

Oct. 6, 1959

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2,907,139

WEEPING, CRYING AND WETTING DOLL

Filed Jan. 13, 1958

2 Sheets-Sheet 1

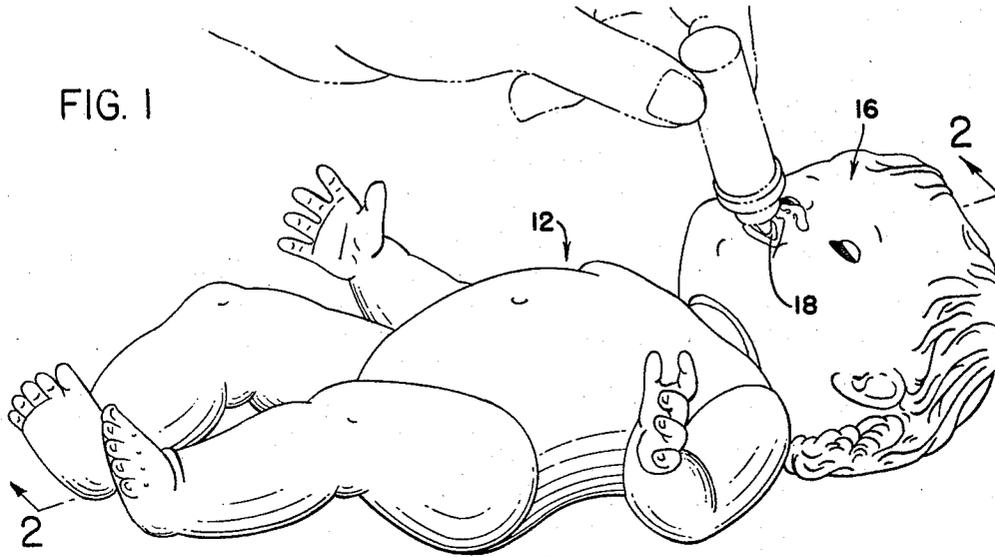


FIG. 1

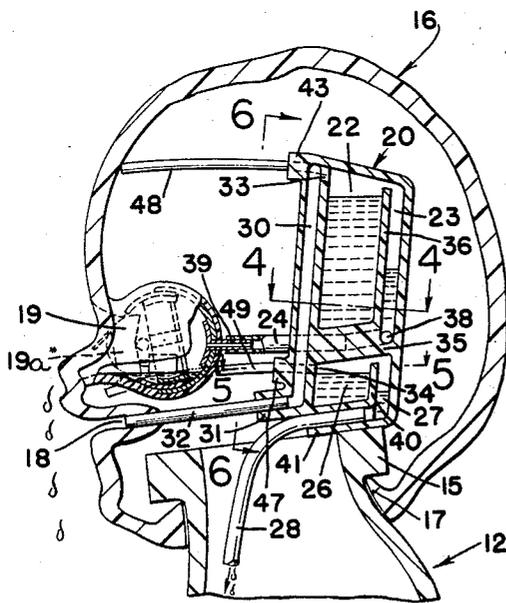


FIG. 3

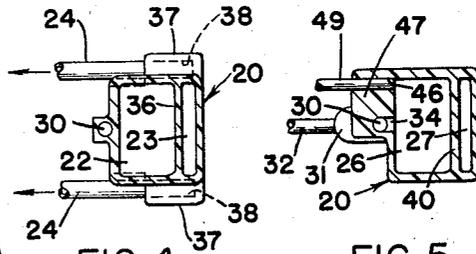


FIG. 4

FIG. 5

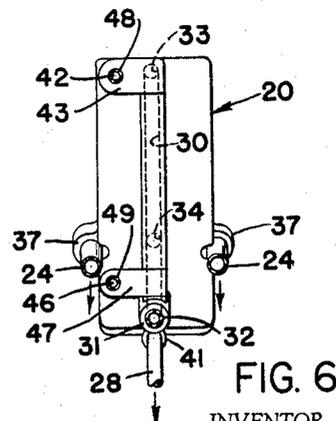


FIG. 6

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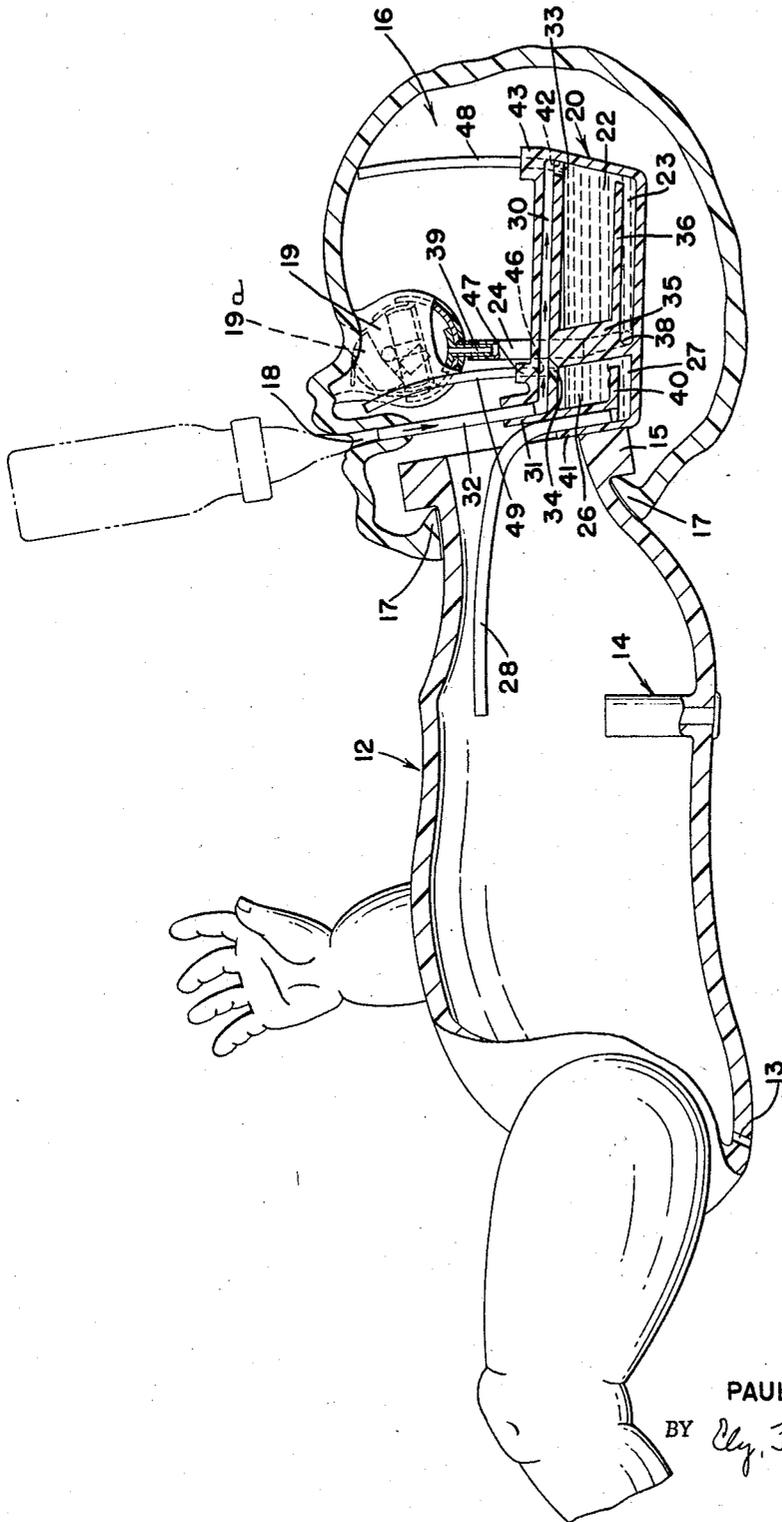


FIG. 2

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WEeping, Crying, and Wetting Doll

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Application January 13, 1958, Serial No. 708,512

15 Claims. (Cl. 46—135)

The present invention relates to an improved construction for weeping, crying and wetting dolls. More particularly, the invention relates to a doll construction which utilizes a gravity-influenced reservoir to simulate the natural functions of weeping and wetting and an air-activated device to simulate the sound of crying.

