage the central doll body portion at locations selected to prevent doll unbalance in a first rocking direction and a tether connected to a movable doll limb and operatively connected generally along said first rocking direction to a frame arm to restrain motions of the movable limb relative to the frame and impart a rocking force on said doll.

7. The self-actuated rocking doll toy as claimed in claim 6 wherein the tether operatively interconnects the movable limb to a pair of frame arms selected for enhanced lateral balance of the seated doll.

8. The self-actuated rocking doll toy as claimed in claim 7 wherein the seat is further provided with means for laterally supporting the doll body portion for sustained doll balance on the seat throughout rocking motions.

9. The self-actuated rocking doll toy as claimed in claim 8 wherein the lateral supporting means further includes:

a lateral member fastened to the forwardly located upright member and generally shaped to partially envelop the central doll body portion at lateral sides thereof.

10. A self-actuated rocking doll toy comprising:

a doll-sized frame formed of uprightly extending arms arranged to suspendingly support a doll seat between them;

a doll having limbs which are automatically movable relative to a central body portion of the doll;

a doll-sized seat suspendingly spring supported from the frame arms to resiliently sustain forward and backward and lateral rocking motions, said doll being uprightly balanced on the seat to provide a shifting center of gravity in response to limb motions by the seat, said seat being provided with means for laterally retaining the central doll body portion of the seat;

a tether connected between a doll limb and an arm of the frame to restrain motions of the latter limb and provide a rocking force on the doll in response to motion of the tether-connected limb, whereby the doll is caused to rock laterally as well as forwardly and backwardly in response to the rocking force and shifts of the center of gravity of the doll.