Feb. 3, 1931. P. J. CHRISTENSEN 1,790,743

DOLL'S HEAD WITH VARIABLE FEATURES

Filed June 13, 1929

Fig. 1.

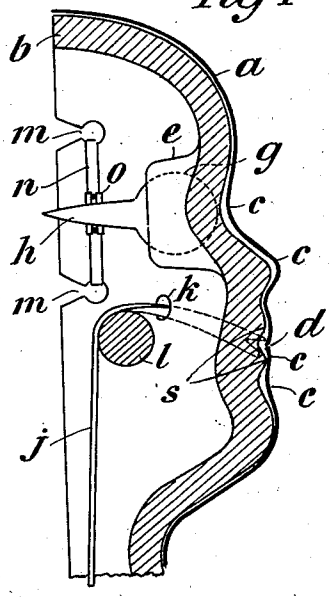



Fig. 2.




Fig. 3.

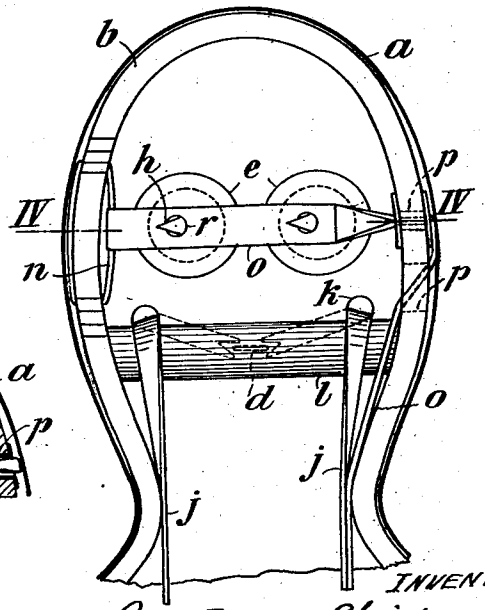
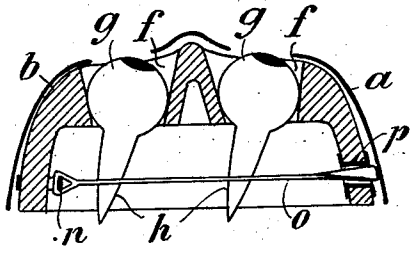



Fig. 4.




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# UNITED STATES PATENT OFFICE

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## DOLL'S HEAD WITH VARIABLE FEATURES

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The invention relates to doll's heads with variable features, and more particularly to those having a thin flexible mask, say of rubber, which is laid over a rigid support and which can be acted upon at the inner side at one or more places in order to produce an alteration of the features and thus of the expression of countenance.

In doll's heads of this kind it has appeared difficult to obtain natural alterations of the features as these alterations nearly exclusively depend upon the elasticity of the mask. It has been proposed to provide for this want by giving the mask different thickness at different places but neither is this means satisfactory as in practice the masks can not be manufactured mutually alike.

The main object of the invention is to provide a doll's head so constructed that natural alterations of the features can be obtained and more particularly to provide a doll's head in which the features as altered can be predetermined. With this end in view the invention consists in the various features and combinations of parts hereinafter described and claimed.

For a more complete understanding of the invention, reference is to be had to the following description taken in connection with the accompanying drawings, wherein similar characters of reference indicate corresponding parts in all the views, in which

Figure 1 is a vertical longitudinal section of the foremost half-part of a doll's head,

Figure 2 is a part of the same showing the face mask with smiling mouth,

Figure 3 is a rear view of the half-part of the head shown in Figure 1, and

Figure 4 is a cross-section on the line IV—IV in Figure 3.

The doll's head consists of thin rubber mask *a* of uniform thickness, which in non-stretched condition or at least only in slightly stretched condition is laid over a rigid support *b* which for example may be stamped in papier-mâché. Normally the shape of the mask *a* differs from that of the surface of the support *b*, for instance at the places *c* as shown in Figure 1. The mouth is formed by a split *d* in the mask *a*, this split being normally closed. At the eyes the support *b* has inwardly projecting studs *e* with conical openings *f*, Figure 4, in which the eyes rest. The eyes are formed by glass balls *g* with rearwardly projecting stems *h*.

