United States Patent

Glass et al.

[15] **3,699,710**

[45] **Oct. 24, 1972**

[54] **DOLL JOINT**

[72] Inventors: **Marvin I. Glass; Rouben T. Terzian,** both of Chicago, Ill.

[73] Assignee: **Marvin Glass & Associates**

[22] Filed: **March 31, 1971**

[21] Appl. No.: **129,761**

[52] **U.S. Cl.** **46/162**

[51] **Int. Cl.** **A63h 3/36**

[58] **Field of Search** 46/161, 162, 173, 119, 163

[56] **References Cited**

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3,277,602	10/1966	Speers et al.	46/161
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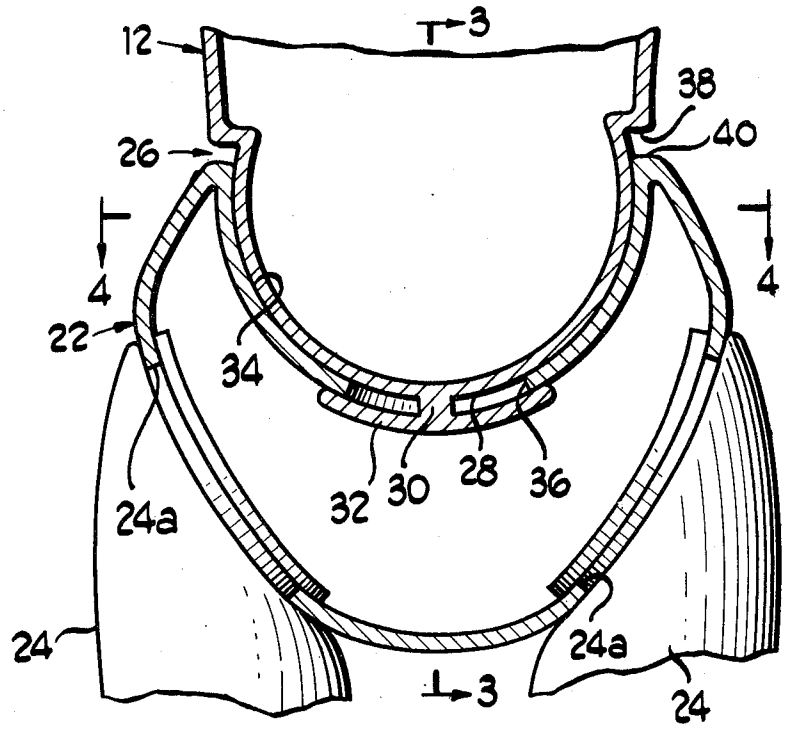
[57] **ABSTRACT**

A toy doll having upper and lower torso components movably related to each other and characterized by the connection of the two-torso components together by means which permits rotational movement of one torso component relative to the other as well as a bowing or dipping movement simultaneous with the rotational movement.

