United States Patent [19]

Sloan

[11] **3,713,568**

[45] **Jan. 30, 1973**

[54] CHILD CARRIER

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[52] **U.S. Cl.** .....**224/6,** 224/25 A, 297/4

[51] **Int. Cl.** **A61g 1/00**

[58] **Field of Search** .....224/6, 8 R, 8 A, 9, 25 A; 297/4; 287/14; 24/81 CC

[56] **References Cited**

UNITED STATES PATENTS

3,421,670	1/1969	Hansson	224/6
3,441,314	4/1969	Duffield	297/377
3,547,054	12/1970	Caldwell	287/14 X
3,260,428	7/1966	Mack	224/6
3,543,355	12/1970	Wyckoff	24/81 CC

FOREIGN PATENTS OR APPLICATIONS

74,629	12/1958	France	297/4
960,444	1/1948	France	224/6

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Assistant Examiner—Jerold M. Forsberg
Attorney—George Gottlieb et al.

[57] **ABSTRACT**

There is disclosed a child carrier of the "back-pack" type which facilitates placing of the child in the carrier and also allows the carrier to function as a chair for the child. Attached to the single main frame of the unit there is a frame support which can be pivoted from a closed position to an open position. The frame support is secured in the closed position when the device is worn and a child is carried by an adult such that the support is almost inconspicuous. But when opened, the support serves to rigidly support the carrier so that a child can be seated in it as it stands on the floor or on the ground without danger of tipping.

6 Claims, 6 Drawing Figures

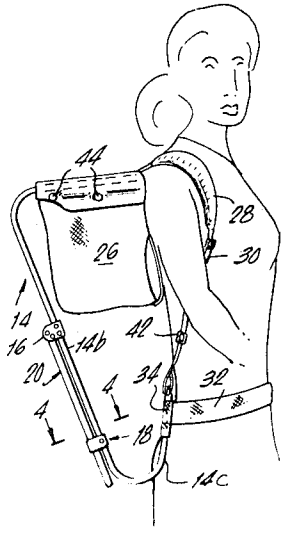


FIG. 1

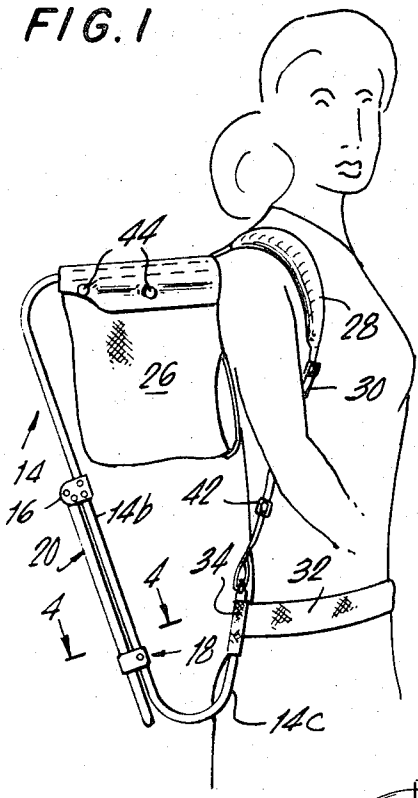


FIG. 2

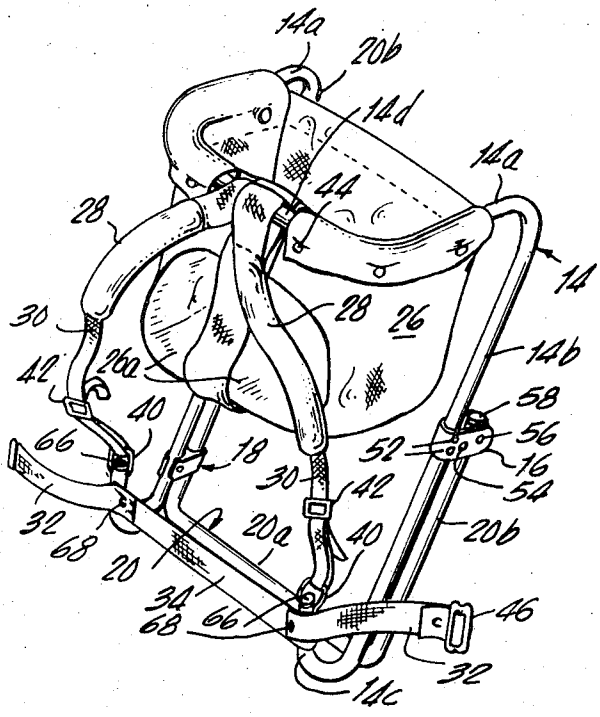


FIG. 4

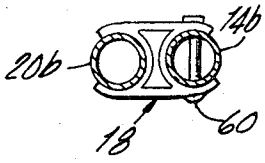
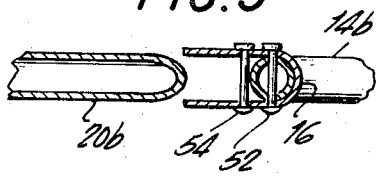


