

- [54] DOLL
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- [52] U.S. Cl. **46/135 R, 46/166, 46/169**
- [51] Int. Cl. **A63h 11/00**
- [58] Field of Search **46/135 R, 135 A, 46/165-170, 118, 119**

2,208,219	7/1940	Maibaum	46/135 R X
1,496,406	6/1924	Bertsch	46/135 R
2,938,302	5/1960	Walss	46/135 R X
2,954,639	10/1960	Walss	46/135 R X
1,821,243	9/1931	Springer	46/135 R
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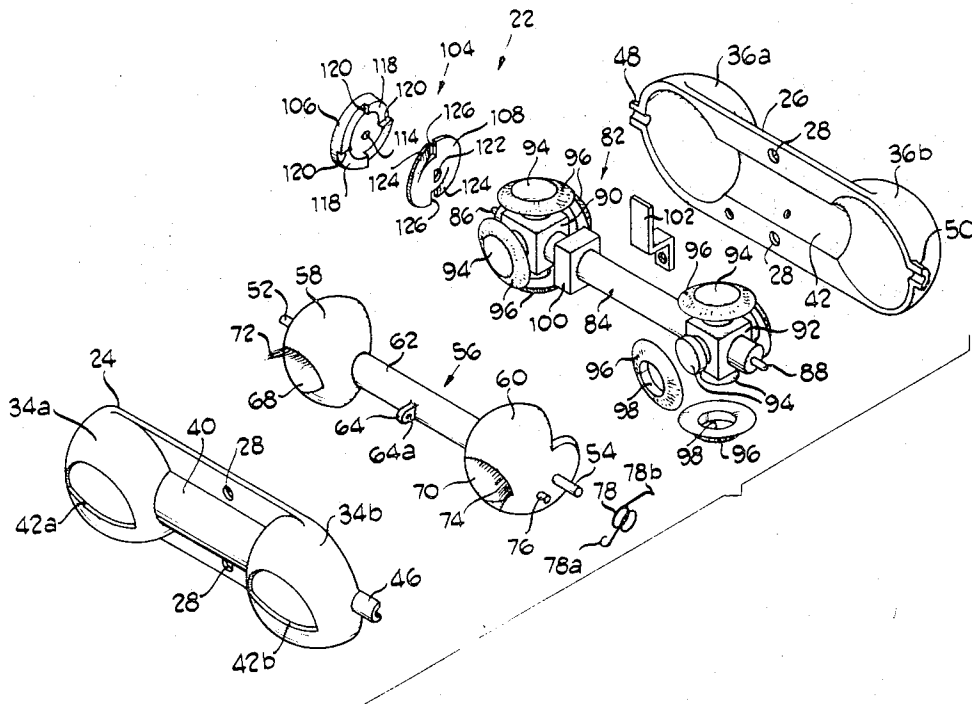
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Attorney—James F. Coffee et al.

[56] **References Cited**
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2,670,568	3/1954	Walss	46/135 R X
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[57] **ABSTRACT**
 An animated doll having the ability to change eye colors, characterized by the provision of a rotatable indexable spindle in the doll having plural pairs of eye of different colors thereon, and eyelid means associated with the spindle for closing the eye opening during rotation of the spindle to present a new set of eyes to view.

