June 4, 1963 D. COHN 3,091,894

DOLLS' HEADS WITH ROTATING DOLLS' EYES

Filed Jan. 4, 1960

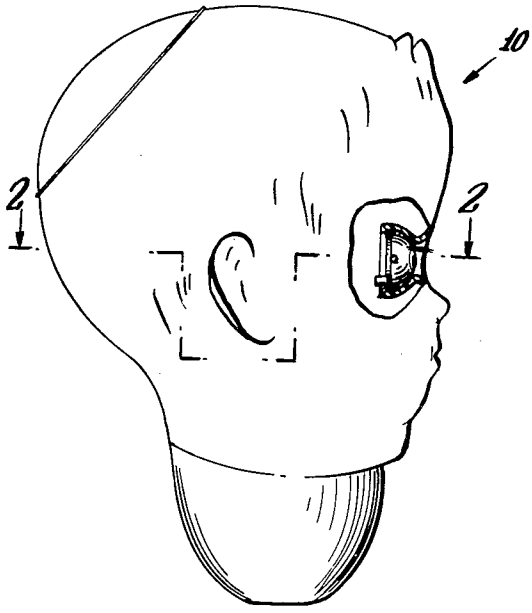


FIG. 1

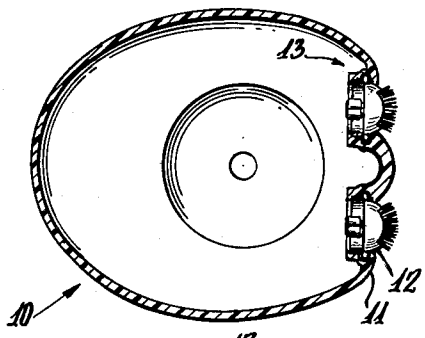


FIG. 2

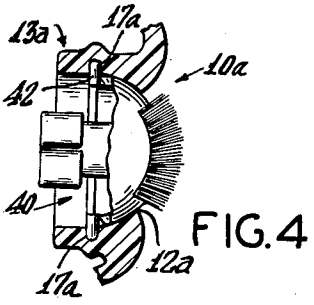


FIG. 4

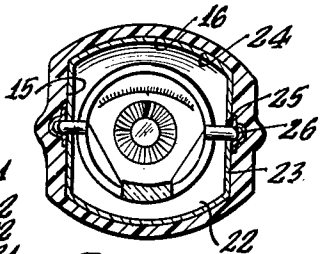


FIG. 3a

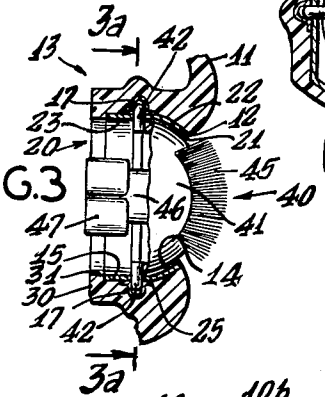


FIG. 3

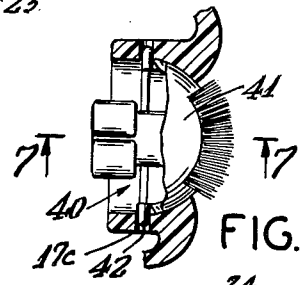


FIG. 6

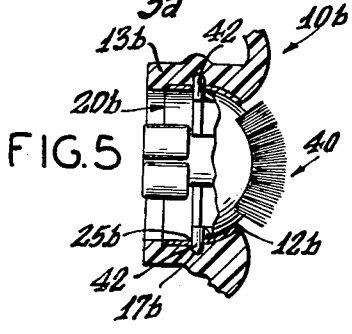


FIG. 5

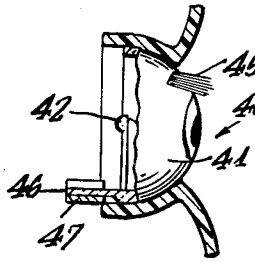


FIG. 7

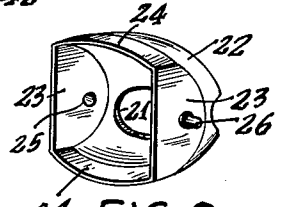


FIG. 8

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DOLLS' HEADS WITH ROTATING DOLLS' EYES

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5 Claims. (Cl. 46—169)

This invention relates to dolls' heads with rotating dolls' eyes. It is particularly directed to dolls' heads made by blow molding.

An object of this invention is to provide a blow molded doll's head having integrally formed, rearwardly opening eye sockets with rotary dolls' eyes rotatably mounted in the sockets, and said sockets having openings receiving the axles of the rotating eyes.

Another object of this invention is to provide a doll's head of the character described in which a doll's eye receiving shell is embedded in each of the sockets, said shell having openings in which the axles of the dolls' eyes are journalled.

Still another object of this invention is to provide dolls' eyes made with apparatus and by the process disclosed in my copending application entitled "Methods of and Apparatus for Making Dolls' Heads With Rotating Dolls' Eyes" Serial No. 397 filed January 4, 1960.

Yet another object of this invention is to provide a strong and durable doll's head with rotating dolls' eyes of the character described which shall be relatively inexpensive to manufacture, which shall be smooth and positive in operation and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings in which is shown an illustrative embodiment of this invention,

FIG. 1 is a side elevational view of a doll's head provided with rotating dolls's eyes, embodying the invention, with part of the head broken away and with a socket and doll's eye in cross-section;

FIG. 2 is a cross-sectional view taken on line **2—2** of FIG. 1.

