

Jan. 20, 1970

P. BOLONGARO
DOLL, PLUMP BABY, PUPPET, ANIMAL OR SIMILAR TOY
CAPABLE OF WALKING

3,490,412

Filed April 16, 1966

3 Sheets-Sheet 1

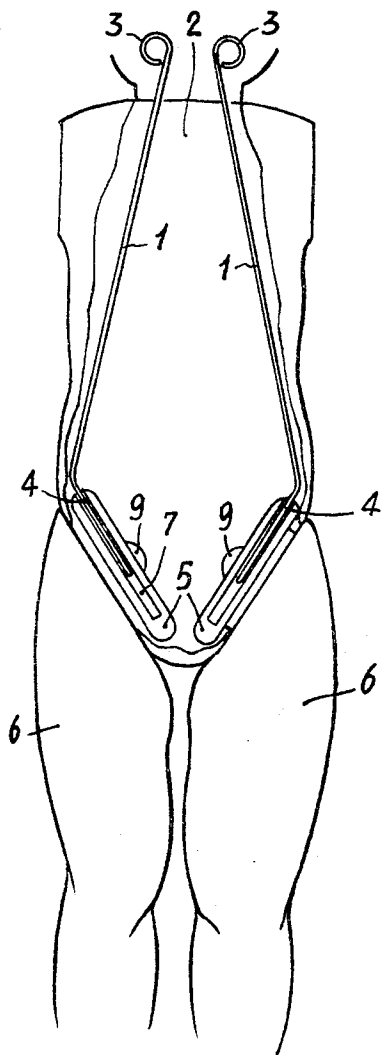


FIG. 1

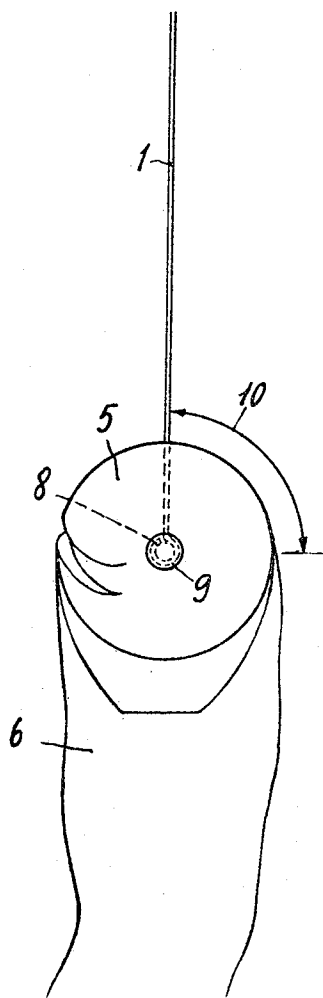


FIG. 2

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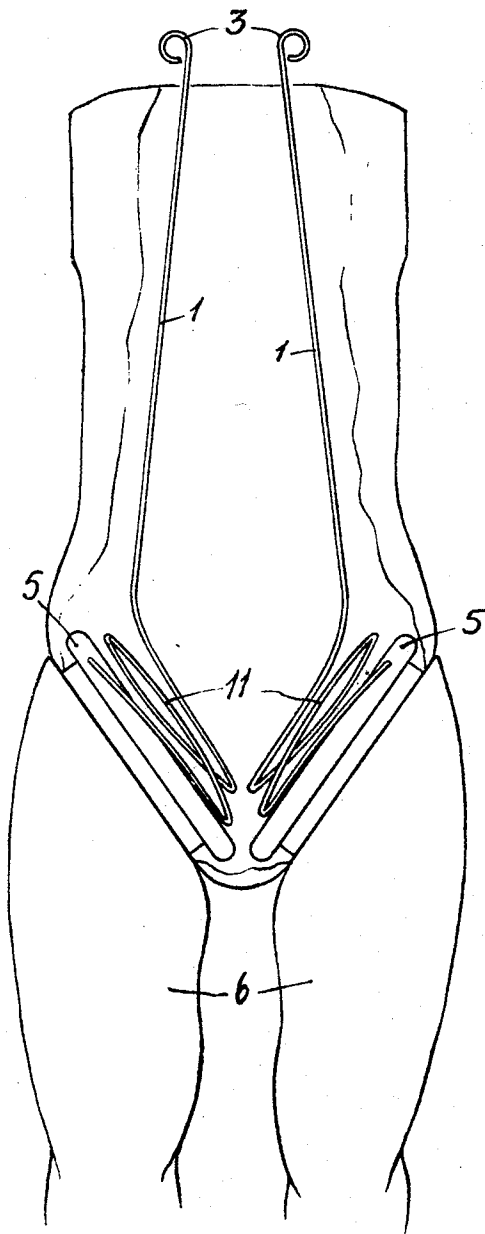