8 Claims, 9 Drawing Figures



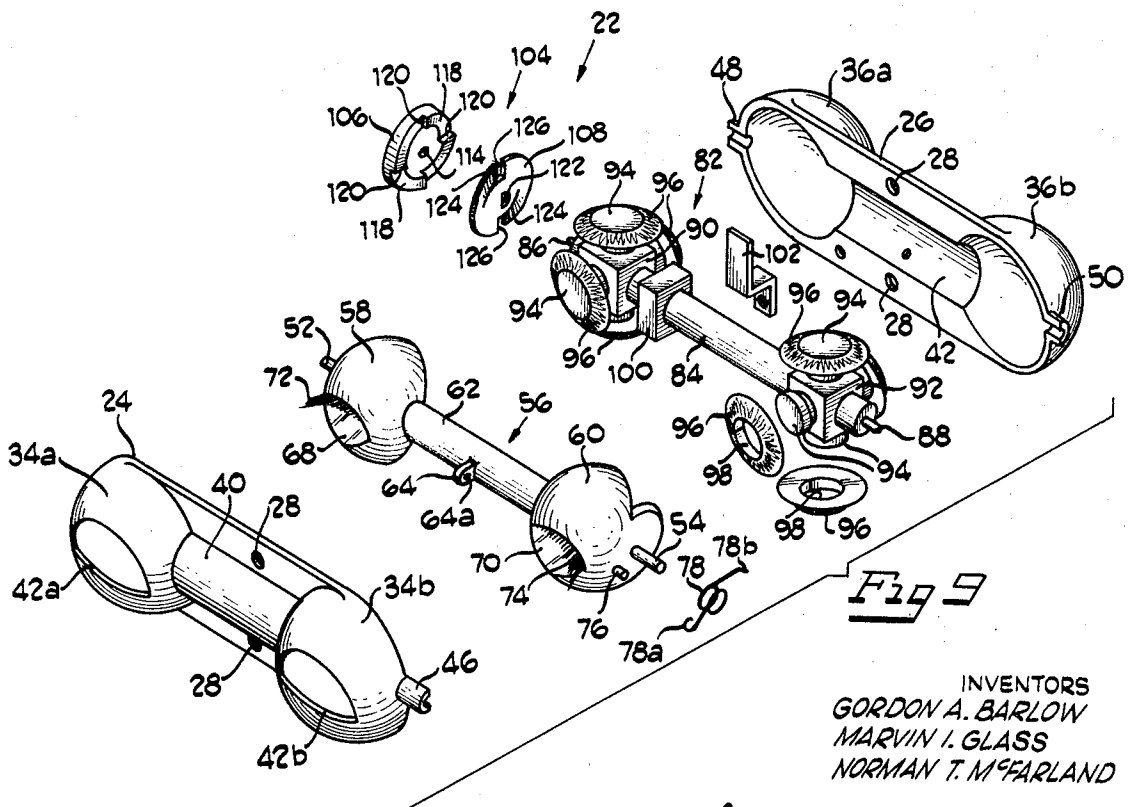
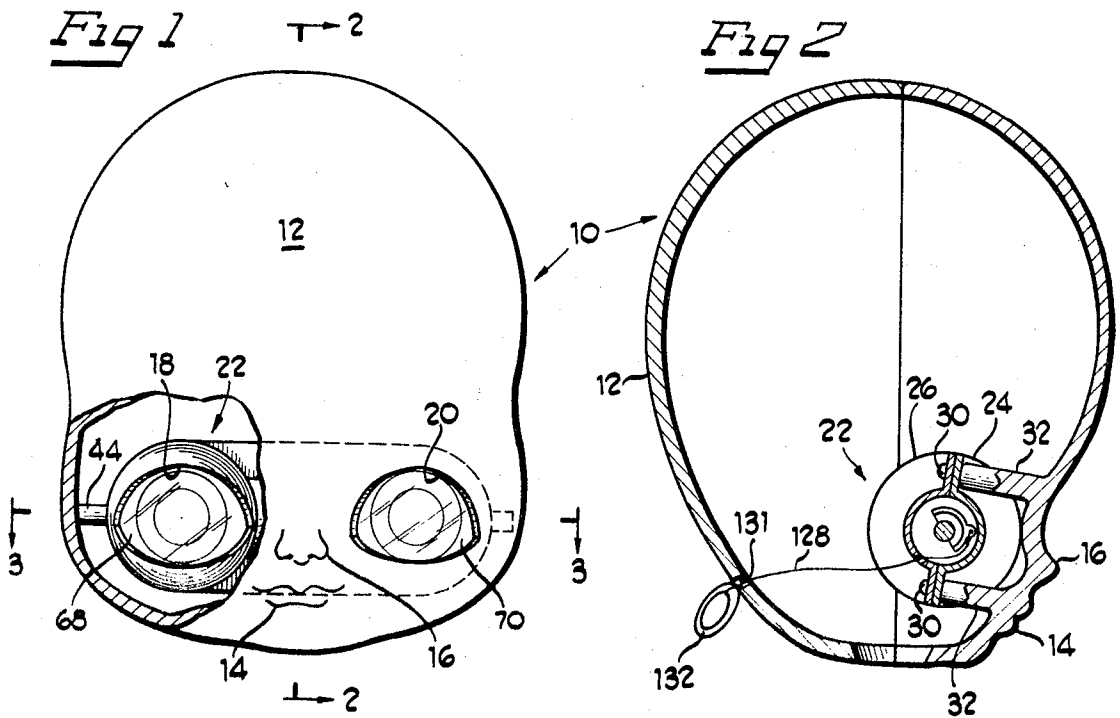