3 Claims, 9 Drawing Figures



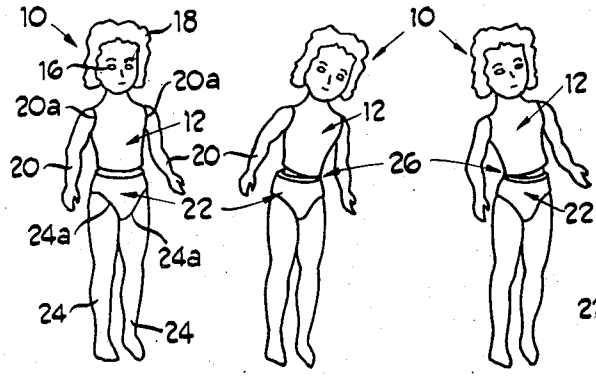


Fig 1a

Fig 1b

Fig 1c

Fig 2

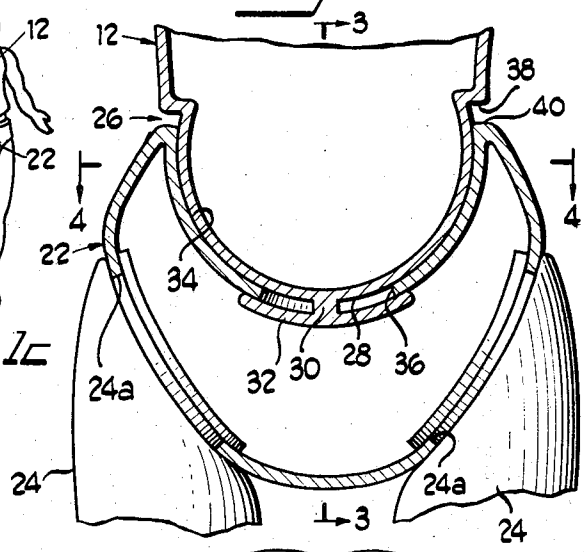


Fig 3

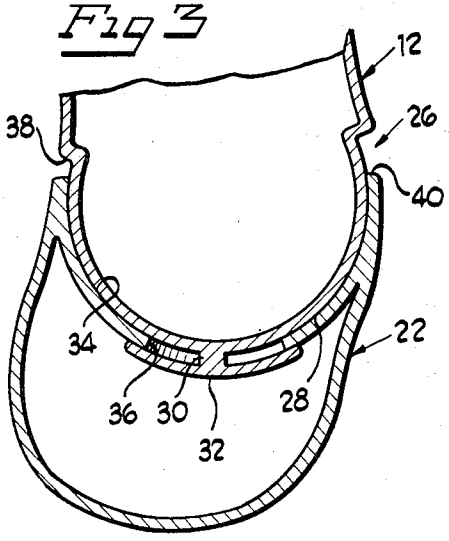
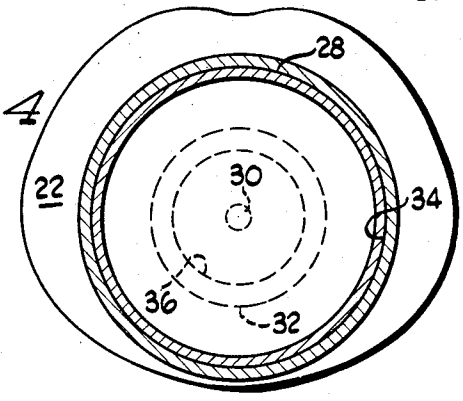


Fig 4



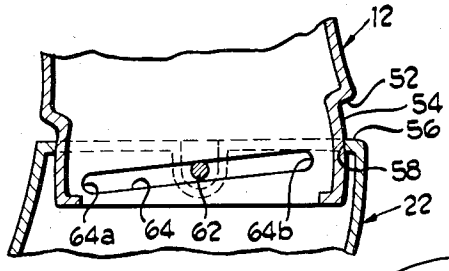


Fig 6

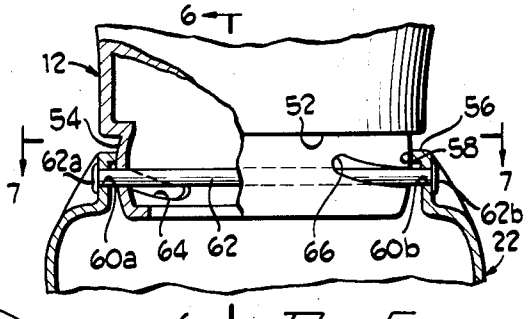


Fig 5

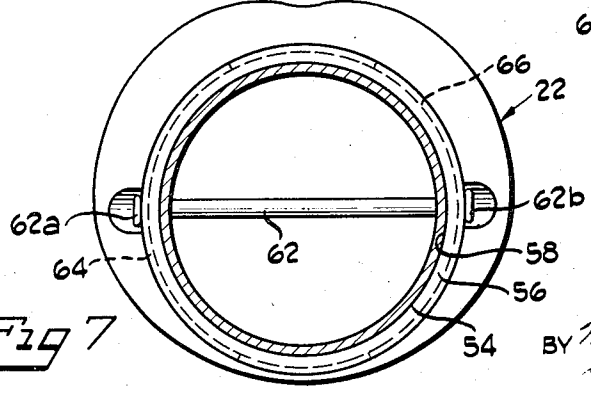


Fig 7

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DOLL JOINT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to toys, and more particularly, to an improvement in the torso connection of a doll having relatively movable upper and lower torso components.