FIG. 3

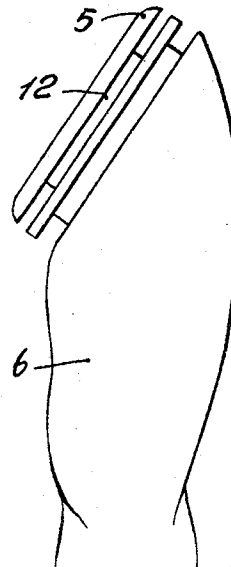


FIG. 5

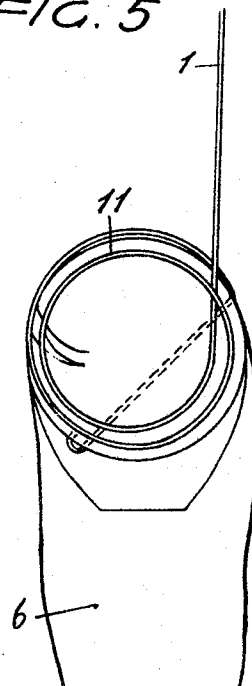


FIG. 4

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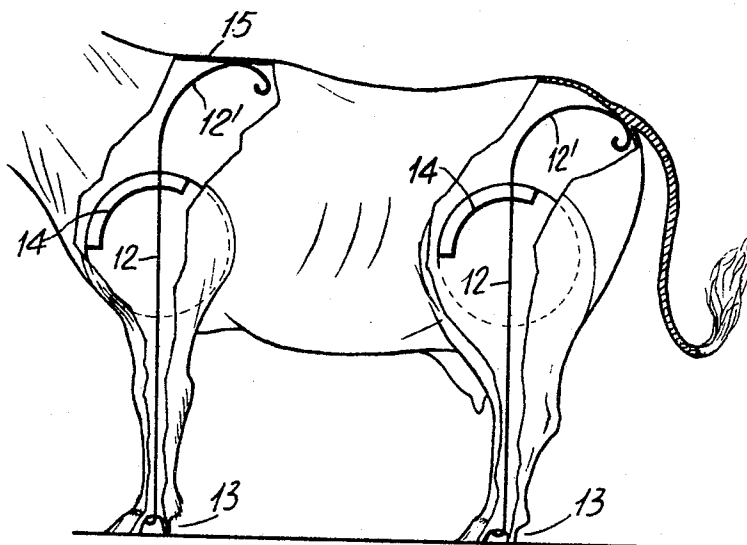


FIG. 6

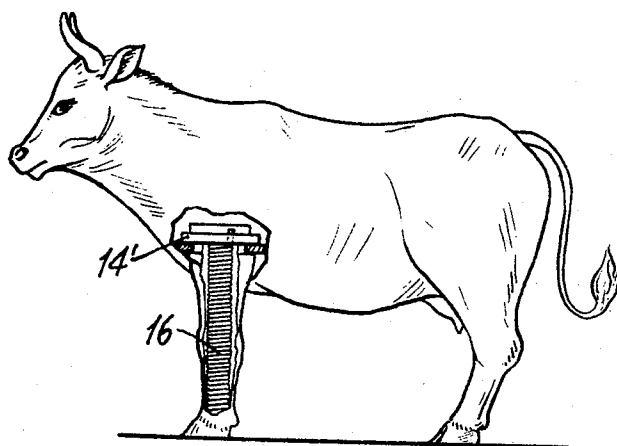


FIG. 7

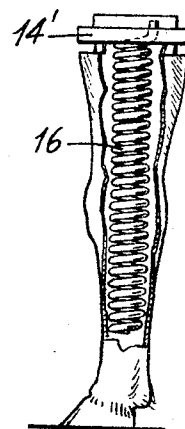


FIG. 8

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3,490,412

DOLL, PLUMP BABY, PUPPET, ANIMAL OR SIMILAR TOY CAPABLE OF WALKING

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19,726/67; Nov. 3, 1967, 22,341/67

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U.S. Cl. 46-149

1 Claim

ABSTRACT OF THE DISCLOSURE

The legs of a figure toy are moved forwardly in walking action by spring means in the form of piano wire, steel straps or coil springs which are loaded when the figure toy is moved forwardly by hand while the leg to be loaded is held in contact with the ground.

This invention relates to a doll, plump baby, puppet, animal and the like type of toy, a novel device having been applied thereto allowing them to walk, and additionally to stand upright, to sit down or to take any other natural attitude.

The methods heretofore used for causing such toys to walk have been of a very complicated construction, somewhat unbalancing the body thereof when caused to walk and also resulting in expensive manufacturing thereof.

In opposition to the hitherto used methods, accordingly to the present invention advantage is taken of the resiliency of a piano or music wire, or a resilient metal strap, or a spiral, suitably inserted in the doll body and locked by any means to achieve leg movement and advancing. The device according to the present invention is of a very simple and inexpensive construction, also allowing to attain a natural movement of the legs of the toy.

