United States Patent

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[72] Inventors **Charles M. Hollingsworth**
West Columbia;
Witold W. Kosicki, Columbia, both of, S.C.

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[73] Assignee **Horsman Dolls Inc.**
Columbia, S.C.

[54] **KICKING DOLL**
6 Claims, 3 Drawing Figs.

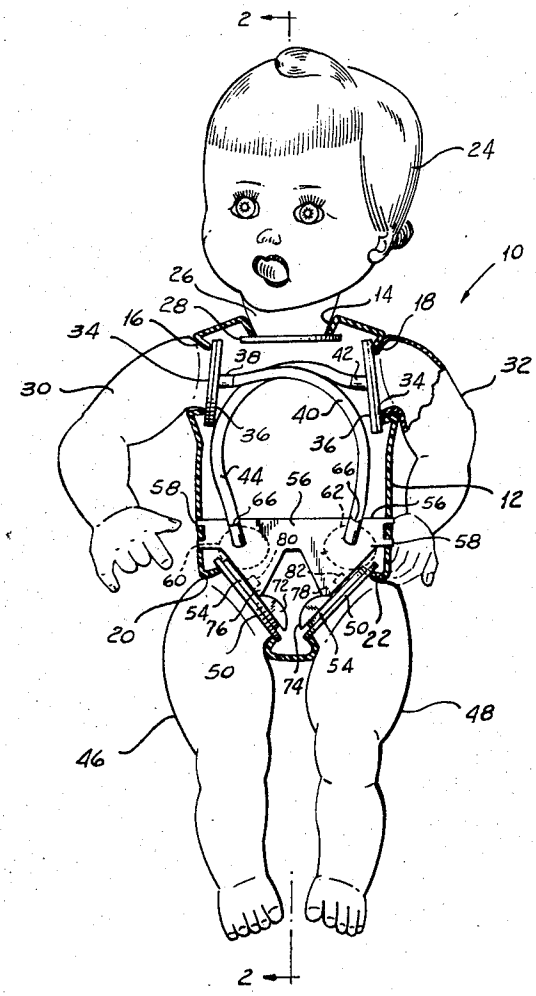
[52] **U.S. Cl.** **46/44,** 46/128
[51] **Int. Cl.** **A63h 3/04**
[50] **Field of Search** 46/44, 128, 119

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Primary Examiner—Louis G. Mancene
Assistant Examiner—Robert F. Cutting
Attorney—Shenier and O'Connor

ABSTRACT: A kicking doll in which a system responsive to pressure exerted on the arms of the doll causes its legs to move from normal positions, which they occupy under the influence of gravity when the doll is erect or is lying on its back, toward resilient stops which define kicking limit positions intermediate the normal and sitting positions of the legs. The legs may be manually moved past the resilient stops to a sitting position determined by positive stops.

