Nov. 21, 1950 J. E. HENDERSON 2,530,696

WALKING DOLL

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FIG. 1.

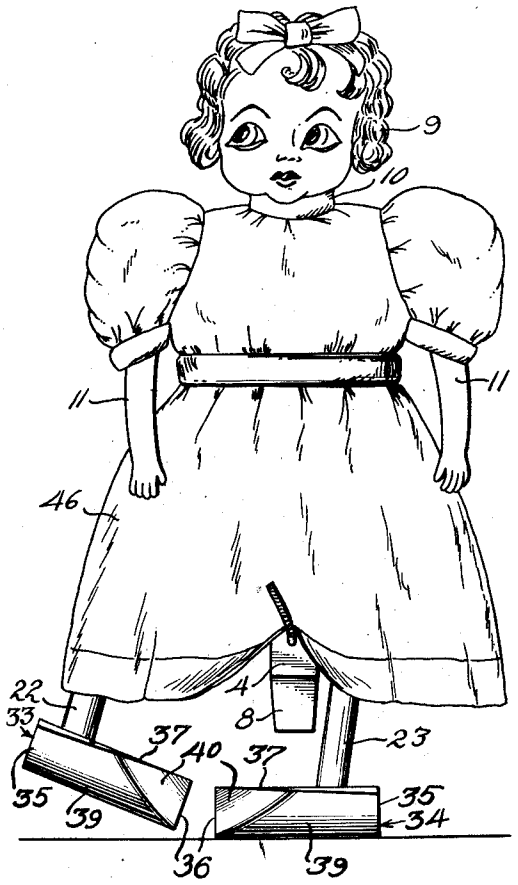


FIG. 5.

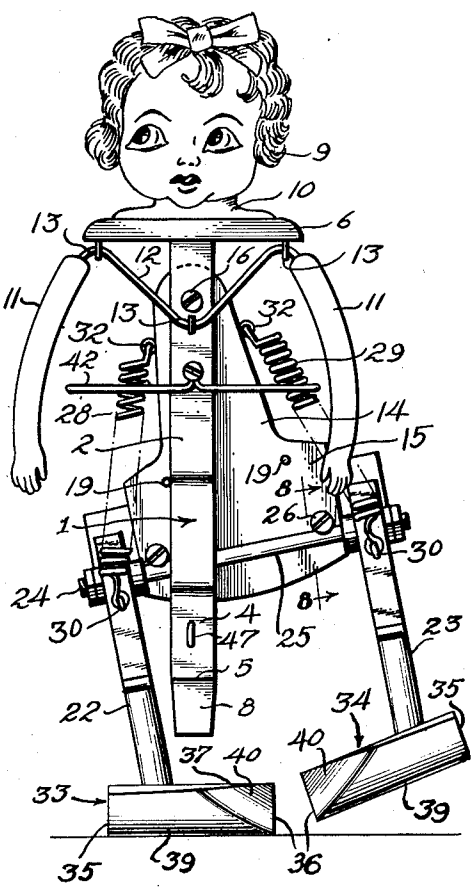
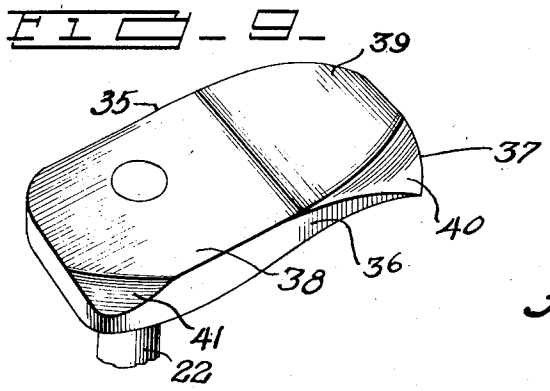


FIG. 9.



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FIG. 2.