The prior art relating to weeping dolls includes constructions in which the head is a hollow bulb to contain liquid, with slits for eyes, so that the liquid may run out of the slits. Another type of construction employed a bulb placed in the buttocks or back of the doll which was squeezed or pressed with a lever to force liquid out of the eyes, after the manner of a syringe or water pistol.

Still other forms of dolls currently on the market utilize the concept of raising the water to the eyes by an air pump, enclosed within a substantially air tight and compressible body. This type of weeping doll is not entirely satisfactory because in the hands of a child the amount of pressure applied and consequently the amount of water expelled through the eyes is not controlled. There is also an objection to this type of doll since the mouth of the doll must be closed, either by a removable stopper or by valve mechanism, otherwise the tear inducing mechanism will not work. Furthermore, the doll body must be air tight or substantially so, otherwise the air pump will not operate upon squeezing the doll.

Another type of crying and wetting system includes the use of a gravity-influenced reservoir located in the dolls' heads. Earlier developments in this type of construction have included provision for filling the reservoir as by a miniature nursing bottle. As the reservoir filled, water would flow from the reservoir through suitable tubing to the lower back region of the doll simulating wetting. The wetting continued until the doll was placed upright whereupon additional tubing would carry the water to the doll's eyes simulating crying, the wetting flow ceasing. An obvious disadvantage of this type of system lies in the fact that so long as the reservoir was being filled, the doll would be wetting.

Another disadvantage of the earlier gravity-influenced type systems is that no provision was made for the repeated or consecutive release of small amounts of water without the necessity of repeated refilling of the reservoir.

The construction, such as provided by the present invention will provide for creating the illusion of repeated weeping and wetting without the release of large amounts of water and without repeated replenishing of the reservoir.

It is also an object to provide a gravity-influenced system which will release a liquid such as water simulating weeping and wetting only when the doll is in a substantially upright position, that is, when the reservoir is not being filled. The invention further enhances the illusion of actual weeping in that the tears trickle out of the eyes and that they come from the eyes rather than out of the openings at the sides of the eyes.

Still further, it is an object to provide a weeping and wetting doll, the body of which is not air tight and which will permit the use of an air-activated "squawker" or other device simulating the sound of crying.

These and other objects and advantages of the invention will be apparent in view of the following description and the attached drawings which show the best known and preferred form of the invention.

In the drawings:

Fig. 1 is a view of a doll constructed according to the invention being held in the horizontal or "feeding" position;

Fig. 2 is a sectional view of one form of the invention taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a sectional view of the doll head of Fig. 2 when in the upright or "crying and wetting" position;

Fig. 4 is a section taken substantially on line 4—4 of Fig. 3;

Fig. 5 is a section taken substantially on line 5—5 of Fig. 3;

Fig. 6 is an elevation taken substantially on line 6—6 of Fig. 3.

A doll constructed according to the invention includes a hollow body 12 fitted with movable arms and legs and having a drain opening 13 in the lower back region. Above the opening 13, the back of the body is provided with a conventional "squawker" or device 14 for simulating the sound of crying when either the head or body of the doll is squeezed. The air passage in the squawker has a relatively large diameter of from .0625 to .25 inch. The open upper end of the body has a collar 15 for attachment of the doll head 16.

The neck opening of the hollow doll head 16 has an upturned annular flange 17 which loosely fits beneath the collar 15 so that the head is rotatable. The face of the doll head is provided with a mouth opening 18 and eye sockets 19 in which are located rotatable eyes 19a to simulate sleeping when the doll is recumbent. The doll body and head is preferably formed by conventional methods of either rubber, plastic materials, or other compressible substance.

