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(54) **CHILD CARRIER**

(57) A child carrier (1) is provided comprising a main body (3) attached to a waist belt (5) and one or more shoulder bands (7, 9) attached to the main body (5) for carrying a child (11) seated in the main body (3) against a torso of a user (13), the child carrier (1) having an inside for facing the user and carrying the child (11). The main body (3) comprises a central portion (15) and side portions (17, 19) on lateral opposite sides of the main body (3). The waist belt (5) has a height defined by a top edge (T) and a bottom edge (B) opposite the top edge (T). The central portion (15) is attached to the waist belt (5) at a central attachment location (25). Each side portion (17, 19) is attached to the waist belt (5) towards the inside thereof at a respective side attachment location (27, 29) located laterally adjacent and below the central attachment location (25), and free from the waist belt (5) for a height of at least 3 cm from the top edge (T), such that each of the thus-attached side portions (17, 19) is movable along the top edge (T) .

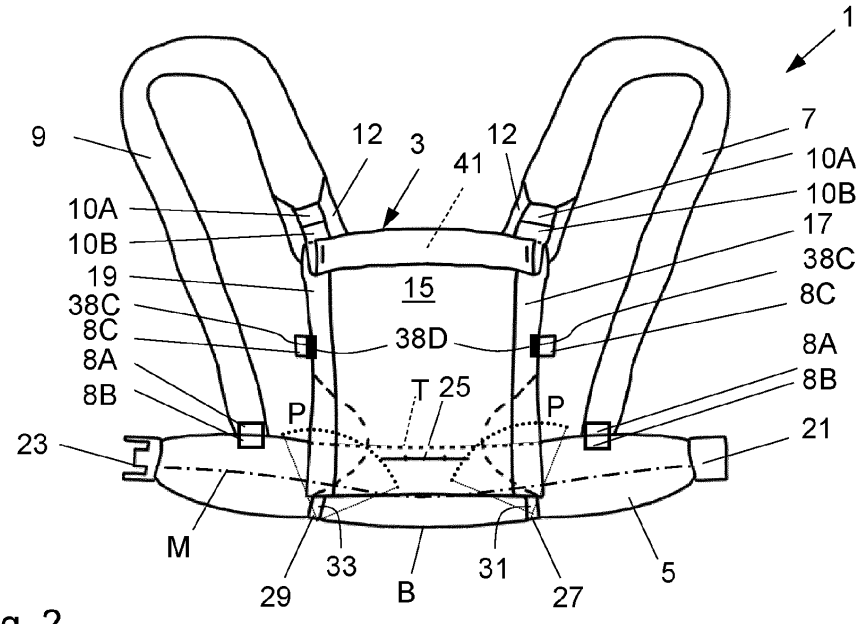

Fig. 2

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Description

TECHNICAL FIELD

[0001] The present disclosure relates to the field of child carriers, in particular soft child carriers for children in the age of newborn to toddler. The carrier comprises a main body and attached to a waist belt and shoulder bands attached to the main body for carrying a child seated in the main body against a torso of a user, the child carrier having an outside and an inside for facing the user and carrying the child,

wherein the main body comprises a central portion and side portions on lateral opposite sides to the main body, and
wherein the waist belt has a height defined by a top edge and a bottom edge opposite the top edge.

BACKGROUND

[0002] Such child carriers are known. The carrier facilitates carrying a child from the ages of newborn to toddler. In the carrier, the child may face inward, i.e. toward the user or, provided the child is sufficiently strong and tall, outward, i.e. away from the user. The user is a person carrying the child using the carrier. Generally the user is an adult such as a (grand-)parent of, or other care-giver for, the child.

[0003] In the carrier when the child faces the user, the child's bottom may be supported by the central portion of the main body, and upper legs may at least in part be supported by the side portions. In such carrier, newborns and infants may adopt posture wherein the child's upper legs are spread bent upward, commonly referred to as an "M-posture" or "frog-posture". Larger and/or older children may adopt a posture wherein the upper legs are spread less and/or bent more downward.