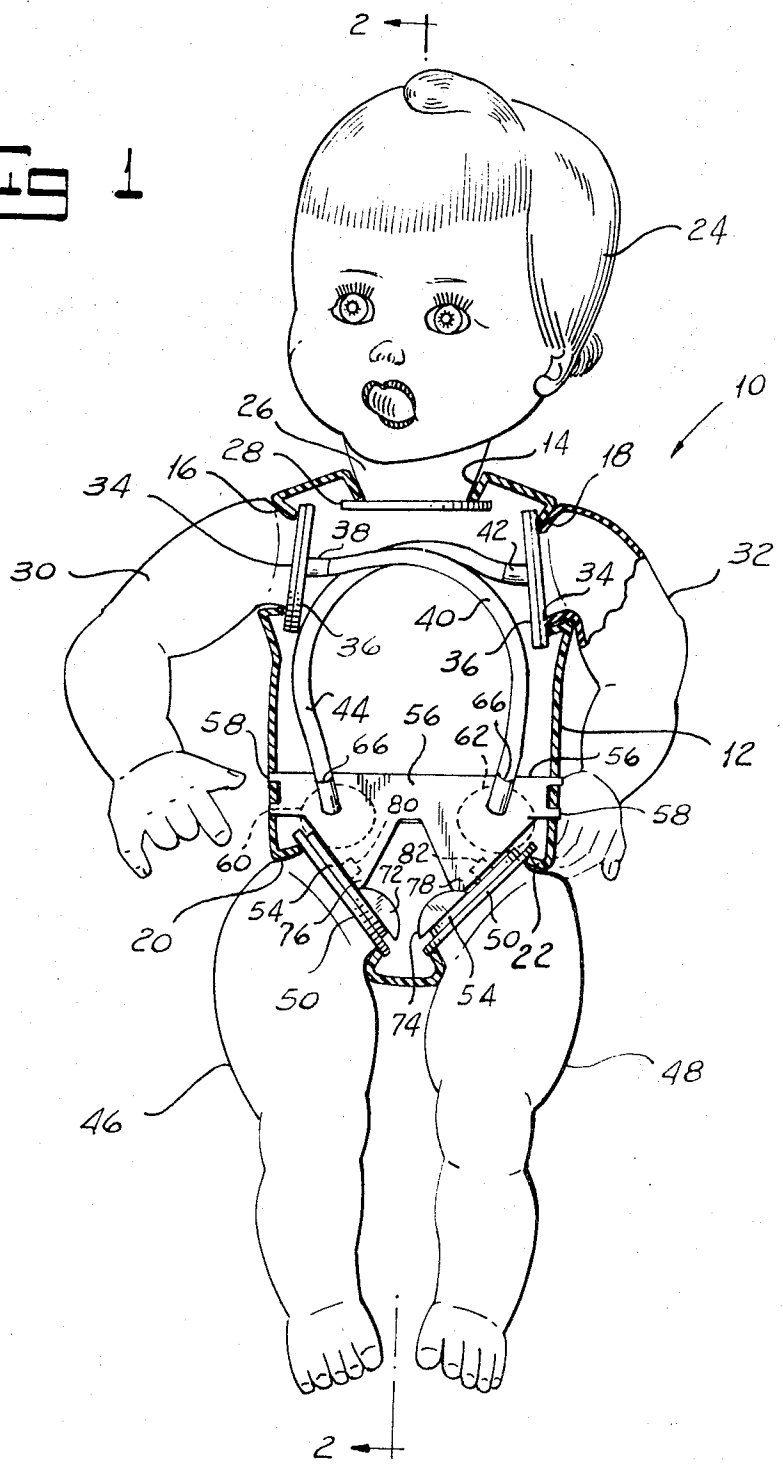


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SHEET 1 OF 2

Fig 1



INVENTORS
Charles M. Hollingsworth
Witold W. Kosicki
BY Shenier + O'Connor
ATTORNEYS

