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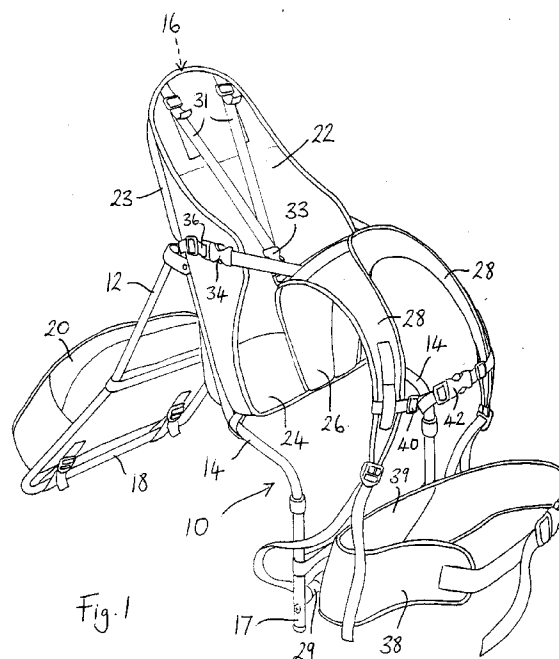
(71) Applicant : **TRUBEND MANUFACTURING LIMITED**
Heys Industrial Estate,
Rockliffe Road
Bacup, Lancashire OL13 9QG (GB)

(72) Inventor : **Lord , Graham**
447 Helmshore Rd
Helmshore
Rossendale Lancashire BB4 4JR (GB)
 Inventor : **Graham , Thomas**
8 Priestwell St.
Cross Stone
Todmorden Lancashire OL14 8AP (GB)

(74) Representative : **Hackney, Nigel John et al**
Mewburn Ellis,
York House,
23 Kingsway
London WC2B 6HP (GB)

(54) **Baby/child carrier.**

(57) The baby carrier has a substantially rigid frame (10) including an upper U-shaped portion (16) extending from respective side frame members (14), a seat (22, 24) for a baby suspended from said U-shaped portion, and straps (28) for mounting the carrier on a user's back. The upper U-shaped portion (16) extends upwards in alignment with or at an obtuse angle to the respective side frame members (14) and the seat (22, 24) for the baby is suspended from the U-shaped portion at the front thereof, in the orientation in which the carrier is to be used. Preferably, the seat for the baby is front loading in that it is provided with a releasable frontal flap (26). Preferably, also, the seat for the baby has a seat position proper (24) incorporating a rigid or semi-rigid element.



This invention concerns a baby or child carrier (hereinafter referred to as a baby carrier) of the type having a substantially rigid frame, e.g. typically of metal tubing, and straps whereby it is mountable on a user's back.

In one known baby carrier of this type the tubing providing the frame is configured to include an upper U-shaped portion which extends from and at an acute angle to respective side frame members. In the intended orientation of use of the carrier the said U-shaped portion projects forwardly from the top of the side frame members and forms the front of the carrier which lies between a baby seated therein and the user when the carrier is mounted on the user's back. In this respect, a fabric seat for reception of the baby is suspended to the rear of the U-shaped portion and the straps to go over the user's shoulders are also attached to the U-shaped portion.

Conventionally, the fabric seat is in the style of a pouch or hammock, with holes provided for the baby's legs to project through and, optionally, with side adjustment by means of straps whereby the bottom of the pouch can be raised or lowered relative to the top of the frame (i.e. the U-shaped portion).

A back rest may be provided in the form of a padded board at the rear of the pouch and extending upwardly therefrom so as to support and/or shelter the head of a baby, particularly when sleeping. Additional fabric is usually suspended from the U-shaped portion of the frame and attached to other portions of the frame to provide an enclosure for the baby's body and legs. The U-shaped portion is padded in order to safeguard the baby who may tilt forwards and bump said portion.