[0004] For newborns and/or in the frog posture, it is desired that the back of the child is supported in a suitable curvature and that its pelvis is suitably tilted. Also, localised pressure on the child's bottom and upper legs should be prevented which may otherwise hinder blood flow. For such case it may be desired to have the main body shaped into a so-called "bucket seat" (wherein the central portion is relatively lower and deeper than the side portions in both lateral and inside-outside directions). For larger children adopting less upward-bent upper legs, a shallower seat in lateral and/or inside-outside directions and/or a narrower seat may be desired to accommodate the different leg spread. A difference in leg spread and/or bucket seat depth may also depend on the size and weight of the child.

[0005] In order to accommodate children of different ages, sizes and support-requirements, child carriers of the aforementioned kind have been developed in the art wherein the width and/or shape of the main body is adjustable.

[0006] E.g. WO 2012/079787 and WO 2013/037514 disclose a child carrier comprising main body providing a seating portion. The seating portion comprises left and right adjustment portions which are adjustable with respect to the main body in a first configuration and a second configuration providing the seating portion with different widths. The adjustment comprises (possibly) partly detaching left and right adjustment portions from the main body by opening fasteners.

[0007] Hence, these carriers provide width-adjustment but have limited flexibility in adjustment of the carrier to form a bucket seat.

[0008] WO 2018/081603 discloses an adjustable child carrier includes an adjustable bucket seat that can be adjusted to accommodate children of a wide range of sizes. The child carrier includes one or more adjustments that work alone or in cooperation to adjust the depth and width of the bucket seat area provided by the child carrier. The carrier is capable of supporting children of various sizes in an ergonomic posture appropriate for the child's size. The child carrier is adjustable for multiple carrying positions and orientations.

[0009] WO 2020/112660 discloses a soft-structured child carrier that includes a body panel having a bottom end attached to a bottom portion of the waistband, a first shoulder strap, a second shoulder strap, a first shoulder strap attachment panel attached to the interior side of the body panel away from the side edges of the body panel and a second shoulder strap attachment panel attached to the interior side of the body panel and away from the side edges of the body panel. The body panel can be configurable in a plurality of configurations relative to the waistband. According to one embodiment the plurality of configurations include i) a first configuration in which the body panel is lifted up by the first shoulder strap and second shoulder strap to the exterior side of the waistband and is not folded between the waistband and the wearer, the first configuration forming a first bucket seat with a first base width; and ii) a second configuration in which a portion of the body panel is folded between the waistband and the wearer and the body panel exists from behind the waistband at the top edge of the waistband, the second configuration forming a second bucket seat with a second base width.

[0010] These carriers require adjustment of the carrier for proper use when worn by different users. More importantly, this carrier requires adjustment of the carrier for proper use when used for different children. The carrier requires the adjustment before seating the child into the carrier and therefore hinders use of the carrier with children of different sizes, e.g. siblings of different age. Also, the adjustment options may be considered complex by users and and/or cause insecurity with users.

SUMMARY

[0011] In view of the preceding, herewith is provided a child carrier of the above-referenced kind.

[0012] The carrier comprises one or more shoulder bands. In the carrier, the central portion is attached to the waist belt at a central attachment location, and each side portion is attached to the waist belt towards the inside thereof at a respective side attachment location located laterally adjacent the central attachment portion and below the central attachment portion, and free from the waist belt for a height of at least 3 cm from the top edge, such that each of the thus-attached side portions is movable along the top edge.

[0013] When using two shoulder bands carrying the carrier in front of the user and/or on the back of the user is facilitated in particular. When using one shoulder band, which may be arranged asymmetrically, the carrier (and a child therein) may be carried in particular on the side (e.g. on a hip) of a user.

[0014] The central attachment portion assists positioning the child with respect to the main body of the carrier, in particular in a middle thereof. The movability of the side portions allows for width adjustment of the main body and thus of the seating width for the child. The width may be adjusted before and/or after seating the child, and in particular in use when carrying the child. The height difference between the central attachment portion and the side attachment portions assists reducing folds when moving the side portions relative to the waistband, it also facilitates separation and/or adjustment of stress in the main body between the central portion and side portions when moving the side portions relative to the waistband and/or under load of a child in the carrier; tension in the side portions and/or position of the side portions may be adjusted substantially without affecting (tension in and/or position of) the central portion. This provides increased control over position and/or posture of the child. Also or alternatively, distribution of force and pressure due to the child's posture on the user's body may be improved. It may also increase a sense of security for the user. The adjustment may be done while a child is carried in the carrier. It is noted that since (the adjustable portions of) the side portions are located on an inside of the waist belt, friction of the side portions between the waist belt and the user's body will assist positioning the side portions with respect to the top edge and/or maintaining the side portions in a preferred position.

