United States Patent [19]

Morrison

[11] **3,808,735**

[45] **May 7, 1974**

[54] **MOVABLE FIGURE TOY**

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

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[21] Appl. No.: **304,062**

[52] **U.S. Cl.** ..... **46/135 R,** 46/120

[51] **Int. Cl.** **A63h 11/00**

[58] **Field of Search** ..... 46/135 R, 120

[56] **References Cited**

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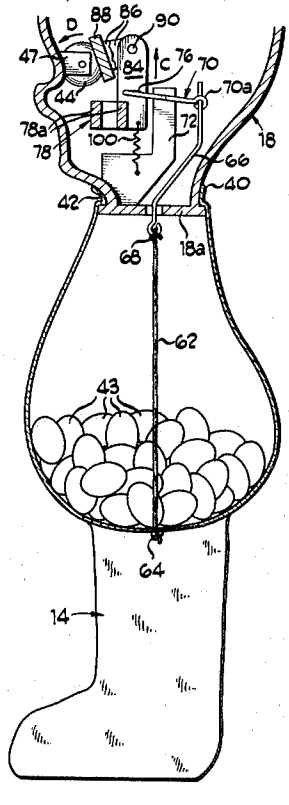
3,494,068	2/1970	Crosman	46/135 R
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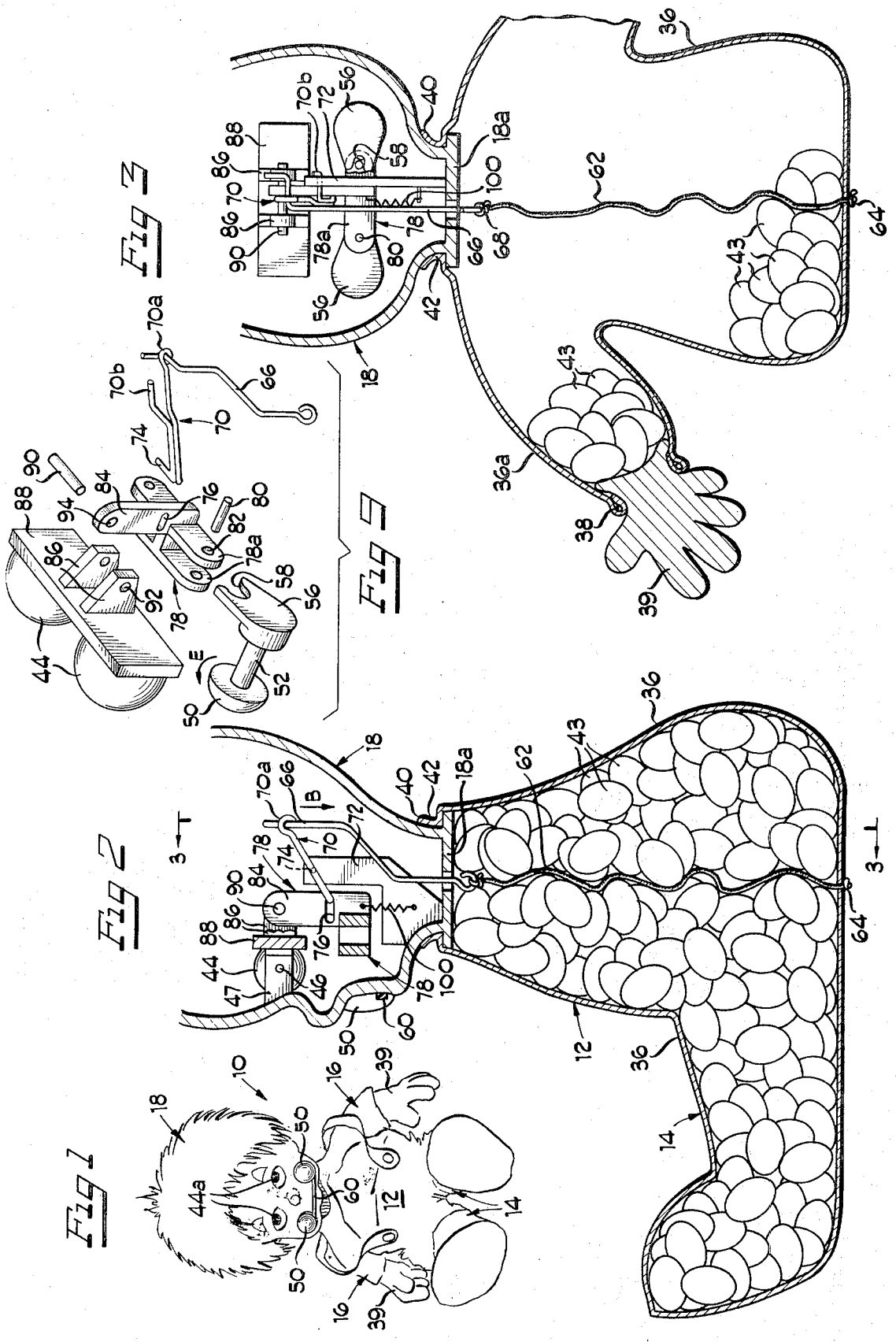
Primary Examiner—Antonio F. Guida
Assistant Examiner—D. L. Weinhold
Attorney, Agent, or Firm—Coffey & Sweeney