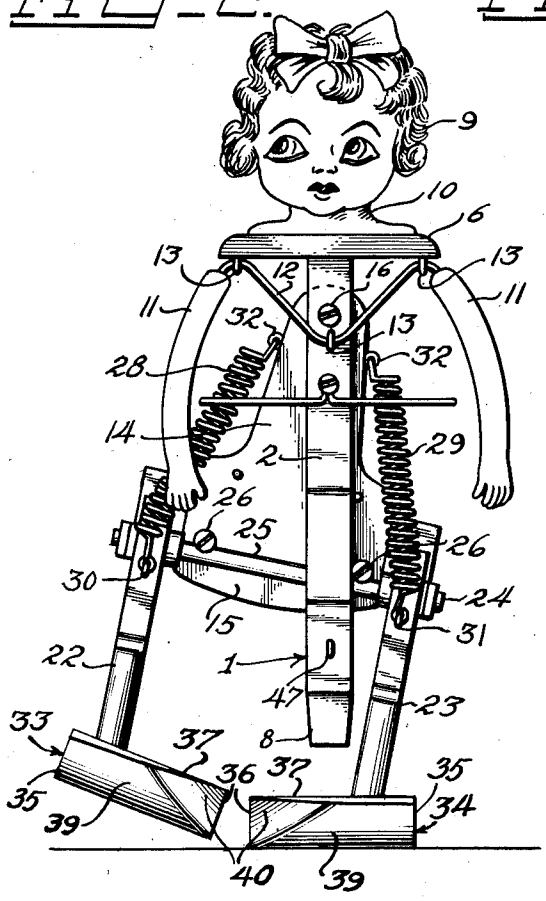


FIG. 5.

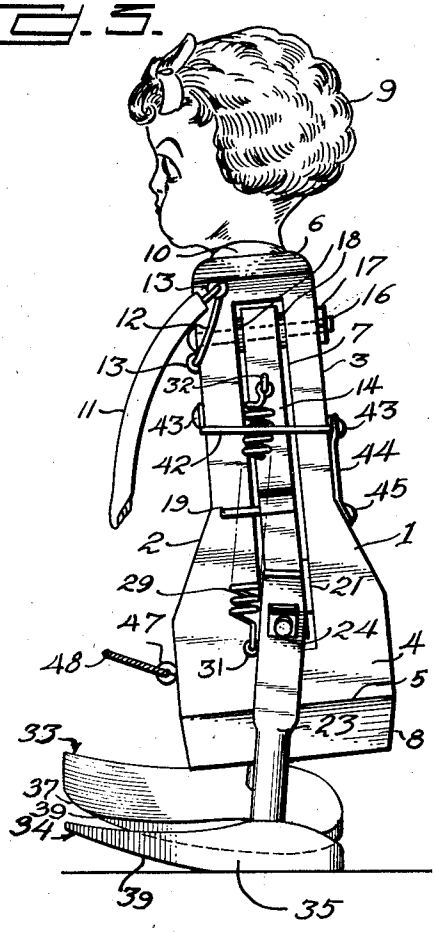


FIG. 10.

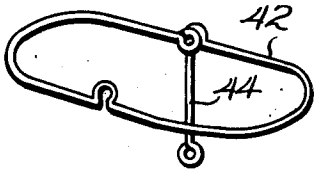
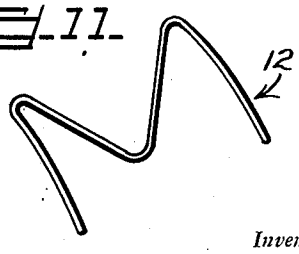


FIG. 11.



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FIG. 4.