[0015] Moreover, the attachment locations indicate a manner of wearing, improving user comfort.

[0016] The waist belt may be worn on any suitable position of the user's torso, e.g. from the hips to the lumbar section of the user. Different heights may be preferred by different users and a particular position may be dependent on the size and/or weight of the child.

[0017] Each side portion may be attached to the waist belt free from the waist belt for a height of at least 4 cm from the top edge, preferably at least 5 cm such as 6 cm, 7 cm or at least 7,5 cm such as 8 cm or 9 cm. Larger values allow greater versatility for adjustment. Similarly, the side attachment locations may be attached at least 1 cm, preferably at least 3 cm below the central attachment location, e.g. at least 4 cm below, preferably at least 5 cm such as 6 cm, 7 cm or at least 7,5 cm such as 8 cm or 9 cm, where also larger values allow greater versatility for adjustment, and larger values may simplify balancing forces in the side portion relative to the central portion to provide proper support for the child without local pressure on the child's legs that might hinder blood flow

[0018] Preferably, the central attachment location is located in an upper half of the waist belt between the bottom and top edges.

[0019] Thus, tilt of the waist belt relative to a user's body under load of a child in the carrier may be reduced, in particular due to the height difference between the central attachment portion and the side attachment portions. Also or alternatively, an inside and outside of the waist belt are well defined, providing user-friendliness.

[0020] The main body may comprise an opening between the respective central and side attachment locations.

[0021] Thus, when rearranging the side portions, folds of material of the main body may be reduced or prevented. This improves control over the main body and it may improve user comfort. Also, material use may be reduced and/or manufacturing may be simplified. The opening may serve for separating the central portion and a side portion from each other between the respective central and side attachment locations.

[0022] At least one of the side portions may comprise an extension from the main body below the central portion between the central attachment portion and the side attachment portion.

[0023] This may simplify construction of the carrier, since the main body may be formed with reduced curvature of a bottom portion, e.g. having a single straight bottom seam. Also or alternatively, at least part of a side portion (preferably both side portions) may be formed of a different material and/or construction compared to the central portion, which part may be readily used for attachment of the respective side portion to the waist belt. The central portion may, e.g. be formed of a fabric that is one or more of soft, thin and breathing, whereas one or both side portions may be, in comparison, less soft, thick and less breathing. E.g. the central portion may be formed of a single layer or few layers of a relatively open fabric whereas the side portion(s) may be formed of plural (or: more) layers of fabric and/or denser fabric and/or comprise a padding. In the carrier, any padding may be relatively open and breathable. It is noted that one or both side portions may be provided with fastening structures for fastening shoulder bands and/or other parts of the carrier, e.g. for adjustment of the carrier to a user and/or a child.

[0024] The carrier may comprise a strap extending from the main body to the side attachment location attached to the main body on one side and attached to the waist belt on an opposite side. In particular, the extension may comprise a strap extending from from the main body to the side attachment location attached to the main body

on one side and attached to the waist belt on an opposite side.

[0025] This may simplify providing a particular construction of the attachment, e.g. the strap having particular construction and/or being from a particular material or material combination. Also, attachment of the strap to the main body and attachment of the strap to the waist belt may be separated and individually provided with mutually different constructions associated with the particular part (the main body or the waist belt).

[0026] The side portion may be attached to the waist belt via a loop attached to the main portion and the waist belt.

[0027] This may simplify and/or fortify construction since attachment of the loop to the waist belt and/or and attachment to the main body may be separated and individually provided with mutually different constructions associated with the particular part (the main body or the waist belt). The loop may comprise a ring e.g. a D-ring.

