April 30, 1935. A. FRISCH 1,999,724

MOUTH SET FOR DOLLS

Original Filed Sept. 26, 1931

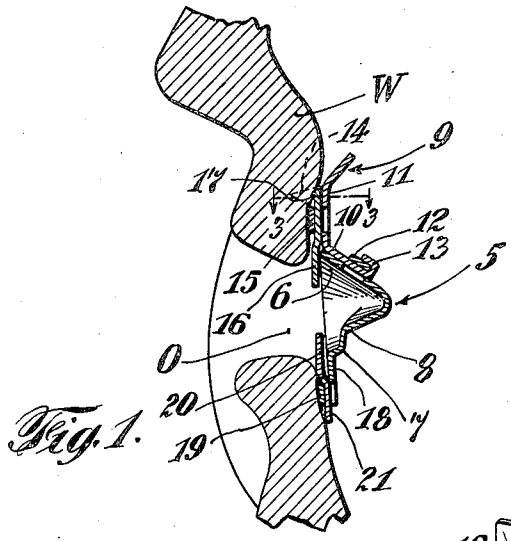


Fig. 1.

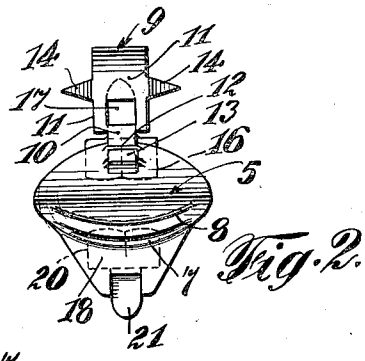


Fig. 2.

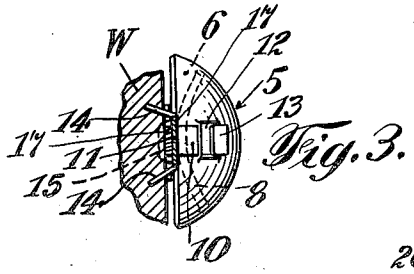


Fig. 3.

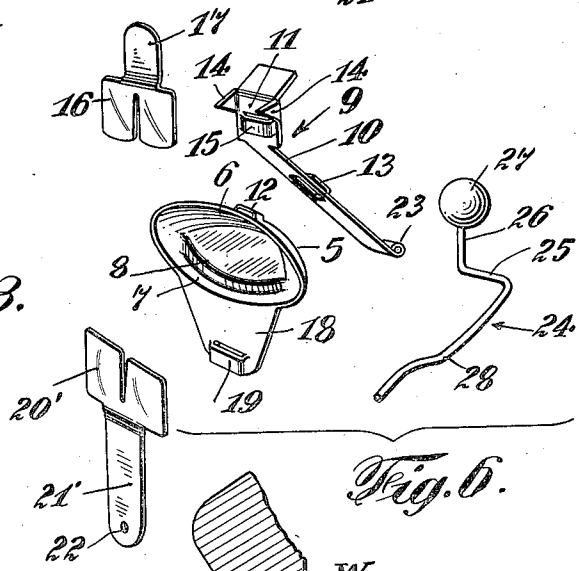


Fig. 6.

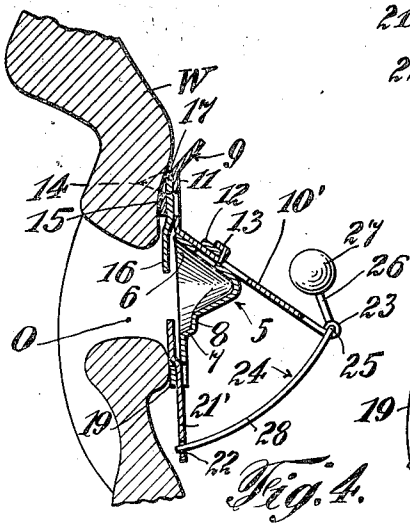


Fig. 4.

