Aug. 22, 1961 H. R. BEEBE 2,996,837

WALKING DOLLS

Filed Feb. 24, 1960 2 Sheets-Sheet 1

FIG. 1

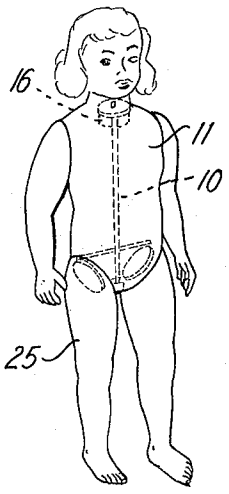


FIG. 2

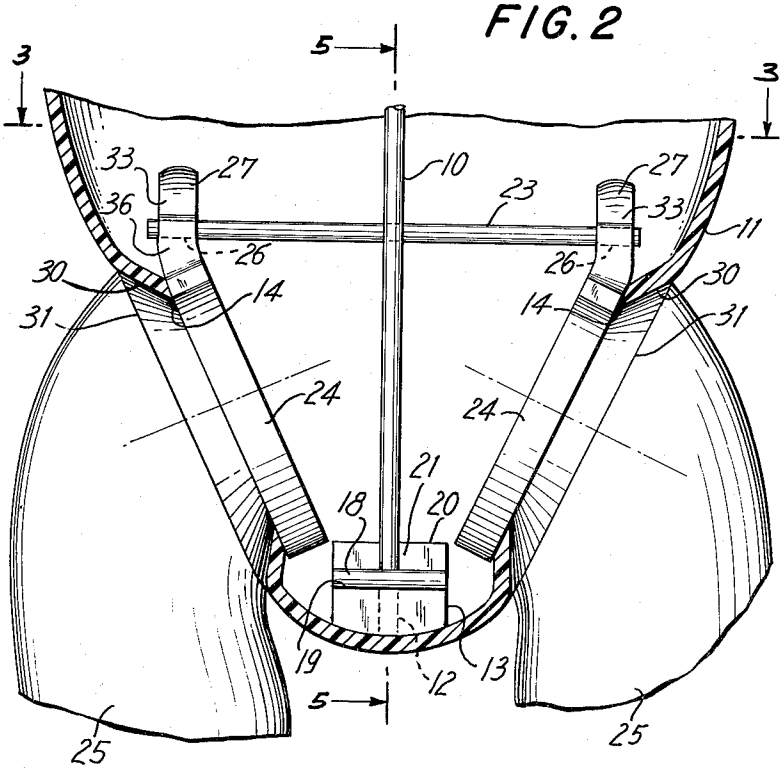
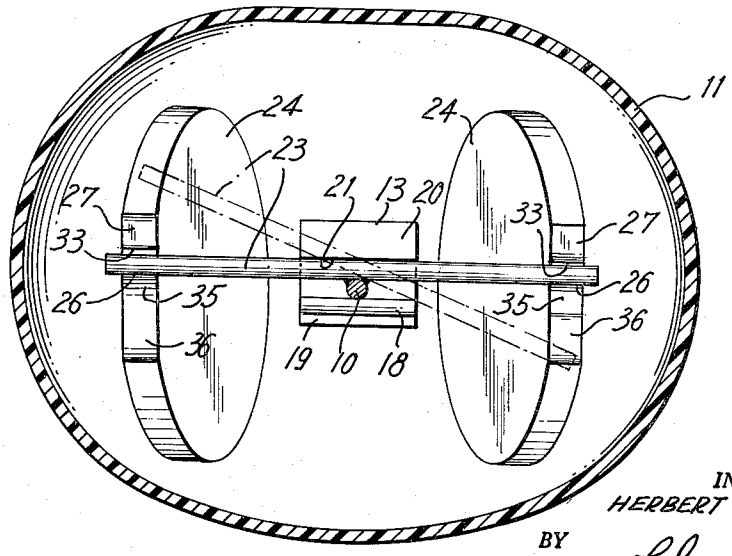


FIG. 3



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Aug. 22, 1961 H. R. BEEBE 2,996,837