For a better understanding of the invention, reference is made to the drawings, in which:

FIGURE 1 is a front view of the median portion of a toy or doll, partly in section, showing the device used for leg movement in accordance with a first embodiment;

FIGURE 2 is a detailed view of a leg, as seen from its inner side, the device of FIGURE 1 being applied thereto;

FIGURE 3 is a front view showing the median portion of a doll, partly in section, a device for leg movement according to a further embodiment being applied thereto;

FIGURE 4 is a detailed view of a leg as seen from its inner side with the fastening for the device of FIGURE 3;

FIGURE 5 is a front detailed view of a leg with a housing for the helical wound end of the device in FIGURE 3;

FIGURE 6 shows an animal body, in the two side legs of which the wires or resilient metal straps providing the movements as for the previous figures are applied;

FIGURE 7 shows a leg of said animal, in which a resilient spiral device is inserted; and

FIGURE 8 is an enlarged view showing said leg as alone.

Referring to FIGURES 1 and 2 of the drawing, the device comprises a piano or music wire of a metal strap 1 for each individual leg, accommodated within the inner cavity 2 of the doll body.

The upper end portion of wire or metal strap 1 enters the doll head for a short length by passing through its neck, and has its end 3 made round and of a ring-like configuration to avoid sharp portions which might damage the surface of the doll or injure a child, should the latter take the toy to pieces out of curiosity and come to touch the wire or metal strap end 3.

The opposite end portion 4 of each wire or metal strap

1 is slightly inward curved and suitably attached to key 5 of leg 6, where the term "key" is meant to define that leg portion which is located at the top of the hip which by penetrating into the doll body establishes the leg articulation point.

The end portion 4 of wire or metal strap 1 penetrates through an empty seating 7 within key 5 and has its end 8 in the form of a ring, as shown by dashed line in FIGURE 2, allowing said end portion 4 to be pivoted to a nail 9 fixed to key 5 or in other similar manner.

Said empty seating 7 is formed in the periphery of key 5 forwardly of the doll through an arc of about 90°, as designated by numeral 10 in FIGURE 2, from the top location of the periphery of key 5, so as to allow said wire or metal strap to freely slide forward when the doll is caused to sit down and to enable the upright attitude of the doll while resisting against said piano or music wire 1 when leg 6 is rearwardly rotated. The operation is as follows: by catching the doll by its body or leg, a forward trailing effect is provided thereon by causing it to rest, for example, on its left leg. As a result, the left leg will move rearward to the doll body, spring-loading wire or metal strap 1, while the right leg is forward moved along with the whole body.

Next, the doll is rested onto its right leg releasing the left leg which through the operation of its wire or metal strap 1 is brought to slightly forward exceed the right leg; on repeating now likewise the same operation, for both of the legs, if a suitably resilient music wire or metal strap is used, the doll will walk swerveless in a natural attitude.

In order to improve the leg advancing movement, due to the resilient action of said music wire or metal strap 1, it was devised to form its lower end portion in a spiral 11 located outwardly of key 5, as shown in FIGURES 3 and 4, or accommodated within a circular seating 12 in said key 5, as shown in FIGURE 5. Also in this event, the end portion of the spiral spring 11 is suitably secured to key 5, so as to allow a forward movement of leg 6 to arrange the doll at a sit down position.

On using a steel metal strap, the doll can provide, when moving, a noise simulating a step noise, or otherwise setting up an attractive sound for the toy.

Referring now to FIGURE 6 which relates to a toy reproducing a quadruped, the resilient members represented by a music wire or metal strap 12 are anchored to the lower end 13 of leg by passing through a key 14 which, in this case, is similar to that for the doll in FIGURE 1. At the top end said resilient members 12 have a curve 12' bearing by a slight pressure against the thickness 15 of the animal back. Said curve will have a more or less large arc depending on the type of animal and the forward or rearward position of the leg; and this being true even more so for the difference of the physical shape of animals to be reproduced.

A spiral 16, as shown in FIGURES 7 and 8, can also be used as a resilient means; said spiral will be preferably anchored within the thickness of key 14' with its upper end 16' folded up, in this case such a key being preferably horizontal. The lower end of spiral 16 can be as well anchored to the lower end of the foot, or be left free and closed within the narrower inner space of said leg.

For the embodiments as provided in FIGURES 6 and 7 the same above disclosed operative method for the movement of a doll is effective.

It should be noted that the devices according to the invention for causing a doll or plump baby or animal toy to walk are herein described and shown by mere way of example, it being intended that changes can be made to the anchoring thereof and form of their details which are to be adapted as necessary and according to the piece on which they will be mounted, that they can be used with

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any suitable material, without departing from the scope of the present invention.

What is claimed is:

1. In a figure toy including a body having leg openings and legs articulately mounted on said body by keys penetrating into the body, the improvement comprising:

an empty seating provided in each of said keys, each empty seating comprising an arcuate slot; and

an elongated resilient member having one end pivotally supported within each of said arcuate slots and another end frictionally engaging the upper portion of said body, each of said resilient members engaging one end of its associated slot when said figure toy is standing in an upright position, whereby said resilient member will be loaded when its associated leg is swung in a first direction relative to said body and will swing said associated leg in the opposite direction when said associated leg is freed after being swung in said first direction.

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