Aug. 20, 1957 L. CROMPTON 2,803,089

WINKING DOLL

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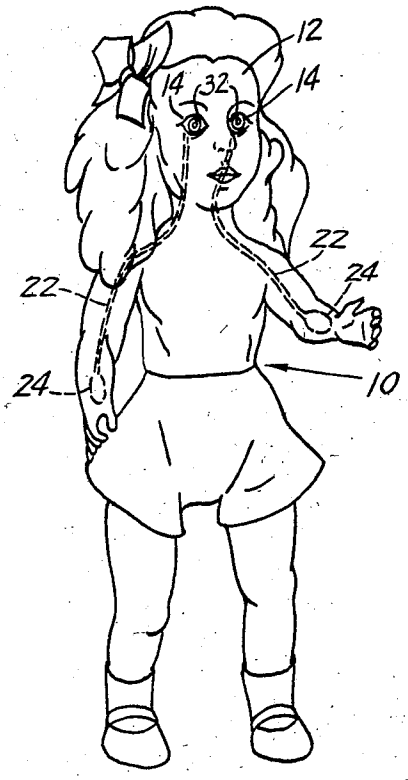


FIG. 1

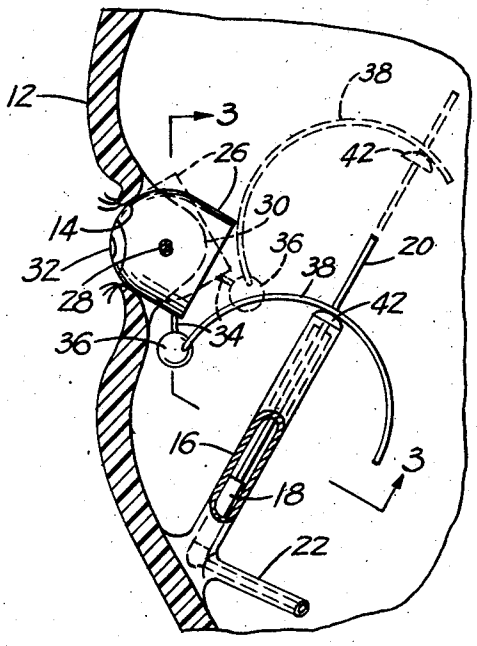


FIG. 2

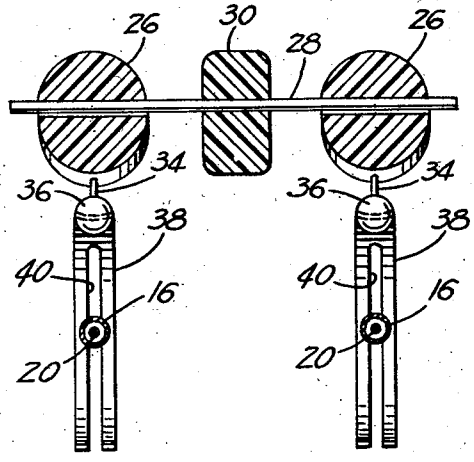


FIG. 3

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WINKING DOLL

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2 Claims. (Cl. 46—135)

This invention relates to doll constructions, and more particularly to a doll having eyes that can be selectively winked.

Summarized briefly, the device constitutes a pair of eyes independently pivoted in the eye openings of the doll's head, and weighted to normally swing to what may appropriately be termed open positions, that is, positions in which the irises thereof are visible through the eye openings of the doll's head. Connected to the respective eyes are arcuate cam elements, and these are engaged by the rods of pistons working in cylinders fixedly mounted within the doll's head. To shift the pistons outwardly within the cylinders, thus to swing the eyes to closed or winking positions by a cam action exerted against the cam elements by the piston rods, there are provided flexible tubes, connected between the cylinders and bulbs confined within the wrists of the doll. The wrists are of flexibly walled formation, and hence, pressure exerted on the wrists causes the bulbs to be squeezed, in turn causing extension of the pistons from the cylinders, with each wrist being capable of being squeezed separately from the other, so as to cause winking of a selected eye.