Lower ends of the side frame members may, in simple versions, be connected by a further, lower U-shaped portion, which usually projects rearwardly therefrom in use. In this respect the side frame members generally extend obliquely between upper and lower U-shaped portions so that the frame, when viewed from the side, approximates to a reversed Z-shape.

Alternatively, in more complex versions, the lower ends of the side frame members may provide feet whereby the carrier can be supported on a surface, with one or more additional frame elements being pivotally connected to the rear of the side frame members to provide two further legs, the lower ends of which will also make contact with such surface. In this respect the additional pivotally connected legs are movable between a first "closed" position lying closely adjacent the respective side frame members and a second "open" position where their lower ends are swung out to provide additional supportive feet for the carrier. Stable support of such a carrier on a surface is particularly advantageous to the user when initially placing the baby therein and also immediately upon lowering the carrier from the shoulders.

One object of the present invention is to effect improvements to a back-mounted baby carrier whereby it may be manufactured more cost effectively and whereby a baby may be more easily positioned therein or removed therefrom.

Additionally or alternatively, the invention may provide alternative means for stable support of the carrier upon a surface with the baby seated therein, which support means is easier for the user to position while the carrier is mounted on his/her back compared to the known pivotal legs and which is preferably adjustable in position so that the carrier may also be safely supported upon a sloping or uneven surface.

According to one aspect of the invention there is provided a baby carrier having a substantially rigid frame including an upper U-shaped portion extending from respective side frame members, a seat for a baby suspended from said U-shaped portion, and shoulder straps positioned for extending over a user's shoulders for mounting the carrier rearward of the user's back, characterised in that the seat for the baby has a back rest portion and is suspended from the U-shaped portion facing towards the user's back in use.

With such a construction no part of the frame intervenes between the baby and the shoulders of the user when the carrier is in use. In other words, there is no frontal part of the frame against which the baby may bump.

Preferably, the upper U-shaped portion extends generally upwards in the orientation in which the carrier is to be used, with a middle portion thereof being located adjacent a baby's head in use. Preferably, the upper U-shaped portion extends generally in alignment with the side frame member.

Equally importantly, the seat for the baby may be constructed more simply than hitherto from a production viewpoint with a back rest portion including a fabric pocket whereby it can readily be located over the U-shaped frame portion during manufacture. It may, in the same way, be removable by the user, for cleaning and repair.

A further simplification in the construction of the seat, both from the point of view of its production and as regards the manner of positioning a baby therein, is that it may now be fabricated with a releasable frontal flap, held at each side by e.g. conventional child proof releasable fastenings. Thus, with the carrier laid flat and the flap released and folded downwards or forwards a baby can be placed in the seat, lying on its back, before the flap is folded back over the baby and secured at both sides. This contrasts with the procedure necessary for positioning a baby in previously known carriers of this general back-mountable type where the legs of the baby had to be guided into the respective holes in the suspended pouch, often with some difficulty.

A further advantageous proposal in respect of the

carrier of the invention is that the seat should be provided with a seat portion proper incorporating a rigid or semi-rigid element whereby the bottom of the baby will have positive support from below, in contrast to the previous arrangement of the baby hanging in a pouch. Thus, according to a further aspect of the invention, a baby carrier of the type having a substantially rigid frame including an upper U-shaped portion extending from respective side frame members, a seat for a baby suspended from said U-shaped portion, and straps for mounting the carrier in a user's back is characterised in that the seat has a seat or base portion (or seat bottom) incorporating a rigid or semi-rigid element for support of the baby from below when the carrier is in its upright carrying position.

In respect of a further object of the invention, a separate aspect of the invention is a baby carrier of the type having a substantially rigid frame including an upper U-shaped portion extending from respective side frame members, a seat for a baby suspended from said U-shaped portion, straps for mounting the carrier on a user's back and support means which is pivotally connected to the respective side frame members and swingable relative thereto to an open position for supporting the carrier on a surface, characterised in that said support means is connected to at least one of the side frame members by way of a releasable locking mechanism whereby it may be positionally adjusted and locked in any selected open position for supporting the carrier on a surface or in a closed position adjacent the side frame members.