Fig 3

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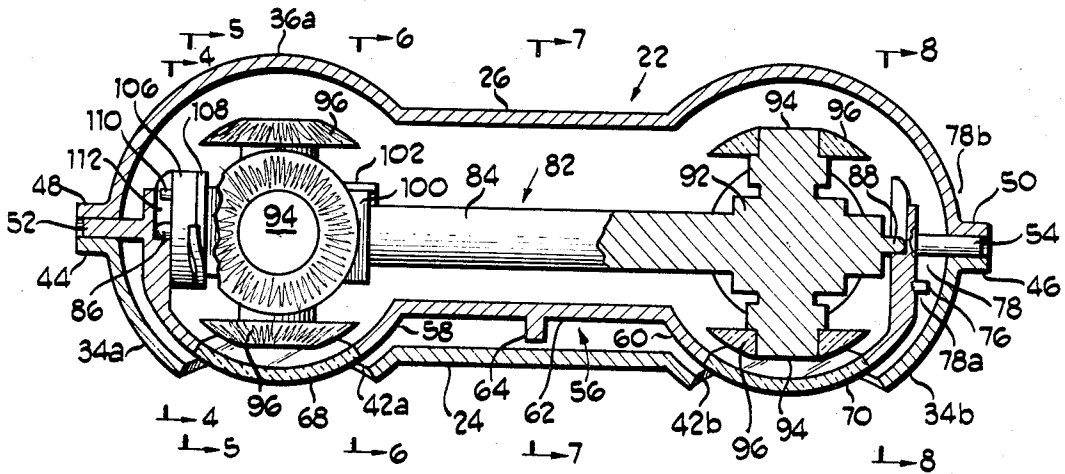