The main object of the present invention is, by means of a novel construction, to provide means for winking either eye of the doll, and as more specific objects of the invention there are among others the following: to provide eye winking means which will be completely concealed within the doll; to cause the eyes to be winked responsive to a relatively light pressure on the wrists of the doll; to so design the construction that the eyes will both simultaneously swing to a closed position whenever the doll is laid down substantially horizontally, in a so-called "sleeping" position, with this action of the eyes, and the selected winking action, being so related that neither interferes with the other, and to provide a doll having eyes capable of being selectively winked, that can be manufactured at relatively low cost and will be so designed, nevertheless, that the construction will be simple and will not readily get out of order.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a perspective view of a doll formed according to the present invention;

Figure 2 is an enlarged, fragmentary vertical sectional view through the doll's head, showing the eye in full lines in open position and in dotted lines in winked position; and

Figure 3 is a sectional view on line 3—3 of Figure 2.

The reference numeral 10 generally designates the doll formed according to the present invention, the doll having a hollow head 12 formed with eye openings 14. The doll is of the type wherein at least the body of the doll has a flexibly walled construction, so that the wrists can be squeezed, for a purpose to be made presently apparent. Within this category there would fall rubber dolls, and

also dolls formed of plastic material having a flesh-like feel.

Fixedly mounted within the head, in positions inclined from the vertical below the respective eye openings, are cylinders 16, within which are slidably reciprocable pistons 18. The cylinders, at their anchored base ends, are disposed substantially in vertical alignment with the respective eye openings, with the cylinders being inclined at such an angle, as shown in Figure 2, as to dispose the outer, upper ends of the cylinders laterally, inwardly from the front wall of the doll's head, at an elevation slightly below the level of the eye openings.

Connected in communication with the cylinder interiors, at the lower ends of the cylinders, are flexible tubes 22, and as shown in Figure 1, these extend downwardly from the head through the arms of the doll, opening at their other ends into squeeze bulbs 24 confined within the wrists of the doll.

In this connection, the arrangement is one wherein the squeezing of the wrists will cause the bulbs 24 to be correspondingly squeezed, to expel air from the bulbs and force the air through the tubes into the lower ends of the cylinders, to elevate the pistons 18 within the cylinders. Alternatively, the squeeze bulbs could be located elsewhere within the doll's body, as for example at a higher location in the arms, or even at some location in the waist, chest, or leg areas of the doll. It is preferred, however, that the bulbs be located as shown, since this readily permits one to cause the left eye to wink responsive to squeezing of the left wrist, and the right eye to wink responsive to the corresponding squeezing of the right wrist.

A pair of identically formed eyeball elements 26 are provided within the head of the doll, having aligned, transversely extending openings loosely receiving a horizontally disposed pivot rod 28, the eye ball elements thus being independently pivoted upon the rod for swinging movement about a common axis extending transversely of the head in closely spaced relation to the eye openings. The rod is carried by a boss 30 integrally formed upon the inner surface of the doll's head between the eye openings, being fixedly embedded in said boss so as to be maintained against deviation from its assigned position in an axial direction.

Painted or otherwise marked upon the front portions of the elements 26 are simulations 32 of the irises and pupils of the doll's eyes, these being visible through the eye openings 14 whenever the eye elements are in their normal, full line position shown in Figure 2.

To maintain the eye elements normally in said positions, assuming said position to be that which will be assumed when the doll is erect, there are provided short, depending arms 34 embedded in the lower portions of the eye elements, and having on their lower ends globular weights 36. Gravitation of the weight means 34, 36 to a normal, vertical position disposes the eye elements in such positions that the eye simulations 32 are visible through the openings 14.

Fixedly secured to the weights 36 and extending rearwardly from said weights are longitudinally curved cam elements 38 in the form of elongated, wide bars bowed upwardly and formed with longitudinal slots 40 extending substantially the full length of the bars and opening upon the outer extremities of the bars.

The pistons 20, intermediate their ends, are provided with collars 42 having rounded top surfaces, these being fixedly secured to the piston rods in engagement with the cam bars 38.