[57] **ABSTRACT**

A doll or figure toy which changes facial expressions as it is moved between a seated position and an erect position, by means of gravity operation from the weight of the torso portion of the doll which shifts longitudinally in response to changing of the doll's positions. The doll's torso is operatively connected to facial expression components movably mounted on the doll's head for movement in response to shifting of the torso.

11 Claims, 9 Drawing Figures




Fig 1
Fig 2
Fig 3
Fig 4
Fig 5

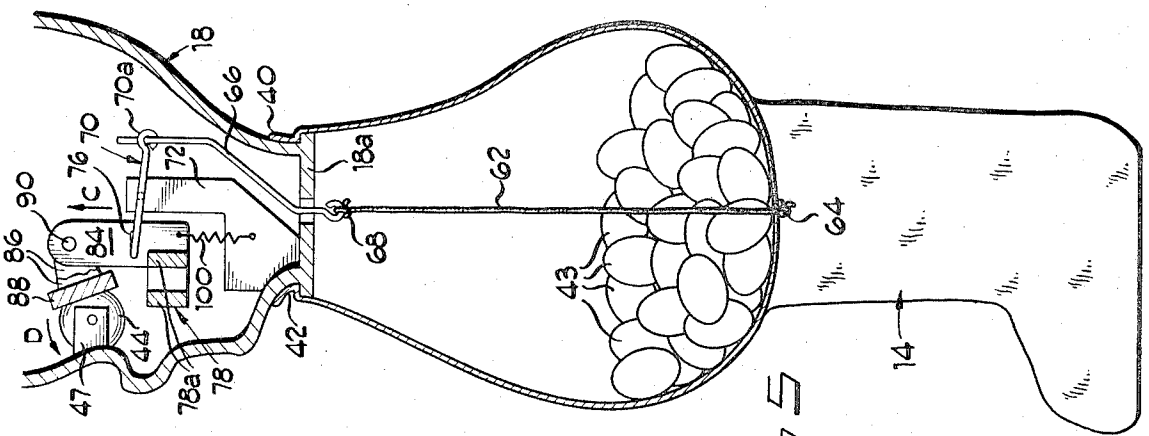


Fig 5

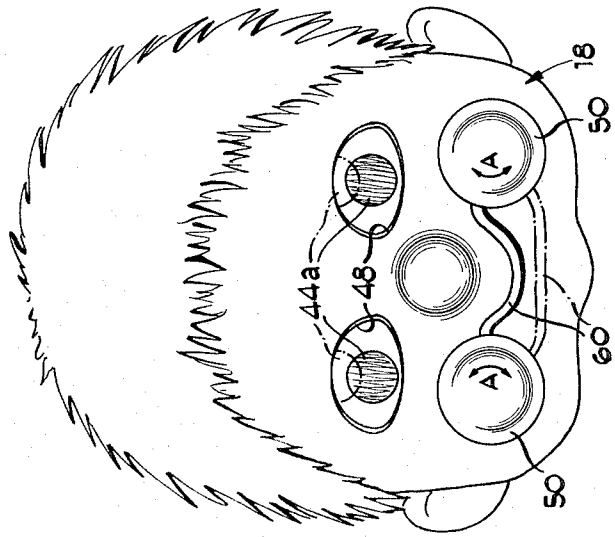


Fig 6

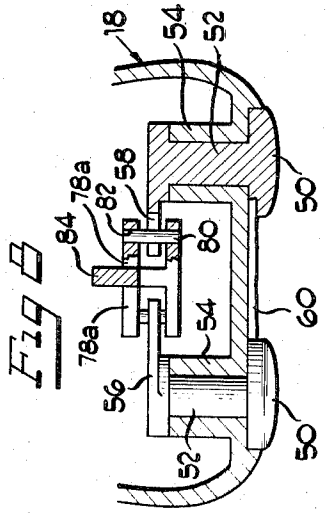


Fig 8

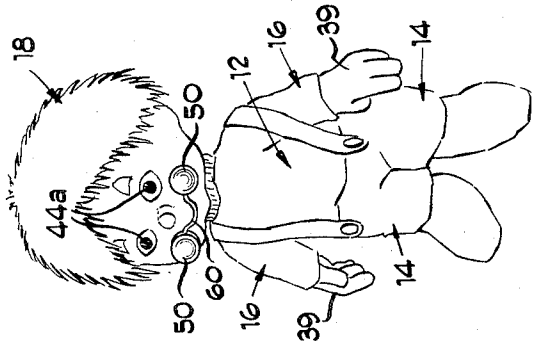


Fig 4

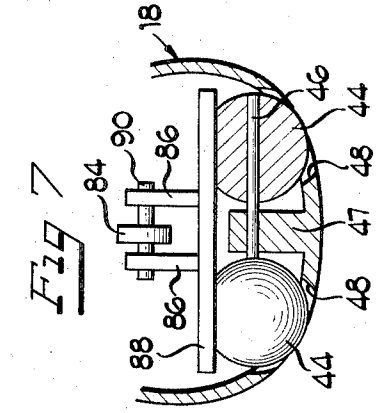


Fig 7

MOVABLE FIGURE TOY

BACKGROUND AND SUMMARY OF THE INVENTION

This invention relates to a toy doll having movable parts, such as eyeballs, cheek and mouth members, or the like, which are movable to change the facial expression of the doll.

Toy dolls having movable parts and means to actuate the same are well known in the art. Facial expression means, limbs, and other components or appendages of the doll are movable by spring motors, pendulums, gravity motor mechanisms, or the like. In some instances, the movable parts of the doll are removed in response to tilting or changing the position of the doll. Certain such prior art devices are shown in the following known U.S. Pat. Nos.:

Fuerst — 2,633,663
Schiller — 2,641,866
Baggott — 2,661,572
Seidl — 2,686,388
Myers, Jr. — 2,710,489
Kiscadden — 2,995,865
Neumann et al. — 3,195,268
Ryan — 3,264,778
Gardel et al. — 3,330,065
Ryan et al. — 3,406,482

This invention is directed to providing a new and improved doll or figure toy of the character described.

The principal object, therefore, of the present invention is to provide a new and improved doll, figure toy, or the like, which has movable parts such as eyeballs, cheek members, mouth members, or the like, and particularly such a figure toy wherein the movable parts of the doll are actuated automatically in response to changing the positions of the doll.

In the exemplary embodiment of the invention, the doll has movable facial expression means which are actuated automatically as the doll is moved or shifted between a seated position, or the like, and an erect position. The doll's body or torso portion has a flexible covering which may simulate a garment for the doll and which is filled with beans or other appropriate stuffing so that the torso, along with legs attached thereto, shifts as the doll is shifted between the seated and erect positions. The base of the doll's torso is operatively connected by means of a flexible member, such as a string within the doll's torso, to the movable facial expression means, at its upper end. Thus, as the doll is shifted from the seated position to the erect position, the torso portion becomes extended and pulls on the flexible member longitudinally within the doll to automatically move the facial expression means.