Preferably, a respective locking mechanism is provided at each side of the carrier frame, with both mechanisms requiring release to enable adjustment of the position of the support means. This safeguards against failure of one mechanism, although in most circumstances a single such locking mechanism would suffice.

For ease of release of the locking mechanism(s), particularly when the carrier is mounted on a user's back with a baby seated therein, a mechanism with a push button release is preferably employed. With the button or buttons depressed the position of the support means can be readily adjusted to that required, then, upon release of pressure from the button or buttons, the support means is automatically locked in the selected position. In this way angular positions for the support means can be selected whereby the carrier can be stably placed on rough, uneven or sloping ground.

In a preferred embodiment the support means is in the form of a further U-shaped member having end portions which are pivotally connected at or near ends of the respective side frame members. However, this is not essential, and in other embodiments the support means could be in the form of a U-shaped member having end portions which are pivotally connected to the side frame members at locations remote from

the ends of the latter. Alternatively, the support means could take the form of two separate legs or other supports, pivotally connected to the respective side frame members at or adjacent the lower ends of the latter, or remote from the lower ends of the latter. Yet another possibility is that the support means is unitary, and connected between the side frame members, but is not in the form of a U-shaped member.

Two specific embodiments of baby carriers in accordance with the various aspects of the invention will be described further, by way of example, by reference to the accompanying drawings, in which:

Fig. 1 is a front perspective view of a first embodiment in a condition for placement on a surface;

Fig. 2 is an identical view of the same embodiment with the frontal flap of the seat shown released and folded forwards; and

Fig. 3 is a corresponding view of a second embodiment of carrier in accordance with the invention.

Referring firstly to Figs. 1 and 2, this embodiment consists of a substantially rigid frame, conveniently fabricated from tubular aluminium, onto which a seat for reception of a baby is mounted. The frame is made up of two generally U-shaped elements, namely a main frame portion, designated by reference numeral 10, and a support portion 12.

For the purposes of the description, the main frame 10 is conveniently divided into two side frame members or limbs 14, which are each of kinked or jogged configuration, as shown, and are symmetrically formed, and an upper U-shaped portion 16 (not visible, but its position is indicated) which links the two side frame members 14 and extends in alignment with upper regions of the side frame members 14, as a continuation therefrom.

Ends of the support frame 12 are pivotally connected to the main frame at or about the regions where the respective side frame members 14 merge into the upper U-shaped portion 16. The support frame 12 is freely pivotal and can be swung between a closed or folded condition lying adjacent the side frame members 14 and an open condition, as shown, enabling the carrier to stand in an upright position on a substantially flat surface. One or more retainers or clips may be provided on either or both of the main frame and support frame which is/are usable to lock the support frame in either or both of the open and closed positions.

In this respect the ends of the side frame members 14 provide front feet 17 (only one is visible) and a connecting portion or crosspiece 18 of the support frame 12 provides a rearward support. As shown, a bag 20 may optionally be mounted onto the support frame 12.

The seat for the baby is made of fabric, typically textile fabric of a washable and weatherproof type, and comprises a back rest portion 22 with integral

side portions, a seat bottom 24 (which may be referred to as seat portion proper), and a frontal flap 26. Straps 28 for extending over a user's shoulders (not shown) whereby the carrier is mounted on the user's back are, in this case, provided as integral extensions from the frontal flap 26. Other ends of these straps 28 are connected at 29 to a crosspiece extending between end regions of the side frame members 14.

As is readily apparent from the drawings, the seat is suspended from the front of the main frame so that when the carrier is mounted on a user's back, a baby can be carried therein at a location between the frame and the user's back. In other words, no parts of the frame intervene between the baby and the user's back.

The back rest portion 22 of the seat has a downwardly open pocket or flap 23 on its rear side, which, in assembly of the carrier during manufacture, is located over the upper U-shaped portion 16 of the main frame, so that the seat is suspended therefrom in the illustrated manner.