The gravity-influenced reservoir is indicated generally by the numeral 20 and provides for the storage and controlled release or discharge of a liquid such as water to simulate weeping and wetting. The reservoir 20 is preferably filled by a miniature nursing bottle (shown in dotted lines, Figs. 1 and 2) containing water and having a pierced nipple insertable in the mouth opening 18. The reservoir 20 may be formed of any material which is water retaining though acrylic resin materials such as "Plexiglas" are preferred because of their high mechanical strength.

The reservoir 20 includes a larger or upper chamber 22 storing liquid for the weeping function, a smaller capacity reservoir duct 23 filled with liquid from chamber 22 and discharging by gravity through a pair of tubing ducts 24 into the eye sockets 19 where the water collects in pools around the lower part of the eyeballs to spill over the outer edge of the socket when the doll is upright. A smaller or lower chamber 26 is provided for storing liquid for the wetting function, another smaller capacity reservoir duct 27 filled with liquid from chamber 26 and discharging by gravity through a tubing duct 28 into the body 12. The reservoir also has a filling duct 30 communicating with both chambers 22 and 26.

Referring to the detailed views of the drawings, the filling duct 30 extends along the front wall of the reservoir. The lower end of the filling duct has a tubular projection 31 for connection of the tube 32 running from the mouth opening 18. The filling duct discharges into the chamber 22 through a port 33 and into the chamber 26 through a port 34.

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The floor of the chamber 22 and the roof of the chamber 26 are formed by a wall 35 extending from just above the lower port 34 transversely of the reservoir. The chamber 22 and the reservoir duct 23 are separated by a partition 36 extending upwardly from the transverse wall 35 and terminating below the roof of the reservoir. On opposite sides of the transverse wall are discharge blocks 37 having interior passages 38 communicating with the lower end of the reservoir duct 23. The tubing ducts 24 run from the discharge blocks 37 to the eye sockets 19.

Within each eye socket 19 is mounted a conventional movable eye mechanism, shown in dotted lines, including a metal tube 39 inserted through the rear wall and connected to the tubing 24.

The chamber 26 and the reservoir duct 27 are separated by a partition 40 extending upwardly from the floor of the reservoir and terminating below the transverse wall 35. On the under side of the reservoir is a tubular projection 41 communicating with the lower end of duct 27 for connection of the wetting tubing duct 28.

Referring to Fig. 2, the storage chambers 22 and 26 are filled by holding the doll so that the reservoir 20 is in the horizontal position or nearly so, and feeding the liquid into the mouth opening 18, preferably by squeezing the nursing bottle. The liquid passes along the filling duct 30 through the ports 33 and 34 into the respective storage chambers, the tubing 28 because of its upward curvature, as shown in Fig. 2, acting as a trap to retain the water in the reservoir 20. The tubing 28 acts also as an overflow in case the child supplies too much water to the reservoir. As the chambers fill with liquid, it is necessary that the air entrapped therein be vented so that the flow of liquid into the reservoir will be even and uninterrupted. It is also necessary that when the ducts 23 and 27 are being emptied (Fig. 3), that air be admitted into the chambers so that the flow of liquid out of the reservoir will be even and uninterrupted.

The upper chamber 22 is vented by a passage 42, in a vent block 43, communicating with the chamber laterally of port 33. The lower chamber 26 is vented by a similar passage 46 in a vent block 47 located just above the filling projection 31. Small diameter capillary tubes, 48 and 49 respectively, are connected to the vent blocks 43 and 47.

As will be observed in the detailed views of the drawing (particularly, Fig. 6), the tubing ducts 24, 28 and 32 have a larger interior diameter than the interior diameter of the capillary tubes 48 and 49. In actual practice, it has been found that the ducts 24, 28 and 32 should have an interior diameter of from .10 to .125 inch, with .110 inch being preferred, and the capillary tubes should have an interior diameter of from .05 to .07 inch, with .062 inch being preferred.