FIG. 5



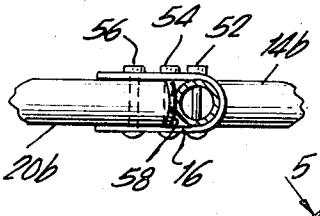
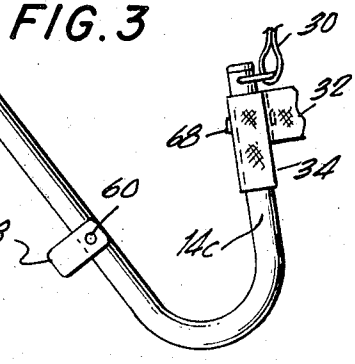


FIG. 6

FIG. 3



CHILD CARRIER

This invention relates to child carriers of the "back-pack" type, and more particularly to child carriers capable of functioning in an additional capacity as chairs.

Typical prior-art child carriers which are worn on the back of an adult are disclosed in Hansson U.S. Pat. No. 3,421,670 and Cunningham U.S. Pat. No. 3,097,773. Such a child carrier consists of a frame to which a harness and a fabricated seat sling are attached. The harness can be worn by an adult such that a child sitting in the sling can be carried without requiring him to be held by the adult.

One of the major problems with prior art child carriers is that it is difficult to place a child in the carrier without the use of additional props, or unless the carrier is placed against a wall so that it is maintained in an upright position. As a typical carrier is used, it may tip over with the child in it before an adult actually lifts it to put it on.

It is a primary object of the invention to provide a child carrier with a mechanism for allowing it to stand in an upright position without any additional separate support. A major advantage of the invention is that the child carrier can thus double as a chair since a child can be safely placed in it without it tipping over when it is placed on the floor or ground. Thus the adult not only carries the child in the carrier, but also in effect carries a chair which can be used by the child after the carrier is taken off.

It is undesirable, of course, to configure the frame of the carrier such that it is in fact a chair. This would not only be uncomfortable for the adult carrying the child, but also any protruding legs included in the structure might even be dangerous. For this reason, in accordance with the principles of the invention, the frame of the carrier includes a rotatable (foldable) support. The support has two stable positions. In one, the support is held fixed against other frame members, it adds little to the weight and bulk of the carrier, and it is almost inconspicuous. In the other, the support, together with the bottom of the basic frame member, serves as a stable chair base for the carrier. A lock mechanism is provided to secure the rotatable frame support in the first position when the carrier is worn by an adult. The frame support is held fixed in its second position when the carrier is used as a chair as a result of the weight of the child and the use of a resilient detent.

It is a feature of the invention to provide a child carrier which includes a frame support mounted for rotatable movement on the frame of the carrier, the frame support being held in a first closed position by a lock mechanism and being held in a second open position by the weight of the child in order to transform the "back-pack" carrier into a chair.

Further objects, features and advantages of the invention will become apparent upon consideration of the following detailed description in conjunction with the drawing, in which:

FIG. 1 depicts the child carrier of the invention as it is worn by an adult (the child within the carrier not being shown for the sake of clarity);

FIG. 2 is a perspective view of the carrier of FIG. 1;

FIG. 3 is a partial view of the carrier, when it functions as a chair, as seen from one side;

FIG. 4 is a sectional view taken through the line 4—4 of FIG. 1;

FIG. 5 is a sectional view taken through the line 5—5 of FIG. 3; and

FIG. 6 is a sectional view taken through the line 6—6 of FIG. 3.

The frame 14 of the carrier includes several sections of a bent tube. Referring to FIGS. 1–3, each end 14*c* of the tube, when the carrier is worn, is positioned at one side of the hips of the wearer. Each end of the tube is bent as shown at the bottom of FIG. 3 to form two main side sections 14*b*. The tube is bent again toward the rear of the device to form two horizontal sling-support members 14*a*. Finally, the tube is further bent twice so that section 14*d* passes along the top of the back of the wearer. The top of the frame thus forms a three-sided support for seat sling 26. The sling is of conventional design with foot holes 26*a* facing away from frame 14 (although, as is known in the art, additional foot holes can be placed on the opposite side of the sling so that the child can face either forward or backward). The sling is fixed to the frame by folding its edges over frame sections 14*a* and 14*d*, and riveting the edges in place as shown by the numeral 44. (Alternatively, the edges may be sewn or snapped in place.)

A pair of padded shoulder straps 28 are provided. Each shoulder strap is sewn at one end around frame section 14*d* preferably at the center of the frame. The other end of each shoulder strap terminates in a respective strap 30 (which need not be padded). Each strap 30 passes through a respective "D" ring 40 mounted at one end of the frame and terminates in a friction buckle 42. As shown in FIG. 3, a plastic closure cap 66 is inserted into each end of the tube frame 14.

Webbing 34 passes across the frame and is secured to the two ends 14*c* as shown most clearly in FIGS. 2 and 3. The webbing bears against the buttocks of the adult wearer for transferring part of the weight from the shoulders to the buttocks. The webbing is secured to the ends of the frame by rivets 68. The rivets also function to secure one of straps 32 to each end of the frame. A buckle 46 at the end of one of the straps (FIG. 2) allows the straps to be secured to each other around the wearer as shown in FIG. 1. Although not shown in the drawing, an additional pair of straps may be provided to pull the two shoulder pads 28 towards each other in front of the wearer.

Along each of frame sections 14*b*, at approximately the center thereof, there is secured a U-shaped yoke 16, held by two rivets 52. A frame support tube 20 is bent in two places to form a bottom section 20*a* and two side sections 20*b*. A plastic closure cap 58 is secured in each end of the frame support 20, and each end of the tube is held within a respective one of the yokes. A pivot pin 56 passes through the two sides of each yoke and the respective end of the frame support member 20. The frame support can thus be moved between the position shown in FIGS. 1 and 2, and the position shown in FIG. 3. The former is the carrying position while the latter is the chair-support position. An additional rivet 54 passes through the two sides of each yoke 16 and serves as a stop for the respective side 20*b* of frame support member 20. As shown in FIG. 3, frame support 20 can rotate no further in the clockwise direction because each end of the frame sup-

port bears against one of the two stops **54**. The weight of the child maintains the frame support in an open position when the carrier is used as a chair because the center of gravity of the child and the carrier is centered between those points making contact with the ground. Furthermore, in order to prevent any possible closing movement by frame support **20** if the child bounces in the chair or should otherwise shift its weight, the two ends of the support are provided with resilient plugs **58** which bear against sections **14***b* of the frame and serve as detents to lock the frame support in an open position even if the chair is lifted off the ground.

A plastic friction clip **18**, secured to one of the two side sections **14***b* by a rivet **60**, serves to secure frame support **20** to frame **14** in the closed position. The clip is resilient and the frame support can be forced into the two gripping ends of the clip as shown in FIG. **4**. To release the frame support, all that is required is the application of a little force to separate it from the clip. It should be noted that, when in the closed position, the frame support is substantially in the plane of side sections **14***b* of the frame and there are exhibited no dangerous projections.

The provision of frame support **20** thus allows the child carrier to double in the capacity of a chair. This not only facilitates placing the child into the device when it is desired to use it as a carrier, but it also in effect allows the adult wearer to transport a chair for the child from place to place at the same time that the child is carried. It has also been found that the particular shape of frame **14** and the position of webbing **34** provide for far greater comfort for the wearer than prior art child carriers of the same type.

As is apparent from FIG. **3**, the curved lower ends **14***c* of the frame provide two functions. They serve to properly position webbing **34** relative to the wearer's buttocks and they offer maximum rigid support for the carrier when it is used as a chair. Also the U-shaped of the frame support **20** offers maximum support because section **20**a lies on the floor along the full width of the chair.

Although the invention has been described with reference to a particular embodiment, it is to be understood that this embodiment is merely illustrative of the application of the principles of the invention. Numerous modifications may be made therein and other arrangements may be devised without departing from the spirit and scope of the invention.

What is claimed is:

1. A back-pack child carrier comprising a frame member; a seat supported by said frame member; harness means attached to said frame member for attachment to an adult wearer; said frame member having symmetrical side sections each of which has a first part which slopes upwardly and rearwardly of an adult wearer when the child carrier is worn by said adult wearer and a second shorter part which slopes upwardly and forwardly, the first and second parts of each of said side sections being joined in a curved configuration at the bottoms thereof; said harness means extending from said frame member in a direction toward the front of said adult wearer; frame support means pivotally connected to said frame member for rotation of the bottom thereof away from said frame member, said frame support means having a closed position when the child carrier is worn by an adult wearer and having an open position for supporting the child carrier on a floor in a stable position, said frame support means sloping in said open position in a direction opposite to that of the first parts of said side sections for positioning said frame member on the floor such that a child sitting in said seat is supported in the same upright position as when sitting in said seat when the child carrier is worn by an adult wearer, and sloping in said closed position in a direction which is parallel to the first parts of said side sections; and flexible support means connected between the upper ends of the second parts of said side sections and being entirely disposed above the lowermost portions of said side sections for bearing against the rear of an adult wearer.

2. A back-pack child carrier in accordance with claim **1** wherein said frame support means is pivotally connected to said frame member relative to the position of said seat such that when the carrier is placed on a floor and said frame support means is in said open position the weight of a child in said seat tends to cause said frame support means to rotate away from said frame member, and stop means for limiting rotational movement of said frame support means.

3. A back-pack child carrier in accordance with claim **2** wherein said frame support means includes resilient detent means for bearing against said frame member when said frame support means is in the open position for locking said frame support means in said open position.

4. A back-pack child carrier in accordance with claim **1** wherein said frame member side sections extend substantially the full length of the child carrier at the rear thereof, and said frame support means includes a pair of legs each pivotally connected at the top thereof to a respective one of said side sections in the central region thereof.

5. A back-pack child carrier in accordance with claim **1** wherein said frame support means includes resilient detent means for bearing against said frame member when said frame support means is in the open position for locking said frame support means in said open position.

6. A back-pack child carrier in accordance with claim **1** wherein said frame support means is U-shaped and includes a bottom section which lies on the floor along substantially the full width of the child carrier when the frame support means is in the open position.

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