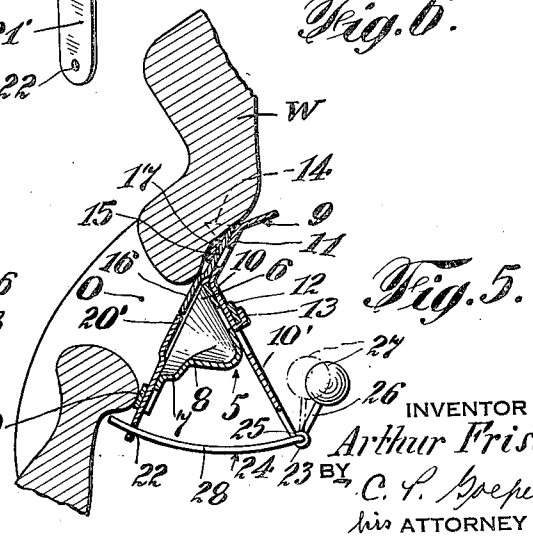


Fig. 5.

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MOUTH SET FOR DOLLS

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13 Claims. (Cl. 46—40)

This invention relates to improved mouth set for dolls, and generically considered comprehends the provision of a device of this character embodying mouth and teeth simulating members which will present a very natural and realistic appearance from the exterior of the doll head.

It is one of the important objects of my invention to provide simple, efficient and easily applied means for mounting or supporting the mouth set in attached relation to the wall of the doll head at the inner side of the mouth opening. This feature in the preferred embodiment of the invention, embodies a hanger element so constructed and applied to the mouth set, that in the operation of attaching the same to the doll head wall, said element will be caused to effectively resist displacement of the mouth set from its proper relation to the mouth opening and to also resist displacement of the attaching means of the hanger element from the wall structure.

A further object of my invention consists in the provision of a mouth simulating member having base and roof portions and a part of said base portion being formed to simulate a tongue wholly enclosed within the mouth member.

It is a further object of the invention to provide a separate hanger element of simple form having means for attaching the same in fixed relation to the doll head wall and also additional means for securing a teeth member in attached connection with the hanger element, whereby the mouth member, the teeth member and the hanger element may be handled and applied in operative position as a single entity and with the assurance of a proper relation of the mouth and teeth members to each other and with respect to the mouth opening of the doll head.

It is also an additional object of the invention in one embodiment thereof, to provide a mouth set including upper and lower teeth members, one of which is movable relative to the other, and gravity controlled means operable upon a backward tilting of the doll head to move the movable teeth member towards the fixed teeth member.

It is also a further general object of my present improvements to provide a mouth set as above characterized which will be serviceable and efficient in use, and in which the several parts are of simple mechanical form and can be readily assembled so that such devices may be manufactured on a quantity production basis at comparatively low cost.

With the above and other objects in view, the invention consists in the improved mouth set for dolls, and in the form, construction and relative arrangement of its several parts, as will be hereinafter more fully described, illustrated in the accompanying drawing, and subsequently incorporated in the subjoined claims.

In the drawing, wherein I have illustrated several preferred embodiments of my invention, and in which similar reference characters designate corresponding parts throughout the several views,—

Figure 1 is a vertical sectional view through the front wall of a doll head in the region of the mouth opening showing one practical form of the invention in its applied position;

Fig. 2 is a rear elevation of the device before application to the doll head;

Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a vertical section similar to Fig. 1, showing a modified embodiment of the device in which the same is provided with a movable teeth member and actuating members therefor;

Fig. 5 is a similar view showing the doll head tilted backwardly or in a rearward direction, and movable teeth member thereby moved in close relation to the opposed fixed teeth member, and

Fig. 6 is a perspective view showing the several parts of the device illustrated in Figs. 4 and 5 in separated relation before assemblage thereof.

The following description, insofar as it relates to the mouth member, the teeth member, the hanger element and its attaching means is equally applicable to both of the illustrated forms of the invention, and therefore, as to such parts, corresponding numerals of reference are applied throughout the several views of the drawing.

The member generally indicated at 5 which simulates the interior of the mouth is formed from a sheet metal plate die-pressed or stamped into a general cup-shaped configuration more or less conical in vertical cross section, and of substantially elliptical shape in front elevation. The major dimension or longer axis of this cup-shaped mouth member, is substantially equal to or greater than the horizontal dimension of the mouth opening indicated at O which is formed through the doll head wall W at a suitable distance below and in spaced relation to the eye openings and the nose formation of said head wall.