Other objects, features and advantages of the invention will become appparent from the following detailed description taken in connection with the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a figure doll according to the present invention, in a seated position;

FIG. 2 is a vertical, front to rear section, on an enlarged scale, of the doll shown in FIG. 1;

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

FIG. 4 is a perspective view similar to that of FIG. 1 but with the doll shown in an erect position;

FIG. 5 is a vertical, front to rear section, on an enlarged scale, of the doll as shown in FIG. 4;

FIG. 6 is a front elevational view of the doll's face, showing the movable facial expression means in simulated sad and smiling positions;

FIG. 7 is a partial horizontal section taken generally along the line 7—7 of FIG. 6;

FIG. 8 is a partial horizontal section taken generally along the line 8—8 of FIG. 6; and

FIG. 9 is an exploded perspective view of certain of the movable facial expression components of the doll of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings in greater detail, a baby doll type figure toy, generally designated **10**, is shown in a seated position in FIGS. **1** through **3** and in an erect position in FIGS. **4** and **5**. The doll includes a body portion, generally designated **12**, leg portions, generally designated **14**, arm portions, generally designated **16**, and a head portion, generally designated **18**, the head portion being mounted on top of the body portion **12**.

The doll's body or torso portion **12**, leg portions **14** and arm portions **16** are formed by a one-piece flexible outer covering **36** which may be designed to simulate a garment for the baby doll, as shown in FIGS. **1** and **4**. Sleeve portions **36***a* of the one-piece covering **36** have stitching or elastic bands **38** which are positioned about hand members **39** of plastic material, or the like, generally in the vicinity of the wrist areas thereof.

The head portion **18** of the doll comprises a generally hollow shell which has a generally flat base wall **18***a*. A collar portion **40** of the one-piece outer covering **36** has stitching or an elastic band **42** which is positioned in the recessed areas on top of the outer periphery of the base wall **18***a* of the head portion of the baby doll.

The entire garment forming flexible outer covering **36** of the doll, including the body, arms and legs of the doll, is filled with beans **43** or other appropriate weighted stuffing so that the doll, particularly its body or torso portion, shifts physically when the doll is moved or shifted between the afore-said seated and erect positions shown in FIGS. **1** and **4**, respectively. Beans have proven satisfactory because their weight effects sufficient shifting of the doll's torso or effect changes in the doll's facial expression by means described hereinafter.

The baby doll figure toy **10** of the present invention has facial expression means movably mounted on the head portion **18** and exposed at least in part on the front of the head portion. More particularly, the movable facial expression means includes spherical simulated eyes **44** pivotally mounted on the inside of the head portion by means of a rod **46** pivoted in a boss **47** (as best seen in FIG. **7**). The eyes have simulated iris portions **44**a exposed to view from the front of the doll through apertures **48** formed in the front of the head portion **18** of the doll. By means to be described in greater detail hereinafter, the simulated eyes **44** are pivoted about the axis of rod **46** between positions wherein the irises **44**a are generally centrally disposed behind the apertures **48** when the doll is in the erect position shown in FIGS. **4** and **5**, and wherein the irises **44***a* are in raised positions as seen in FIG. **1** when the doll is in a seated position. The movement of the doll's

eyes 44, as well as that of other movable facial expression components to be described in greater detail hereinafter, is effected automatically by actuating means, described hereinafter, in response to movement of the doll between the seated position shown in FIG. 1 and the erect position shown in FIG. 4.

The movable facial expression means of the doll also includes a pair of disc shaped cheek portions 50 mounted for rotational movement on the front of the doll's face by means of rearwardly protruding integral shaft portions 52 rotatably received in cylindrical bearing portions 54 formed on the inside of the doll's head portion 18. The bearing portions 54 protrude inwardly of the doll's face. The inner end of the cheek shafts 52 are formed with yoke portions 56 having facing slots 58. By the actuating means described hereinafter for the eyes 44, the cheek portions or discs 50 are caused to rotate in the direction of arrows A (FIG. 6) in response to movement of the doll between the seated and erect positions shown in FIGS. 1 and 4, respectively.

Additional facial expression means includes a strand in the form of a resilient band 60, such as of rubber or the like, spanning the space between the cheek discs 50 and secured at its ends to the cheek discs for simulating a mouth for the doll. As the cheek discs 50 rotate, as described above, the resilient band 60 will be moved between the positions shown by the full and the dot-dash lines in FIG. 6. The upper position of the mouth simulating band 60 gives the affect that the doll is smiling when in its erect position as shown in FIG. 4, with the irises 44a of the simulated eyes 44 generally centrally disposed behind the apertures 48. When the doll is placed in the seated position shown in FIGS. 1 and 2, the actuating means causes the cheek discs 52 to rotate and move the mouth simulating band 60 to the lower position shown in FIG. 6 to give a sad facial expression for the mouth of the doll, as shown by the lower position of the band in FIG. 6. In the seated "sad" position of the doll, the irises 44a of the eyes 44 are moved to the upper positions shown in FIGS. 1 and 6.

