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BABY WALKERS

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2 Sheets-Sheet 2

Fig. 2.

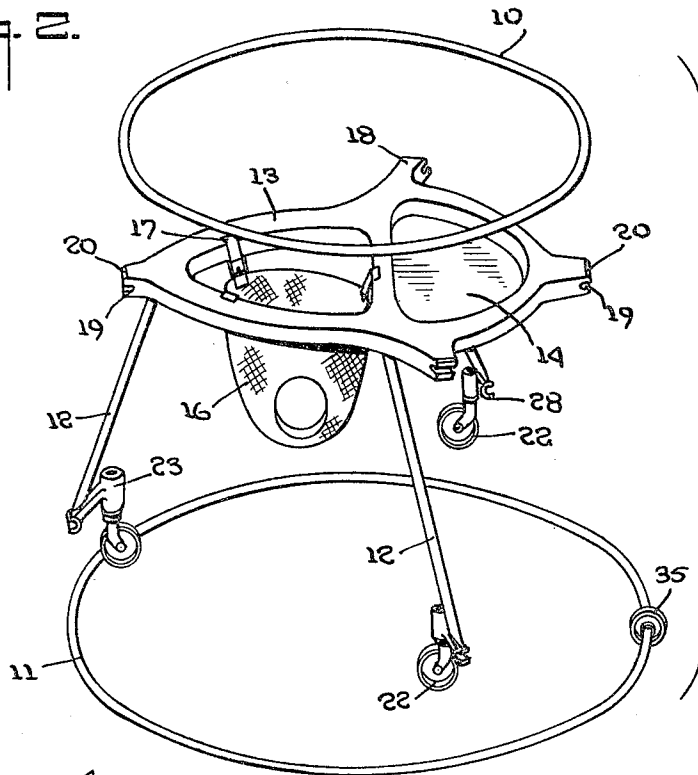


Fig. 4.

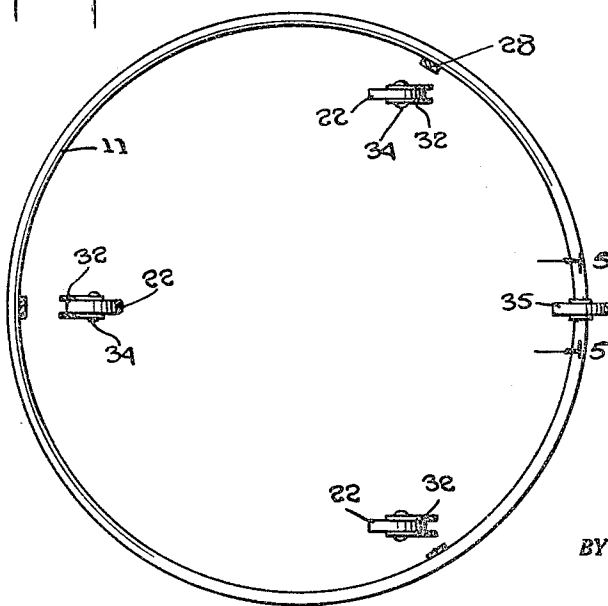
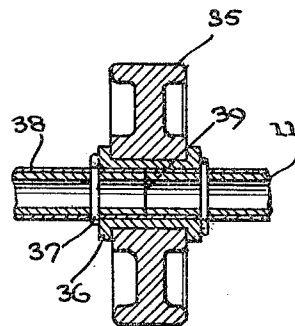


Fig. 5.

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BABY WALKERS

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3 Claims. (Cl. 155-24)

This invention relates to baby walkers.

As is well understood, a baby walker is primarily a device for assisting a child just prior to its learning to walk alone. The walker adequately supports the child and he can ambulate about the room or outdoors. Of course, a walker may be employed for supplementary purposes in the nature of a high chair, a feeding tray, or even a stroller.

The walker of the instant invention is notable for its simplicity of construction. It substantially eliminates requirement of bolts so as to provide an article which may be conveniently shipped in knocked down condition and may be easily assembled by either a retail outlet or a purchaser. Notwithstanding the simplicity of assembly, the device is of considerable sturdiness as will hereinafter appear.

Apart from the above mentioned special advantage, the walker has a variety of other favorable features. For example, the construction is such that a baby cannot succeed in tipping the walker over notwithstanding considerable activity on his part. This is accomplished in various ways, such as by the elevation of the rollers or casters relative to the bottom of the walker. Further, one or more supplementary rollers is provided which serves to inhibit tipping of the article in that a tipping force is translated into a rolling force. Other features contribute to this general objective as will be hereinafter made clear.

