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I. W. HARDAWAY ET AL

2,966,762

DOLL

Filed April 14, 1958

fig. 1

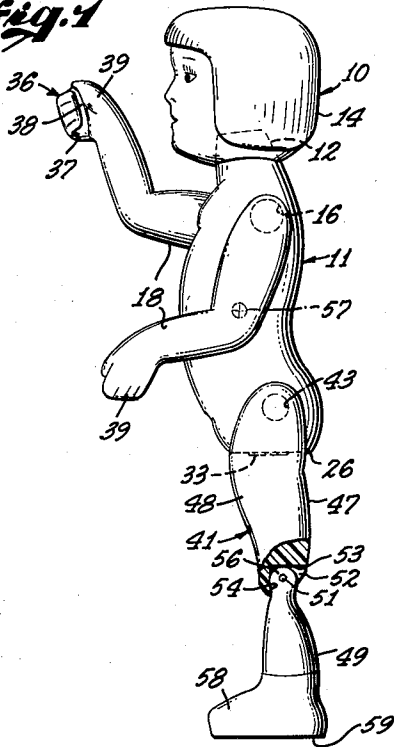


fig. 2

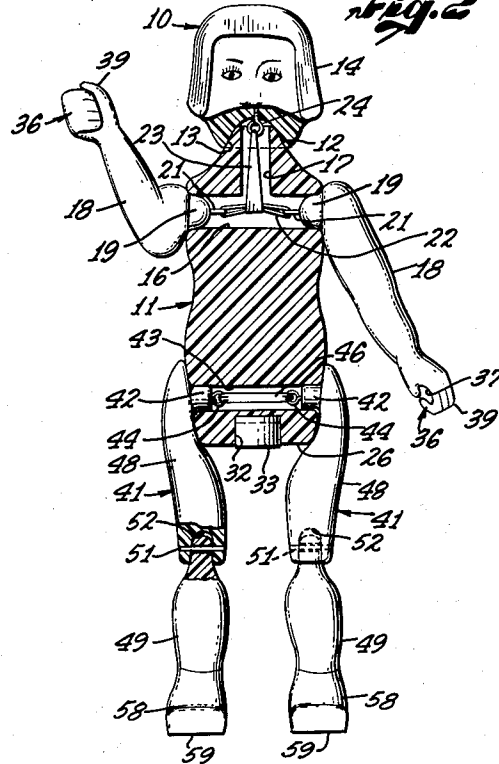


fig. 3

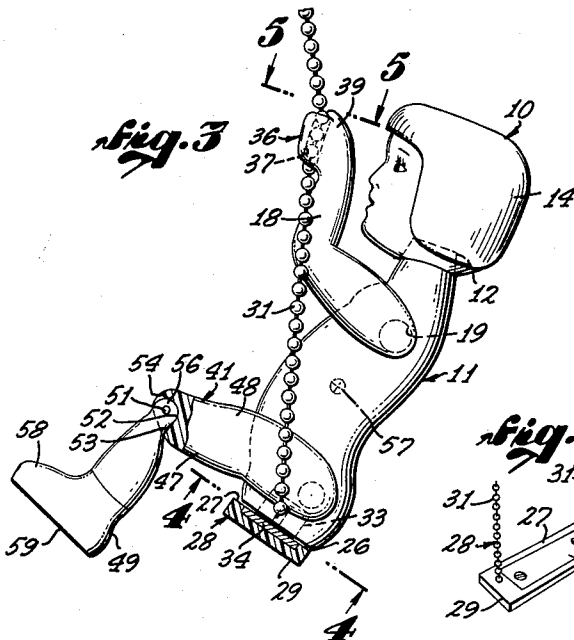


fig. 4

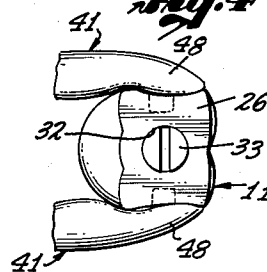


fig. 5

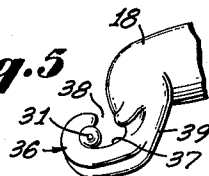
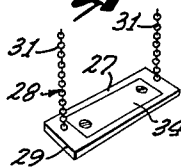


fig. 6



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2,966,762

DOLL

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2 Claims. (Cl. 46—241)

This invention relates to a doll, and more particularly to an articulated doll which is capable of assuming life-like positions, i.e., standing and sitting positions, wherein the doll is capable of retaining such positions to add more realism during play.