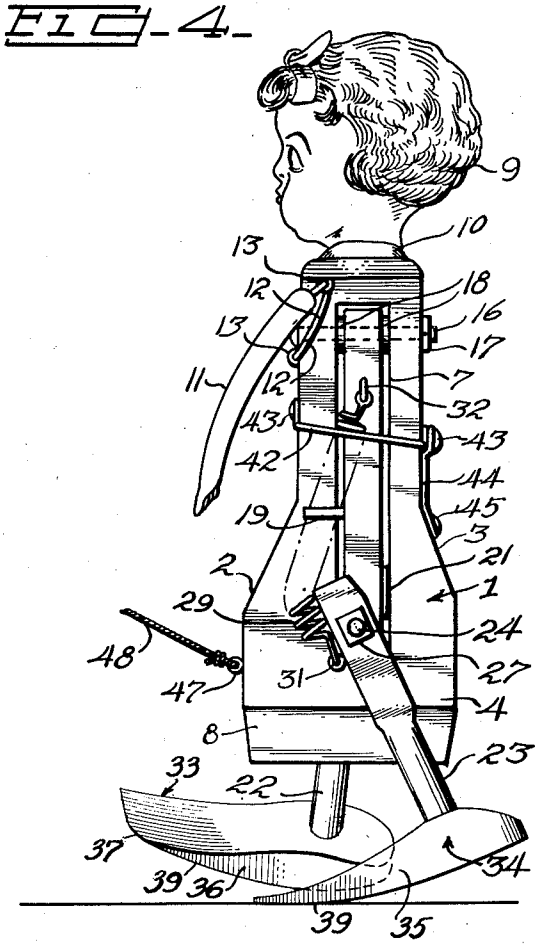


FIG. 6.

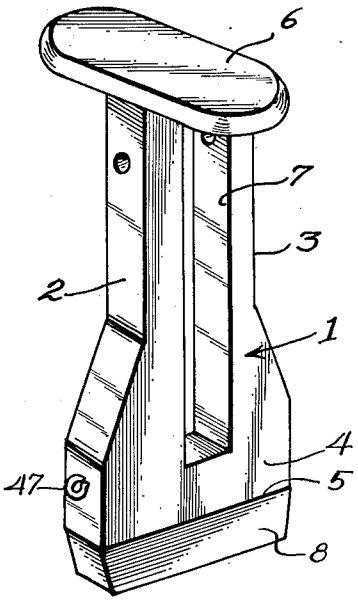


FIG. 7.

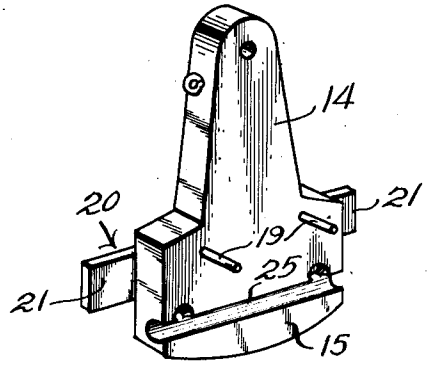
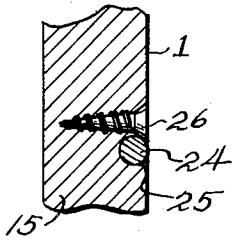


FIG. 8.



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WALKING DOLL

Jesse E. Henderson, Fort Worth, Tex.

Application November 12, 1946, Serial No. 709,187

6 Claims. (Cl. 46—149)

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My invention relates to improvements in walking dolls, the primary object in view being to provide a simply constructed, inexpensive doll adapted to walk when pulled along a floor, or the like.

Another object is to provide in a walking doll, for shifting the center of gravity of the same automatically so as to maintain the same upright when standing or walking.

Still another object is to provide a doll with feet and a counterbalanced body adapted when the doll is pulled along a floor to cause the same to rock from side to side and walk on the feet alternately.

Other and subordinate objects, also comprehended by my invention, together with the precise nature of my improvements, and the advantages thereof, will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in front elevation of my improved doll shown standing on the left foot and dressed.

Figure 2 is a similar view, the doll being undressed.

Figure 3 is a view in side elevation.

Figure 4 is a similar view illustrating the manner in which the doll walks.

Figure 5 is a view in front elevation showing the doll standing on the right foot.

Figure 6 is a view in perspective of the yoke and panel forming the body.

Figure 7 is a view in perspective of the rocker.

Figure 8 is a detailed fragmentary view in section taken on the line 8—8 of Figure 5 and drawn to a larger scale.

Figure 9 is a view in perspective of one of the feet inverted.