The invention will be further understood from the following description and drawings in which:

Figure 1 is a side, perspective view of the improved baby walker;

Figure 2 is an exploded view thereof;

Figure 3 is an enlarged cross-sectional view, partly broken away, taken along the line 3-3 of Figure 1;

Figure 4 is a cross-sectional view as taken along the line 4-4 of Figure 1; and

Figure 5 is a cross-sectional view as taken along the line 5-5 of Figure 4.

The frame of the walker comprises the rings or rails 10 and 11 connected together and spaced by the legs 12. In the form shown, the legs are three in number and the frame is fabricated of metal tubing such as aluminum or the like. Ring 10 is supported by a top member or planar platform 13 which may include a tray 14, these elements comprising the upper section of the walker, while ring 11 comprises the lower section thereof.

Member 13 has an opening 15 wherein is supported a conventional flexible seat 16 by means of adjustable straps 17 which are respectively disposed in three slots formed in the top member 13. Top member 13 may be a metal or plastic casting or it may be fabricated of wood or any other suitable material. It is formed with a plurality of outwardly extending arms 18, each having a peripheral groove 19 into which the ring 10 may snap during assembly. The grooves 19 define a circle of a diameter approximately that of the ring 10. As an example, the diameter of ring 10, in a satisfactory embodiment thereof, was approximately 18". Ring 10, being somewhat resilient, a suggested method of assembly is to press the

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ring over the slightly cammed edges 20 of the arms 18 whereupon the ring 10 will snap into the grooves 19 and will be retained in place.

Top member 13 serves as the main support for the legs 12. Such support is provided by a plurality of outwardly inclined openings or recesses 21 formed on the underside of member 13. An opening for each leg is provided, the leg fitting therein frictionally so as to be securely held in place without the necessity of bolting. The angle of inclination of the opening 21 is of considerable importance. Inasmuch as all the openings diverge downwardly with respect to each other, the legs 12 are forced into similar divergence as illustrated herein. The extent or angle of divergence is such that the outer ends of the legs 12, as will be hereinafter explained, normally tend to define a circle the diameter of which is greater than the bottom ring 11. For example, in the form shown, the bottom ring has a diameter of approximately 25" while the diameter of the circle normally defined by the outer ends of legs 12 is about 26". As will be shown hereinafter, such a condition permits the legs to be applied against the ring 11 and the ring will be retained by such tension or pressure as to make unnecessary the employment of bolts or the like, the legs then maintaining the respective rings vertically spaced from each other.

Means are provided on the outer ends of the legs 12 for carrying a supporting caster in a somewhat elevated position relative to ring 11. Of course, this is not intended to imply that the caster roller 22 is higher than the ring 11 but, on the other hand, it is maintained in a higher vertical position relative to ring 11 than would be the case were the caster to be directly connected to such ring 11.

The outer end of tubular leg 12 is cut downwardly at an angle so as to form a concavo-convex portion having an elliptical mouth. A caster holder 23 having an inwardly directed arm 24 is connected to each of the legs 12. The assembly is effected by frictionally forcing the leg 24 into the elliptical mouth of the outer end of the leg 12 so as to retain it therein. Caster holder 23 is advantageously molded of a resilient plastic material such as polyethylene, nylon or the like. In order to insure such assembly, the tubular leg 12 may be crimped as at 25 so that the metal is caused to bite into the plastic arm 24.

Caster holder 23 comprises a rigid tube 26 having an arm 27 depending downwardly therefrom at an angle. The arms 24 and 27 are in substantially V-shaped relation, the longitudinal axis of the V being inclined relative to the longitudinal axis of post 26 which is substantially vertical. Arm 27 is terminated in a C-shaped projection 28 which may comprise a concavity in the order of 200° so as to afford a snap fit with the ring 11, the radius of curvature of projection 28 being approximately the same as that of the cross-sectional form of ring 11.

Post 26 has a central opening serving to frictionally and snugly embrace the tubular holder 28 of the roller caster 29. Roller cast 29 is conventional and includes, in addition to the tubular holder 28, a shaft 30 which is rotatably engaged by the holder 28, a ball bearing 31, a yoke 32 on which the balls rest, and a supporting roller or wheel 33 supported on the shaft 34 of the yoke 32. Thus, wheel 33 extends vertically both above and below the ring 11.