2. Brief Description of the Prior Art

There have been many attempts at providing life-like qualities to dolls so as to enhance the attractiveness of the doll to the child who is playing with, or using, the doll. Some attempts at providing life-like qualities to the dolls have been in the nature of dolls that will simulate crying or eating, or dolls that simulate the growing of hair, or the like.

It has been known in the art to provide dolls with limbs which are movable relative to the torso so that arms or legs may swing to simulate a walking movement. Also, there have been recent attempts to provide dolls wherein the torso components are movable relative to each other. One such attempt in the art is shown in the Ryan et al. U.S. Pat. No. 3,425,155.

In the structure shown in the Ryan patent, the upper torso components are connected together by co-planar end portions which are formed at a predetermined acute angle to result in twisting movement as the upper torso component is turned relative to the lower torso.

Since dolls have always been a well-received toy in the art, improvements in dolls are favorably received, and it is the object of this invention to provide a doll having an improvement in the connection of relatively movable upper and lower torso components so as to produce a relative bowing or dipping movement as well as a turning movement during rotation of the components relative to each other.

SUMMARY OF THE INVENTION

This invention is directed, in brief, to the provision of an improved doll having a relatively movable upper and lower torso components wherein the two components may be moved to provide a simulated bowing and twisting movement.

There are two modes currently contemplated for carrying out the invention. In one mode, the bottom of the upper torso portion is provided with a semi-spherical ball surface which mates with a semi-spherical seating or socket surface in the top of the lower torso portion. The seating surface in the lower torso portion is provided with a circular opening therein and a segmental spherical flange supported on a stub depends downwardly from the spherical seating surface of the upper torso and overlays the opening in the lower torso seating surface so that the upper torso portion of the doll may be universally rotated by hand. In another mode of the invention, the upper torso terminates in a truncated spherical segment and the lower torso has an annular opening therein of a size and shape to receive the truncated depending portion of the upper torso. A rod extends through openings in the lower torso portion and through inclined slots in the depending portion of the upper torso to guide dipping or bowing movement of the upper portions as the upper torso is twisted relative to the lower torso portion.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1A** is a view of the doll of this invention in an upright position;

FIG. **1B** is a view of the doll of this invention showing the doll slightly turned and bowed to one side;

FIG. **1C** is a view of the doll of this invention showing it slightly turned to another side;

FIG. **2** is a fragmentary enlarged sectional view through the connection of the upper and lower torso portions of one mode of the doll of this invention;

FIG. **3** is a vertical section view taken generally along the line **3—3** of FIG. **2**;

FIG. **4** is a section view taken generally along the line **4—4** of FIG. **2**;

FIG. **5** is a fragmentary enlarged section view through the upper and lower torso connection of another mode of the doll of this invention;

FIG. **6** is a section view taken generally along the line **6—6** of FIG. **5**; and

FIG. **7** is a section view taken generally along the line **7—7** of FIG. **5**.

While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail two embodiments therefor, with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiments illustrated.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENT

The doll **10** of this invention includes an upper torso portion, generally indicated **12**, having a simulated head with simulated facial features **16** and simulated hair **18**. In addition, upper limbs **20**, such as the arms illustrated herein, are preferably movably connected to the upper torso **12** through a swingable joint, generally indicated at **20*a***.

The lower torso **22** of the doll **10** includes lower limbs **24**, such as the legs, illustrated herein, which are also preferably swingably connected to the lower torso by means of a swingable joint, generally illustrated herein at **24*a***.

This invention is directed to an improvement in a twistable connection of the upper torso **12** relative the lower torso **22**, herein generally illustrated as a means **26** for connecting the upper and lower torso portions together for semi-spherical movement. One mode of this connecting means **26** is shown in FIGS. **2** through **4**. As shown therein, the upper torso **12** terminates in a semi-spherical depending ball portion or bottom **28**. A short stub **30** depends therefrom and supports a segmental spherical flange **32**. The lower torso **22** has a semi-spherical socket or seat **34**, generally of a size and shape to nestably receive the semi-spherical bottom **28**, of upper torso **22**. In addition, the lower torso seat **34** has a circular opening **36** which is slightly smaller than the flange **32** of the semi-spherical bottom **28**. When flange **32** underlies the seat **34** it holds the upper and lower torso components together against unintended withdrawal, but permits relative rotational movement of the two.

