

July 28, 1959

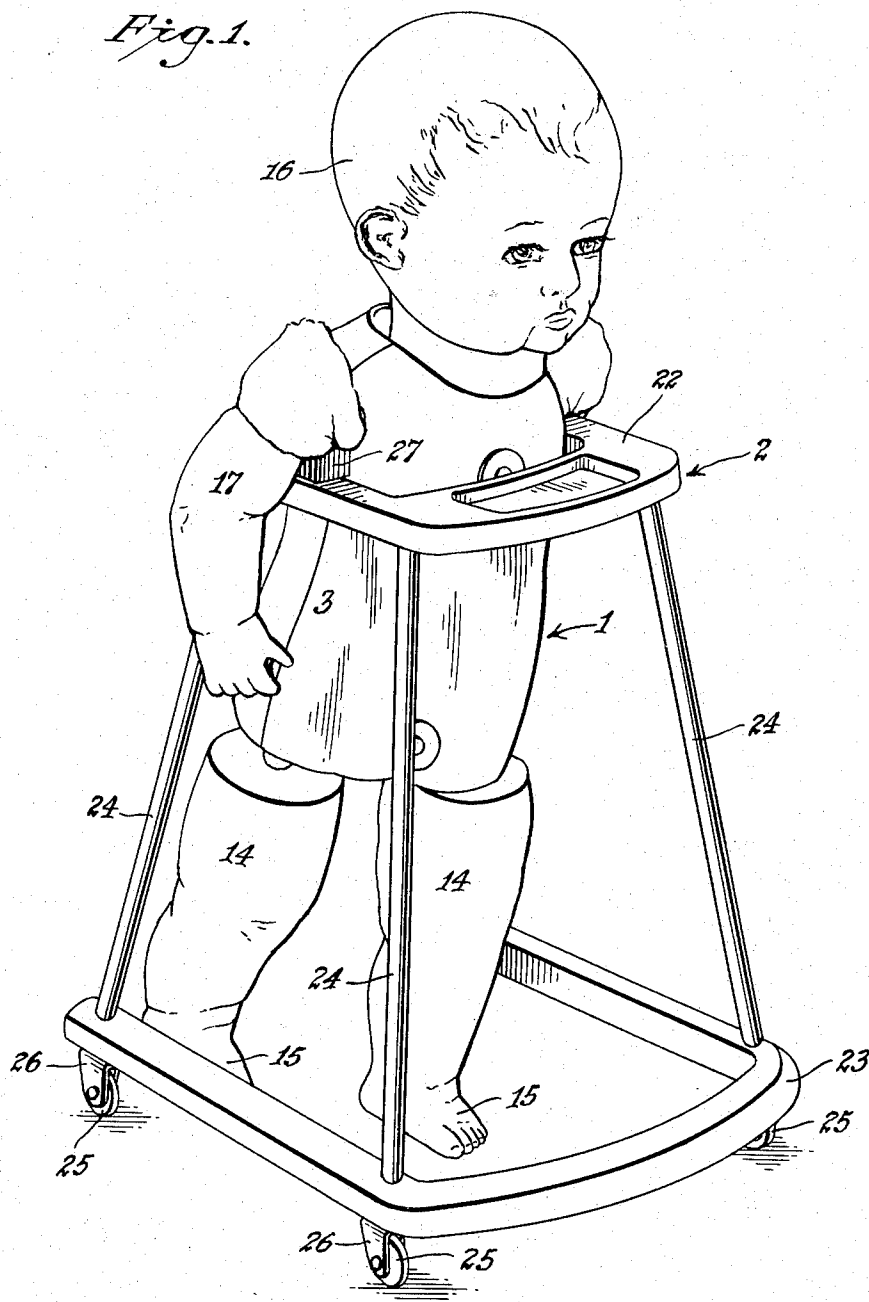
A. G. ARDOLINO
DOLL BABY AND WALKER TOY

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4 Sheets-Sheet 1

Fig. 1.



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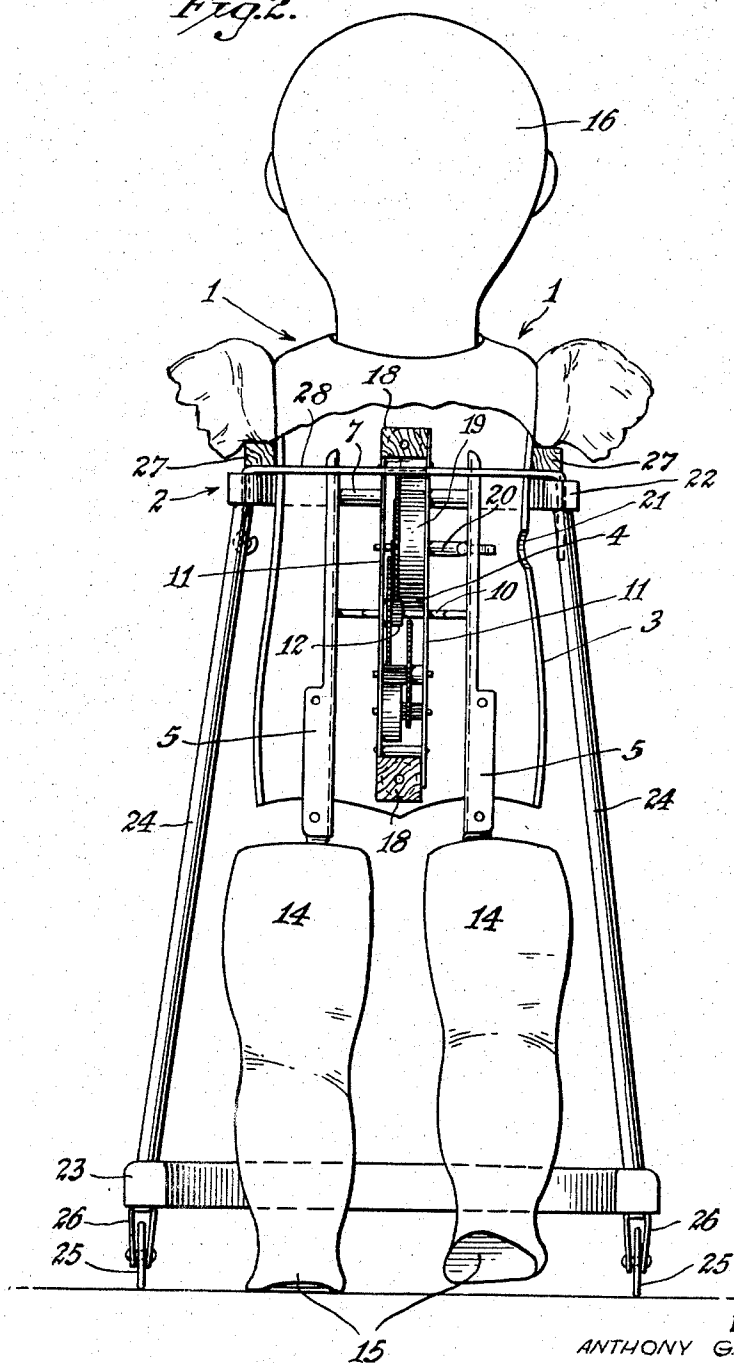
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Fig. 2.



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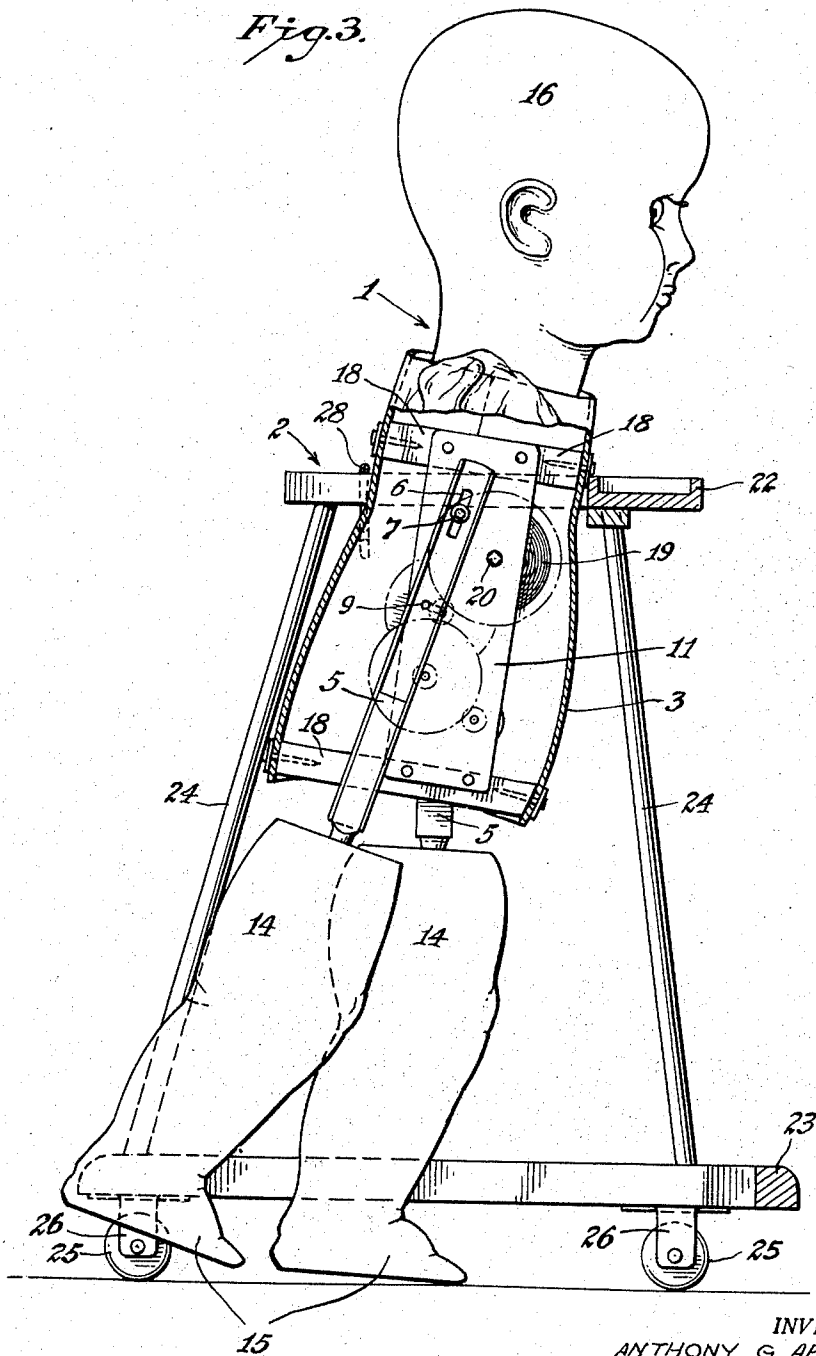
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Fig. 4.

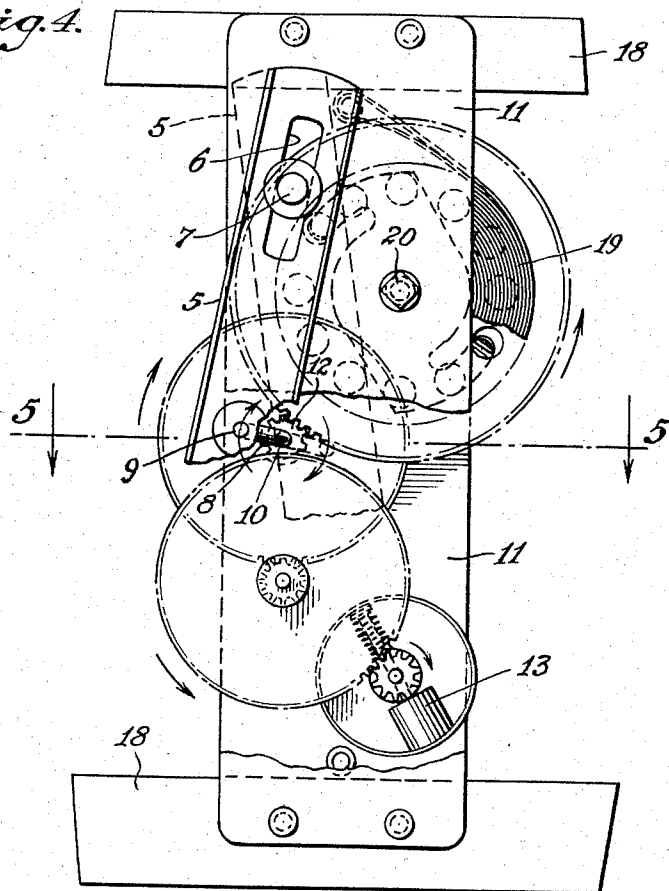
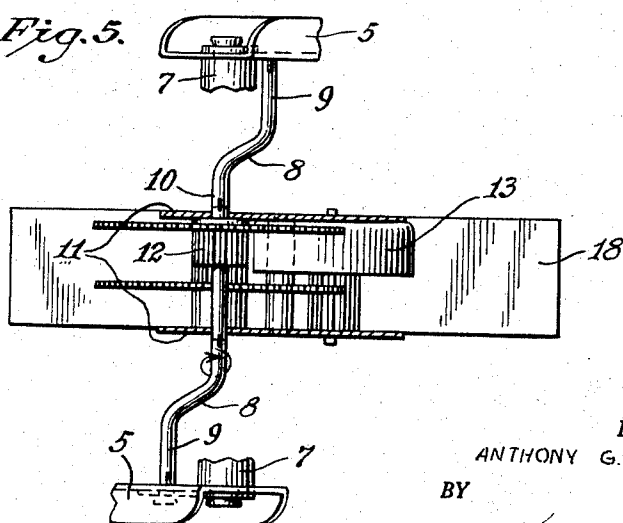


Fig. 5.



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DOLL BABY AND WALKER TOY

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Application April 1, 1955, Serial No. 498,530

10 Claims. (Cl. 46—102)

This invention relates to a doll baby and walker toy. The doll baby is of the mechanically actuated type, to some degree, and the walker, generally speaking, simulates a real walker of the type used to train a baby to walk.

A true walking doll, which can walk unaided and is, of course, powered by a mechanical motor, is very expensive to manufacture. Such a doll must be balanced properly so as to be fully stable when stood upright and such a doll requires relatively complicated mechanical arrangements for the purpose of effecting a walking motion while remaining upright without manual assistance by the child using the toy. At the same time such a true walking doll is in considerable demand by the public. Cost has prevented many children from enjoying such a doll and probably most children have had to be satisfied with what is known as a walker doll. A walker doll is unpowered and is inherently unstable, the legs being interconnected by a mechanism so that when the doll is manually manipulated properly the legs can be given a walking motion. The use of such a doll requires some skill and it is obvious to all children that there is no animation other than that provided manually by the child.

One of the objects of the present invention is to provide a toy which is relatively inexpensive, as compared to a true walking doll, yet which can be caused to walk unaided by the child user, and, in addition, has advantages not enjoyed even by the more expensive walking doll. Another object is to provide a toy providing the advantages of both the walking and walker type of dolls, the true walking doll not being very well adapted to be led by the child. Other objects may be inferred from the nature of the invention itself.

It is to be understood that a walker is the device used to train a baby who is approaching the walking stage. A walker doll is a doll which may be made to simulate a walking motion by proper manual manipulation. A walker doll is not adapted for use with a toy walker and, for that matter, neither is the conventional walking doll.

A specific example of a toy, embodying the principles of the present invention, is illustrated by the accompanying drawings in which:

Fig. 1 is a perspective of the toy in operation;

Fig. 2 is a rear elevation showing the doll's body opened to reveal the inner mechanism and with the arms unillustrated in their entirety;

Fig. 3 is a side elevation showing the doll's body and the walker in vertical section, again to reveal the details;

Fig. 4 is an enlarged side view of the doll's operating mechanism sectioned through various vertical planes to reveal the details; and

Fig. 5 is a horizontal cross section taken on the line 5—5 in Fig. 4.

As is shown by Fig. 1, the toy comprises a doll 1 and a walker 2. Just as in real life the doll 1, being mechanically actuated to give a simulated walking motion, leans forwardly in the walker 2 and pushes the latter forwardly so that the toy propels itself over the floor. The action is very realistic because the doll is inherently unstable and

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not balanced to stand upright alone, it being obvious to the child user that the doll baby requires the walker for the same purpose as does a real baby. Furthermore, the doll may be removed from the walker and will fall unless manually actuated, but the child user may manually support the doll upright and the doll will then walk ahead. The walking motion is in all instances of an unsure nature so that realism is preserved at all times.

As shown by Figs. 2 and 3 the doll has a hollow body 3 and a spring-powered clock-works motor 4 is located within this body 3. This motor includes depending bars 5 having longitudinal slots 6 formed therethrough near to their upper ends, the motor further including stationary pivots 7 for these slots and driven crank arms 8 having crank pins 9 pivotally connected to the bars 5 below the slots 6 and pivots 7. These crank arms are oriented about 180° out of angular phase with each other and they are formed as an integral crank shaft. These details may be seen with particular clarity by studying Figs. 4 and 5.

The crank shaft 10, having the crank arms 8 and crank pins 9, is journaled by the motor's side frames 11 which house the customary clock-works assembly which drives the crank shaft 10 rotatively by connecting therewith through gearing 12. Preferably this motor is of the type having a governor 13 for maintaining a relatively long and substantially constant-speed run. Clock-works of this general type are available commercially and are well known, it therefore being considered unnecessary to go into further detail.

Returning to Figs. 2 and 3, it can be seen that the lower ends of the bars 5 move with a circular motion, in each instance, the motions of the respective lower ends being substantially 180° out of phase.

The doll 1 has legs 14 which, in accordance with this invention, depend rigidly throughout from the lower ends of the bars 5 and have rigidly connected feet 15 which follow the described circular motions. The doll, of course, has a suitable head 16 and arms 17, the latter being pivotally connected, in the usual fashion, to the hollow body 3 at appropriate locations. The motor or clock-works is mounted rigidly within the hollow body 3 by rigid bars 18 which extend backwardly and forwardly and are rigidly riveted to the motor's side frames 11 and either riveted or pinned to the hollow body 3 itself. The doll's body, the motor, and the legs are all rigidly interassociated with the legs having the circular motion described.

It is to be understood that the motor has the usual spring 19 coiled about a shaft 20 which may be provided with a square end to which the usual key may be fitted through an aperture 21 suitably formed in the hollow body 3.

The rigidity of the legs 14 and feet 15 with respect to the bars 5 are of importance in connection with the present invention. The feet, which may be considered as the lower ends of the legs, do not bend or pivot in any fashion, and the legs themselves are rigid throughout their lengths, no knee action being involved, and these entirely rigid legs rigidly connect with the bars 5 so that the legs are moved with the circular motion described.

The result of the above rigidity is that the doll when walking with manual support by the child user, tends to toddle along in an unsteady manner indicating clearly that the baby has not yet learned to walk alone.

Keeping the above in mind, the walker 2 comprises a rearwardly opened yoke 22 which forms an upper frame and into which the body 3 may be inserted upright. The walker also has a wide-spread lower frame 23, which may also be yoke-like and open rearwardly. Four inwardly and diagonally extending uprights or columns 24 interconnect the frames 22 and 23. This lower frame 23 is of generally rectangular shape and at each of its corner portions wheels 25 are connected to it so as to

support the lower frame on the floor in a rolling fashion. These wheels 25 are journaled in brackets 26 which depend rigidly and non-pivotally from the lower side of the frame 23. All of the wheels 25 are journaled so that they point forwardly permanently whereby to keep the walker moving in a substantially straight line.

The walker is designed, by properly proportioning the parts, so that the columns 24 and wheels 25 support the doll's body 3 so that its feet 15, or the lower portions of the legs 14, touch the floor, on which the walker rolls, when moving through the lower portions of their previously described circular motions. This propels the walker and the doll over the floor.

Now such mere propelling of the toy would not be very lifelike to the child user. However, in accordance with the present invention the body 3 fits the upper frame or yoke 22 somewhat loosely while the doll is propelling the walker. This loose fitting is in a forward and backward direction, the lateral fit being reasonably loose so that the doll has some freedom for motion relative to the upper frame 22 of the walker. Therefore, as the doll propels itself along the doll leans forwardly in a very realistic manner while the doll's legs propel the device along with the uncertain action of a real baby learning to walk in a walker.

This lifelike action, so delightful to the child user, is enhanced by providing the upper frame 22 with up-standing supports 27 which fit beneath the doll's arms 17 in a crutch-like manner excepting that there should be some freedom permitting the doll's body to shift or wobble backwardly and forwardly in the desired lifelike manner.

The doll is removable from the walker, obviously, and although the doll retains itself in the walker to some degree naturally, it is preferable to provide a removable cross bar 28 which extends behind the body 3 to retain the latter in the upper frame or yoke against excessive back and forth motion and particularly such motion to a sufficient degree to disengage the arm supports 27 from beneath the doll's arms 17.

The great realism of the present toy is due largely to the ingenious features described hereinabove. At the same time these features contribute greatly to the production of the toy at a low manufacturing cost. The clockworks may be of the extremely simple type made in large quantities for toy makers and which due to their large production rate are relatively low in cost. The leg motion produces its lifelike action because the leg structures are rigid throughout and this, in turn, greatly aids in keeping down the manufacturing cost to a minimum. Inherent stability or balance is undesirable in a toy of this character from the child user's viewpoint, and here again a great cost saving is possible because of this very same characteristic. The production of an inherently balanced and stable true walking doll is quite costly due to the need for the balance, the absence of which is a virtue in the case of the present invention.

As previously noted the arms are pivotally connected to the body. Therefore, when the doll is removed from the walker both arms may be raised by the child user and manually supported so as to permit the baby doll to toddle along. When in the walker the arms naturally wiggle back and forth as the doll propels the walker, thus further promoting the illusion of a real baby learning to walk.

I claim:

1. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of

said legs to touch the floor and propel said walker with the latter supporting said doll.

2. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame being constructed to permit the removal of said body so that said doll may be walked separately from said walker when manually supported.

3. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame fitting said body in a pivotal manner permitting said body to lean forward while said doll propels said walker.

4. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame fitting said body in a pivotal manner permitting said body to lean forward while said doll propels said walker, said legs being rigid and free from knee or ankle motion so as to urge said doll to lean forwardly while propelling said walker.

5. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame fitting said body in a pivotal manner permitting said body to lean forward while said doll propels said walker, said legs being rigid and free from knee or ankle motion so as to urge said doll to lean forwardly while propelling said walker and said motion being generally circular in a forwardly propelling direction.

6. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame fitting said body in a pivotal manner permitting said body to lean forward while said doll propels said walker, said legs being rigid and free from knee or ankle motion so as to urge said doll to lean forwardly while propelling said walker, said doll having arms and said frame having upstanding supports engaging under said arms.

7. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said

wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame fitting said body in a pivotal manner permitting said body to lean forward while said doll propels said walker, said legs being rigid and free from knee or ankle motion so as to urge said doll to lean forwardly while propelling said walker, said doll having arms and said frame having upstanding supports engaging under said arms, and said frame being in the form of a horizontal yoke opening backwards for the insertion and removal of said body and having a width holding said body against substantial sidewise displacement relative to said frame.

8. A doll baby and walker toy comprising a doll having a body and simulated walking motion legs and a motor for causing said motion, said doll being unstable when standing unsupported, and a toy walker having wheels for rolling on a floor and a frame for receiving said body standing and structure supporting said frame on said wheels at a height causing the lower ends of said legs to touch the floor and propel said walker with the latter supporting said doll, said frame fitting said body in a pivotal manner permitting said body to lean forward while said doll propels said walker, said legs being rigid and free from knee or ankle motion so as to urge said doll to lean forwardly while propelling said walker, said doll having arms and said frame having upstanding supports engaging under said arms, and said frame being in the form of a horizontal yoke opening backwards for the insertion and removal of said body and having a width holding said body against substantial sidewise displacement relative to said frame, said frame having a removable cross bar extending transversely behind said body to retain the latter in this frame's said yoke form.

9. A doll baby and walker toy comprising a doll having a hollow body, a motor located within said body and including depending bars having longitudinal slots near to their upper ends and stationary pivots therefor and driven crank arms having crank pins pivotally connected to said bars below said slots and pivots and which crank arms are oriented about 180° out of angular phase with each other, so that the lower ends of said bars move with circular motions, legs depending rigidly throughout from the lower ends of said bars and having rigidly connected feet which follow said motions, and arms connected to said body; and a walker for said doll and including a rearwardly open yoke forming an upper frame and into which said body may be inserted upright, a wide-spread lower frame, columns interconnecting said frames and wheels connected to and supporting said lower frame on a floor, said

columns and wheels supporting said body so that said feet touch the floor when moving through the lower portions of their said circular motions so that said doll propels said walker, said body being removable from said yoke or upper frame and fitting the latter somewhat loosely backwardly and forwardly so that said doll can lean forwardly somewhat loosely while propelling said walker.

10. A doll baby and walker toy comprising a doll having a hollow body, a motor located within said body and including depending bars having longitudinal slots near to their upper ends and stationary pivots therefor and driven crank arms having crank pins pivotally connected to said bars below said slots and pivots and which crank arms are oriented about 180° out of angular phase with each other, so that the lower ends of said bars move with circular motion, legs depending rigidly throughout from the lower ends of said bars and having rigidly connected feet which follow said motions, and arms connected to said body; and a walker for said doll and including a rearwardly open yoke forming an upper frame and into which said body may be inserted upright, a wide-spread lower frame, columns interconnecting said frames and wheels connected to and supporting said lower frame on a floor, said columns and wheels supporting said body so that said feet touch the floor when moving through the lower portions of their said circular motions so that said doll propels said walker, said body being removable from said yoke or upper frame and fitting the latter somewhat loosely backwardly and forwardly so that said doll can lean forwardly somewhat loosely while propelling said walker, said upper frame having upstanding supports fitting beneath said doll's arms and a removable cross bar extending behind said body to retain the latter in said upper frame or yoke against excessive back and forth motion disengaging said arm supports from said doll's arms.

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