It will thus be understood that the mouth member 5 includes an upper roof portion 6 and a lower base portion 7. This base section or por-

tion of the mouth member at a suitable distance rearwardly from the forward or front edge thereof has its wall upwardly pressed providing a shoulder indicated at 8 therein which extends on a convex arc horizontally of said base portion of the mouth member. This upwardly offset portion simulates a tongue. The remaining inner surface of said base portion and the inner surface of the roof portion 6 of said mouth member may be suitably colored or painted to represent the interior of the mouth, while the surfaces of the upwardly pressed part 8 may be of a distinguishing color shade and therefore, visually differentiable from the remaining surface portions of said mouth member representing the interior of the mouth. It will be noted that this construction results in the appearance of the tongue representing portion, when viewed through the mouth opening of the doll head, as disposed in its natural normal position on the base of the mouth and rearwardly of the teeth representing member to be presently referred to and entirely within the cup shaped mouth member 5.

For the purpose of attaching the mouth set to the wall of the doll head, I provide the hanger element generally indicated at 9 which in the present instance, is in the form of a sheet metal strip having the portions 10 and 11 respectively, extending in angular relation to each other. Various means may be provided for attaching the roof portion 6 of the mouth member 5 to the part 10 of this hanger element, and for this purpose, I have herein shown said portion of the mouth member as provided with an outwardly struck strap or loop 12 between which and the outer surface of the mouth member, the end of the part 10 of the hanger element is inserted, the extremity of said part being bent over and clinched upon the strap 12 as indicated at 13.

The other part 11 of the hanger element 9 is provided upon its opposite longitudinal edges with the spurs or tangs 14 which are adapted to be bent at right angles to the plane of said part 11 and impaled under pressure in the structure of the doll head wall W. Below these spurs, the part 11 is further provided with a forwardly struck strap or loop 15 between which and the front surface of the hanger element, the offset extension or tongue 17 of a teeth member 16 is adapted to be upwardly inserted, said teeth member being thus frictionally held in connection with the hanger element and with the teeth projecting downwardly below the upper edge of the mouth opening O and over the front open side of the cup-shaped mouth member 5.

Preferably, I also provide the base portion 7 of the mouth member 5 at its front edge with an integral downwardly extending part 18 having the forwardly projected strap or loop 19 on the lower end thereof between which and the front surface of the part 18 the offset tongue 21 of the lower teeth member 20 is downwardly inserted. The teeth of this member therefore project upwardly in the plane of the teeth member 16 slightly above the front edge of the base wall 7 of the mouth member but terminate below the front edge of the tongue representing portion 8 of said member.

Assuming that the several parts above described have been assembled in properly connected relation as shown in Figs. 1 and 2 of the drawing, the assembly is applied by means of a suitable tool before or after the top of the doll head is closed, the lower end of the part 18 having the strip or loop 19 thereon, being first engaged against the inner surface of the head wall below the lower edge of the mouth opening O. Pressure is then applied against the rear side of the part 11 of the hanger element 9 and the spurs or tangs 14 of said element are caused to penetrate the structure of the wall W. In this operation, a certain amount of bending stress occurs at the juncture of the parts 10 and 11 of the hanger element and the tendency of these parts to return to their normal relative positions operates to cause a firm downward pressure by the part 10 of the hanger on the roof of the mouth member 5, and thus maintain tight bearing contact of the teeth member 21 and the lower end of the part 18 against the head wall below the mouth opening, while the part 11 acts to securely clamp the teeth member 16 in place and urge the spurs 14 into the wall structure and resist any tendency of these attaching tangs to work loose from the head wall and thus release the mouth set from its attached position. It will thus be seen that I have devised a very novel form of mouth set and means for attaching the same to the doll head which may be easily and quickly applied and attached in accurate relation to the inner side of the mouth opening and with adequate security to prevent displacement incident to rough or abusive handling, or even by attempts of mischievously inclined children to insert small articles through the mouth opening.