Fig 2

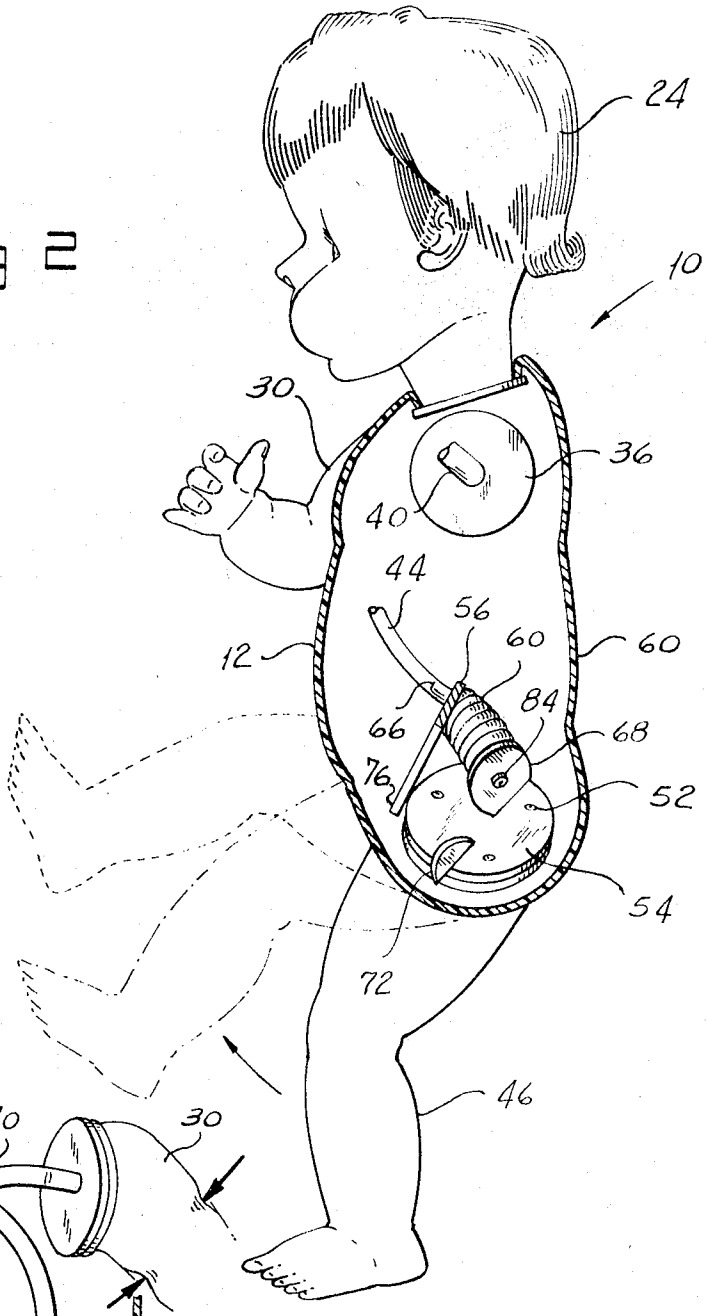
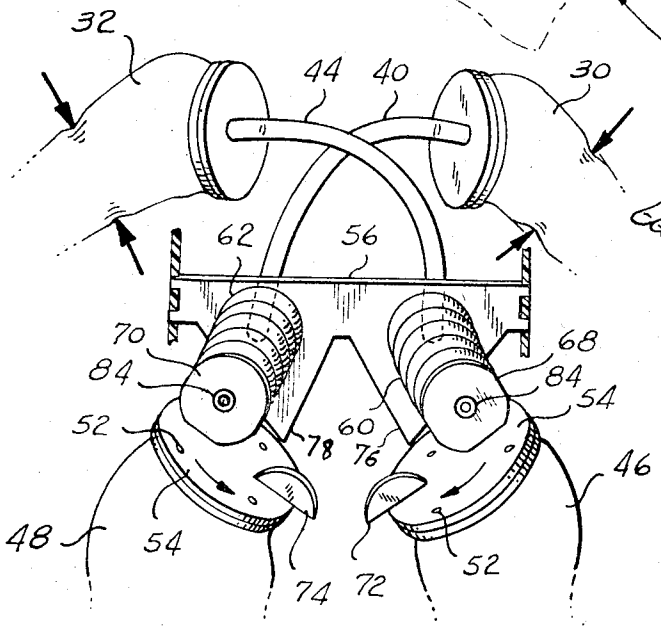


Fig 3



INVENTORS
Charles M. Hollingsworth
Witold W. Kosicki
BY Steiner + O'Connor
ATTORNEYS

KICKING DOLL

BACKGROUND OF THE INVENTION

There are known in the prior art dolls having torsos with articulated legs and arms. Various dolls of the prior art are constructed to imitate certain actions of human babies. For example, the doll may be made to cry and may be made to laugh or smile. We have invented a doll which may be actuated to simulate the kicking of a human baby. Our doll is constructed to permit such kicking to be achieved in an extremely simple manner. The construction of the doll is such that the kicking action can be produced without preventing movement of the doll's legs to a sitting position. Our mechanism for producing the kicking action is simple in construction and in operation. The construction is rugged and relatively inexpensive for the result it produces.

SUMMARY OF THE INVENTION

One object of our invention is to provide a doll which simulates the kicking action of a human baby.

Another object of our invention is to provide a doll which may be actuated in a simple and natural manner to produce the kicking action.

A further object of our invention is to provide a kicking doll which is simple and rugged in construction.

Still another object of our invention is to provide a kicking doll which is a relatively inexpensive to construct.

A further object of our invention is to provide a doll with an actuatable kicking mechanism which will not prevent movement of the doll's legs to a sitting position.

Other and further objects of our invention will appear in the following description.