Fig 3

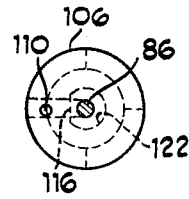


Fig 4

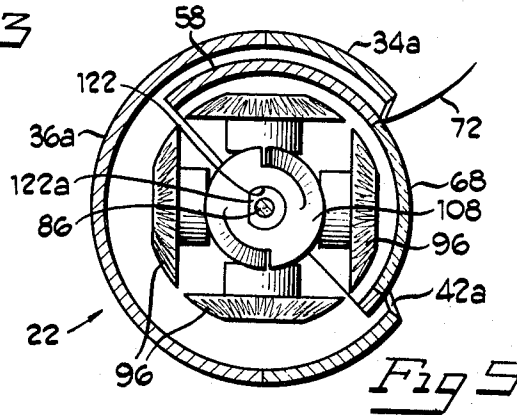


Fig 5

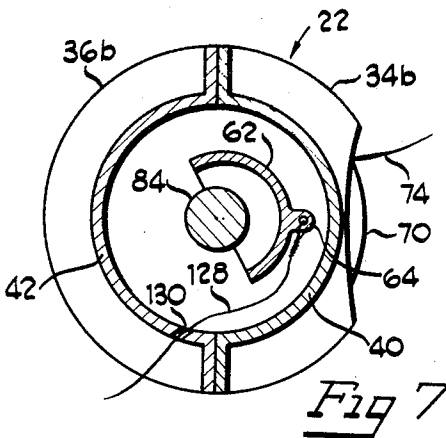


Fig 7

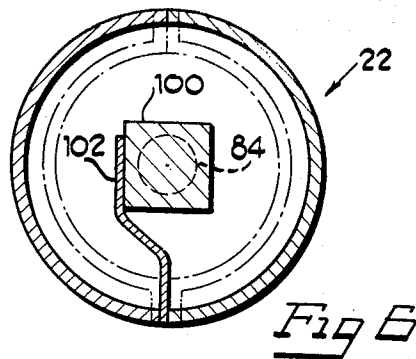


Fig 6

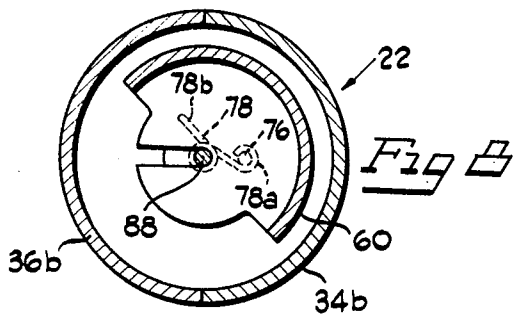


Fig 8

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DOLL

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to animated figure toys and more particularly, to a doll with a changeable eye assembly.

2. Brief Description of the Prior Art

U.S. Pats. disclosing dolls with changeable eye assemblies include the following: Dickson, No. 1,027,324, 5-21-1912; Springer, No. 1,821,243, 9-0-1-1931; Maibaum, No. 2,093,684, 9-21-1937; Maibaum, No. 2,208,219, 7-16-1940; Mandell, No. 2,475,508, 7-05-1949; Walss, No. 2,670,568, 3-0-2-1954; Walss, No. 2,938,302; 5-31-1960; Walss, No. 2,954,639, 10-04-1960; Newman, No. 3,292,610, 12-20-1966.

Dolls having changeable physical characteristics possess the advantage of increasing the child's identity with the doll. Features of the doll may be changed to simulate features corresponding to a child who possesses the doll or to a friend of the child. Thus, during play and fantasy moments with the doll, the child can increase the identity of the doll with himself or with a friend, by selecting features or characteristics which correspond to the child or a friend.

The object of this invention is to provide an improved animated figure toy with changeable features in the form of a doll having changeable eyes with associated eyelid mechanism.

SUMMARY OF THE INVENTION

This invention is directed, in brief, to the provision of a doll having changeable eyes and movable eyelids associated therewith.

The best mode currently contemplated for carrying out the invention includes the provision of an indexable spindle in the doll head, carrying sets of pairs of eyes behind eye openings. Eyelids are movably associated relative to the eye openings and connected with the spindle by a lost motion connection. As the spindle mechanism is actuated, the eyelids first close, then the spindle rotates to present a new set of eyes adjacent the eye openings, following which the eyelids lift to present the new set of eyes to view.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevational view, partially in section, of a doll head incorporating the changeable eye assembly of this invention.