Referring to Fig. 3, when the doll is picked up after feeding, the reservoir ducts 23 and 27 will empty under the influence of gravity simulating the weeping and wetting functions. The weeping function is obtained by placing the doll in upright position or a little forward so that the water flows from the duct 23 and the tubes 24 to the eye sockets where it collects in pools and then spills over so the water escapes as drops which trickle from the eyes over the cheeks. The water for the wetting function will pass out of the duct 27 and through the tube 28 into the lower part of the torso and will flow out of the opening 13 when the doll is laid down. The amount of liquid available for discharge through the body opening 13 and eye sockets 19 will be only the small volume actually in the ducts. Thus, the child playing with the doll will observe the functions of weeping and wetting, but will not be subjected to an excess of water. To break the surface tension at the eyes the doll may be patted lightly which will cause tears which are suspended at the eyes to free themselves.

As described above, the vent tubes 48 and 49 have a

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small diameter. Accordingly, when the child playing with the doll squeezes or compresses the body or head to activate the squawker 14 and simulate the sound of crying, the rate at which the liquid empties from the reservoir ducts 23 and 27 will be unaffected. This result is obtained because the combined areas of the body opening 13, the air passage in the squawker 14, and the space between the head flange 17 and the body collar 15, far exceeds the combined areas of the vent tubes 48 and 49.

The preferred form of the invention as described herein employs a lower storage chamber 26 for the wetting function and a squawker device 14. However, within the scope of the invention, it would be possible to construct the reservoir 20 without the lower storage chamber 26. The doll also need not employ a squawker device 14. Accordingly, the scope of the invention should be limited not by the detailed description of a preferred embodiment of the invention but only by the scope of the subjoined claims.

What is claimed is:

1. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a large capacity chamber extending longitudinally through the upper portion of said reservoir, another large capacity chamber extending longitudinally through the lower portion of said reservoir, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, a small capacity reservoir duct communicating with said upper chamber, another small capacity reservoir duct communicating with said lower chamber, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

2. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a large capacity chamber extending longitudinally through the upper portion of said reservoir, another large capacity chamber extending longitudinally through the lower portion of said reservoir, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, a small capacity reservoir duct communicating with said upper chamber, another small capacity reservoir duct communicating with said lower chamber, means permitting passage of liquid from said chambers into said reservoir ducts when said reservoir is in a position other than upright, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

3. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a large capacity chamber extending longitudinally through the upper portion of said reservoir, another large capacity chamber extending longitudinally through the lower portion of said reservoir, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, a small capacity reservoir duct communicating with said upper chamber, another small capacity reservoir duct communicating with said lower chamber, means for the passage of air between the doll

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interior and said chambers to vent said chambers, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

4. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a large capacity chamber extending longitudinally through the upper portion of said reservoir, another large capacity chamber extending longitudinally through the lower portion of said reservoir, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, a small capacity reservoir duct communicating with said upper chamber, another small capacity reservoir duct communicating with said lower chamber, means for passage of liquid from said chambers into said reservoir ducts only when the doll is in a position other than upright, individual means for the passage of air from said chambers to the interior of the doll when the doll is in a position other than upright to vent said chambers, means connecting said upper reservoir duct with the eye sockets, and means connecting with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

5. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage chambers, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, upper and lower reservoir ducts communicating with said chambers, means for passage of liquid from said chambers into said reservoir ducts when said doll is in a position other than upright, means individually connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

6. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having a body opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage chambers, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, upper and lower reservoir ducts communicating with said chambers, means for passage of liquid from said chambers into said reservoir ducts when said doll is in a position other than upright, means for the passage of air between the doll interior and said chambers to vent said chambers, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

7. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having a body opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage cham-

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bers, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, upper and lower reservoir ducts communicating with said chambers, means for passage of liquid from said chambers into said reservoir ducts when said doll is in a position other than upright, individual means for the passage of air from said chambers to the interior of the doll when the doll is in a position other than upright to vent said chambers, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

8. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, a liquid reservoir located within said doll, a first large capacity chamber within said reservoir, a second large capacity chamber within said reservoir, liquid filling means connected to both said chambers, a first small capacity reservoir duct communicating with said first chamber in such manner as to receive liquid when the doll is in other than upright position, means connecting said first duct with said eye sockets, a second small capacity reservoir duct communicating with said second chamber in such manner as to receive liquid when the doll is in other than upright position, and means connected with said second duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

9. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a large capacity chamber extending longitudinally through the upper portion of said reservoir, another large capacity chamber extending longitudinally through the lower portion of said reservoir, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, a small capacity reservoir duct communicating with said upper chamber, another small capacity reservoir duct communicating with said lower chamber, said reservoirs adapted to receive liquid from the respective chambers when the doll is in other than upright position, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity when the doll is held substantially upright.

10. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a large capacity chamber extending longitudinally through the upper portion of said reservoir, another large capacity chamber extending longitudinally through the lower portion of said reservoir, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, a small capacity reservoir duct communicating with said upper chamber, another small capacity reservoir duct communicating with said lower chamber, means for the passage of air between the doll interior and said chambers to vent said chambers, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity without drawing liquid from its communicating chamber when the doll is held substantially upright.

11. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having an opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage chambers, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, upper and lower reservoir ducts communicating with said chambers, means for passage of liquid from said chambers into said reservoir ducts when said doll is in a position other than upright, means individually connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity without drawing liquid from its communicating chamber when the doll is held substantially upright.

12. In a hollow doll, a head having a mouth opening and eye sockets, a body attached to the head and having a body opening in the lower back, an elongated liquid reservoir located within said head in an upright manner, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage chambers, a filling duct extending longitudinally of said reservoir and opening directly into both said upper and lower chambers, means connecting said duct with said mouth opening for filling said chambers with liquid, upper and lower reservoir ducts communicating with said chambers, means for passage of liquid from said chambers into said reservoir ducts when said doll is in a position other than upright, means for the passage of air between the doll interior and said chambers to vent said chambers, means connecting said upper reservoir duct with the eye sockets, and means connected with said lower reservoir duct and opening into said body, each of said reservoir ducts being emptied under the influence of gravity without drawing liquid from its communicating chamber when the doll is substantially upright.

13. A gravity influenced reservoir for a crying and wetting doll comprising, a closed structure, a large capacity chamber extending longitudinally through the upper portion of said structure, another large capacity chamber extending longitudinally through the lower portion of said structure, a filling duct running along the wall of

said structure and communicating at its upper end with said upper chamber and near its lower end with said lower chamber, an opening through the wall of said structure communicating with the lower end of said filling duct, a small capacity reservoir duct running along the wall of the upper portion of said structure opposite of said filling duct and communicating at its upper end with said upper chamber, another small capacity reservoir duct running along the wall of the lower portion of said structure opposite of said filling duct and communicating at its upper end with said lower chamber, and individual openings through the walls of said structure communicating with the lower end of each reservoir duct.

14. A gravity influenced reservoir for a crying and wetting doll comprising, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage chambers, a filling duct opening directly into both said upper and lower chambers, upper and lower reservoir ducts communicating respectively with said chambers and adapted to receive liquid therefrom only when the reservoir is in a position other than upright, and openings through the walls of said structure communicating with the lower end of each reservoir duct to drain liquid therefrom by gravity when the reservoir is in upright position.

15. A gravity influenced reservoir for a crying and wetting doll comprising, a wall extending transversely of said reservoir defining upper and lower large capacity liquid storage chambers, a filling duct opening directly into both said upper and lower chambers, upper and lower reservoir ducts communicating respectively with said chambers and adapted to receive liquid therefrom only when the reservoir is in a position other than upright, an opening from the lower end of said lower reservoir duct adapted to discharge liquid into the doll body, and openings from the lower end of said upper reservoir adapted to discharge liquid into the eye sockets of the doll.

References Cited in the file of this patent

UNITED STATES PATENTS

754,148	Kuhlemann	Mar. 8, 1904
2,748,530	Stecker	June 5, 1956
2,811,810	Ostrander	Nov. 5, 1957

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,907,139

October 16, 1959

Paul Rekettye

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, line 42, for "an opening the" read -- an opening in the --;
column 5, line 7, for "a hand having" read -- a head having --; line 27,
for "means connecting" read -- means connected --.

Signed and sealed this 29th day of March 1960.

(SEAL)

Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents