Jan. 7, 1969 M. I. GLASS ET AL 3,419,994

SNEEZING DOLL

Filed March 16, 1966 Sheet 1 of 2

Fig 1

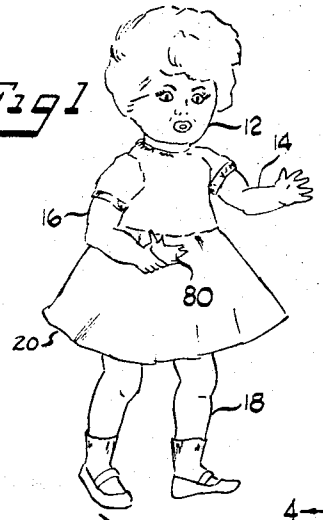


Fig 2



Fig 3

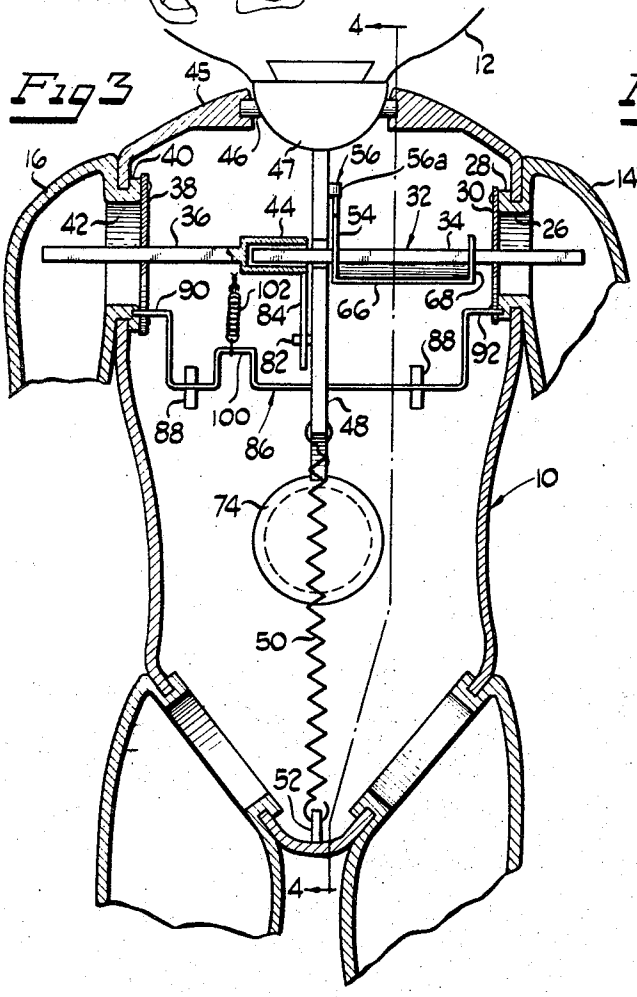
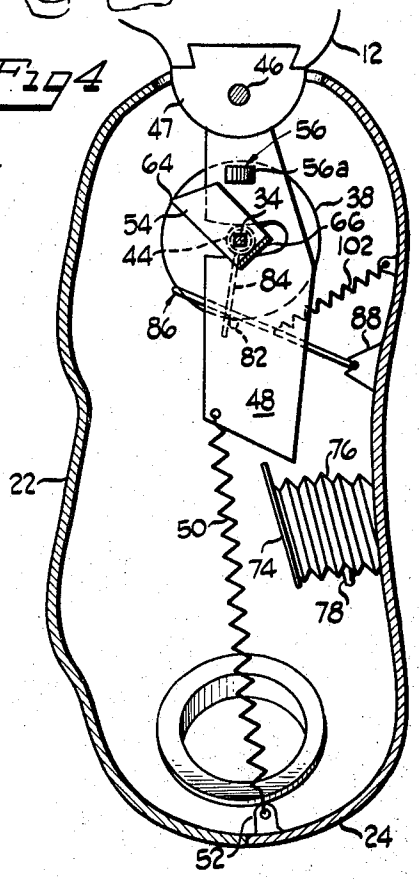


Fig 4



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Fig 5

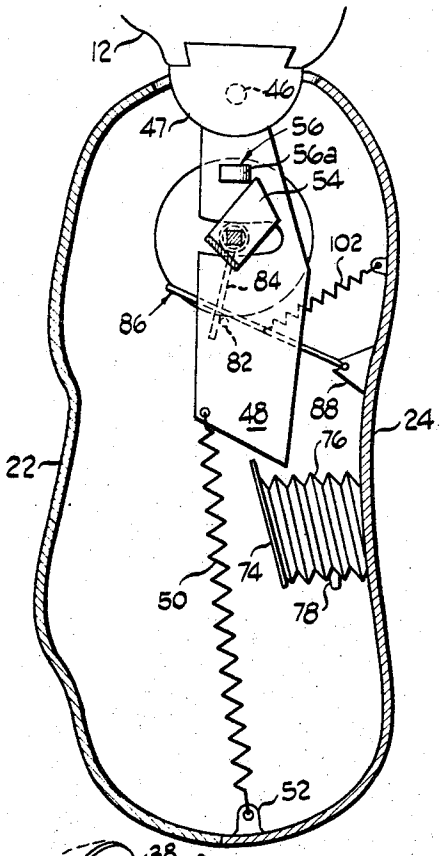


Fig 6

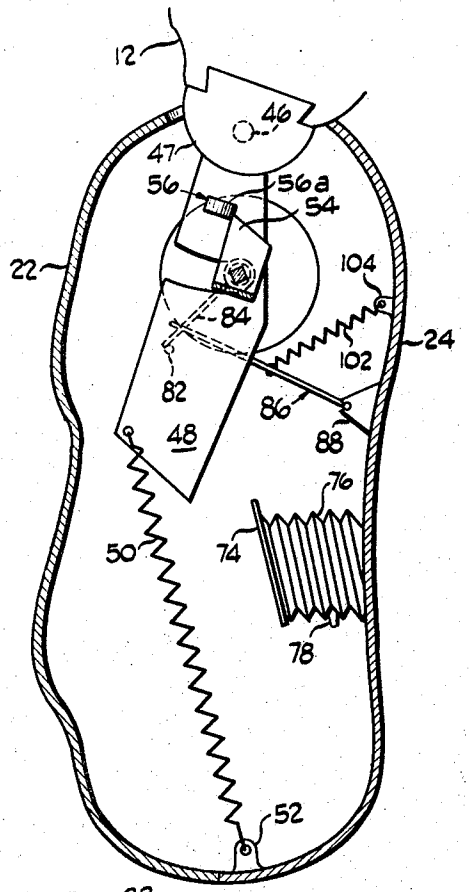


Fig 5A

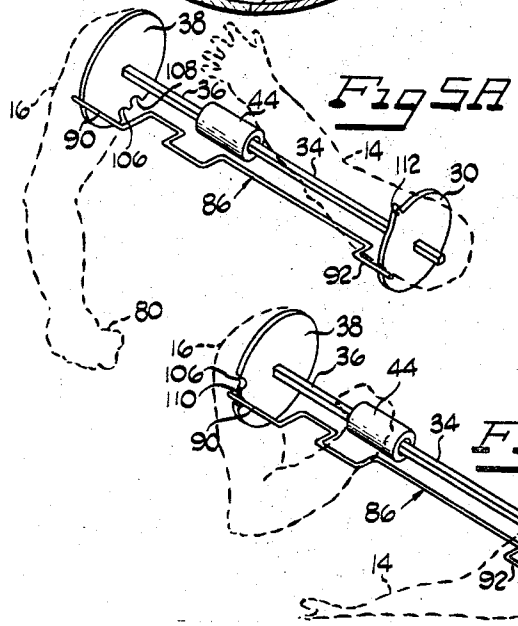


Fig 6A

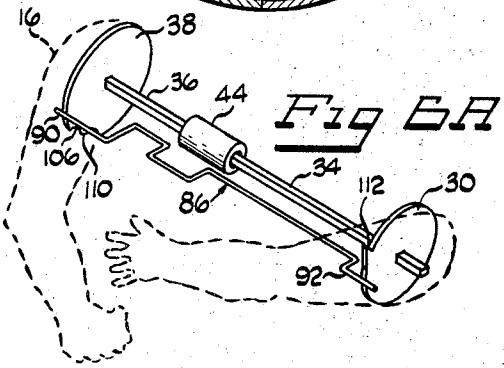


Fig 7

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United States Patent Office 3,419,994 Patented Jan. 7, 1969

3,419,994

SNEEZING DOLL

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Filed Mar. 16, 1966, Ser. No. 534,712
U.S. Cl. 46—118 3 Claims
Int. Cl. A63h 3/31

ABSTRACT OF THE DISCLOSURE

A doll having relatively movable head and arms which are interconnected and operable to provide a sequence of motions for said parts, so that the doll is caused to appear to be sneezing. As one arm is manually lifted, it causes the head to move rearwardly and then forwardly in an abrupt fashion. As the head is thus moved forwardly, the other arm is automatically raised to place the hand adjacent the face to appear as though the doll is smothering the sneeze. There is also a noisemaker within the doll which operates as the head moves forwardly.

The present invention relates generally to dolls, and more particularly to a doll which, by suitable manipulation will simulate a sneeze.

Dolls are a perennial source of amusement and satisfaction for children, and this is probably so because manufacturers constantly strive to produce more interesting and realistic dolls. For example, a simple noise maker actuated by tilting the doll or squeezing the doll's torso is very common, and some go so far as to clearly enunciate the word "mama." Sneezing is a very common reaction in small children, and the present invention provides a doll simulating a small child, and provides a realistic sneezing action when the doll is manipulated in a certain way.

It is, therefore, the primary object of this invention to provide a new and amusing doll. Another object is to provide a new and amusing doll realistically simulating a small child in the throes of a fit of sneezing. A related object is the provision of such a doll in which the sneezing is associated with a realistic action of the doll in using a handkerchief. A related object is the provision of new and useful mechanism for operating such a doll.

These and other objects are more particularly set forth in the following detailed description of the selected embodiment of the invention, as illustrated in the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a doll embodying the invention;

FIGURE 2 is a similar view showing the doll in the act of using its handkerchief;

FIGURE 3 is an enlarged fragmentary, cross-sectional view of the torso of the doll taken from the front and showing the internal mechanism;

FIGURE 4 is a fragmentary vertical sectional view of the torso taken on the line 4—4 of FIGURE 3;

FIGURE 5 is a similar view showing the parts in position to begin the sneezing cycle;

FIGURE 5A is a fragmentary perspective view of certain mechanism indicated in FIGURES 3 to 6, showing the parts in a position corresponding to that indicated in FIGURE 5;

FIGURE 6 is a view similar to FIGURE 5, showing the mechanism in a position about to complete the sneezing cycle;

FIGURE 6A is a fragmentary perspective view of certain mechanism indicated in FIGURES 3 to 6, showing the parts in a position corresponding to that indicated in FIGURE 6; and

FIGURE 7 is a view similar to FIGURES 5A and 6A,

but showing the parts in a position they will occupy just as the sneeze takes place.

The invention is in brief directed to a doll operable for simulating a young child having a tendency to sneeze, and to various features thereof. The doll preferably emits a sound similar to that of a sneeze, while suffering spasmodic movements of the head and moving one of the arms in a natural manner to smother the sneeze in a handkerchief.