WALKING DOLLS

Filed Feb. 24, 1960 2 Sheets-Sheet 2

FIG. 4

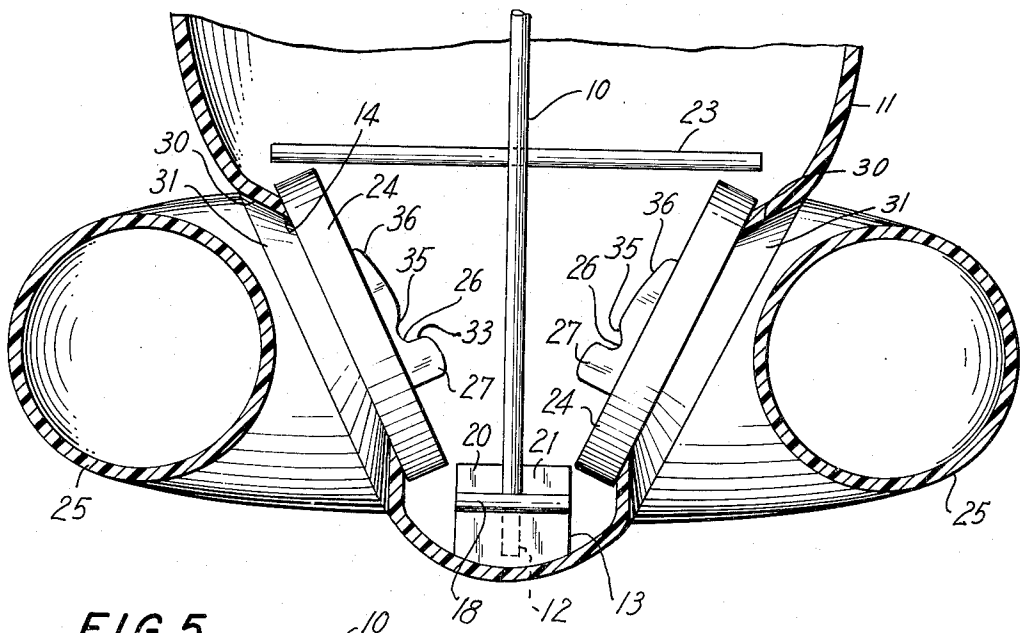


FIG. 5

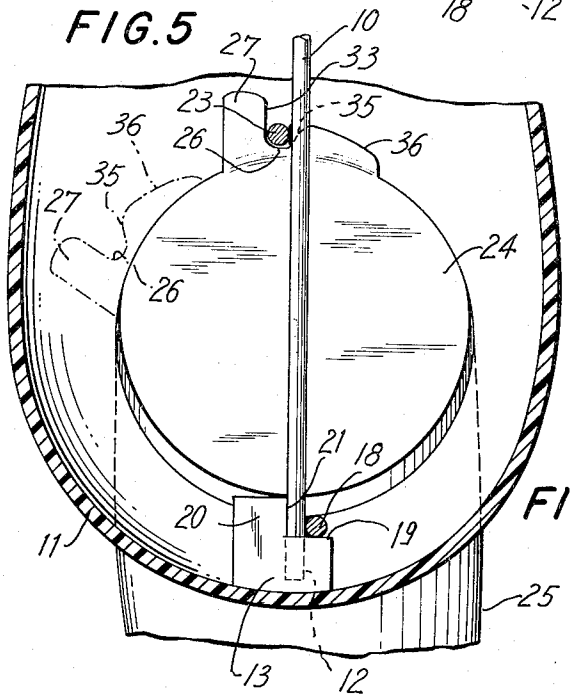


FIG. 6

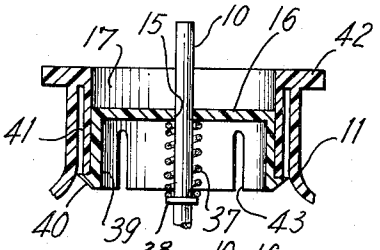
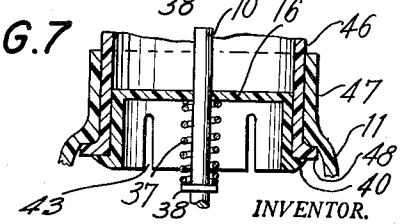


FIG. 7



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United States Patent Office 2,996,837 Patented Aug. 22, 1961

2,996,837

WALKING DOLLS

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Filed Feb. 24, 1960, Ser. No. 10,636
3 Claims. (Cl. 46—149)

This invention relates to a walking doll.

An object of the invention is to provide a walking doll with leg moving mechanism which functions to simulate natural walking movement of the legs.

Another object of the invention is to provide a leg moving mechanism which operatively engages the upper parts of the legs for limited rocking movement thereof in opposite directions and which permits of the release of the legs from said mechanism for independent swinging of the legs.

Still another object of the invention is to provide a leg moving mechanism which may be readily inserted and disposed in operative position in a completed doll body before the head is secured thereon.

A further object of the invention is to provide a leg moving mechanism which is mounted for turning movement within the doll body and which is provided with means releasably connected with rotatably mounted portions of the legs for swinging of the legs in opposite directions.

With the foregoing and other objects in view, reference is now made to the following specification and accompanying drawings in which the preferred form of the invention is illustrated.

In the drawings:

FIG. 1 is a view in elevation of a doll having leg moving mechanism constructed in accordance with the invention and showing the doll in a walking position.

FIG. 2 is an enlarged fragmentary sectional view of the doll body with a portion of the legs and the leg moving mechanism shown in full line and with the legs disposed in walking position.