The upper torso **12** terminates in a recess formed in annular shoulders **38** on the underside thereof, ad-

jacent the depending semi-spherical bottom **28**. Similarly, the lower torso is also provided with an annular shoulder **40** which is adjacent the upper annular shoulder **38** but spaced a short distance therefrom. These shoulders cooperate, together with the limitation afforded by the stub **30** within the circular opening **36**, to limit the amount of bending, bowing, or twisting movement which may be imparted to the upper torso relative to the lower torso. By the arrangement described herein, there is effectively provided a ball-and-socket joint between the upper and lower torso portions. The lower torso guides the upper torso which follows thereon with relative movement thereof limited by both circular opening **36** and stub **32** as well as the shoulders **38** and **40**. The child or user of the doll may rotate the upper portion of the torso relative to the lower portion under hand guidance and may impart the degree of tilting or bowing motion thereto at the same time, within the limitations heretofore mentioned.

Another mode of this invention is shown in FIGS. **5** through **7**. As shown therein, the upper torso portion **12** terminates in a recess that forms an annular shoulder **52**. A truncated spherical ball member **54** depends from the upper torso **12** adjacent the annular shoulder **52**. The lower torso **22** has an annular shoulder **56** at the top thereof, and terminates in a circular opening **58** of a size and shape to nestably receive the ball member **54** of the upper torso **12**. The opening **58** assists in guiding the truncated member **54** as it follows thereon during movement of the two torso components to be described.

Aligned openings **60***a* and **60***b* are provided in the lower torso portions in the upper area thereof, just below the circular opening **58**. These openings receive a rod **62** in a fixed relationship therewith which extends completely across the spaced openings. If desired, the rod **62** may be provided with enlarged ends **62***a* and **62***b* to insure the fixed securement of the rod **62** with respect to the openings **60***a* and **60***b*.

The truncated spherical ball member **54** which depends from the upper torso **12** has a pair of generally inclined slots **64** and **66** spaced opposite each other. These inclined slots terminate in closed ends, such as shown at **64***a* and **64***b* with respect to the slot **64**. The width of each of the slots is such so as to closely embrace the rod **62**. Thus, the torso is not free to move vertically with respect to the lower torso, but the rod **62** is free to traverse laterally relative to the slots **64** and **66**. The sides of the slots act as guides for the upper torso relative to the rod so that the upper torso tracks positively through a bowing or dipping movement while it is rotated relative to the lower torso.

Thus, each of the embodiments disclosed herein provides a means for connecting the upper torso of a doll to the lower torso for semi-spherical or a bending and dipping movement. In the embodiment shown in FIGS. **2** through **4**, the movement will be guided entirely by the user while in the embodiment shown in FIGS. **5** through **7** the dipping movement is guided by the connecting structure as an act of rotation. In either event, the user may produce a simulated twisting and dipping movement while playing with the doll.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, as some modifications may be obvious to those skilled in the art.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A toy doll comprising: means defining an upper torso, including a simulated head and upper limbs attached thereto; means defining a lower torso including simulated lower limbs attached thereto; means connecting the upper and lower torsos together for movement relative to each other; said connecting means including a socket-like cavity in one of the upper and lower torso and a ball segment extension on the other of the upper and lower torso with an inclined pin-like slot in one of the upper and lower torso extending generally from a lower to upper torso direction and a pin-like follower carried by the other of the upper and lower torso and tracking in said pin-like slot whereby, when said upper and lower torso are rotated relative to each other, the rotation will produce tilting as well as relative twisting movement between the two components.

2. The toy doll of claim **1** wherein the socket is in the lower torso and the ball segment extension depends downwardly from the upper torso.

3. The toy doll of claim **2** wherein the inclined slot is formed on the ball segment extension which depends from the upper torso.

* * * * *

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,699,710 Dated October 24, 1972

Inventor(s) MARVIN I. GLASS, ROUBEN T. TERZIAN

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Col. 4, line 32 "pin-like" should be deleted.

Col. 4, line 36 "pin-like should be changed to - inclined.

Signed and sealed this 27th day of March 1973.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents

FORM PO-1050 (10-69)

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