Figure 10 is a view in perspective of the guard, and

Figure 11 is a similar view of the arm carrying rod.

Referring to the drawings by numerals, my improved doll, in the preferred embodiment illustrated, comprises a body of T-shape including a flat-sided, block-like, vertically elongated yoke 1 having front and rear edges 2, 3, a lower enlarged end 4, widened edgewise, with a straight bottom 5, an oval shoulder forming panel 6 extending across and suitably fixed to the upper end of said yoke to project equidistantly upon opposite sides of the same, and a vertical, longitudinal, central slot 7 in the yoke extending from the panel 6 to a suitable point adjacent the bottom 5

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of said yoke. A bar-like counterweight 8 extends along the bottom 5 of the yoke 1 and is suitably secured thereto.

The head 9 of the doll is suitably secured by a neck 10 on the panel 6 in the center of said panel.

A pair of arms 11 are fixed to and depend from the opposite ends of an arm carrying rod 12 bent into M-shape and which is fastened by eye screws 13 at the bends thereof to opposite ends of the panel 6, under said ends, and to the front edge 2 of the yoke 1, so that the arms 11 are rigid.

A flat-sided, vertically elongated, leg carrying rocker 14, with an enlarged lower end 15, widened edgewise, is pivotally mounted at its upper end in the upper end of the slot 7 to rock edgewise in said slot in a plane at a right angle to the plane of the yoke 1. The mounting for said rocker 14 comprises a bolt 16 extending through the upper end portion of the yoke 1 in the median plane thereof, said bolt extending through the upper end of the rocker 14 with a nut 17 thereon and spacing washers 18 interposed thereon between said rocker and the sides of the slot 7.

A pair of stop-pins 19 on one side of the rocker 14 and upon opposite sides of the vertical center thereof, limit rocking of said rocker 14 in opposite directions by engagement with the right and left sides of the yoke 1.

A cross-bar 20 on the back of the rocker 14, adjacent the lower end thereof, forms a pair of stops 21 at opposite side edges of said rocker extending laterally from said edges for a purpose presently seen.

A pair of bar-like right and left legs 22, 23 are pivotally mounted adjacent the upper ends thereof on the lower end 15 of the rocker 14 at opposite side edges thereof and upon the right and left sides of the yoke 1, said legs being parallel with the longitudinal center of the rocker 14 and swingable forwardly and rearwardly on said rocker. The pivotal mounting for the legs 22, 23 preferably comprises a cross-bolt 24 extending through the upper end portions of said legs 22, 23 and across the front side of the rocker 14 in a cross-groove 25 therein with screws 26 in said rocker 14 overlapping said bolt and securing the same in said groove. Nuts 27 on the bolt 24 secure the legs 22, 23 on said bolt. The upper ends of the legs 22, 23 above the bolt 24, form stops adapted to engage the stops 21 and limit forward swinging of the legs from a normal position in which said legs are parallel with said rocker 14. A pair of right and left side coil springs 28, 29 having lower ends connected by eye screws 30, 31 to the front of the legs 22, 23,

below the bolt 24, and the upper ends of which are connected by eye screws 32 to opposite side edges of the rocker 14, above said bolt 16, tend to swing said legs 22, 23 forwardly on the bolt 16 into the described normal position thereof.

The legs 22, 23 are provided with right and left feet 33, 34 of elongated, slab-like form, with straight outer and inner sides 35, 36 and with front end inner corner edges 37 oblique to the longitudinal axis of the feet. The legs 22, 23 are suitably doweled into said feet 33, 34 to arise from the rear outer corners thereof in outwardly offset relation to the longitudinal centers of said feet. Immediately below the legs 22, 23, the feet 33, 34 are formed with flat bottom oblique heel faces 38 inclined outwardly and upwardly crosswise of the feet relative to the axis of the legs, but each forming a right angle with an imaginary line passing through the pivotal axis of the rocker 14 and perpendicular to the ground when the rocker is at its respective extreme positions (see Figures 2 and 5). Forwardly of the heel face 38, each foot 33, 34 is provided with a sole portion 39 curving forwardly and upwardly and merging into a transversely convex bottom toe portion 40 on the foot extending diagonally of the longitudinal axis of the foot across the front inner corner thereof and feathering to the edge 37. The heel faces 38 merge into rear, inner, corner bevels 41 on the feet. The purpose of the structure of the feet 33, 34, described in the foregoing, will presently appear.