In general, this invention comprises a doll having a body simulating a life-like figure which includes a neck portion adapted to support a head in articulated relationship. Upper and lower limbs are hingedly secured to the body for pivotal movement thereon. A magnetic means is secured within the body for releasably securing the body to an armature member such as a plate of ferrous material mounted on the seat of a swing, teeter-totter, or other movable structure, to retain the body in a sitting position thereon during movement thereof. The lower limbs are preferably capable of pivotal movement upwardly to assume a simulated sitting position whereby the limbs clear a substantially flat bottom of the body to prevent interference with the seat member when the doll is positioned in a sitting position. Provision is made herein for a body having a center of gravity displaced forwardly therein whereby the doll is retained in a standing position without folding or collapsing.

In order that the doll may retain its sitting position on a swing which is supported by chains, cords or the like, the ends of the upper limbs, that is, the hands, are formed to provide hooks thereon whereby the hands are engageable with the supporting chains of the swing during movement thereof to prevent toppling over, as would otherwise result.

While articulated dolls are broadly known in the prior art, these dolls have had the disadvantage of being unable to retain a standing position when so placed without falling over or folding or bending, or to retain a sitting position on a moving structure such as the seat of a swing, teeter-totter, rollable toy, or the like, whereby a great deal of realism during play is lost.

It is therefore an object of this invention to provide a new and improved doll which is life-like in its configuration and articulation to enable positioning of the doll in a standing or sitting position in a more realistic manner.

An important object of this invention is to provide a new and improved doll which is capable of retaining a sitting position on a movable seat or platform, during movement thereof, by providing magnetic means within the body of a doll which is adapted to magnetically couple the body of the doll to a seat of ferrous material, whereby the seat may be swung, tilted or otherwise moved without dislodging the seated doll.

Another object of this invention is to provide a new and improved doll which is capable of retaining a sitting position whereby other articulated members of the body are capable of free realistic movement.

A further object of this invention is to provide a new and improved doll of the character described which incorporates hook means on the upper limbs or arms of the doll adapted to engage the supporting chains, cord or the like, of a swing, thereby assisting in retaining

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an upright position of the doll thereon, such engagement enduring the swinging motion of the swing.

A still further object of this invention is to provide a new and improved doll which gives a realistic knee action during such swinging whereby the lower limb or leg sections tend to straighten out in a backward swing and bend realistically in a forward swing of the swing.

Another important object of this invention is to provide a new and improved doll which is capable of retaining a standing position.

Another object of this invention is to provide a new and improved doll which is economical to manufacture and is readily and easily assembled.

A general object of this invention is to provide a new and improved doll of the character described which overcomes disadvantages of previous means and devices heretofore intended to accomplish generally similar purposes.

These and other objects will be more apparent with reference to the accompanying drawings, specification and claims.

In the drawings:

Fig. 1 is a side view, in elevation, of a doll embodying this invention;

Fig. 2 is a vertical front side view thereof, with parts shown in cross-section for greater clarity;

Fig. 3 is a vertical side view, in elevation, showing the doll embodying this invention in a sitting position on a movable or swingable structure with parts shown in cross-section for greater clarity;

Fig. 4 is a fragmentary bottom view thereof, in elevation, as seen on a line 4—4 of Fig. 3;

Fig. 5 is an enlarged fragmentary view, in elevation, of the end portion typical to both upper limbs, as seen on a line 5—5 of Fig. 3; and

Fig. 6 is a reduced fragmentary perspective view, in elevation, of the movable structure illustrated in Fig. 3.

Referring more particularly to the drawings, there is shown by way of illustration but not of limitation, a doll generally indicated by the numeral 10. The doll 10 comprises a body portion 11 having a configuration simulating a life-like figure, in this instance the body of a small child. The body 11 may be cast, carved or otherwise formed of any suitable material, such as wood, plastics or the like, and includes an upwardly-extending neck portion 12 which is preferably tapered complementary to a conical recess 13 of a head 14. The body 11 may be hollow if desired, or as illustrated in Fig. 2, may include a transverse bore 16 extending through the upper portion thereof and a longitudinal bore 17 communicating between the transverse bore 16 and the upper end of the neck 12.