In general our invention contemplates the provision of a kicking doll in which a system responsive to squeezing pressure exerted on the doll's arms moves a leg of the doll from a normal position, to which it is moved by gravity when the doll is erect or lying on its back, to a kicking position against a resilient stop intermediate the normal position of the leg and a sitting position of the leg. The doll's legs may be moved beyond the resilient stops to sitting positions without disrupting the kicking mechanism.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

FIG. 1 is a front elevation of our kicking doll with the torso broken away.

FIG. 2 is a sectional view of our kicking doll taken along the line 2–2 of FIG. 1.

FIG. 3 is a perspective view from the rear of the operating system of our kicking doll.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings our doll indicated generally by the reference character **10** has a torso **12** which may be molded out of any suitable material such for example as a semirigid synthetic resin such as a high density polyvinyl chloride resin or the like. We form the torso **12** with a neck socket **14**, respective shoulder sockets **16** and **18** and with leg sockets **20** and **22**. The head **24** of our doll **10** may be made in any manner known to the art. The head **24** is provided with a neck **26** the lower periphery of which has a retaining flange **28** adapted to be snapped into the neck socket **14** to hold the head **24** rotatably connected to the torso **12**. We form the respective right and left arms **30** and **32** from a suitable resilient material such as a low density polyvinyl chloride which permits the arms to be squeezed, for a purpose which will be described hereinafter, and permits them to return to their normal condition after having been squeezed. Each of

the arms **30** and **32** comprises a retaining flange **34** adapted to be snapped into the corresponding socket **16** or **18** rotatably to hold the arms **30** and **32** in position on the torso **12**. We secure a respective blank flange **36** over each of the flanges **34** and in airtight relationship therewith by use of any suitable adhesive. The flange **36** secured to the right arm **30** carries a fitting **38** which receives a first length **40** of pneumatic tubing. Similarly, the flange **36** on the left arm **32** carries a fitting **42** which receives a length of tubing **44**. From the structure just described it will be appreciated that when the right arm **30** is squeezed it drives a charge of air out of the arm and into the tubing **40**. Similarly, squeezing of the left arm **32** drives a charge of air through the tubing **44**.

Our doll **10** includes a right leg **46** and a left leg **48** each of which legs may be molded from a suitable synthetic resin such for example as that of which the torso is made. Each of the legs **46** and **48** is formed with an inner peripheral flange **50** which engages the inner edge of the associated socket **20** and **22** rotatably to hold the leg in place on the torso **12**.

We use any suitable means such for example as fasteners **52** to secure a plate **54** to the inner end of leg **46**. We attach another plate **54** to the inner end of the other leg **48**.

We mount a supporting plate **56** formed of a material such as spring steel or the like within the torso **12** by any suitable means such for example as pins **58**. The plate **56** carries respective bellows **60** and **62** which are formed from a relatively highly resilient material such as natural or synthetic rubber. We connect the hose or length of tubing **40** leading from arm **30** to a fitting **66** carried by plate **56** and leading to the inside of the bellows **62**. We connect the length of tubing **44** leading from the left arm **32** to a fitting **66** leading to the inside of the bellows **60**.

We connect the end of the bellows **60** remote from plate **56** to a bracket **68** extending upwardly from the plate **54** on the right leg **46**. Similarly, we connect the end of bellows **62** remote from plate **56** to an upright bracket **70** on the plate **54** carried by the left leg **48** of the doll.

From the structure just described it will be appreciated that the bellows **60** and **62** are normally relaxed when the doll is held upright or when it is lying on its back with the legs in a straight position to which they are urged by gravity. However, when the right arm **30** is squeezed a charge of air is forced through the tubing **40** to the bellows **62** to expand the bellows to drive leg **48** in the direction of the arrow shown thereon in FIG. 3. Similarly, when the left arm **32** is squeezed a charge of air is forced through the tubing **44** to the interior of bellows **60** to expand the same and to cause the leg **46** to rotate in the direction of the arrow on its plate **54** in FIG. 3. We provide each of the plates **54** with respective stops **72** and **74**. Plate **56** is so shaped and positioned as to provide respective resilient stops **76** and **78** located in the path of movement of the respective stops **72** and **74**. When the legs rotate in the manner described above as the arms are actuated stops **72** and **74** engage the respective stops **76** and **78** at "kicking" positions intermediate the straight position shown in full lines in FIG. 2 and a sitting position which is the other extreme position illustrated in broken lines in FIG. 2.