The actuating means operatively associated with the facial expression means (comprising the eyes 44, the cheek discs 50 and the mouth band 60) includes an elongated flexible member 62 in the form of string, or the like, disposed for longitudinal shifting within the doll's body or torso portion between relaxed (FIGS. 2 and 3) and taut conditions. The string 62 is connected at its lower end to the flexible covering 36 at the base of the doll's body or torso portion as at 64. The string 62 extends longitudinally upwardly through the doll's torso portion and is connected at its upper end to an actuating rod 66 which is disposed in a vertical orientation within the doll's head 18. The rod 66 extends downwardly through the base wall 18*a* of the doll's head for connection to the upper end of the string 62, as at 68.

The actuating rod 66 has a connecting link, generally designated 70, loosely secured at one end 70*a* thereof to the top of the actuating rod. The connecting link 70 has an offset portion 70*b* (FIG. 9) which extends through and pivots the connecting link intermediate its ends to a support piece 72 rigidly secured within the head portion 18 of the doll.

Thus, it is apparent from FIG. 2 and 5 that as the doll is moved from the seated position shown in FIG. 2 to the erect position shown in FIG. 5, the weight of the body or torso portion of the doll (along with the leg portions and, in part, the arm portions) will pull on the string 62. This causes the actuating rod 66 to move downwardly in the direction of arrow B (FIG. 2) from the position shown in FIG. 2 to the position shown in FIG. 5 and effectively causes the front end of the connecting link 70 to move upwardly in the direction of arrow C (FIG. 5) as the link pivots about the offset portion 70*b*.

The front end of the link 70 is provided with a transversely extending pin portion 74 which is received in an elongated slot 76 formed in an actuating yoke member 78, as best seen in FIG. 9. The yoke member 78 has two pairs of transversely extending ears 78*a* between which the yoke portions 56 of the rotating cheek discs 50 are disposed. A pin 80 extends through apertures 82 in the ears 78*a* and through the slot 58 of the cheek disc yoke 56. The actuating yoke member 78 also has an upstanding ear 84 which is positioned between a pair of flanges 86 formed on the back side of a support plate 88 secured to the back of the doll's spherical eyes 44. A pin 90 extends through apertures 92 in the flanges 86 and through an aperture 94 in the upstanding ear 84 of the actuating yoke member 78. Thus, it can be seen that the link 70, which is secured to the upper end of the actuating rod 66, is connected to the cheek discs 50 and the eyes 44 by means of the actuating yoke member 78 and the pins 80 and 90 which pivotally connect the yoke member 78 to the various structural components of the assemblies which include the cheek discs and eyes, as described above.

The movement of the facial expression means automatically in response to movement of the doll between its seated and erect positions will now be described. When the doll is moved from its seated position shown in FIG. 2 to its erect position shown in FIG. 5, the weight of the doll below the doll's head will pull on the string 62 and cause the actuating rod 66 to move downwardly relative to the head portion 18 of the doll, in the direction of arrow B (FIG. 2), causing the front end of the link 70 to move or pivot upwardly in the direction of arrow C (FIG. 5). Upward movement of the front end of the link 70 carries the actuating yoke member 78 upwardly therewith as the front pin portion 74 of the link 70 has lost motion fore and aft within the enlarged slot 76 in the yoke member 78. With the upstanding ear 84 of the actuating yoke member 78 pivotally connected to the rear of the doll's eyes 44 by means of the pin 90, the flanges 86, and the supporting plate 88, the eyes will be caused to rotate about rod 46 downwardly in the direction of arrow D (FIG. 5) causing the irises 44a of the eyes to move downwardly from their upper "sad" positions shown in FIG. 1 to their central "happy" positions shown in FIG. 4 (see the phantom positions of the irises in FIG. 6). Furthermore, upward movement of the actuating yoke member 78 in the direction of arrow C causes the inwardly protruding yoke portion 56 of the cheek disc 50 to move upwardly (by means of the pin 80 secured to the ear 78*a*) as illustrated by the arrow E in FIG. 9. With the cheek discs 50 rotating in the direction of arrow E, the inside facing edges thereof will move upwardly causing the mouth simulating flexible band 60 to move upwardly therewith from the "sad" position shown in FIG. 1 to the "happy " position shown in FIG. 4 (see the two positions of the band shown in FIG. 6).