A pair of upper limbs or arms 18 are provided to simulate arms on the doll, the limbs being formed to simulate any desired arm position, and having spherical bosses 19 at the inner ends thereof, the bosses 19 being disposed in opposite open ends of the bore 16 for yieldable securement to the body 11.

The securement of the arms 18 preferably includes a hook or eye 21 fixed in the spherical bosses 19, the eyelets 21 being connected together as by a resilient band or strap 22, of elastic or other suitable material. A similar elastic band 23 is preferably provided to yieldably secure the head 14 to the neck portion 12, and extends from an overlapping position of the elastic member 22 to a hook or eyelet 24 secured to the head at the recess 13. In this manner, the head 14 and upper limbs 18 may be pivotally moved around the axes of the bores 17 and 16 respectively to change the positions of the head and limbs, as desired, the elastic members 22 and 23 acting to retain the members 14 and 18 in the desired positions after being so positioned.

An important feature of this invention is the provision

of means whereby the doll may be positioned in a sitting position on a substantially flat surface of a stationary or movable structure, such as a swing, teeter-totter, tricycle or the like, in firm yet yieldable engagement therewith, such means retaining the doll in a sitting position when the structure is moved or swung without toppling or falling off the seat thereof.

For this purpose, the body 11 is provided with a substantially flat bottom surface 26 to form a firm and solid engagement with the flat upper surface 27 of a structure herein illustrated as a swing 28 having a seat member 29 and supporting chains, cords or the like 31. A recess or longitudinal bore 32 is provided in the body 11 and intersecting the flat bottom surface 26 in which an alnico magnet member 33 is immovably secured as by cementing or the like. The magnet 33 provides a yielding securement means for securing the body 11 to the upper surface 27 of the seat 29 by magnetic attraction of an armature or plate 34 of ferrous material embedded in or attached to the seat 29. The magnet 33 is preferably cylindrical in configuration, complementary to the bore 32, and is bifurcated to form a pair of downwardly extending poles, the poles being substantially flat on the lower surface thereof and substantially co-planar with the bottom surface 26 or optionally extending slightly outwardly therefrom.

It is to be understood although a movable structure like a swing 28 is illustrated herein, the body 11 with its magnetic securement means 33 is similarly adapted to adhere magnetically to a teeter-totter having plates like 34 secured to the upper surface of each end thereof, or to a toy tricycle having a suitably flat-surfaced metal seat of ferrous material.

In the use of a movable structure such as the swing 28, hook means are preferably provided at the extremities of the arm members 18 which simulate hands, for gripping the chain or cord 31 to retain the doll in balance on the seat and prevent toppling forwardly or rearwardly as would otherwise result.

As best seen in Fig. 5, each arm member 18 is provided with hook means 35 at the outer ends thereof which comprise channels 37 having inwardly-facing openings 38 through which the chain like 31 may be inserted. The outer ends 39 of the arms 18 are preferably outwardly offset whereby the hands or hook means 36 encircle the chain 31 on the outer surface thereof in a realistic manner.

The body 11 is further provided with lower limbs or legs 41 pivotally secured to the lower portion of the body as by transverse bosses 42 thereof extending into a transverse bore 43 of the body. Each boss is provided with a hook or eyelet 44, the eyelets being yieldably connected as by an elastic band 46 to permit pivoting of the legs 41 about the axis of the transverse bore 43 yet providing means for retaining the legs 41 in a desired position. The rear edges 47 of each leg 41 are preferably of a lesser radial distance from the axis of the bore 43 than the radial distance of the flat bottom surface 26 from the axis whereby, as best seen in Fig. 3, the lower edge 47 is cleared of the upper surface 27 of the seat member 29 when the legs 41 are pivoted to simulate a sitting position. The legs 41, in this manner, do not interfere with a firm engagement of the flat surface 26 with the upper surface 27 of the seat 29.