The seat portion proper 24 incorporates a rigid or semi-rigid core to provide a firm base for the seat for supporting a baby from below. In this respect, the core may be a piece of hardboard or polypropylene or the like slipped between upper and lower layers of fabric and stitched or glued or otherwise fastened therein during manufacture.

As best shown in Fig. 2 two straps 31 extend from the top of the backrest 22 and one strap 32 extends centrally from the front of the seat bottom 24 and these straps 31, 32, which together provide a harness for the baby, are securable at a central location by means of a childproof fastening 33 on the end of one of them so as to retain a child in the seat. The straps 31, 32 are adjustable in length.

The frontal flap 26 is an additional device for holding a child in the seat. It also serves to properly position the child in the centre of the seat, as openings for the legs of the child are defined more narrowly at each side thereof, and to shelter the child to some extent. At each side the flap 26 is secured by conventional childproof releasable fastenings 34, comparable to the fastening 33. As shown, one portion of each fastening 34 is provided on a respective strap 36, connected to the edge of the backrest 22 or directly to the main frame, which is adjustable in length. In modified embodiments such adjustable straps could be used between the flap 26 itself and the respective fastening portions connected thereto, instead of or in addition to those in the illustrated embodiment.

As shown, a hip belt 38 for the user, which may or may not incorporate a lumbar pad 39, is mounted onto the lower ends of the side frame members 14 and/or the above mentioned crosspiece which extends therebetween. Also, straps 40 for holding the main shoulder straps 28 in a comfortable position at the front of the user's body are provided on the said

straps 28 for fastening across the chest of a user, again by means of a conventional fastening 42.

In use, with the frontal flap 26 released and drawn forwards, as in Fig. 2, and with the straps 31, 32 also released, a child may be placed in the seat 22, 24 and then secured therein upon reattachment of the respective features 33, 34. This may be accomplished with the support frame 12 folded into its closed position adjacent the side frame members 14 and the entire carrier laid flat on a convenient surface, in which respect the child will be positioned while lying on its back. Thereafter, the carrier can be lifted directly onto a user's back, or the support frame 12 may be swung out, as shown, and the carrier disposed as shown in Fig. 1 for a while before being lifted onto the user's back, whereupon the support frame should be swung to its closed position again.

Alternatively, the child may in some cases be positioned in the seat 22, 24 while the carrier is supported in an upright position, as shown in the drawings.

When the carrier is to be lowered from a user's back, the user will generally wish to reach behind and swing the support frame 12 to an open position so that, when lowered, the carrier can straightaway be supported on the ground, or any other convenient approximately flat surface, before the child is removed.

Turning now to the embodiment of Fig 3, the details of the main frame and the seat are identical to those just described for the first embodiment, so they will not be repeated. The corresponding parts are indicated by the same reference numerals elevated by 100.

This embodiment differs in respect of the support frame. With the previous embodiment, the user may have some trouble in manipulating the support frame 12 to swing it between closed and open positions while the carrier is actually on his/her back. Also, with only one fully open position, the carrier is only stably supported when placed down on a relatively flat surface. These problems are obviated with the support frame of this further embodiment, which is designated by reference numeral 52.

As shown, this support frame 52 is also of U-shaped configuration, but in this case, ends thereof are pivotally connected to lower ends 117 of the side frame members 114 by way of respective locking devices 54 (only one of which is visible). Each device 54 includes a push button 56 and, upon depression of both at the same time, the support frame 52 is released to pivot freely. The frame 52 can then be positioned at any described angle relative to the main frame 110, and, upon release of the buttons 56, it will be locked in the selected position. Depression or release of the buttons 56 is readily accomplished by a user while the carrier is mounted on his/her back, and the selection of the angle of the support frame allows the carrier to be stably supported on a sloping or un-

even surface.