When the doll is shifted or moved from the erect position shown in FIGS. 4 and 5 back to the seated position shown in FIGS. 1 and 2, a spring 100 secured between the support piece 72 and the yoke member 78 pulls downwardly on the yoke member causing pivoting of the link 70 and thus movement of the actuating rod 66 upwardly relative to the head portion 18 of the doll opposite the direction of arrow B (FIG. 2) as the actuating yoke member 78 moves downwardly opposite the direction of arrow C (FIG. 5) and reversing the movement of the various facial expression means to change the doll's facial expression back from the "happy" expression to the "sad" expression. The string 62 will shift back to its relaxed position as the torso, arms and legs of the doll assume a more compact condition.

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

I claim:

1. In a figure toy including a body portion and a head portion mounted thereon having facial expression means changeable to exhibit different facial expressions, and actuating means mounted within said body portion and head portion and operatively associated with said facial expression means to change said facial expressions in response to moving the body portion between a first position and a second position, the improvement in said actuating means comprising:

moving means attached to said facial expression means to move the same; and

elongated connecting means operably connecting said moving means with a remote point in said body portion, said connecting means being movable with said remote point in said body portion when said body portion is shifted between said positions thereby moving said remote point with respect to said moving means, whereby said moving means changes said facial expression means in response to movement of said connecting means with said remote point in said body portion.

2. The figure toy of claim 1 wherein said body is moved between its positions, at least in part, under the influence of the weight of at least part of the body portion as the toy is lifted from a sitting position.

3. The figure toy of claim 1 wherein said movable facial expression means includes means defining simulated eyes movably mounted on said head portion and operatively connected to said actuating means for movement relative to the head portion in response to shifting the toy between said positions.

4. The figure toy of claim 1 wherein said movable facial expression means includes means defining a simulated mouth movably mounted on said head portion and operatively connected to said actuating means for movement relative to the head portion in response to shifting the toy between said positions.

5. The figure toy of claim 4 in the form of a baby doll and wherein said simulated mouth is movable between a simulated sad position when said doll is in a first seated position, or the like, and a simulated happy position when the doll is in a second erect position.

6. The figure toy of claim 4 wherein said mouth simulating means includes at least one rotatable member mounted on the front of said head portion and operatively connected to said moving means for rotation about an axis generally perpendicular to the front of said head portion, and a flexible elongated strand mounted on the outside of said head portion to define said mouth, with one end of the strand secured to said rotatable member for movement therewith to change the expression of the mouth.

7. The figure toy of claim 6 including two of said rotatable members mounted on the front of said head portion and generally in the shape of discs defining spaced apart cheek portions of the figure toy's face, with opposite ends of said strand connected to the rotatably mounted cheek defining discs.

8. The figure toy of claim 1 wherein said connecting means is flexible, such as a string or the like, extending through said body portion and connected to the base thereof.

9. The figure toy of claim 8 wherein said body portion includes a flexible outer covering filled with a weighted stuffing.

10. The figure toy of claim 9 wherein said flexible outer covering simulates a garment for the doll.

11. In a figure toy including a body portion and a head portion mounted thereon having a mouth that is changeable to exhibit a sad face or a happy face, and actuating means mounted within said body portion and head portion and operatively associated with said mouth to change said mouth in response to the movement of said body portion between a first position and a second position, the improvement in said mouth comprising:

two spaced apart rotatable disc members mounted on the front of said head portion in the cheek areas thereof and operatively connected to said actuating means for rotation about an axis generally perpendicular to the front of said head portion; and

a flexible elongated strand mounted between said disc members defining the mouth, the ends of said strand being secured to the disc members for movement therewith, whereby the strand changes its disposition resulting in a different facial expression in response to the actuating means rotating said disc members.

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