To provide a more realistic movement to the doll 10 while the body 11 is in a seated position, each of the legs 41 is preferably formed of discrete upper and lower members 48 and 49, respectively, hinged at their adjacent ends as by a transverse pin 51 to simulate a knee action. The lower end of each of the upper leg members 48 is preferably bifurcated to form a recess 52 having a transverse wall 53 and a longitudinal wall 54, the wall surface 54 being substantially parallel to the longitudinal axis of the upper member 48.

Each lower leg member 49 is provided with a reduced, substantially spherical upper end 56 which is adapted to reside within its corresponding recess 52 and is pivotally attached to the upper leg portion 48 as by the previously mentioned transverse pin 51. Each pin 51 extends through aligned apertures of the upper end 56 of the lower members 49 and the bifurcated lower end of the upper leg members 48. The transverse apertures of the lower leg members 49 are preferably slightly oversized relative to the transverse pins 51 whereby the lower members 49 are relatively free in movement and wherein realistic movement is achieved in the leg motion while the doll is swung back and forth as on the movable structure 28, legs 41 tending to straighten when the doll is in a rearward swing and tending to bend when the doll is in its forward swing. In the forward swing, the bending is arrested whereby the lower members 49 are in a position substantially perpendicular to the upper members 48, the rear surfaces of the members 49 being in abutment with the transverse walls 53 of the recesses 52.

Another important feature of this invention is the provision for means whereby the doll 10 may be positioned in a standing position whereby the doll retains such a position without further assistance or bracing. For this purpose, the body 11 is developed in such a manner that the center of gravity thereof, as indicated by the numeral 57 in Figs. 1 and 3, is substantially forward of the longitudinal axis of the body. In order to stand the doll, the upper leg portions 48 of the legs 41 are positioned in such manner that the longitudinal axes thereof are substantially aligned and co-planar with the longitudinal axis of the body 11, as illustrated in Fig. 1. Such positioning places the center of gravity 57 of the body in a position slightly forward of the aligned longitudinal axes, bringing the longitudinal surfaces 54 of the recesses 52 into abutment with the forward edges of the upper ends 56 of the lower leg members 49 to keep the legs 41 from bending or collapsing while the doll is in a standing position. A forward tilting of the doll, by having a center of gravity forwardly of the longitudinal axis, is resisted by enlarged lower portions 58 of the lower leg members 49 which simulate feet or shoes and are provided with substantially flat lower surfaces 59 substantially perpendicular to the longitudinal axis thereof to afford stability. In this position, the hinge points or pins 51 of the upper and lower members 48 and 49, respectively, are offset rearwardly of the longitudinal axes of the members 48 and 49 to resist bending or buckling during the standing position.

While the instant invention has been shown and described herein in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is therefore not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent methods and apparatus.

What we claim is new and desire to secure by Letters Patent is:

1. A doll having a body including a trunk portion and appendant articulated limbs and a movable structure having a substantially flat seat member, the combination with: a substantially flat surface on the bottom of said body; alnico magnet means immovably secured in said body and having one end thereof including poles thereof, said end being substantially flat and co-planar with said flat bottom surface of said body; wherein said flat seat member includes at least an upper surface of ferrous material, said upper surface being substantially flat and serving as an armature attractive to said magnet means for retaining said doll on said flat seat member in a simulated sitting position; wherein said seat member of said movable structure is supported at ends thereof by a pair of flexible suspension members for suspending the

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seat member in spaced relationship from a frame or other support in swinging relationship, and said limbs include arm means pivotally secured to opposite sides of said body, said arm means having hook means at outer ends thereof simulating hands and adapted to engage said suspension members.

2. A doll having a body including a trunk portion and appendant articulated limbs and a movable structure having a substantially flat seat member, the combination with: a substantially flat surface on the bottom of said body; alnico magnet means immovably secured in said body and having one end thereof including poles thereof, said end being substantially flat and co-planar with said flat bottom surface of said body; wherein said flat seat member includes at least an upper surface of ferrous material, said upper surface being substantially flat and serving as an armature attractive to said magnet means

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for retaining said doll on said flat seat member in a simulated sitting position, said limbs including leg portions pivoted to said trunk portion on a transverse axis spaced above said flat surface, the transverse dimension of said leg members from said axis to the lower surface thereof being less than the distance from said axis to said flat surface.

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