

July 19, 1960

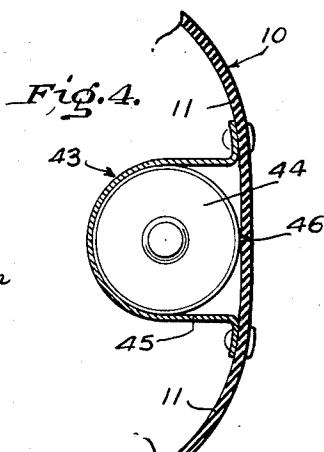
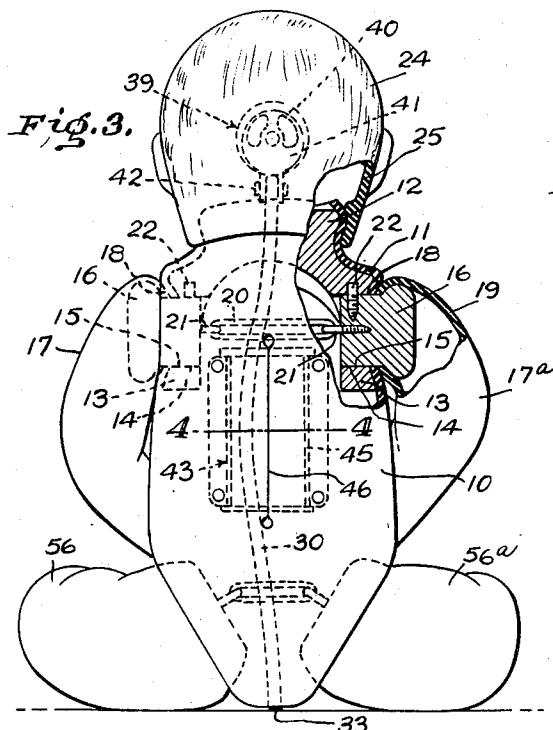
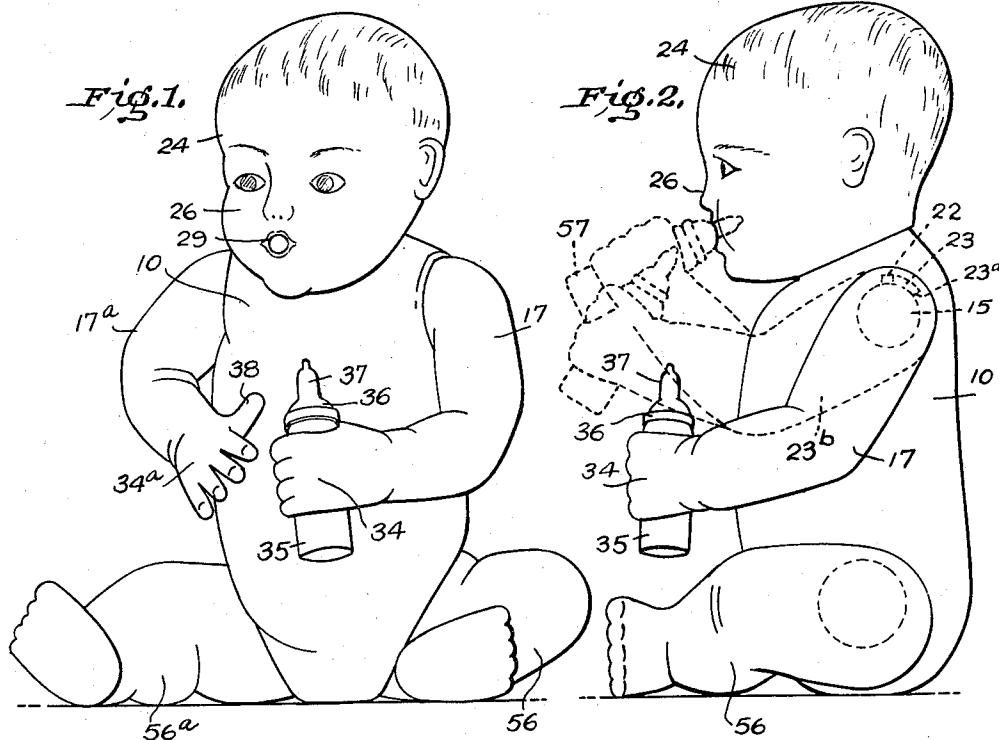
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2,945,321

IMITATIVE NURSING DOLL

Filed July 16, 1959

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 5.