The mask *a* is acted upon by tapes *j*, the ends of which are secured by an adhesive to the inner side of the mask at the ends of the mouth split *d*, and which are led to the body of the doll through holes *k* in the support *b* and over a cross bar *l* arranged in the same. In recesses *m* in the support *b* is arranged an endless rubber band *n* which serves as a yielding support for a tape *o*. This tape also is led to the body of the doll, it being firstly led in horizontal direction crosswise through the cavity of the head and then through holes *p* in the support *b*. In the horizontal part of the tape *o* holes *r* are provided into which the stems *h* project. The tapes *j* and *o* are affected simultaneously by a bell crank lever (not shown) pivoted to the body of the doll.

When a pull is exerted on the tapes *j* the parts of the mask *a* lying at the corners of the mouth are carried outwardly. The support *b* abuts or nearly abuts against the mask *a* at the foremost parts *s* of the lips. In the last named case abutment between the mask and the support at the parts *s* will be obtained immediately after the pull has commenced. By increased pull in the tapes *j* the abutment pressure at the places *s* increases so that sliding of the mask along the support at these places is prevented. Simultaneously the length of the mouth split *d* is increased and this split opens owing to the parts of the mask *a* lying between the split and the parts *s* being narrower by the longitudinal extension of the rubber. Furthermore the mask is brought to abut gradually against the sup-

port *b* around the places *c* as the pull exerted at the corners of the mouth is transmitted outwardly so that at last the mask abuts wholly against the support as well at the mouth as at the nose and the chin as shown in Figure 2.

Simultaneously the mouth is opened as above described. Thus the mouth region and the adjacent parts become a higher relief by the operation.

By a pull on the tape *o* the horizontal part thereof is carried to the right hand side in Figures 3 and 4, whereby the stems *h* are swung in the same direction. Consequently the balls *g* are turned in the openings *f* and thus the direction of the glance of the eyes is altered, the coloured part of the eyes being moved.

The means indicated for altering the features can be used at other parts of the face than at the mouth and the environs thereof without departing from the spirit of the invention, the embodiment shown being given by way of example only.

Having thus fully described my invention I claim as new and desire to secure by Letters Patent:

1. A doll's head with variable features comprising a flexible mask, a more rigid support arranged behind the mask and partly abutting against the inner surface of the mask when the mask is uninfluenced, and means for bringing the mask to abut against the support to a greater extent in order to produce altered features.

2. A doll's head with variable features comprising a thin flexible mask, a rigid support arranged behind the mask, the shape of the inner surface of the said mask differing at certain places from the shape of the outer surface of the said support, so that normally at these places the mask is spaced from the support, while at other places the mask abuts against the support, and means for bringing the mask to abut against the support at the said first named places in order to produce predetermined altered features.

3. A doll's head with a smiling mouth comprising a thin flexible mask, a more rigid support arranged behind the mask, the support abutting substantially against the mask at the foremost parts of the lips of the face while the intermediate parts of the support are located at a distance from the mask when the latter is uninfluenced, and means for exerting outwardly directed pull at the corners of the mouth of the mask in order to produce abutment between the mask and the support throughout the mouth region.

4. A doll's head with a smiling mouth comprising a thin extensible mask, a rigid support arranged behind the mask, the support abutting substantially against the mask at the foremost parts of the lips of the face while the intermediate parts of the support are located at a distance from the mask when the latter is uninfluenced, the mask being provided between the lips with a split normally closed, and means for exerting outwardly directed pull at the corners of the mouth of the mask so that the lip parts of the mask will be narrower and curved over the corresponding parts of the support and thus the split will be opened.

In testimony whereof I have affixed my signature.

PEDER JENSEN CHRISTENSEN.