Referring now to Figs. 4, 5 and 6 of the drawing, it will be seen that if desired, instead of providing the mouth set with a lower fixed teeth member, I may employ the lower movable teeth member 20' having a relatively long tongue or extension 21' provided with the opening 22 in its lower end. This tongue has free vertical movement through the strap or loop 19 on the part 18 of the mouth member 5. The part 10' of the hanger element 9 is made relatively long so that it projects rearwardly and downwardly below the roof portion 6 of the member 5 and at its rear end is formed with a bearing sleeve 23. In this sleeve, the crank portion 25 formed intermediate the ends of a wire rod 24 is rotatably engaged. One end of this rod projects from the crank 25 upwardly above the bearing sleeve 23 as shown at 26 and to the same the weight element 27 is securely attached. The other or longer portion of the rod 24 is arcuately curved and extends downwardly and forwardly from the sleeve 23 as shown at 28 and has its forward end slidably engaged through the opening 22 in the extension 21' of the teeth member 20'.

From a comparison of Figs. 4 and 5 of the drawing, the operation of this modified form of the device will be readily understood. Thus, in the upright position of the doll head, the center of gravity of weight 27 is in advance or forwardly of the crank 25, thereby tending to urge the forward end of the part 28 of the rod 24 downwardly and thus hold the lower teeth member 20' in spaced apart relation from the upper teeth member 16. When the doll head is slightly tilted backwardly or rearwardly from such upright position so as to dispose the center of gravity of weight 27 rearwardly of a vertical plane passing through the axis of the crank 25, said weight will then act by gravity to urge the forwardly extending part 28 of the rod upwardly, and thus move the lower teeth member 20' upwardly substantially into contact with the vertically aligned upper teeth member 16, the forward end of said rod sliding freely through the opening 22 in this upward movement of the lower teeth member and

of course, upon the return of the doll head to upright position, the lower teeth member is returned to the normal position of Fig. 4 by the reverse gravity action of the weight 27.

From the foregoing description considered in connection with the accompanying drawing, the construction and several advantages of the illustrated and described embodiments of my invention will be readily understood. In both constructions, it will be seen that the several mechanical parts or elements are of very simple form and may be produced and assembled in proper operative relation at comparatively small cost. The device as a whole is also very durable and when properly mounted and arranged with respect to the mouth opening of the doll head wall, results in a very natural or realistic simulation of the teeth and interior of the human mouth.

I have herein disclosed several practical constructions, which will accomplish the intended purpose in an efficient and satisfactory manner. Nevertheless, as to the essential features of the present disclosure, it is to be understood that the same may also be incorporated in various other alternative structural forms, and I accordingly reserve the privilege of resorting to all such legitimate changes therein as may be fairly embodied within the spirit and scope of the appended claims.

I claim:

1. A mouth set for dolls comprising a hanger element having angularly related yieldable parts, a mouth member fixedly secured to one of said parts and having a portion adapted for contact with the doll head wall below a mouth opening therein, the other part of the hanger element being adapted to extend above the mouth opening and having tangs adapted to be impaled under pressure applied to the hanger element in the structure of the doll head wall whereby said hanger element is placed under resilient stress to sustain the mouth member against casual displacement relative to the mouth opening of the doll head.

2. A mouth set for dolls comprising a hanger element having angularly related parts, a cup-shaped mouth member having base and roof portions diverging towards the open side thereof, means for detachably securing one part of the hanger element to the roof portion of the mouth member, the other part of said hanger element being adapted to extend above the mouth opening in a doll head in the applied position of the mouth set, and angularly projecting tangs on the latter part of the hanger element adapted to impale the wall of the doll head.

3. A mouth set for dolls comprising a hanger element having angularly related parts, a cup-shaped mouth member having base and roof portions diverging towards the open side thereof, means for detachably securing one part of the hanger element to the roof portion of the mouth member, the other part of said hanger element being adapted to extend above the mouth opening in a doll head in the applied position of the mouth set, angularly projecting tangs on the latter part of the hanger element adapted to impale the wall of the doll head, and a teeth member having a portion extending upon the latter part of the hanger element to be confined between the same and the doll head wall, and a second teeth simulating portion thereof adapted to project over the open side of the cup-shaped mouth member.

4. A mouth set for dolls comprising a hanger element having angularly related parts, a cup-shaped mouth member having base and roof portions diverging towards the open side thereof, means for securing one part of the hanger element to the roof portion of the mouth member, the base portion of said mouth member having a downwardly extending part adapted for contact with the wall of a doll head below the mouth opening therein, an upper teeth member, means for adjustably and frictionally attaching said teeth member to the other part of the hanger element, a lower teeth member, and means for adjustably and frictionally attaching said lower teeth member to the downwardly extending part of the mouth member.