In Fig. 3, although the frontal flap 126 is connected to the front of the seat portion proper 124, as in the first embodiment, there is a lower extension, designated 127, providing an additional pad for the comfort of the user.

The details, shown in Fig. 3, of construction of the support frame could, of course, vary in other embodiments, while still retaining the feature of releasable locking devices to connect it to the main frame. Also so long as the support frame is a unitary element (or one piece) only a single such releasable locking device would suffice. In modified embodiments, the locking device or devices could be released by actuation by the user of a lever operated cam instead of a push button, or one or more pressure locks could be used in place of the illustrated type of releasable locking devices. Other variations are possible.

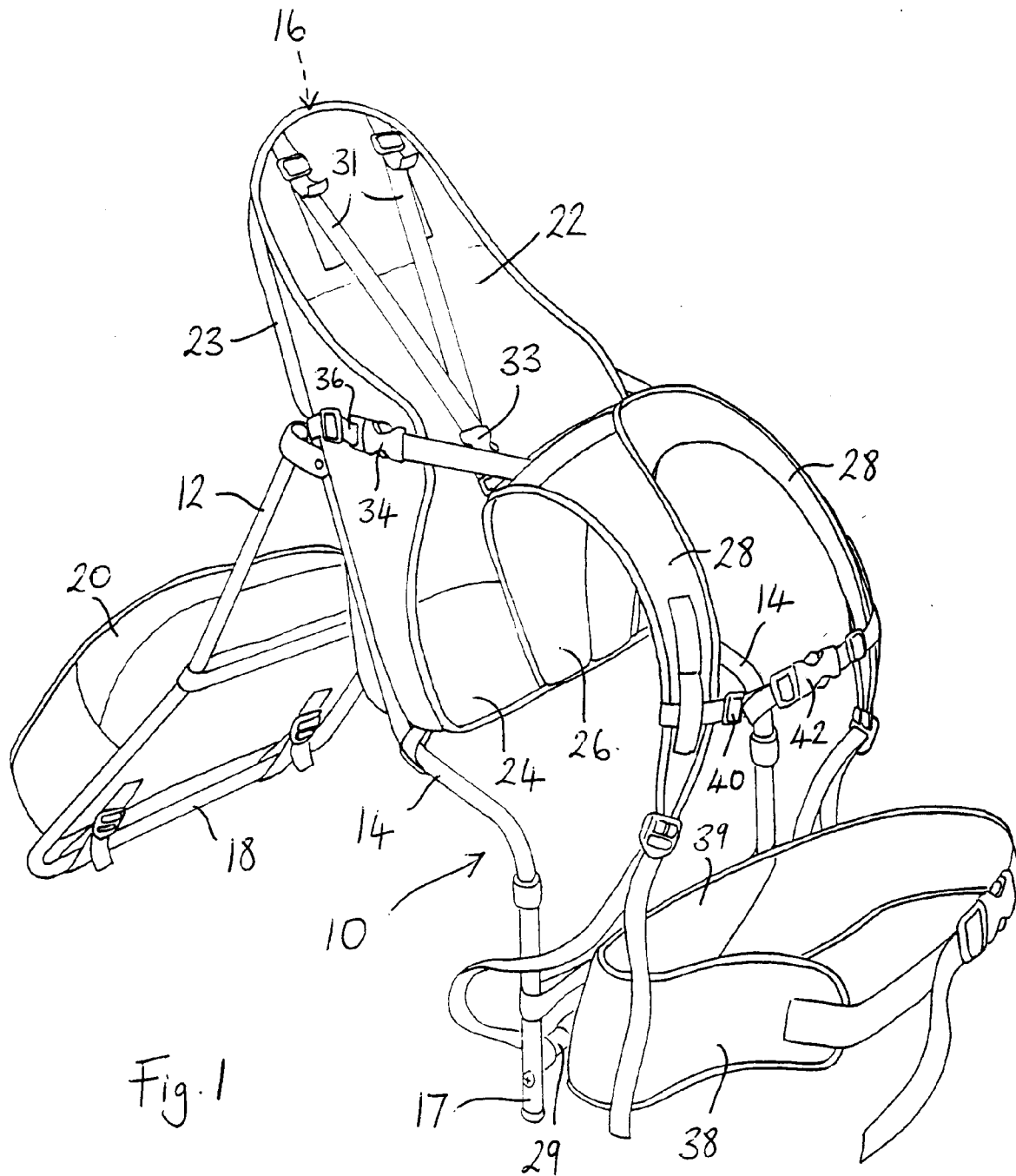
More generally, the invention is not limited to the details of the illustrated embodiments and many variations are possible. For example, the main frame 10, 110, could include additional crosspieces, such as a crosspiece in the vicinity of the front of the seat bottom 24, 124 to which the latter and/or the frontal flap 26, 126 could be enclosed. Also, the straps 28 need not be extensions of the flap 26 and could be connected thereto at some other position, or connected to another suitable and/or point in the frame or seat.

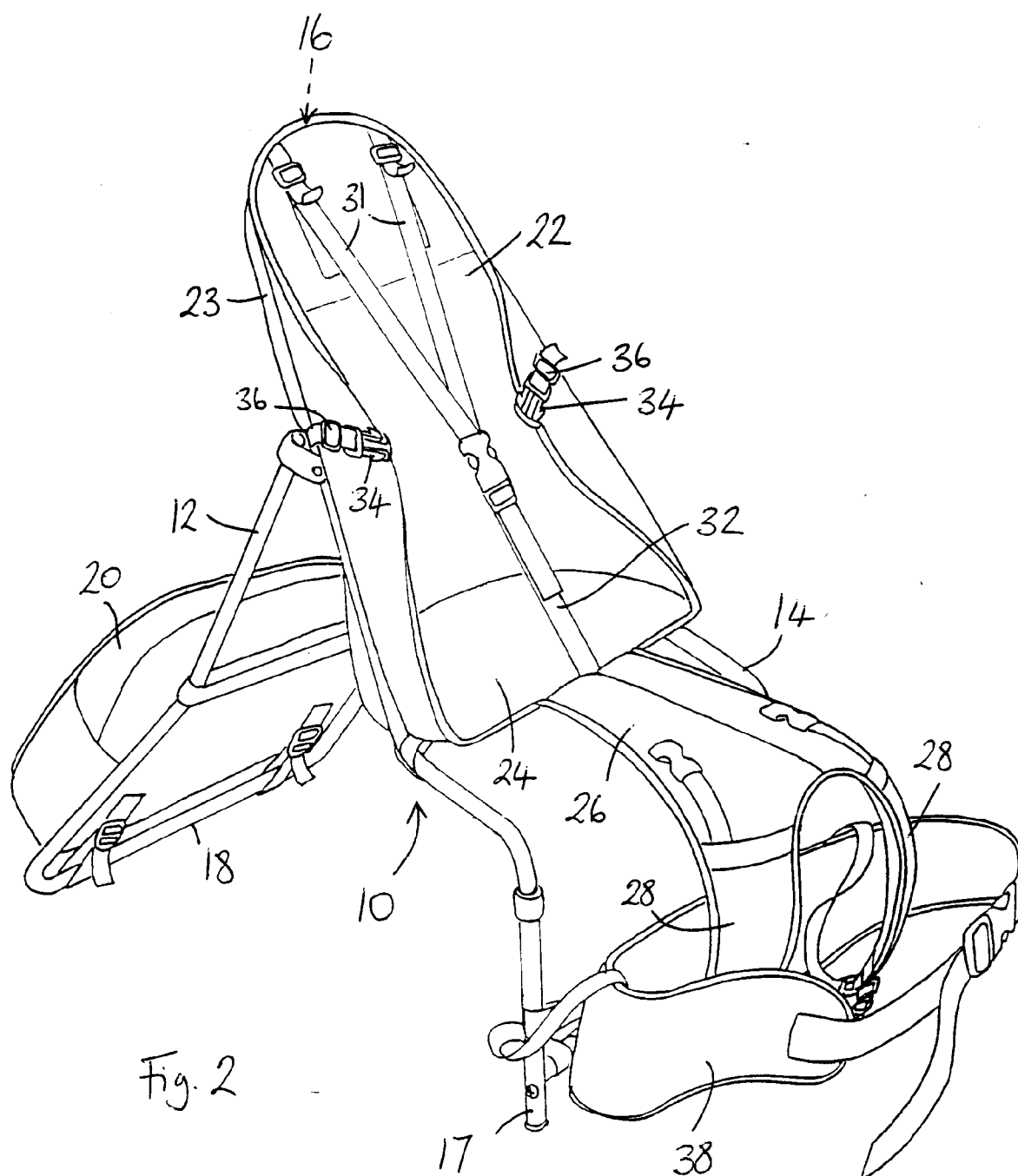
Claims

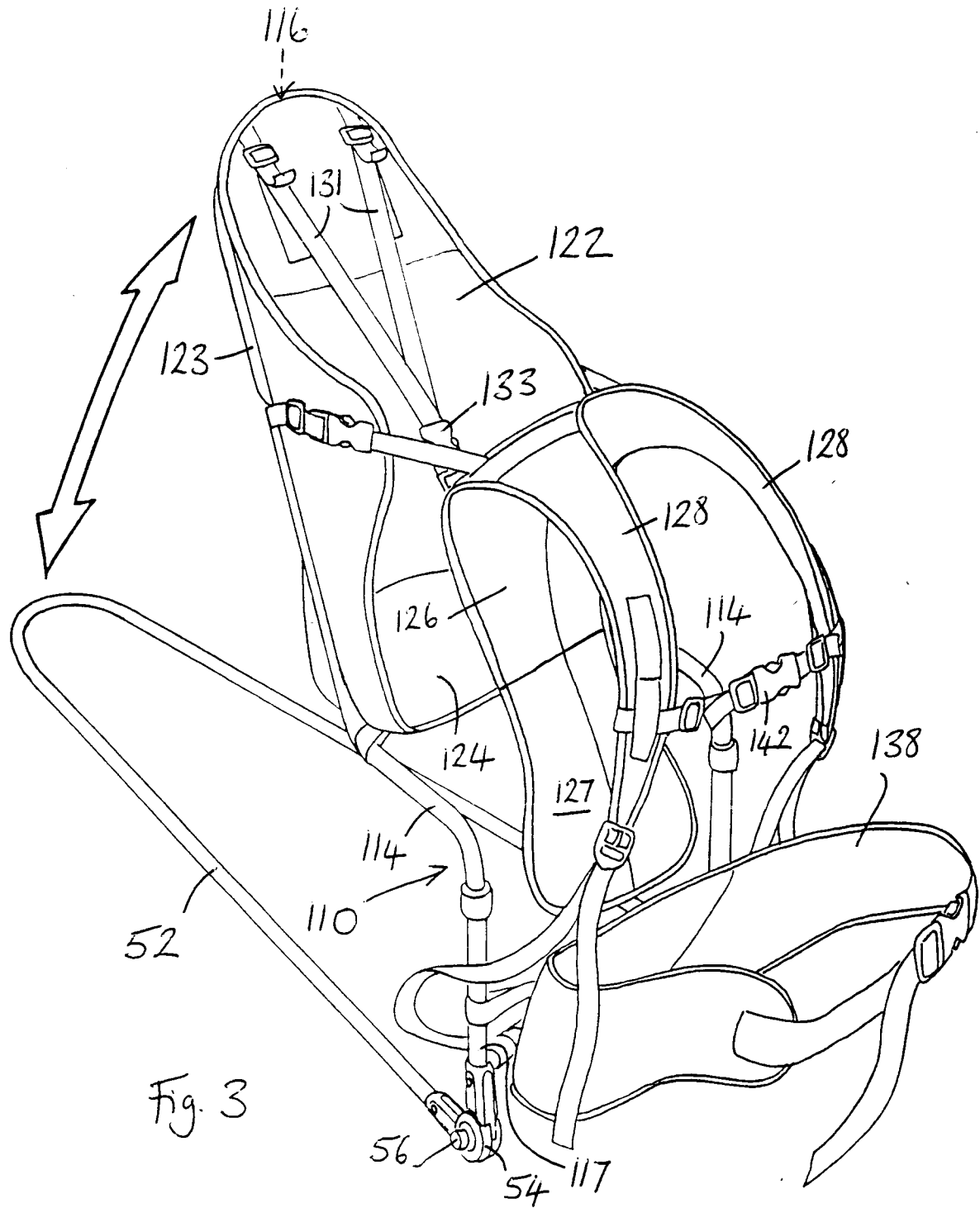
1. A baby carrier having a substantially rigid frame (10) including an upper U-shaped portion (16) extending from respective side frame members (14), a seat (22, 24) for a baby suspended from said U-shaped portion, and shoulder straps (28) positioned for extending over a user's shoulders for mounting the carrier rearward of the user's back, characterised in that the seat for the baby has a back rest portion (22) and is suspended from the U-shaped portion facing towards the user's back in use.
2. A baby carrier according to claim 1 wherein the back rest portion of the seat includes a fabric pocket (23) whereby it is mounted over the U-shaped portion of the frame.
3. A baby carrier according to claim 1 or 2 wherein the seat for the baby is provided with a releasable frontal flap (26).
4. A baby carrier according to claim 3 wherein the frontal flap is securable at each side by releasable fastenings (34).
5. A baby carrier according to claim 4 wherein the

straps for mounting the carrier on a user's back are provided as extensions of the frontal flap.

6. A baby carrier according to any preceding claim wherein the seat for the baby has a seat portion (24) (or seat bottom) incorporating a rigid or semi-rigid element for support of the baby from below when the carrier is in its upright carrying position.
7. A baby carrier according to any preceding claim further including support means (12, 52) pivotally connected to the respective side frame members and swingable relative thereto to an open position for supporting the carrier on a surface, said support means being connected to at least one of the side frame members by way of a releasable locking mechanism (54) whereby it may be positionally adjusted and locked in a selected open position for supporting the carrier on a surface or in a closed position adjacent the side frame members.
8. A baby carrier according to claim 7 wherein the or each locking mechanism is releasable by a push-button (56).
9. A baby carrier according to claim 7 or 8 wherein the support means is in the form of a further U-shaped member (52) having end portions which are pivotally connected at or near ends of the respective side frame members.
10. A baby carrier according to any preceding claim wherein the upper U-shaped portion extends generally upwards in the orientation in which the carrier is to be used, with a middle portion thereof being located adjacent a baby's head in use.
11. A baby carrier according to any preceding claim wherein the upper U-shaped portion extends generally in alignment with the side frame members.
12. A baby carrier of the type having a substantially rigid frame including an upper U-shaped portion extending from respective side frame members, a seat for a baby suspended from said U-shaped portion, and straps for mounting the carrier on a user's back, characterised in that the seat has a seat portion proper (or seat bottom) incorporating a rigid or semi-rigid element for support of the baby from below when the carrier is in its upright carrying position.









European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 0065

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP-A-0 509 107 (INTERNATIONAL DESIGN/MANUFACTURING INC.)	1,10,11	A47D13/02
Y	* column 4, line 45 - column 7, line 45; figures 4-6 *	2	
A	---	7,9,12	
Y	FR-A-2 321 251 (SALINO)	2	
A	* page 1, line 36 - page 2, line 30; figures 1-3 *	12	
A	FR-A-2 571 238 (CLERC) * figures 1-3 *	10,11	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 April 1995	Examiner Mysliwetz, W
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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