FIG. 2 is a vertical section view through the doll head taken generally along the line 2-2 of FIG. 1;

FIG. 3 is a horizontal section view through the doll head taken generally along the line 3-3 of FIG. 1, and illustrating in particular, the eye assembly of this invention;

FIG. 4 is a section view taken generally along the line 4-4 of FIG. 3;

FIG. 5 is a section view taken generally along the line 5-5 of FIG. 3;

FIG. 6 is a section view taken generally along the line 6-6 of FIG. 3;

FIG. 7 is a section view taken generally along the line 7-7 of FIG. 3;

FIG. 8 is a section view taken generally along the line 8-8 of FIG. 3; and

FIG. 9 is an exploded perspective view of the compo-

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nents of the changeable eye assembly of this invention.

While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail a specific embodiment 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 embodiment illustrated.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENT

The figure toy 10 of this invention includes a generally rigid shell 12 defining a head which, in the illustrated embodiment, is somewhat grotesque in configuration. Preferably, the figure 12 has the usual facial characteristics, including a mouth 14, nose 16, and eye openings 18 and 20. It is to be understood that the head 12 could be mounted on a doll-like body by well known means, but such a torso or body is not shown herein, since it forms no part of the invention.

The changeable eye assembly 22 of this invention is intended to be mounted within a structure, such as the head 12, behind eye openings 18 and 20. The eye assembly 22 includes outer half shells 24 and 26 which are secured together and held within the head 12 by threaded fasteners 30, which extend through screw openings 28 in each of the shell halves and into posts 32 in the interior of head 12.

Each half shell 24 and 26 has half socket portions 34a, 34b, 36a, 36b, respectively, at its opposite ends, which are interconnected by cylindrical half shell portions 40 and 42, respectively. Socket halves 34a and 34b are provided with eye openings 42a and 42b which are intended to generally register with eye openings 18 and 20 in the head 12. In addition, each half shell 24 and 26 has outwardly projecting sleeve stub halves 44, 46, 48 and 50 at its opposite ends which provide bearing surfaces for receiving the stub ends 52 and 54, respectively, of the eyelid assembly 56.

Eyelid assembly 56 has spaced, generally spherical portions 58 and 60 which are supported at opposite ends of a semi-cylindrical intermediate member 62. The member 62 has a projection 64 generally medially located thereon having an opening 64a therethrough. Each sphere 58 and 60 has an eye opening 68 and 70 spanned by clear plastic and bordered by simulated eyelashes 72 and 74 at the top thereof. Sphere 60 further includes a spring mounting stub 76 which projects outwardly from one side thereof close to the stub end 54. A torsion spring 78 is mounted on stub end 54 and has one end, 78a, connected with stub 76, and another end, 78b, which is captivated in the socket half 36b of shell 26. By this arrangement, the eyelid assembly is biased for orientation normally with the opening 68 and 70 in alignment with the openings 42a and 42b with the eyelashes 72 and 74 extending through openings 42a and 42b at the top thereof.

The changeable eye assembly 22 further includes an eye set 82. The eye set 82 includes a center shaft 84 terminating in reduced pin-like ends 86 and 88. The shaft 84 is provided with rectangular enlargements 90 and 92 near each of the pin ends 86 and 88, respectively. The enlargements 90 and 92 are provided with hub-like extensions 94 on each facet thereof which receive color rings 96. The color rings 96 are provided with openings 98 of a size and shape to frictionally fit on hubs 94. The hubs 94 simulate an eye lens and the color rings 96 sim-

ulate a colored iris. In the illustrated embodiment, there are four different pairs of eyes provided on the assembly 82 in that the rectangular enlargements 90 and 92 provide four different faces to which the hub 94 and rings 96 can be connected. It is to be understood that a greater number of faces could be provided affording greater number of pairs of eyes of different colors.

The shaft 84 has a rectangular extension 100 which is intended to lie adjacent a leaf spring 102. The extension 100 and spring 102 comprise an indexing means for retaining the shaft in a position oriented with respect to the openings in the eyelid assembly, the outer shell, and the doll head.

Means comprising a lost motion connection 104 is interposed between the eyelid assembly and the eye set. The lost motion connection includes a cam wheel 106, a follower 108, a pin 110 extending outwardly from the cam and a slot 112 in the socket 58. The cam wheel 106 has a center opening 114, rotatably receiving the pin end 86 of shaft 84.