5. In combination with a doll head having a mouth opening, a mouth set arranged at the inner side of said opening comprising a hanger element, a mouth member secured to one end of said hanger element, the other end of said hanger element having angularly disposed tangs impaling the structure of the doll head wall above the mouth opening therein, and a teeth member having a part confined between the latter end portion of the hanger element and the doll head wall, and a teeth simulating part projecting downwardly below the upper edge of the mouth opening.

6. In combination with a doll head having a mouth opening, a mouth set arranged at the inner side of said opening comprising a member representing the interior of the mouth and having a part extending below said opening and engaging the doll head wall, a hanger element having relatively yieldable angularly related parts, integrally formed means on one of said parts securing the hanger element in attached relation to the wall of the doll head above the mouth opening, the other of said hanger parts projecting inwardly and downwardly from the upper edge of the mouth opening, and means securing said mouth simulating member to the latter part of the hanger element, whereby said member is resiliently urged towards the mouth opening to retain the first named part of said member in bearing contact against the head wall.

7. In combination with a doll head having a mouth opening, a mouth set arranged at the inner side of said opening comprising a member simulating the interior of the mouth, a hanger element supporting said member and having means attached to the doll head wall above the mouth opening, said hanger element including a part projecting rearwardly from the mouth member, a teeth member movably associated with said mouth member, and gravity controlled means mounted upon said projecting part of the hanger element and operatively connected to said teeth member to actuate the latter upon tilting movement of the doll head.

8. A hanger of the kind described comprising a metal strip having integrally formed means on one end adapted to be impaled in the wall of a doll head at the inner side thereof above the mouth opening, and including a resiliently yieldable part projecting inwardly and downwardly from the upper edge of the mouth opening adapted for attachment to the upper side of a member simulating the interior of the mouth to yieldably resist inward displacement of said member relative to the doll head wall.

9. A hanger of the kind described comprising a metal strip having parts extending in angular

relation to each other from the approximate center of the strip, one of said parts being adapted for arrangement in substantially parallel relation to the inner side of a doll head wall and having integrally formed tangs to impale the wall structure, the other part of the metal strip being adapted for attachment to a member simulating the interior of the mouth to yieldingly urge said member forwardly against the doll head wall and resist the inward displacement of said member relative to the mouth opening.

10. In combination with a doll head having a mouth opening, a mouth set arranged at the inner side of said opening comprising a member simulating the interior of the mouth, a hanger attached to the doll head wall above the mouth opening and to the upper side of said mouth simulating member to support the latter, said hanger including a part extending rearwardly from the mouth simulating member, a teeth member associated with said mouth member for vertical movement relative thereto, a rod having a cranked end portion rotatably mounted on the rearwardly projecting part of said hanger, the other end of said rod being operatively connected with said teeth member, and a weight element fixed to the cranked end of said rod above its axis and operating by gravity upon backward tilting of the doll head to rock said rod and move the teeth member relative to said mouth simulating member.

11. A complete mouth set for a doll's head comprising, in combination, a hanger and a mouth member, said hanger comprising a metal strip having tangs formed at one end and adapted to be impaled in the wall of a doll head near the mouth opening and another projecting inwardly of the doll head, and means formed integrally on said inwardly projecting part and on the mouth member for detachably attaching the mouth member fixedly to the hanger, whereby a mouth member of desired size or type may be supported within the doll head by the aforesaid hanger.

12. A complete mouth set for dolls comprising, in combination, a hanger and a mouth member simulating a mouth cavity, said hanger including means for fixedly attaching a part of the same to the interior wall of a doll's head and another part yieldably related thereto, said yieldable part and said mouth member having mating means for detachably attaching the same rigidly together, whereby the mouth member is yieldably supported within the doll's head by the hanger.

13. A complete mouth set for dolls comprising, in combination, a hanger, a mouth member simulating a mouth cavity, and means simulating teeth, said hanger including means for fixedly attaching the same to the interior wall of a doll's head, said hanger and mouth member having mating means for detachably attaching the same rigidly together, means movably mounting the simulated teeth on the hanger, and means for causing movement of said teeth.

ARTHUR FRISCH.