In use, the pistons 18 would normally be disposed at the base ends of the cylinders 16, and it will be seen that on squeezing of either bulb 24, the associated piston will be forced upwardly within its cylinder, thus to shift the collar

42 of the associated piston rod upwardly to the dotted line position of Figure 2. This exerts a cam pressure in an upward direction against the associated bar 38, swinging the bar to the dotted line position of Figure 2 and accordingly, by means of the fixed connection between the bar and weight 36, causing swinging of the eye element 26 in a counter-clockwise direction, viewing the same as in Figure 2, to the dotted line position of Figure 2, in which position of the eye element the eye simulation 32 is no longer visible through the eye opening. Instead, a blank portion of the eye element will be seen in the eye opening, and thus the eye will appear to have winked.

It is important to note that the construction is such that either eye can be selectively winked, by a light pressure on the wrist at the same side of the doll. Further, both eyes can be winked simultaneously by pressure on both wrists at the same time. Still further, the construction is such that both eyes will close at the same time whenever the doll is laid in a "sleeping" position. Under the last mentioned circumstances, the weights 36 will tend to swing to the dotted line positions of Figure 2, and the cam bars will move outwardly along the lengths of the rods 20. The pistons and rods will, of course, remain in their full line, Figure 2 positions, but there will be no interference on the part of these components with the outward movement of the cam bars, thus causing the doll to be apparently sleeping.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. In a doll construction, a body; a head on the body having eye openings; eye elements each having an eye simulation delineated thereon, pivotally mounted in said openings and rocking about their pivot axes independently of each other, said elements being weighted to normally swing to positions, when the doll is erect, in which the simulations will be registered with and exposed through said openings; cam elements projecting from and having fixed connections to the respective eyes; a pair of cylinders mounted within the head adjacent the respective eyes; piston means reciprocating in the respective cylinders and bearing against the respective cam elements, said piston means and cam elements being so arranged as to impart swinging movement to the cam means responsive to axial movement of the piston means out of the cylinders; and means under the control of a user and operatively connected to said cylinder for shifting the piston means outwardly of their associated cylinders, thus to bias the cam elements to positions in which the eye simulations will be disposed out of registration with their associated openings, comprising tubes extending from the respective cylinders and communicating at one end with the interiors of the cylinders, said tubes extending within the body of the doll and said body of the doll being flexibly walled, and squeeze bulbs on the other ends of the tubes, disposed in position to be compressed responsive to an inward pressure on the adjacent portion of the flexible wall of the body of the doll, thus to force air into the cylinders for extending the pistons.

2. In a doll construction, a body having wall portions which are flexible; a head on the body having spaced eye openings; eye elements each having an eye simulation delineated thereon, pivotally mounted in said openings and rocking about their pivot axes independently of one another, said elements being weighted to normally swing to positions, when the doll is erect, in which the simulations thereof will be registered with and exposed through said openings, and being so weighted in respect to their pivot axes as, when the doll is disposed approximately horizontally, to swing to eye-closing positions in which the simulations will be out of registration with said openings; a pair of elongated, arcuate cam elements having fixed connections to the eye elements and extending inwardly therefrom within said head, said cam elements being formed with longitudinal slots; cylinders fixedly mounted within the head below the respective eye openings; pistons reciprocating within said cylinders; piston rods projecting out of the cylinders and secured to said pistons in back of the eye elements, said piston rods including collars intermediate their ends bearing against the cam elements and the piston rods extending within said slots of the cam elements; tubes extending from the respective cylinders to said portions of the wall of the body; and squeeze bulbs on the tubes in proximity to said portions, adapted for compression responsive to a squeezing pressure exerted against said portions of the wall of the body, whereby to force air into the cylinders to extend the pistons and rods, said collars of the rods, when the rods are extended, biasing the cam elements about the pivot axes of the eye elements, thus to swing the eye elements to the eye-closing positions thereof, said cam elements being freely shiftable along the lengths of the piston rods in the retracted positions of the pistons, in a direction to permit swinging of the eye elements to closed positions when the doll is disposed substantially horizontally.

References Cited in the file of this patent

UNITED STATES PATENTS

1,082,679	Connor	Dec. 30, 1913
1,585,340	Fitzgerald	May 18, 1926
2,688,208	Bannister	Sept. 7, 1954

FOREIGN PATENTS

723,043	Germany	July 27, 1942
1,022,397	France	Dec. 17, 1952
490,384	Canada	Feb. 10, 1953