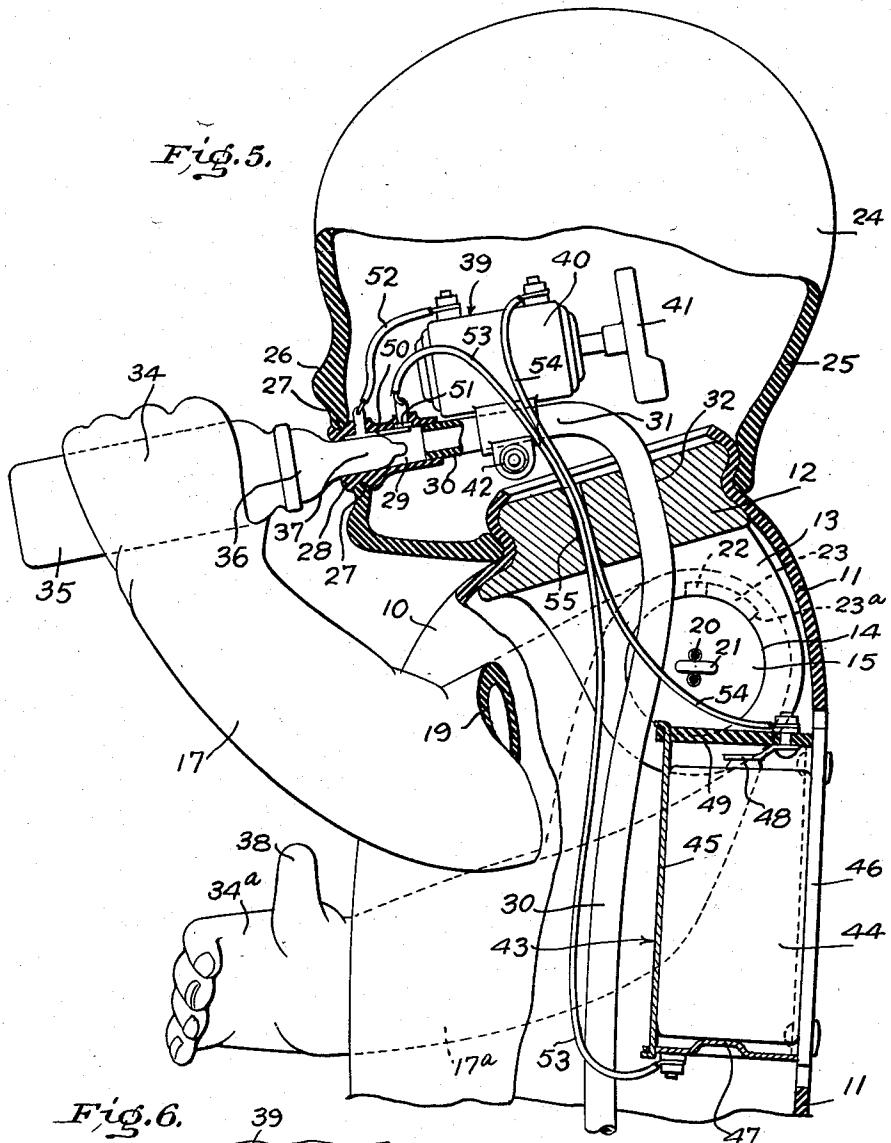
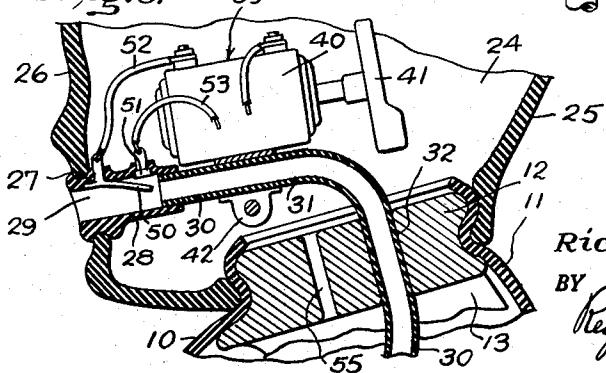


Fig. 6.



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## IMITATIVE NURSING DOLL

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14 Claims. (Cl. 46—247)

The present invention relates to dolls that mechanically simulate the movements of live babies in life-like manner, and it consists in the combinations, constructions, and arrangements of parts herein described and claimed.

Generally there is provided a doll with a hollow head, hollow body, and hollow arms constructed of plastic, rubber, or other material having a degree of flexibility and somewhat similar to that of baby flesh and of a resiliency so as to return to its original position and initial shape. The hand on one of the arms is made to receive and frictionally hold a hard plastic nippled bottle that can be removed from the hand for filling, while the hand on the other arm has the thumb thereon of oversize and of a diameter similar to that of the nipple on the bottle so that either the thumb or the nipple may be manually forced into a snugly fitted mouth opening of the doll against tension of the respective resilient arms. There is a hard rubber or plastic tube in the hollow head and body portions of the doll which leads rearwardly from the mouth opening and then downwardly through and out of the body, there being support means at the neck portion of the doll for holding the portion of the tube at such location against movement. Mounted on the span of tubing extending between the mouth opening and the intermediate support for the tube is a small electric motor controlled in its operation by an electric switch mechanism located at the mouth opening and actuated to a closed position by manual insertion of either the bottle nipple or oversize thumb in said mouth opening, there being a battery within the hollow body of the doll that is wired to the electric motor and switch so as to supply current for operating the motor. A highly unbalanced flywheel is on the motor for setting up a vibratory motion to the doll which together with the pulling force applied by the resiliency of an arm loosens the nipple or thumb from its frictional engagement within the mouth opening after a period of time has elapsed. The manual insertion of either the nipple or thumb into the mouth opening starts the motor and the withdrawal of said nipple or thumb from the mouth opening stops operation of said motor.

It is accordingly an object of the invention to provide a novel and improved doll that creates the impression that it is actually sucking either a bottle or its thumb in the same manner as a baby would.

Another object of the invention is to provide a doll of the above indicated character having its arms resiliently movable to positions where an object on the hand portion of either arm may be manually forced and frictionally maintained in the mouth opening against tension of said arms to return and resume their normal position.

A further object of the invention is to provide, in a doll of the character set forth, a novel vibratory element for slowly and quietly loosening frictional engagement of the objects on the resilient arms from within the mouth opening and for also producing a fluctuating motion to the doll which so closely resembles a nursing baby that the motion is uncanny.

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A still further object of the invention is to provide, in a doll of the character outlined, a novel electrically operated vibratory element and its association and that of codependent elements relative to the doll for producing the aforesaid motion and for operation of said vibratory element only while the object (bottle, nipple or thumb) remains in the mouth opening.

A still further object of the invention is to provide, in a doll of the character set forth, a novel tubular member communicating with the mouth opening and extending to a location exteriorly of the body for conducting liquid from the bottle and for conducting fluctuating motion from a vibratory element to the doll.

A still further object of the invention is to provide, in a doll as outlined above, a novel holder for a battery that supplies electric current to operate the vibratory element, said holder completely concealing the battery and permitting quick and easy removal and replacement thereof.

It is also an object of the invention to provide a doll of the above indicated character which is simple and substantial in construction, inexpensive to manufacture, and thoroughly efficient and practical in use.

These, together with various auxiliary features and objects of the invention which will later become apparent as the following description proceeds, are attained by the present invention, a preferred embodiment of which has been illustrated, by way of example only, in the accompanying drawings, where:

Figure 1 is a front view of the improved doll seated, showing the arms in lowered positions;

Figure 2 is a side view of same and showing in dotted lines two different elevated positions of the arms;

Figure 3 is a rear view also of the same showing parts in dotted lines and showing parts broken away and in section;

Figure 4 is an enlarged fragmentary section taken on line 4—4 of Figure 3;

Figure 5 is an enlarged side elevation and sectional view with the lower portion of the body and legs broken away, and showing one arm raised with the bottle nipple in the mouth opening; and

Figure 6 is a fragmentary section of a portion of that shown in Figure 5, and with the bottle nipple removed from the mouth opening.

Referring now more specifically to the accompanying drawings, wherein like numerals designate similar parts throughout the various views, the numeral 10 indicates a hollow doll body constructed of rubber, plastic or other resilient material and having a wall 11 of a thickness producing a firmness similar to that of a baby's flesh and of a resiliency that quickly returns to its original position and initial shape after being flexed. Fixed in and conforming to the shape of the inner surface of the neck portion of the body 10 is a neck block 12 of wood or other non-resilient material. From opposite sides of said block depends arm supporting lugs 13 having cylindrical openings 14 therethrough into which are rotatably mounted cylindrical portions 15 of shoulder blocks 16 fixed to a pair of arms 17 and 17<sup>a</sup> also of hollow construction. The outer sides of the lugs 13 at locations around the openings 14 and the portions of the body wall 11 covering same are slightly concaved as at 18, and engaging said concaved surfaces are similar curved convex surfaces on the portions of arm walls 19 covering the shoulder blocks 16, so as to provide socket-like shoulder joints of the arms to the body. An elastic band 20 looped through eyes 21 screwed centrally into the inner ends of the cylindrical portions 15 of the shoulder blocks 16 holds the arms 17 and 17<sup>a</sup> tight in the shoulder sockets so as to frictionally support said arms in adjusted positions irrespective of one another. There is a radial pin 22 threaded in the cylindrical por-

tion 15 of each shoulder block 16 which projects into an arcuate slot 23 in the respective lug 15 of the neck block for engagement with the end 23<sup>a</sup> of the slot and thereby limits upward rotary movement of the arm at the shoulder joint to the position shown by dotted lines and indicated by the numeral 23<sup>b</sup> in Figure 3.

Mounted on the body 10 and supported by the neck block 12 is a head 24 which is also hollow and which has the wall 25 thereof constructed of a resilient material similar to that of said body and of a contour to form a face 26. While the head 24 is shown as embracing the neck portion of the body 10 and as being removable from said body for the purpose of gaining access to the interior thereof, said head may or may not be turnable on said body. At the mouth of the face 26 there is an opening 27 into which is affixed the outer end portion of a non-flexible mouth piece 28 having a cylindrical mouth opening 29 therethrough. In the inner end of the mouth opening 29 is cemented or otherwise secured and in communication therewith the upper end of a pliable, relatively hard rubber or plastic tubular member 30, which extends rearwardly in the hollow of the head, as at 31, and then downwardly through an opening 32 in the neck block 12 and into the body 10. The tubular member 30 is tightly gripped against movement in the opening 32 and has its lower end open exteriorly of and at the base of the body, as shown at 33 in Figure 3, for conducting liquid entering the mouth piece 28 outwardly of said body.

Referring again to the arms 17 and 17<sup>a</sup>, which have been defined as being hollow and resilient, there are hand portions 34 and 34<sup>a</sup> thereon, respectively, which may be manually forced towards the mouth opening 29 and beyond the limited movement of said arm at the shoulder joints by flexing said resilient arms. The hand portion 34 is curved so as to engage more than half way around a nursing bottle 35 and is of a resiliency sufficient to grip and support the bottle, yet permitting removal of the bottle from the hand portion so as to replenish liquid to the bottle. There is a nipple 36 on the bottle with a reduced end 37 of a size to be snugly received and frictionally maintained in the mouth opening 29 against the resiliency of the arm 17 to return its hand portion 34 to the position of limited upward adjustment of the arm at the shoulder joint. The other hand portion 34<sup>a</sup> has an enlarged thumb 38 thereon projecting in a direction so as to be inserted lengthwise into the mouth opening instead of the nipple 36 of the bottle 35. This enlarged thumb is of the same size as that of the reduced end 37 of the nipple and functions in a like manner to that of said nipple when inserted into the mouth opening 28.

To overcome the frictional engagement of either the nipple or thumb from within the mouth opening there is a vibratory element 39 mounted on the span 31 of the tubular member 30. The vibratory element 39 shown, consists of a small electric motor 40 having a highly unbalanced flywheel 41 and a clamp 42 secured to the motor casing and engaging about said tubular member in a manner to support the motor in an upright position on said tubular member. Because of such mounting of the motor, the nature of its connection to the head, and the material from which the head is constructed, the vibrations produced at the motor are conducted to the face wall of the head in a manner that they simulate the movement of a baby's face while nursing. It therefore can be seen that such a construction will produce a fluctuation motion directly on the mouth piece 28 which together with the pull produced by the resilient arm will slowly loosen the object (nipple or thumb) from within the mouth opening.

In the body 10 and securely mounted on the inner side of the back portion of the body wall 11 is a pocket-like holder 43 for housing a flashlight type battery 44, said holder consisting of a rearwardly open casing 45 which is closed by the body wall 11 to which it is attached,

there being a slit 46 through said wall of a length greater than the height of said holder so as to permit the insertion of the battery 44 in said holder upon stretching and flexing of the body wall portions at opposite sides of said slit. A bottom wall 47 of the casing 45 forms one contact with the battery 44, while a spring finger 48 on the under side of a top wall 49 of insulating material provides the other contact with said battery. Thus it can be seen that it is an easy matter to remove and replace batteries as the resilient body wall 11 will yield to pressures of the battery thereagainst and upon resuming its natural position will hold the battery in place.

Partially imbedded in the wall of the tubular mouth-piece 28, or otherwise affixed thereto, is a movable contact 50 and a stationary contact 51 which together provide an electric switch. The movable contact 50 is in the form of a leaf spring that normally remains out of engagement with the stationary contact 51 and is forced and held in engagement with the stationary contact only while the object (nipple 36 or thumb 38) is inserted and remains in the mouth opening 29. A wire 52 connects the movable contact 50 to one terminal on the motor 40. Another wire 53 connects the stationary contact 51 to the casing that houses the battery which in turn engages an end of the battery 44. Still another wire 54 connects the other terminal of the motor 40 to the spring finger 48 that is in contact with the other end of the battery 44, there being a hole 55 in the neck block 12 through which extends the wires 53 and 54 to the battery.

The legs 56 and 56<sup>a</sup> of the doll are shown as being adjustable on the body 10 in a manner similar to that of the arms 17 and 17<sup>a</sup> so as to adjust said legs to a position supporting the doll in a seated position, as shown in Figures 1 through 3. It will be observed in Figure 2 that the bottle 35, as shown in the dotted line position indicated by the numeral 57, is at an inclination that liquid in the bottle 35 will not run into the tubular mouth piece 28 from the bottle and it is when the doll is in a more prone position that liquid from the bottle leaks exteriorly of the base of the body 10. However, it is to be understood that the position of the bottle 35 relative to the arm 17 may be changed to a different angle so that liquid will flow from the bottle when the nipple 36 is in the mouth opening 29 and the doll is seated in an upright position.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the construction, operation, and advantages of the doll will be quite apparent to those acquainted with this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, various changes may be made without departing from the spirit and full intentment of the invention.

#### What is claimed is:

1. A doll comprising a body, a head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size so as to be snugly received and frictionally maintained in said mouth opening, said arm normally assuming a position with the hand portion thereon spaced from said face and being resiliently movable towards said face so as to permit the object on said hand portion to be manually forced and frictionally maintained in the mouth opening against tension of said arm to return to its normal position, and a vibratory element associated with said doll for producing a fluctuating motion to the doll which together with the resilient pull on the arm to return to its normal position slowly dislodges the object from within the mouth opening.

2. A doll as defined in claim 1 wherein the object on the hand portion of the arm is a nipple on a bottle removably and resiliently clamped in said hand portion.

3. A doll as defined in claim 1 wherein the object on the hand portion of the arm is an oversize thumb projecting from said hand portion in a direction so as to be inserted lengthwise into the mouth opening.
4. A doll comprising a body, a head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size so as to be snugly received and frictionally maintained in said mouth opening, said arm normally assuming a position with the hand portion thereon spaced from said face and being resiliently movable towards said face so as to permit the object on said hand portion to be manually forced and frictionally maintained in the mouth opening against tension of said arm to return to its normal position, a vibratory element associated with said doll for producing a fluctuating motion to the doll which together with the resilient pull on the arm to return to its normal position slowly dislodges the object from within the mouth opening, and control means actuated during positioning of said object within said mouth opening for effecting operation of said vibratory element.
5. A doll comprising a body, a head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size so as to be snugly received in said mouth opening, said arm normally assuming a position with the hand portion thereon spaced from said face and being of resilient material so that the object on its hand portion may be manually forced and frictionally maintained in said mouth opening upon flexing of said resilient arm, and a vibratory element associated with said doll so as to produce a fluctuating motion to the doll which together with the pull produced by flexing the resilient arm slowly dislodges the object from within the mouth opening.
6. A doll comprising a body, a head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size so as to be snugly received in said mouth opening, said arm being of resilient material so that the object on its hand portion may be manually forced and frictionally maintained in said mouth opening upon flexing of said resilient arm, a vibratory element associated with said doll so as to produce a fluctuating motion to the doll which together with the pull produced by flexing the resilient arm slowly dislodges the object from within the mouth opening, and control means for said vibratory element and actuated during positioning of said object within said mouth opening for effecting operation of said vibratory element.
7. A doll comprising a body, a head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon and adjustable on said body to a position whereby said hand portion is adjacent and spaced from said face, an object on said hand portion and of a size so as to be snugly received in said mouth opening, said arm being of resilient material so that the object on its hand portion may be manually forced and frictionally maintained in said mouth opening upon flexing of said resilient arm beyond said adjusted position towards said face, and a vibratory element associated with said doll so as to produce a fluctuating motion to the doll which together with the elastic pull of the flexed arm slowly dislodges the object from within the mouth opening.
8. A doll comprising a body, a hollow head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon and adjustable on said body to a position whereby said hand portion is adjacent and spaced from said face, an object on said hand portion and of a size so as to be snugly received in said mouth opening, said arm being of resilient material so that the object on its hand portion may be manually forced and frictionally maintained in said mouth opening
- upon flexing of said resilient arm beyond said adjusted position towards said face, a tubular member within said hollow head and said body and having one of its ends connected to said head and in communication with said mouth opening and its other end open exteriorly of said body, and a vibratory element mounted on the portion of said tubular member within said hollow head so as to conduct a fluctuating motion produced by said vibratory element to the mouth portion of the doll which together with the pull produced by flexing the resilient arm slowly dislodges the object from within the mouth opening.
9. A doll comprising a body, a hollow head mounted on said body and having a face with a mouth opening therein, an arm having a hand portion thereon and adjustable on said body to a position whereby said hand portion is adjacent and spaced from said face, an object on said hand portion and of a size so as to be snugly received in said mouth opening, said arm being of resilient material so that the object on its hand portion may be manually forced and frictionally maintained in said mouth opening upon flexing of said resilient arm beyond said adjusted position towards said face, an electrically operated vibratory element associated with said doll so as to produce fluctuating motion thereto, a battery within said doll and wired in a circuit with said vibratory element, and a normally open electric switch also wired in the circuit and actuated to a closed position by the insertion of said object into said mouth opening, said fluctuating motion and the pull produced by flexing of said resilient arm providing a source of energy which slowly dislodges the object from within the mouth opening and permits said switch to assume its normal open position.
10. A doll comprising a hollow body, a neck block in said body, a hollow head on said body and supported by said neck block, said head having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size so as to be snugly received and frictionally maintained in said mouth opening, said arm normally assuming a position with the hand portion thereon spaced from said face and being resiliently movable towards said face so as to permit the object on said hand portion to be manually forced and frictionally maintained in the mouth opening against tension of said arm to return to its normal position, a tubular member extending through and supported by said neck block and having its upper end connected to said head and communicating with said mouth opening, said tubular member having its other end portion extending downwardly in said body and open exteriorly thereof, and a vibratory element mounted on the portion of said tubular member between said neck block and said mouth opening so as to conduct a fluctuating motion at the mouth portion of the face which together with the resilient pull on the arm to return to its normal position slowly dislodges the object from within the mouth opening.
11. A doll as defined in claim 10 wherein an inwardly directed tubulous mouth piece is interposed between and affixed to the upper end of the tubular member and the head and comprises the mouth opening, and wherein a control means is incorporated in said mouth piece and is actuated by the insertion of the object therein for effecting operation of the vibratory element.
12. A doll as defined in claim 11 wherein said vibratory element consists of an electric motor with an unbalanced flywheel and said control means consists of an electric contact switch, and wherein there is provided a battery in said body which is wired to said motor and said switch for closing a circuit to the motor upon actuation of said switch.
13. A doll comprising a hollow body portion with the wall thereof constructed of resilient material, a head on said body and having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size and shape so as to be received and frictionally maintained in said mouth opening, said arm being resiliently movable towards said face

so as to permit the object on its hand portion to be manually forced in said mouth opening, an electrically operated vibratory element associated with said doll, an electric contact switch in said mouth opening and actuated to a closed position by engagement of said object therewith, a battery holder fixed to a wall of said body and being closed by said wall, a battery in said holder, said body wall having a slit therethrough at said battery holder and of a length greater than said holder so as to permit the insertion of said battery in said holder upon stretching and flexing of body wall portions at opposite sides of said slit, and electric wires connecting said battery to said switch and vibratory element and said switch to said vibratory element, said vibratory element being arranged to produce a fluctuating motion to the doll which together with the pull on the resilient arm to return it to its normal position slowly dislodges the object from within the mouth opening.

the mouth opening.

14. A doll comprising a hollow body portion with the wall thereof constructed of resilient material, a neck block in said body, a hollow head on said body and supported by said neck block, said head being of similar material to that of said body and having a face with a mouth opening therein, an arm having a hand portion thereon, an object on said hand portion and of a size and shape so as to be received and frictionally maintained in said mouth opening, said arm being resiliently movable towards said face so as to permit the object on its hand portion to be manually forced in said mouth opening, a

tubular member extending through and supported by said neck block and having its upper end connected to said head and communicating with said mouth opening, said tubular member having its other end portion extending downwardly in said body and open exteriorly thereof, an electrically operated vibratory element mounted on the portion of said tubular member between said neck block and said mouth opening, an electric contact switch in said mouth opening and actuated to a closed position by engagement of said object therewith, a battery holder fixed to a wall of said body and being closed by said wall, a battery in said holder, said body wall having a slit there-through at said battery holder and of a length greater than said holder so as to permit the insertion of said battery in said holder upon stretching and flexing of body wall portions at opposite sides of said slit, and electric wires connecting said battery to said switch and vibratory element and said switch to said vibratory element, said vibratory element being arranged to produce a fluctuating motion to the doll which together with the pull on the resilient arm to return it to its normal position slowly dislodges the object from within the mouth opening.

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