FIG. 3 is an enlarged horizontal cross-sectional view of one of the eye sockets and the eye therein;

FIG. 3*a* is a cross-sectional view taken on line **3*a*—3*a*** of FIG. 3;

FIG. 4 is a view similar to FIG. 3, but illustrating a modification;

FIG. 5 is a view similar to FIG. 3 and illustrating another modification;

FIG. 6 is a view similar to FIG. 3 and illustrating still another modification; and

FIG. 7 is a cross-sectional view taken on line **7—7** of FIG. 6, and

FIG. 8 is a perspective view of the shell of FIG. 3.

Referring now in detail to the drawing, **10** designates a doll's head which may be blow molded by apparatus and with process disclosed in my copending application, Serial No. 397, filed simultaneously with this application.

The head **10** may be made of polyethylene or polypropylene or the like material.

Said head has a front face **11** formed with eye openings **12**. Extending rearwardly from the front face **11** and surrounding the eye openings **12** are rearwardly open sockets **13**.

Said sockets **13** each has an inner concave surface **14** extending to an eye opening **12**, and parallel, vertical

opposed side surfaces **15**, interconnected by part cylindrical top and bottom surfaces **16**. The sockets are formed with a pair of horizontally aligned, outwardly extending openings **17**.

Embedded in each socket **13** is an eye receiving and housing shell **20**. Each shell **20** has an eye opening **21** registering with an eye opening **12** in the head.

Each shell has a curved wall **22** contacting concave surface **14**; flat side vertical parallel walls **23** contacting surfaces **15** of the sockets and top and bottom part cylindrical walls **24** contacting the surfaces **16** of the socket. Side walls **23** have opposed, horizontally aligned openings **25** aligned with openings **17** in the sockets. Attached to or formed with the shells are small, horizontally aligned tubes **26**, registering with holes **25** and received in said socket openings.

Sockets **13** extend beyond the outer edges of shells **20** as at **30** and said portions **30** envelop said edges as at **31**, as shown in the drawing (FIG. 3).

Rotatably mounted in each shell is a doll's eye **40**. Each eye **40** may have a hemispherical portion **41** of rigid, synthetic plastic. Extending outwardly from said portion **41** is a pair of axles **42** passing through openings **25** and into tubes **26**. The eyes are hence rotatably mounted in the shells. Portions of the eyes **40** project through the eye openings **12, 21**. Said eyes **40** may be provided with eyelashes **45** and with a rearwardly extending lower lug **46** carrying a weight **47**, so that the eyes will close as the head is laid back and will open as the head is set up straight.

As stated in said copending application Serial No. 397, the shells are pressed together top and bottom to expand the sides thereof sufficiently to permit insertion of the doll eye axles. As indicated by the section lines in the drawing the shells are formed of thin metal.

In FIG. 4 there is shown a modification comprising a head **10*a*** having sockets **13*a*** opening inwardly and formed with eye openings **12*a***. Said sockets **13*a*** have opposed horizontal outwardly extending openings **17*a*** receiving directly the axles **42** of eyes **40**.

There are no shells in the sockets **13*a***. The holes **17*a*** are blind openings like openings **17** of FIG. 3.

In FIG. 5 there is shown a head **10*b*** with sockets **13*b*** and eye openings **12*b*** similar to the construction of FIG. 3 except that the tubes **26** are omitted from the shells **20*b***. The axles **42** of the dolls' eyes pass through openings **25*b*** in the shells and into openings **17*b*** in the sockets **13*b***.

In FIGS. 6 and 7 there is shown a still further modified construction in which the shells are omitted and the openings **17*c*** of the eyes **40** are through openings, and the axles **42** of the eyes pass therethrough.

It will thus be seen that there is provided an apparatus in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A doll's head of soft flexible material, said head being formed with eye openings and provided with integral, inwardly extending, rearwardly opening, eye sockets surrounding said eye openings, said sockets being formed with opposed, horizontally aligned axle openings which open toward each other and are spaced from the rear ends of the sockets, an eye shell of thin metal fixed in each socket, and having openings registering with the

eye openings and being open rearwardly and also having horizontally aligned opposed openings registering with the opposed axle openings in the sockets, tubes on said shells surrounding each of said opposed shell openings which tubes project into the opposed axle openings in said sockets, and rotating doll's eyes in said sockets, having axles fixed with respect to said eyes and which pass through said shell opposed openings into said tubes, the axles being of such a length as to be received in said axle openings.

2. The combination of claim 1, in which said openings in the sockets are round openings and said tubes are round tubes, in which said axles are rotatably mounted.

3. The combination of claim 1, said shells each having opposed flat parallel walls.

4. A doll's head of soft flexible resilient material, said head being formed with eye openings and provided with integral, inwardly extending, rearwardly opening eye sockets comprising inwardly extending annular flanges, said flanges surrounding said eye openings, said flanges being formed with opposed horizontally aligned axle openings which open toward each other and are spaced from the rear ends of the flanges, and rotating doll's eyes in said sockets having horizontally aligned axles fixed with respect to said eyes and rotatably received in said

opposed horizontally aligned axle openings, and said flanges being temporarily deformable to permit the doll's eyes to be inserted through the inner open ends of the sockets and the axles to be received into said axle openings, and to permit the flanges, when released of deformation to hold the eyes rotatable therein.

5. The combination of claim 4, and further including, eye shells of thin metal fixed in said sockets, and having openings registering with the eye openings and being open rearwardly and also having horizontally aligned, opposed openings registering with the axle openings in the flanges, said eyes being located in said shells and said eye axles passing through said opposed openings in said shells, and said shells being deformable with the flanges to facilitate insertion of said eyes into said sockets.

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