In order to prevent inadvertent tipping of the walker with consequent danger to the baby, the following additional expedients are employed:

A wheel 35 is rotatably disposed around one portion of ring 11. Referring to Figure 5, it will be noted that a bearing 36 which may be of bronze is provided around which the wheel 35 rotates. Cotter pins 37 maintain the bearing against shifting. In the form shown, a satisfactory embodiment was constructed wherein the wheel 11

was maintained about 1" above the floor. The diameter of wheel 35 was approximately 1½" so that ordinarily, wheel 35 is suspended above the level of the floor. Accordingly, wheel 35 will not ordinarily be functional during normal usage of the walker. However, should the baby, in a normal tendency to go forward, shift the center of gravity forwardly so that the article might tip over, wheel 35 will touch the ground and will thereupon roll forwardly so as to prevent any such tipping. Of course an additional number of wheels 35 may be disposed around ring 11 but it has been found that a single such wheel is satisfactory. In addition, the relative diameters of rings 10 and 11 are useful in this respect in that should the baby, while walking, meet an obstacle and should he then continue forwardly so as to risk tipping over, the ring 10 would soon stop such any forward motion.

The invention will be briefly described as follows:

The user will frictionally insert the legs 12 as above indicated and he may also then connect the ring 10 as indicated. The caster holders will then be inserted into the outer ends of the legs so that the C-shaped concavities 28 are outermost. The ring 11, supporting the wheel 35, will be placed in the position illustrated and the legs 12 will be drawn back slightly against the normal tendency of the somewhat resilient nature thereof to diverge or extend outwardly and the C-shaped concavities 28 will be snapped over the ring 11 at the three spaced points thereof. The C-shaped concavity 28, being of resilient material will permit such snapping action and it will snugly retain the ring. It will be evident from the foregoing that no bolts are required to affect this assembly but that the normally outward position of the legs is taken advantage of to produce a simple although sturdy snap fit. In this connection it may be noted that the weight of the baby will even increase the sturdiness of the assembly since his weight will tend to urge the legs into greater divergence.

Finally, means have been employed to minimize the scratching of furniture and the like by the walker. Such means including the absence of one of the legs at the front of the walker and further includes a plastic tubular coating or jacket 38 which embraces the lower ring 11. Although this expedient may be realized by coating or dipping the ring 11, it has been accomplished by simply expanding a thin tube of resilient plastic material by compressed air and then inserting one end of the open ring 11, the ring 11 thereafter being closed in any conventional manner such as at the point 39 below the bronze bearing 36. The plastic jacket has the effect of cushioning the ring 11 and minimizes scratching of furniture.

Should the baby tip sideways, the ring 11 will soon touch the ground so as to prevent him from tipping over in that direction. Any other danger of tipping is prevented by the means above set forth.

What is claimed is:

1. A baby walker comprising an upper ring, a substantially planar platform embraced by said ring, a lower

ring, a plurality of legs connected between said platform and said lower ring and maintaining them vertically spaced from each other, said platform being formed with outwardly inclined recesses and the upper ends of said legs being retained by said recesses and diverging outwardly at a normal angle of divergence dictated by the angle of inclination of said recesses, concave projections disposed at the lower ends of said legs, said projections embracing said lower ring, said lower ring being of a diameter so as to force said leg lower ends inwardly from their normal angle of divergence so as to create a pressure against said lower ring and support it, the upper ends of said legs being frictionally retained in said recesses, said legs and rings being fabricated of resilient metal, said platform being formed with peripheral grooves, said upper ring being resiliently engaged by said grooves, a caster holder supported by the lower end of each leg, said concave projections being integral with said caster holders, said legs being tubular, an arm on each caster holder entering the hollow of the leg and being engaged by the inner walls of the leg, and a supporting roller wheel supported by each caster holder, each of said wheels being of a height so as to project vertically above the level of said lower ring.

2. A baby walker according to claim 1 and including an additional roller wheel mounted on said lower ring, said additional roller wheel being normally suspended above the lowest level of said supporting roller wheels.

3. A baby walker comprising an upper section, a lower section, and a plurality of legs connected to one of said sections and diverging outwardly at an angle to said one section, said angle being the normal angle of divergence of said legs, and the other section bearing against the outer, divergent ends of said legs and urging them in a direction opposite to their direction of divergence so as to reduce their angle of divergence from normal whereby the pressure is exerted against said lower section so as to of itself support said lower section, said upper section comprising an upper rail and a platform having a plurality of extending arms, a seat connected to said platform, said legs being mounted in inclined recesses formed in said platform so as to diverge outwardly therefrom, said legs being fabricated of a resilient material, and said lower section comprising a lower rail, each of said rails being endless rings and the upper rail being wrapped into place in the arms of said platform.

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