A hoop-like wire guard 42 surrounds the yoke 1 and the rocker 14 intermediate the ends of the same and is attached to the front and rear edges 2, 3 of the yoke 1 by screws 43, with an extended reinforcing end 44 attached at the terminal thereof to said rear edge 3 by a screw 45. The guard 42 serves to prevent a dress 46 draped from the panel 6 from becoming entangled with the springs 28, 29.

An eye screw 47 is provided in the front edge 2 of the yoke 1 adjacent the bottom 5 of said yoke for attachment of a pull cord 48 to the yoke.

Referring now to the operation of the described invention, the doll may be stood on either foot by means of the flat heel faces 38 on said feet, as shown for instance in Figures 1 and 5. When stood on the left foot 34, as shown in Figure 2, the rocker 14 will be swung on the pivot 16 toward the right and upwardly to lift the right leg and the right foot 33 so as to elevate said right foot off the floor, whereas the yoke 1, being heavily counterweighted below the pivot 16, by its enlarged lower end 4, and the counterweight 8, will maintain a perpendicular position relative to said heel face 38 and be positioned bodily into vertical alignment with the longitudinal center of said left foot 34. Thus, the center of gravity of the doll is shifted sidewise over the left foot 34 so that the doll is maintained in a state of equilibrium against falling sidewise while stabilized by the heel face 38 against falling forwardly or rearwardly. If, as shown in Figure 5, the doll is stood on the right foot 33, the rocker 14 will be swung on the pivot bolt 16 to the left and upwardly to lift the left leg 23 and left foot 34 and thereby elevate said foot off the floor, and the yoke 1 will be moved bodily sidewise toward the right into vertical alignment with the longitudinal center of the right foot 33 while being counterbalanced into perpendicular position relative to the heel face 38 of said right foot 33. Thus, the doll will be maintained in a state of

equilibrium when standing on the right foot 33 just as described as occurring when the doll is stood on the left foot 34. Assuming that the doll is stood on the left foot 34, as shown in Figures 1, 2 and 3, if a pull is exerted on the pull cord 48 to thereby move the yoke 1 forwardly, the yoke 1 and rocker 14 will be moved forwardly in upright position, and the left leg, as shown in Figure 4, will swing rearwardly, in opposition to the spring 29, with the left foot 34 rolling on the sole portion 39 of the left foot 34 forwardly and then on the toe portion 40 which, because of its convex form and described diagonal arrangement, will throw the doll forwardly and to the right. This causes the rocker 14 to be swung toward the right, while the yoke 1 remains in perpendicular position, overbalancing the doll toward the right onto the heel face 38 of the right foot 33. As soon as this occurs, the left foot 34 is raised off the floor and the spring 29 swings the left leg 23 back into normal position. The bevel 41 on the rear, inner corner of the left foot 34 facilitates forward swinging of the left leg 23 into normal position by preventing said left foot 34 from dragging at the heel on the floor, or catching thereon. Under continued pull on the pull cord 48, the doll is operated off the right foot 33 in the same manner as described with reference to the left foot 34 but with the rocker 14 and yoke 1 operating reversely relative to the direction of operation as described with reference to the left foot 34, to plant the heel face 38 of the left foot 34 again on the floor and effect lifting of the right foot 33 off the floor in a manner which will now be clear.

As will be seen from the foregoing, the doll moves forwardly by rolling on the feet 33, 34 alternately, to plant the heel faces 38 alternately on the floor and as each heel face 38 is planted on the floor, the swinging of the rocker 14 and sidewise movement of the yoke 1 establishes a state of equilibrium of the doll preventing the same from falling sidewise or laterally while the heel faces 38 stabilize the doll against falling sidewise. As will also be seen, the enlarged lower end 4 of the yoke 1 and a counterweight 8 provide for a lower center of gravity of the doll so that the pull cord 48, being connected as described to the yoke 1 may be pulled upon with a steady pull, sufficient for the purpose intended, without upsetting the doll while the same is walking. Also the low center of gravity assists in stabilizing the doll against falling forwardly or rearwardly.

The foregoing constitutes a detailed disclosure of an illustrative embodiment of my invention, solely, and is not to be construed in a limiting sense, the invention being manifestly susceptible of modification and embodiment in other forms of toys than that described, without departing from the inventive concept, and the scope of the appended claims.

What I claim is:

1. In a walking doll, a body having means attached thereto for pulling the same along a floor, an upright body supporting rocker tiltable laterally in opposite directions past a vertical position into two extreme positions, a pair of rocker supporting legs with connections to opposite sides of said rocker and having feet thereon, flat heel faces on said feet inclined outwardly and upwardly crosswise of said feet relative to the axis of said legs and alternately engaged with the floor by tilting of said rocker in opposite direc-

tions to support the rocker on one leg and foot with the other leg and foot raised off the floor in each extreme position of said rocker, said connections comprising pivots on which the leg and foot supporting the rocker swings rearwardly from a normal position when the body is pulled forwardly, means on said feet forwardly of said heel faces engaging the floor with a foot rolling and lateral tilting action when the rocker supporting leg and foot swings rearwardly whereby to tilt said rocker out of one extreme position past vertical position for lowering the raised leg and foot to engage the heel face of the raised foot with the floor, and spring means connecting each leg to the rocker for swinging each leg and foot forwardly to advance the same into normal position when raised, said body being pivotally suspended on said rocker and laterally swingable thereon in vertical position to overbalance the rocker into its extreme positions when the rocker tilts past vertical position and thereby lower the raised legs and feet to alternately engage said heel faces wih the floor.

2. A doll according to claim 1, wherein said body is provided with a central vertical slot in which said rocker tilts.

3. A doll according to claim 1, wherein said means comprises forwardly and upwardly curved bottoms on said feet and beveled front end inner corners on the feet oblique to the longitudinal axis of the feet.

4. In a walking doll adapted to be pulled along a floor, an upright rocker tiltable laterally in opposite directions past a vertical position into two extreme positions, a pair of rocker supporting legs having connections to opposite sides of the rocker and having feet thereon, flat heel faces on said feet inclined upwardly and outwardly crosswise of said feet relative to the axis of the legs, and alternately engaged with the floor by tilting of said rocker in opposite directions to support said rocker on one leg and foot with the other leg and foot raised off the floor in each extreme position of said rocker, said connections

comprising pivots on which the leg and foot supporting the rocker swings rearwardly from a normal position when said doll is pulled forwardly, sole and toe portions on each foot engaging the floor with a foot rolling and lateral tilting action when the rocker supporting leg and foot swings rearwardly whereby to tilt said rocker out of one extreme position past vertical position for lowering the raised leg and foot to engage the heel face of the foot with the floor, and spring means connecting said legs to the rocker for swinging each leg and foot forwardly into normal position when raised.

5. In a doll, an upright rocker tiltable in opposite directions past a vertical position into two extreme positions, a pair of legs attached to opposite sides of said rocker with feet thereon, flat heel faces on said feet inclined upwardly and outwardly crosswise of said feet relative to the axis of the legs and alternately engaged with a floor by tilting of said rocker in opposite directions to thereby support said rocker on one leg and foot with the other leg and foot raised off the floor in each extreme position of said rocker, and a body pivotally suspended on said rocker and laterally swingable thereon in vertical position to overbalance the rocker into its extreme positions when the rocker tilts past vertical position and thereby lower the raised legs and feet to alternately engage said heel faces with the floor.

6. A doll according to claim 5, wherein said body is provided with a vertical central slot in which said rocker tilts.

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The following references are of record in the file of this patent:

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