A slot 116 is formed in socket 58 for receiving the pin 110 of the cam wheel 106. The cam wheel 106 is provided with cam quadrant portions 118 on one face, near the periphery thereof, with each quadrant being separated from the next by a transverse shoulder 120. Follower 108 has a central D-shaped opening 122 which fits on D-shaped stub 122a of shaft 84 to fix the follower with respect to shaft 84. The follower 108 also has a pair of outwardly struck quadrants 124 terminating in an offset free end 126. The quadrants 124 are intended to overlie a pair of the four quadrants 118 of the cam wheel 106 with the free ends 126 abutting the shoulders 120. However, only two such quadrants and shoulders are provided on the follower 108 whereas four companion cam quadrants 118 and shoulders 120 are provided on the cam wheel 106. Thus, provision is made for 90° of lost motion movement between the wheel 106 and the follower 108.

A strand 128 extends from connection through opening 64a on projection 64 through an opening 130 in the shell half and further through an opening 131 in the head. A pull ring 132 is connected to the strand 128 to the exterior of the head. In operation, when the strand 128 is pulled, it will cause rotation of the eyelid assembly 62 with the eyelid undergoing approximately 90° of movement so that the eyelashes 72 and 74 drop to the bottom of openings 42a and 42b and the remainder of sphere portions 58 and 60 occupy these openings. At this point, one of the shoulders 120 will come into engagement with one of the free ends 126 so that continued pulling on the string 128 will cause rotation of shaft 84 so that another set of eyes of different colors will be presented behind the spheres 58 and 60. The indexing arrangement afforded by the enlargement 100 and leaf spring 102 will insure registration of each pair of eyes in position for alignment with the openings 42a, 42b

and 68 and 70. As soon as the strand 128 is released, the torsion spring 78 will cause the eyelid assembly 62 to rotate reversely, also afforded through the lost motion connection, so that the eyelashes 72 and 74 will come to the top of the openings 42a and 42b and the openings 68 and 70 will be in alignment therewith.

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.

I claim:

1. An animated figure, comprising:
 - means defining a figure head having simulated facial features and eye openings therein;
 - a changeable eye assembly mounted within the head behind the eye openings including a movable multiple eye set assembly supporting different pairs of sets of eyes for orientation behind said openings, and a movable eyelid assembly including eyelids adjacent said eye openings, said eyelid assembly being connected with said multiple eye set assembly by a lost motion connection for moving said eyelid assembly across said eye openings prior to movement of said eye set assembly;
 - and means for moving said eyelid and eye set assemblies; whereby, when said means for moving is actuated, said eyelids will close said eye openings, following which the eye set assembly will move to present a new set of eyes adjacent the openings.
2. The animated figure of claim 1 wherein said eye set assembly has indexing means for positively orienting the eye sets behind the eye openings.
3. The animated figure of claim 1 wherein said eye set assembly includes a rotatable spindle with said eye sets being radially oriented relative to the axis of rotation of said spindle.
4. The animated figure of claim 3 wherein said eyelid assembly overlies said eye set assembly, having portions coaxial therewith, with said lost motion connection being between said coaxial portions.
5. The animated figure of claim 4 wherein the eyelid and eye set assemblies are coaxially mounted within a housing having eye openings therein.
6. The animated figure of claim 5 wherein the eyelid assembly is normally biased to an open position wherein the eyelids remain adjacent to the eye openings.
7. The animated figure of claim 6 wherein said eyelid assembly comprises a pair of semi-spheres interconnected by shaft portion which overlies said spindle.
8. The animated figure of claim 7 wherein the means for moving said eyelid and eye set assemblies comprises a strand element connected to the shaft portion of the eyelid assembly for rotation thereof responsive to tension applied to said strand.

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