FIG. 3 is a cross sectional view taken approximately on line 3—3 of FIG. 2.

FIG. 4 is a view similar to FIG. 2 with the legs moved to seating position.

FIG. 5 is a fragmentary vertical sectional view taken approximately on line 5—5 of FIG. 2.

FIG. 6 is a fragmentary vertical sectional view showing the leg moving mechanism connected with the upper portion of the body or torso of the doll.

FIG. 7 is a fragmentary vertical sectional view similar to FIG. 6 and illustrating a modified form of connection between the head and body of the doll.

Referring to the drawings, the invention provides a leg moving mechanism which is mounted for pivotal turning movement in the upper and lower portions of the doll body or torso and is releasably connected with the upper ends of the legs for effecting forward movement of either one of the legs when the other leg has rearward movement to thereby simulate walking movement.

The leg moving mechanism includes a rod **10** extending axially of the doll body or torso **11** substantially centrally thereof and which is pivotally mounted at its lower end in a vertical opening **12** in a fixed member **13** secured to the inside face of the doll body **11** medially between the leg openings **14**. At its upper end the rod **10** is pivotally mounted in an opening **15** extending through a partition wall **16** which wall closes the upper end of the neck opening **17** of the doll body **11**. The rod **10** has a short cross bar **18** affixed to the forward face thereof which has bearing engagement against the upper face **19** of the fixed member **13** and rearwardly thereof the fixed member **13** is provided with an upstanding portion **20** having a laterally extending upright face **21** disposed in spaced relation from the cross bar **18** and against which the ends of said cross bar are adapted to abut to thereby limit the turning movement of the rod **10** in either direction. The leg moving mechanism also includes a laterally extending cross bar **23** which is affixed to the rod **10** on the rear side thereof in parallel relation with the cross bar **18**. The cross bar **23** extends laterally over the enlarged upper inner ends **24** of the legs **25** and are adapted to engage in laterally extending notches **26** in upwardly extending projections **27** on said upper inner ends **24** for effecting forward swinging movement of either one of the legs with the rearward movement of the other leg.

The doll body or torso **11** is of hollow formation and is formed with the leg openings **14** which are laterally aligned with the planes of the openings converging downwardly and through which openings the upper ends of the legs **25** protrude. The wall of the body adjacent the leg openings flares outwardly to thereby form frusto-conical sockets **30** of annular formation in section. The legs have inwardly tapered frusto-conical portions **31** of annular formation which rotatably fit the frusto-conical sockets **30**. Inwardly of the frusto-conical portions **30**, the legs are provided with the enlarged upper inner ends **24** which are of annular formation and are disposed against the peripheral edges of the wall at the leg openings. The planes of the enlarged upper inner ends **24** as well as the planes of the frusto-conical sockets **30** and portions **31** converge downwardly corresponding to that of the leg openings **14**.

At the rear of the notches **26** the projections **27** have laterally extending faces **33** respectively. When one of the legs **25** is moved rearwardly so as to turn the upper end **24** thereof and thereby move the projection **27** forwardly, the face **33** of said projection is engaged by one end of the cross bar **23** so as to turn the other end thereof rearwardly against the face **33** of the other projection **27** so as to effect forward swinging movement of said other leg **25**.

Forwardly of the notches **26** the projections **27** have upwardly and forwardly directed cam edges **35** and downwardly directed cam edges **36** located forwardly of the cam edges **35**. This permits of the camming of the ends of the cross bar **23** from the notches **26** by swinging the legs **25** forward to thereby rotate the projections **27** rearwardly whereby the doll may be disposed in a seated position. The legs may be moved to standing position so as to cam the ends of the cross shaft **23** over the cam edges **36** and into engagement in the notches **26** for forward and swinging movement of the legs to simulate walking movement. In camming the cross bar **23** into and out of the notches **26** the rod **10** has upward movement in the openings **12** and **15** against the bias of a coil spring **37** arranged on the said rod between the partition wall **16** and a collar **38**.

The partition wall **16** closely fits the neck opening **17** and is formed with a depending peripheral wall **39** having a flanged lower end **40** which is biased by the spring **37** against the lower end of a peripheral wall **41** formed integrally with the doll body and depending from the flanged upper end **42** thereof in spaced relation from the body of the doll. The peripheral wall **39** is formed with a plurality of slits **43** which permit of flexing of said wall for convenient insertion of the wall **16** in the neck opening. The spring **37** biases the rod **10** downwardly so as to normally maintain the cross bar **18** against the face **19** of the fixed member **20** and which permits of upward movement of the rod **10** against the bias of said spring for movement of the cross bar **23** into and out of engagement with the notches **26**. In this construction shown in FIG. 6 of the drawings the head of the doll

engages over the flange 44 of the neck portion. The head of the doll may be releasably connected with the body 11 as shown in FIG. 7 of the drawings in which the head is provided with a neck portion 46 which extends into the neck portion 47 of the body 11. In this form the wall 16 fits within the neck portion 46 of the head and with the flange 40 thereof biased by the spring 37 against the flanged lower end 48 of the head to thereby retain the head and body in assembled relation and bias the rod 10 downwardly as in the previous form.