The construction of our kicking doll is such that there is no interference with movement of the doll's legs to the sitting position described above. To move the doll's legs into that position they may manually be rotated in the direction of the arrows in FIG. 3 to force the stops **72** and **74** past their associated resilient stops **76** and **78**. We secure respective sitting position stops **80** and **82** to the back of plate **56** so as to be engaged by the stops **72** and **74** when the legs have been moved to the sitting positions just described.

In order to expedite deflation of the bellows **60** and **62** after they have been expanded to actuate the legs we provide each bellows with a small breather opening **84** at the end thereof. This breather opening also permits the arm to resume its original shape.

In the operation of our kicking doll arm **30** is squeezed to force a charge of air through tube **40** and into bellows **62** to

move leg **48** to its kicking position. Similarly, when the left arm **32** is squeezed compressed air passes through tube **44** to the bellows **60** to expand that bellows to move the right leg to the kicking position. When both arms **30** and **32** are squeezed at the same time both of the legs will be moved to the kicking positions. When the arms are released, so long as the doll is erect or lying on its back, the legs will return under the influence of gravity to their normal positions, while the arms **30** and **32** resume their initial configurations. The legs **46** and **48** may easily be moved to the sitting position by rotating the legs to force the stops **72** and **74** past the resilient stops **76** and **78** and into engagement with the positive stops **80** and **82**. To return the legs to their normal positions they may be rotated in the reverse directions to move stops **72** and **74** back past stops **76** and **78**.

It will be seen that we have accomplished the objects of our invention. We have provided a kicking doll which may be manually actuated in a simple and natural manner to cause either one or both of the legs to kick. Our doll simulates the kicking action of a human baby. It is simple and rugged in construction. The actuatable kicking mechanism of our doll does not prevent movement of the doll's legs to a sitting position. The breather openings **84**, which may be positioned in either of the tubes **40** or **44** if desired permit the expeditious resumption of the bellows **60** and **62** to their original positions. If desired, an air operated "peep" sound may be emitted as is well known in the art upon the squeezing of one of either of the arms.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of our claims. It is further obvious that various changes may be made in details within the scope of our claims without departing from the spirit of our invention. It is, therefore, to be understood that our invention is not to be limited to the specific details shown and described.

Having thus described our invention, what we claim is:

1. An animated doll including in combination a torso, a leg, means mounting said leg for pivotal movement on said torso, a hollow arm of resilient material carried by said body, said arm adapted to be deformed to compress air in said arm, an expansible bellows, means mounting said bellows within said torso at one end of the bellows, means connecting the other end of the bellows to said leg, and means for coupling compressed air from said arm to the interior of said bellows to simulate a kicking action of said leg in response to squeezing of said arm.

2. An animated doll as in claim **1** in which said leg is mounted on said torso for movement between a generally extended position and a sitting position, and resilient interengageable means on said leg and on said torso for stopping said leg in a position intermediate said extended and sitting positions.

3. An animated doll as in claim **1** in which said bellows is provided with a breather opening.

4. An animated doll including in combination a torso, left and right resilient arms carried by said torso, a left leg, a right leg, respective means mounting aid legs for individual pivotal movement on said torso, first means responsive to squeezing of said right arm to pivot said left leg to simulate a kicking action thereof and second means responsive to squeezing of said left arm for pivoting said right leg to simulate a kicking action thereof.

5. An animated doll as in claim **4** in which said arms are hollow, and in which said means responsive to actuation of said arms comprises respective bellows, means mounting one end of each bellows on said torso, means connecting the other ends of said bellows respectively to said legs, and means providing communication between the interiors of said arms respectively and the interiors of said bellows.

6. An animated doll as in claim **4** in which legs are mounted on said torso for movement from generally straight positions through kicking positions to sitting positions, first resilient stops for limiting movement of said legs from said normal positions to said kicking positions under the action of said bellows and second positive stops for limiting movement of said legs from said kicking positions to said sitting positions.