Basically the doll has a body **10**, a head **12**, a left arm **14**, a right arm **16** and legs **18**, which latter are not essential to the invention and need not be further described. Any appropriate dress **20** may be placed on the figure. The body may be made of any suitable material, preferably somewhat rigid, since it is convenient to rely upon it to support certain parts of the mechanism in their proper relations, although it is contemplated that other expedients might be used to maintain these relations, whereupon the body could be more flexible if desired. Body **10** is preferably made with a front section **22** and a rear section **24**, as seen in FIGURE 4, so that it is convenient to assemble the internal parts in section **24** and then apply section **22** as a cover, holding it in place in any suitable or well-known manner.

Left arm **14** has a shoulder joint portion **26** journaled in a suitable opening formed between sections **22** and **24** of body **10**, and a flange **28** disposed within body **10** guides shank **26** and prevents inadvertent removal of arm **14**. A cam plate **30** is fixed in relation to arm **14**, being fastened in any suitable manner to flange **28** so as to turn therewith, for a purpose to appear, when arm **14** is swung up and down.

A two-part shaft generally designated as **32** is composed of a portion **34** fixed in cam plate **30** so as to turn therewith. In similar manner, a portion **36** is fixed in a cam plate **38** fixed to a flange **40** on a shoulder joint **42** freely journaled in body **10** and forming a part of right arm **16**. Portions **34** and **36** are joined by a swivel portion characterized by a generally cylindrical sleeve **44** which receives portion **34** rotatably therein and is constituted to keep portions **34** and **36** in alignment with each other while at the same time providing for independent rocking or rotary movement therebetween. Thus one arm may move independently of the other. Furthermore, the independent portions of the shafts **34** and **36** are prevented from shifting axially by their attachment to cam plates **30** and **38** respectively. Shaft portions **34** and **36** are preferably made of angular cross section for dependably imparting rocking movement to other parts as will appear, portion **34** being rotatable within cylindrical sleeve **44**, even though angular in cross section.

Swinging movement of arm **14** (which acts as an actuating lever or handle) causes rocking of shaft portion **34**, which in turn causes a spasmodic movement of head **12**. For this purpose head **12** is pivoted on a pin **46** journaled in neck portions **45**, so that it may nod forwardly and backwardly, and it has an actuating plate or element **48** which extends downwardly within body **10** to perform a variety of functions. More particularly, a generally hemispherical section **47**, disposed in fixed relation to the upper end of plate **48**, is fitted into the lower portion of the doll's head and includes axially aligned openings receiving the pin **46**. A spring **50** is extended in tension between a lower portion of actuating plate **48** and an anchorage **52** within the lower portion of body **10**, and by its continuous pull this spring tends to yieldingly maintain alignment of itself and plate **48**, which corresponds to an upright or normal position of head **12**. Consequently, if the head **12** or plate **48** is displaced about pivot pin **46**, spring **50** will tend to return them to "normal" position.

The head is displaced and released by the action of left

arm **14** as follows. Shaft portion **34** has fixed thereon a latch-like actuating finger **54** which, in the position of the parts shown in FIGURES 3 and 4, extends upwardly and forwardly of an actuated latch element **56**. Element **56** has its exposed side surface **56***a* inclined forwardly, so that rearward movement of finger **54** from the position seen in FIGURE 4 causes finger **54** to flex and move across such surface and finally position itself in engagement with the rear edge of element **56**, as seen in FIGURES 5 and 6. In this regard, finger **54** is preferably of a resilient metal to accommodate the required flexing of the upper end of such element as it is cammed away from plate **48** by the incline element **56**. In the illustrated embodiment, finger **54** comprises one flange of a U-shaped member including a web **66** extending along the length of shaft portion **34** and ending at its other end in an upturned flange portion **68** also engaged with shaft portion **34**.

Arm **14**, when raised causes backward or clockwise movement, as seen in FIGURE 4, of finger **54**. By reason of this movement, the upper portion of finger **54** moves across surface **56***a* and then engages the rear of latch element **56**. The parts are then in the position shown in FIGURE 5. Lowering of left arm **14** will cause counterclockwise movement of finger **54**, which will push against latch **56** and cause clockwise rotation of plate **48** and head **12** about pin **46**. This will draw the head back as is commonly inadvertently done just prior to a sneeze. An instant later point portion **64** on the upper end of finger **54** will escape from latch element **56**, as is about to happen in FIGURE 6, whereupon spring **50** will return plate **48** and head **12** to their normal positions with a snap, approximately as happens in a real person.

As plate **48** approaches its normal position, a lower point portion **72** thereon encounters an end plate portion **74** of a bellows unit **76**, which is quickly compressed by the motion of plate **48**. A noise maker such as reed **78** is activated by the resulting puff of air therethrough from the bellows, and is constituted to simulate a sneezing sound. Bellows **76** is biased to expand when released, either by its own resiliency or by reason of a suitable spring not shown.

The mechanism so far described will produce a simulated sneezing action of the doll, but still further realism can be achieved if a handkerchief is used. For this effect, right arm **16** is bent at the elbow and carries a handkerchief **80** so positioned that swinging of the arm, as provided for by joint **42**, will move handkerchief **80** into the vicinity of the doll's nose. Above described plate **48** carries a pin **82** which engages a finger **84** rigid with and extending downwardly from sleeve portion **44** which is rigid with shaft portion **36**. Clockwise movement of plate **48** will therefore displace finger **84** and cause clockwise movement of shaft portion **36**, and accordingly of right arm **16**, as seen from the right in FIGURES 1 and 2. This will place handkerchief **80** at the doll's nose, but it is to be noted that the head, as previously pointed out, is tilted back at this time so that the arm must go a little farther than it would with the head in normal position, and the parts are so proportioned that arm **16** will be raised to the necessary extreme position immediately before plate **48** and head **12** are released. The sudden release of plate **48**, however, unless prevented, would equally suddenly release finger **84** and allow arm **16** to drop in an unnatural manner, and detent means is provided to avoid such unnatural action.

A crank-like, detent element generally designated as **86**, best seen in FIGURE 3, is provided and journaled for rocking movement in bearing brackets **88**, spaced apart and fixed to rear section **24** of body **10**. It may be made, for convenience, of stiff wire, having one bent end portion **90** engaged with cam plate **38** and the opposite end portion **92** engaged with cam plate **30**. An offset portion **100** of crank **86** is connected to a spring **102** anchored to a bracket **104** fixed on rear section **24** above portion **100**, so that the pull of the spring urges end portions **90** and **92** into contact with their respective cam plates **38** and **30**. Cam plate **38** has closely spaced notches **106** and **108** in its periphery, as best seen in FIGURE 5A, notch **106** being so placed that keeper portion **90** will be yieldingly engaged with it by the action of spring **102** when arm **16** is raised by the rotation of shaft portion **36** to its extreme upper position. The handkerchief will then be at the doll's nose with the head tilted back. As the sneezing action takes place the sudden forward movement of the head will contact the handkerchief and the portion of arm **16** holding it, and force it forward and down. This movement will dislodge keeper **90** from notch **106**, whereupon the keeper will find a seat in notch **108**, which is positioned to hold arm **16** in position to maintain the handkerchief in contact with the nose in the new position of head **12**. Arm **16** therefore moves in a natural manner to continue to smother the sneeze and to wipe the nose.

Movement of arm **14** rotates cam plate **30**, which, up to this time has had no function except to communicate the rotation of arm **14** to shaft portion **34**. However, continued downward movement of arm **14** rotates cam plate **30** to a point where a cam ramp portion **112**, FIGURE 5A, depresses follower portion **92**, rocking detent portion **6** as a whole, and shifting keeper **90** out of notch **108** and clear of cam plate **38**, so that arm **16** is free to drop by gravity to the position shown in FIGURE 1.

It is to be noted that portion **110** between notches **106** and **108** does not extend all the way to the periphery of cam plate **38**, and which makes possible a repetition of the sneezing action without lowering right arm **16**. As previously described, arm **16**, just prior to the sneeze is raised to the point where keeper **90** engages notch **106**. As long as arm **14** is not lowered sufficiently to make cam portion **112** engage and press against follower **92**, and thereby force follower **90** out of notch **106** or **108**, the sneezing action can be repeated as often as desired by raising and then only partially lowering arm **14**. This action will cause finger **54** to engage latch **56** and tilt the head and release it and will operate the noise maker **78**, but the engagement of follower **90** with notch **106** or **108** will be retained. The release of pressure on finger **84** at the end of each sneeze allows movement between the two notches but does not permit the arm **16** to fall. The latter occurs only when cam **112** forces element **86** sufficiently forward to disengage follower **90** from plate **38**.

To summarize the operation of the doll, it is noted that the left arm **14** is the operating element or handle. As a child raises the arm, finger **54**, rotated by this movement, displaces and gets behind latch **56**. As arm **14** is now lowered, finger **54** engages latch **56** and swings it and actuating plate **48** forwardly, thus tilting head backwardly. At the same time action of plate **48** swings finger **84** and, through shaft portion **36**, causes raising of right arm **16**. At a predetermined point latch **56** escapes from finger **54** and spring **50** snaps plate **48** and head **12** back to a substantially vertical position, plate **48** engaging bellows **76** on the way, to produce a sneezing sound. In the meantime keeper **90** has engaged notch **108** in cam plate **38** to prevent arm **16** from dropping prematurely in an unnatural manner. Upon completion of the downward movement of arm **14**, cam **112** depresses element **86** and keeper **90** moves out of notch **106**, so that arm **16** may drop by gravity into its lower or normal position.

While this invention has been described with reference to certain features, structure and material in a particular environment, it will be apparent that various modifications might be made without departing from the principles of this invention.

What is claimed is:

1. A doll comprising a body, a head movably mounted on said body by means including a part depending from said head into said body, a pair of arms mounted on said

body for movement relative thereto, means interconnecting said arms comprising a first shaft fixed to one of said arms adjacent the joint thereof with said body, a second shaft fixed to the other of said arms adjacent the joint thereof with said body, said first and second shafts extending into said body, camming means on said first shaft which is operable to engage said depending part on said head and effect forward and rearward movement thereof in response to swinging of said one arm comprising a radial extension on said second shaft and a projection on said depending part, cooperable elements on said second shaft and said depending part which are effective to produce upward swinging movement of said other arm in response to said movement of said depending part by said camming means, said camming means and said cooperable elements being arranged so that as said one arm is moved manually it causes said head to move rearwardly, raises said other arm to a position adjacent said head, and causes said head to move abruptly forwardly, to thereby simulate a sneezing action, and a noisemaker in said doll in position for operation in response to movement of said depending part.

2. A doll as set forth in claim 1, including spring biasing means yieldably holding said depending part in a position such that said head is generally erect, and said camming means comprises cooperable parts on said first shaft and on said depending part which are effective, in

response to movement of said one arm, to positively move said head rearwardly and tension said spring biasing means, through engagement of said cooperable parts, and thereafter said parts become disengaged and release said depending part for abrupt rearward movement under the biasing of said spring means to move said head forwardly.

3. A doll as set forth in claim 2, wherein said noisemaker comprises a bellows in said body positioned for actuation by said depending part as the latter moves rearwardly under the biasing action of said spring means.

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S. NATTER, *Assistant Examiner.*

U.S. Cl. X.R.

46—119

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,419,994 January 7, 1969

Marvin I. Glass et al.

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

Column 5, lines 9 to 11, cancel "comprising a radial extension on said second shaft and a projection on said depending part" and insert the same after "part" in line 12, same column 5.

Signed and sealed this 17th day of March 1970.

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents