July 8, 1969 F. P. SCHNEIDER 3,453,772

DOLL WITH WALKER

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FIG. 1

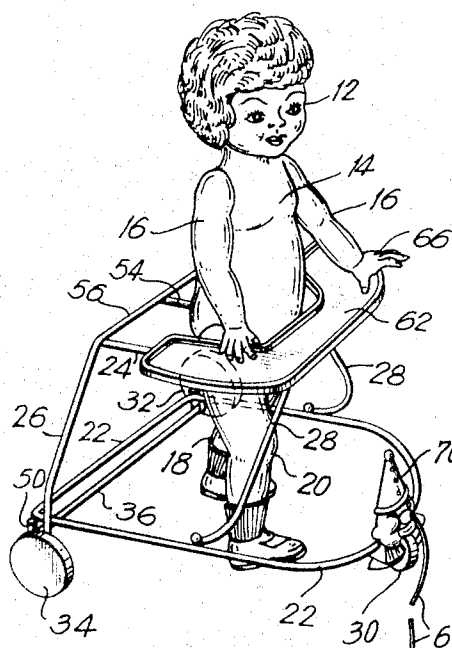
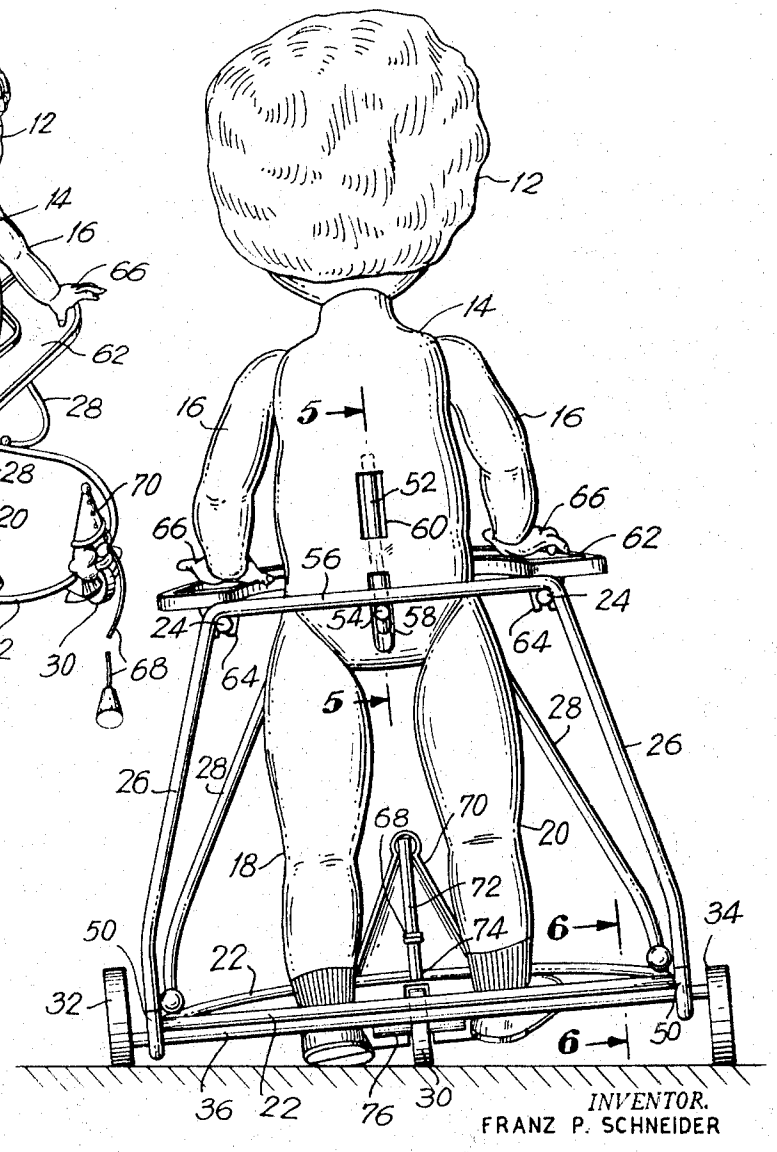


FIG. 2



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FIG. 3

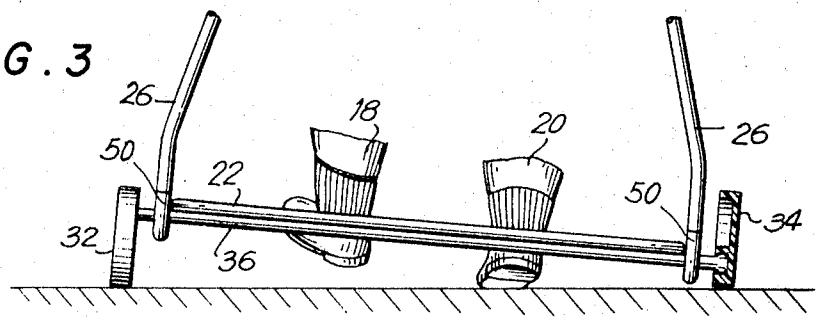


FIG. 4

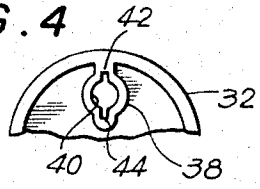


FIG. 5

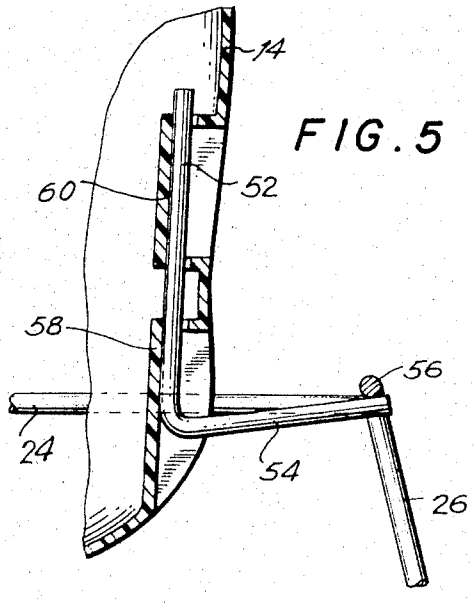


FIG. 7

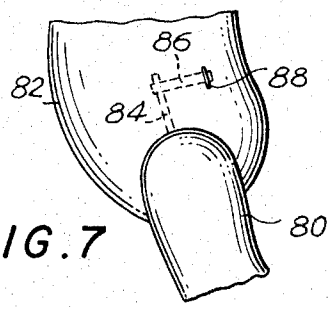


FIG. 6

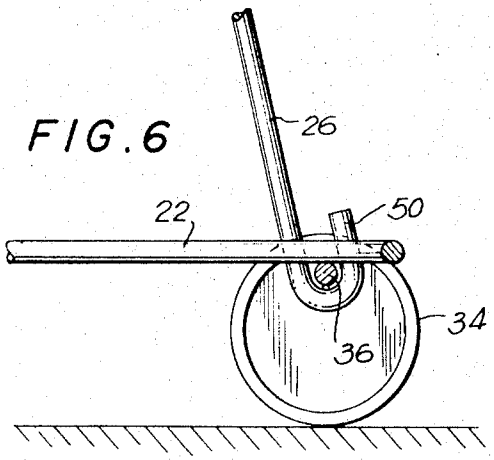
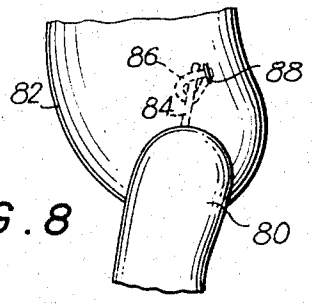


FIG. 8



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United States Patent Office 3,453,772
Patented July 8, 1969

3,453,772

DOLL WITH WALKER

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Filed Mar. 28, 1967, Ser. No. 626,549
Int. Cl. A63h 11/10
U.S. Cl. 46—102 16 Claims

ABSTRACT OF THE DISCLOSURE

A doll having pivoted legs is detachably mounted in a wheeled walker which is adapted to be rolled along the floor. The side wheels are connected for simultaneous rotation, and are eccentrically mounted with opposite offsets, so that the walker and doll tilt from side-to-side as they move along the floor. This causes one leg of the doll to rest on, and the other leg of the doll to lift from the floor, during each half rotation of the wheels.

Walking dolls are known. Some have a highly complex motor-driven mechanism. Others are quite simple, there being a reverse connection inside the doll whereby movement of one leg is accompanied by opposite movement of the other leg. To walk such a doll a child must tilt the doll from side to side, in order to free the rearward pointing leg for forward movement. It is difficult to properly synchronize the travel and tilting movements, as is required for a successful walking action.

In the present improvement the doll is combined with a walker having a wheeled frame. The walker is adapted to be rolled along a surface such as a floor or table. This frame receives the doll in upright position with one leg resting on the floor. The side wheels of the walker are connected for simultaneous rotation, and are eccentrically mounted, with oppositely offset eccentricities, so that the frame tilts from side to side as it rolls along. The doll tilts with the walker, thus causing one leg of the doll to rest on the floor while the other leg is lifted from the floor. This happens in the course of one half rotation of the wheels, and the tilt is reversed during the other half rotation of the wheels, thus causing the doll to simulate walking as the walker is moved or pulled along the floor.

The doll is preferably readily detachable from the walker, so that it may be used independently of the Walker. The mounting means preferably affords at least some free vertical movement of the doll in the walker, so that the doll rests on the floor, and the connection preferably consists of a single upright pin on the walker, so that the torso may pivot slightly around the pin as the doll simulatedly walks.

In simplest form the legs of the doll may be freely pivoted, because a rearward pointing leg then will move forward gravitationally when released from the floor as the doll tilts. However, in preferred form a resilient or elastic means such as a rubber band may be stressed when the leg is in rearward position, thus ensuring and increasing the return movement of the leg to forward position. Conventional walking mechanism which reversely connects the legs for opposite movement may be employed, but is considerably more expensive than the rubber band arrangement.

The foregoing and additional features are described in the following detailed specification, which is accompanied by drawings in which:

FIG. 1 is a perspective view showing the doll and walker combination;

FIG. 2 is a rear view showing the doll tilted so that the left leg is on the floor and the right leg is raised;

FIG. 3 is a fragmentary rear view showing the doll tilted in opposite direction, so that the right foot is on the floor, while the left foot is raised;

FIG. 4 is a fragmentary view explanatory of one form of molded eccentric wheel;

FIG. 5 is a fragmentary section taken on the line 5—5 of FIG. 2;

FIG. 6 is a fragmentary section taken on the line 6—6 of FIG. 2; and

FIGS. 7 and 8 are explanatory of the rubber band action to improve the leg movement of the doll.

Referring to the drawing, and more particularly to FIG. 1, the doll is conventional in having a head **12**, a torso **14**, pivoted arms **16**, and pivoted legs **18** and **20**.

The walker comprises a frame mounted on wheels and adapted to be rolled along the floor. As here illustrated, the frame is made of bent metal rod with welded connections, there bing a bottom member **22** which is D shaped, a top member **24** which is U shaped, and upright supports **26** and **28** which connect the top and bottom members, with the top member **24** at about waist height for the doll. In the present structure the rear supports **26** are part of an inverted U, while the forward supports **28** are individual.

The frame has a single forward centered wheel **30** which is not eccentric, and about which the frame can tilt. It has two rear wheels **32** and **34** at the sides, these being the eccentrically mounted wheels, as will be clear from comparison of FIGS. 2 and 3. They show how the wheels are oppositely offset, that is, their eccentricities are 180° apart.

To maintain this relation the wheels are secured to a common axle **36**. The method of keying the wheels to the axle will be clear from an inspection of FIG. 4, which shows how wheel **32** is molded with an offset hub **38** the hole **40** of which preferably has two opposed keyways **42** and **44**. The metal axle **36** is pinched or excised to form a key at each end, and this key may be put in keyway **42** at one side of the walker, and in keyway **44** at the other side of the walker, to provide the desired opposite displacement of the wheels. The axle may have two opposed keys at each end, thus occupying both keyways **42** and **44**.

Bearings for the axle **36** may be inexpensively provided by appropriate formation of the frame. More specifically, and referring to FIG. 6, in the present case the rear uprights **26** are reversely bent at their lower ends, as shown at **50** and the reverse bends are welded to the sides of the lower frame **22** in the relation shown in FIG. 6, that is, the open bearing at **50** is closed at the top by the frame member **22**, thus providing closed bearings in which the axle **36** is received. The wheels may be applied to the axle after the axle has been slid through the bearings.

The doll is detachably mounted in the walker, so that it may be removed from the walker and used independently. The connection means preferably causes the doll to tilt from side-to-side with the walker, and preferably affords free vertical movement of the doll relative to the walker so that the doll will rest gravitationally on the floor. Referring to FIGS. 2 and 5 of the drawing, the frame has a single upright pin **52**, and the doll torso **14** has a mating hole or socket to freely slidably receive the pin **52**. Pin **52** is bent upward from an approximately horizontal part **54**, the rear end of which is welded to the middle of the horizontal rod **56** which connects the rear uprights **26**. The lower rear portion of the back of the doll is indented at **58** and **60**, and the resulting three horizontal parts (at the top of indentation **58** and at the top and bottom of indentation **60**) have aligned holes to freely receive much of the length of the pin **52**. The indentations **58** and **60** are narrow channels as shown in

FIG. 2, and the holes for pin **52** are formed at the ends of the channels.

This use of a single generally upright pin has an additional advantage, in that the torso **14** of the doll may pivot slightly from side to side around the pin as the doll walks. However, the main advantages are that the doll can rest on the floor; it is tilted with the walker; and it is readily removable from the walker.

A tray **62** (FIGS. 1 and 2) preferably forms a part of the walker. This may be molded out of a suitable plastics material, and as molded may include three or more downwardly projecting ears, two of which are visible at **64** in FIG. 2. These ears have downwardly open or slotted holes dimensioned to be received on the top wire **24** with a snap engagement. The height of the tray **62** preferably is such that the hands of the doll may be rested on the tray as shown at **66**. This steadies the doll, and has the advantage of realism in that a child using a walker ordinarily would hold the walker for support.

The walker may be rolled along the floor in any desired fashion. In the present case it is pulled by means of a pull cord **68** shown in FIG. 1. Only a fragment of the cord is shown in the drawing, it being say four feet long in practice. Alternatively the walker may be pushed instead of being pulled. Moreover, it may be motor-driven by a suitable spring powered or electrically operated motor geared to the axle **36**.

The molded part **70** shown in FIGS. 1 and 2 may be an ornamental figure, in this case a clown head, which is received on the forward end of the bottom frame member **22**. In the form here shown, the cord **62** passes through a hole in the part **70**, and is secured to a short upright metal rod **72** (FIG. 2), which is welded at **74** to the bottom frame member **22**, and which helps support the part **70**. The front wheel **30** is freely rotatable on a short axle **76** (FIG. 2) the ends of which are carried by the bifurcated lower end of the part **70**. Thus part **70** carries the front wheel **30**.

The legs **18** and **20** may be provided with conventional means inside the doll to cause opposite or reverse movement. Such mechanisms are well known, and usually comprise upward extensions of the legs connected inside the doll by a horizontal member which is pivoted at its center, so that movement of one leg causes opposite movement of the other. There are many patents showing such mechanisms, and a random example is Scoparino Patent 2,849,834, issued Sept. 2, 1958, and entitled "Walking and Sitting Doll."

A simpler and less expensive mechanism may be provided, and is schematically shown in FIGS. 7 and 8. The leg **80** is freely pivoted on torso **82**, and has an upward extension **84** inside the torso. An elastic band **86** is received around pin **84**, and is anchored to the torso **82**, as by means of a staple or other fastener **88**. The rubber band **86** is slack, as shown in FIG. 8, except when leg **80** has been turned almost all the way rearward as shown in FIG. 7. This stresses the band **86** somewhat, and so ensures and increases the return or forward movement when the rearward pointing leg is released from the floor. The legs are freely pivoted on the torso, and each leg has its extension **84** and rubber band **86**.

It may be mentioned that freely pivoted legs may be used without either of the mechanisms referred to above. This is so because a rearward pointing leg will move forward gravitationally when released from the floor. The advantage of using the rubber bands is that the assisted forward movement is increased, so that the leg moves well forward of midposition, instead of stopping at about mid-position. Thus the leg action or stride is increased.

The upright pin **52** (FIG. 5) may be slightly tilted in a fore-and-aft plane, away from a true vertical position. This may be done to suit the characteristics of a particular doll. It helps improve the walking action in some cases, dependong on the configuration and pivoting of the legs

of the particular doll that is being designed or modified for use with the walker.

It is believed that the construction and method of use of my improved doll and walker combination, as well as the advantages thereof, will be apparent from the foregoing detailed description. It will also be apparent that while I have shown and described the improvement in a preferred form, changes may be made without departing from the scope of the invention, as sought to be defined in the following claims. In the claims reference to the walker being rolled along the floor is not intended to exclude movement of the walker over a table or any other conveniently available surface.

I claim:

1. A doll and walker combination, said doll being motorless and having legs pivoted for a walking action, said walker having a wheeled frame adapted to be rolled along a floor, said frame having a doll holding means supporting said doll within said frame and in a generally upright position with one leg or the other resting on the floor, the side wheels of the walker being connected for simultaneous rotation and being eccentrically mounted with oppoistely offset eccentricities, whereby the frame tilts from side to side as it moves forward, said doll holding means causing said doll to tilt from side to side with the frame, the resulting tilt causing one leg of the doll to rest on and the other leg of the doll to lift from the floor at one half rotation of the wheels and vice versa at the other half rotation of the wheels, so that the doll simulates walking in synchronism with the rotation of the wheels as the walker is rolled along the floor.

2. A doll and walker combination as defined in claim **1**, in which the legs are so pivoted on the torso of the doll that a rearward pointing leg has a return movement to forward position when lifted from the floor.

3. A doll and walker combination as defined in claim **2**, in which the doll holding means include a means on the frame mating with a means on the doll for detachably connecting the doll and frame, whereby the doll may be used as a doll independently of the walker.

4. A doll and walker combination as defined in claim **3**, in which the said mating means affords free vertical movement of the doll relative to the walker, so that the doll rests gravitationally on the floor.

5. A doll and walker combination as defined in claim **4**, in which the said connection means of the walker comprises a single upright pin, and in which the torso of the doll has a mating hole to freely receive the pin.

6. A doll and walker combination as defined in claim **5**, in which the frame has a bottom member, a top member, supports connecting said top and bottom members with the top member at about waist height for the doll, and in which said frame has a single forward centered wheel, and has two rear wheels at the sides, said rear wheels being the eccentrically mounted wheels.

7. A doll and walker combination as defined in claim **6**, in which the top member of the walker carries a tray disposed at a height such that the hands of the doll rest on the tray.

8. A doll and walker combination as defined in claim **6**, in which there is a resilient means associated with each leg, which means is stressed when the leg points rearward, and so ensures and increases the return movement of a rearward pointing leg when it is lifted from the floor.

9. A doll and walker combination as defined in claim **6**, in which there is conventional mechanism so connecting the legs inside the doll that movement of one leg causes an opposite movement of the other leg.

10. A doll and walker combination as defined in claim **1**, in which the doll holding means include a means on the frame mating with a means on the doll for detachably connecting the doll and frame, whereby the doll may be used as a doll independently of the walker.

11. A doll and walker combination as defined in claim **10**, in which the said mating means affords free vertical

movement of the doll relative to the walker, so that the doll rests gravitationally on the floor.

12. A doll and walker combination as defined in claim **10**, in which the said connection means on the walker consists of a single upright pin, and in which the torso of the doll has a mating hole to freely slidably receive the pin.

13. A doll and walker combination as defined in claim **1**, in which the frame has a bottom member, a top member, supports connecting said top and bottom members with the top member at about waist height for the doll, and in which said frame has a single forward centered wheel and has two rear wheels at the sides, said rear wheels being the eccentrically mounted wheels.

14. A doll and walker combination as defined in claim **1**, in which the top of the walker carries a tray disposed at a height such that the hands of the doll rest on the tray.

15. A doll and walker combination as defined in claim **1**, in which the legs are so pivoted on the torso of the doll that a rearward pointing leg has a return movement when lifted from the floor, and in which there is a resilient

means associated with each leg which means is stressed when the leg points rearward, and so ensures and increases the return movement of a rearward pointing leg when it is lifted from the floor.

16. A doll and walker combination as defined in claim **1**, in which there is conventional mechanism so connecting the legs inside the doll that movement of one leg causes an opposite movement of the other leg.

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