The body 11 and the legs 25 are fashioned of resilient material which inherently retains the shape and form thereof but which is sufficiently deformable to permit of the expansion of parts thereof for connecting the parts of the doll together. Constructed in this manner the leg moving mechanism may be inserted into the doll body 11 through one of the leg openings 14 and disposed in position in the opening 12 in the fixed member 13 and in the opening 15 in the partition wall 16. The upper portions of the legs 25 may then be inserted through the leg openings 14 for engagement with the cross bar 23.

While the preferred form of the invention has been shown and described herein, it is to be understood that the same is not so limited but shall cover and include any and all modifications of the invention which fall within the purview thereof.

What is claimed is:

1. In a walking doll, a hollow doll body having openings in the opposite sides at the lower end thereof, leg members fitting said openings for turning movement and having enlarged upper ends disposed within the body and arranged in planes parallel with the planes of said openings respectively, said enlarged upper ends extending radially beyond said openings and having upwardly extending projections provided with laterally directed aligned notches, leg moving mechanism located within said body and including an upright member mounted for turning movement in upper and lower members fixed with reference to said doll body at the upper and lower ends thereof, a first cross bar affixed to said upright member adjacent the lower end thereof and supported on said lower member, said lower member having an upwardly extending wall against which said first cross bar is adapted to engage for limiting the turning movement of said upright member, and a second cross bar affixed to said upright member in parallel relation to said first cross bar with the end thereof projecting over said enlarged upper ends of said leg members and adapted to engage in said notches respectively when said leg members are in upright relation with said doll body, whereby when either one of said leg members is swung rearwardly so as to turn the enlarged inner end thereof in the opening in the doll body and thereby move said projection forwardly the other projection is thereby moved rearwardly by the turning of said second cross bar to thereby effect forward swinging movement of the other leg.

2. In a walking doll, a hollow doll body having openings in the opposite sides at the lower end thereof, leg members fitting said openings for turning movement and having enlarged upper ends disposed within the body and arranged in planes parallel with the planes of said openings respectively, said enlarged upper ends extending radially beyond said openings and having upwardly extending projections provided with laterally directed aligned notches and cam edges extending forwardly of said notches, leg moving mechanism located within said body and including an upright member mounted for turning movement in upper and lower members fixed with reference to said doll body at the upper and lower ends thereof, a first cross bar affixed to said upright member adjacent the lower end thereof and supported on said lower member, said lower member having an upwardly extending wall against which said first cross bar is adapted to engage for limiting the turning movement of said upright member, a second cross bar affixed to said upright member in parallel relation to said first cross bar with the end thereof projecting over said enlarged upper ends of said leg members and adapted to engage in said notches respectively when said leg members are in upright relation with said doll body, whereby when either one of said leg members is swung rearwardly so as to turn the enlarged inner end thereof in the opening in the doll body and thereby move said projection forwardly the other projection is thereby moved rearwardly by the turning of said second cross bar to thereby effect forward swinging movement of the other leg, and spring means biasing said upright member downwardly to thereby dispose said second cross bar in biased engagement in said notches and permitting of movement of said leg members to seated position to thereby cam said second cross bar over said cam edges against the bias of said spring to free said second cross bar from notched engagement with the upper ends of said leg members.

3. In a walking doll, a hollow doll body having openings in the opposite sides at the lower end thereof, leg members fitting said openings for turning movement and having enlarged upper ends disposed within the body and arranged in planes parallel with the planes of said openings respectively, said enlarged upper ends extending radially beyond said openings and having upwardly extending projections provided with laterally directed aligned notches, leg moving mechanism located within said body and including an upright member mounted for turning movement in upper and lower members fixed with reference to said doll body at the upper and lower ends thereof, a first cross bar affixed to the front of said upright member, said lower member having an upwardly extending wall disposed in spaced relation from said first cross bar against which said first cross bar is adapted to engage for limiting the turning movement of said upright member in either direction, a second cross bar affixed to the rear of said upright member in parallel relation with said first cross bar with the ends thereof projecting over said enlarged upper ends of said leg members and engaging in said notches respectively when said leg members are in upright relation with the doll body, and spring means biasing said upright member downwardly to thereby dispose said second cross bar in biased engagement in said notches, whereby when either one of said leg members is swung rearwardly so as to turn the enlarged inner end thereof in the opening in the doll body and thereby move said projection forwardly the other projection is thereby moved rearwardly by the turning of said second cross bar to thereby effect forward swinging movement of the other leg.

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