[0028] Further, herein is provided a child carrier comprising a main body and a waist belt and shoulder bands attached to the main body on lateral opposite sides of the main body for carrying a child seated in the main body against a torso of a user, the child carrier having an outside and an- inside for facing the user and carrying the child, in particular a child carrier according to any other embodiment described herein, wherein the child carrier comprises a head support, arranged at least in part between the shoulder bands and on an upper side of the main body for supporting the neck and head of the child when carried in the carrier. The head support is attached to the side portions and/or shoulder bands folded at least twice, in zigzag-fashion, being at least partly unfoldable for use as the head support.

[0029] Thus, comparably large amounts of fabric may be provided in a limited volume when folded and freed for use when unfolded. Folding fabric of the head support inward facilitates arranging the fabric about the neck of the child for supporting the head. By at least partly unfolding the head support the head support may be adjusted to the size and/or posture of the child. Note that a piece of fabric folded once does not allow such "automatic" adjustment.

[0030] Folding in zigzag-fashion simplifies unfolding compared to folding in rolling-up-style. The head support fabric may be attached thus folded to the side portions of the main body and/or the shoulder bands, in particular on the inside thereof. Also or alternatively, a zigzag fold tends to facilitate adjustment of the fabric to the child, and in particular, the fabric may unfold of its own accord to adjust itself to the child (e.g. one or more of size, position, posture of the child) and it may thus provide support substantially "automatically" in various use situations, whereas a rolled-up piece of fabric may require dedicated manipulation.

[0031] Also or alternatively, at least part of the head support may be attached to the main body, e.g. as a continuation or unitary portion thereof.

[0032] This simplifies manufacturing and/or use. Providing the fabric of the head support as a unitary portion of the main body obviates seams which improves comfort of the child; this may also or alternatively improve robustness and/or appearance.

[0033] The carrier may be provided with releasable connectors for releasably connecting the one or more shoulder bands to the carrier in different locations. E.g., allowing selectively adjusting the shoulder bands between a straight configuration and a crossed configurations and/or selectively adjusting the shoulder bands between a higher and a lower attachment to the carrier relative to at least part of the main body and/or the waist belt.

[0034] Thus, versatility of the carrier is increased.

[0035] In embodiments of the child carrier disclosed herein the one or more shoulder bands and the side portions may be attached to each other in lateral direction and/or may be provided with mated connectors for releasably attaching the one or more shoulder bands and the side bands to each other in lateral direction. This may increase user comfort and/or child comfort in particular for larger children, e.g. by increasing support to the back of the child.

[0036] In embodiments of the child carrier disclosed herein, the one or more shoulder bands and the waist band may be attached to each other and/or may be provided with mated connectors for releasably attaching the one or more shoulder bands and the waist band to each other.

[0037] Such attachment may obviate attachment of the shoulder band to a side portion in lateral direction and may therewith facilitate adapting the main body to the child, in particular for forming bucket seat; a bucket seat is advised for newborns to reduce or prevent (localised) pressure on the child's back.

[0038] The main body and at least one shoulder band may be provided with mated transverse connectors providing a first mating direction for operably (dis-)connecting the connectors, wherein the first mating direction extends along a length direction of the side portions and transverse to the shoulder band.

[0039] This may provide a connection with a relatively small volume since the mating direction may differ from a main force direction when the carrier is in use.

[0040] In particular, in an embodiment, the main body and the at least one shoulder band are provided with mated longitudinal connectors, e.g. snap buckles, providing a second mating direction for operably (dis-) connecting the connectors, wherein the second mating direction extends along a length direction of the shoulder band and transverse to a length direction of the side portion, wherein at least one of the longitudinal connectors is detachably connectable to the main body by the transverse connectors.

[0041] Thus, the longitudinal connector may be rearranged on the carrier; longitudinal connectors may provide increased user comfort compared to transverse connectors. Facilitating rearranging the longitudinal connec-

tor may improve versatility and/or user comfort of the carrier.

BRIEF DESCRIPTION OF THE DRAWINGS

[0042] The above-described aspects will hereafter be more explained with further details and benefits with reference to the drawings showing a number of embodiments by way of example.

Fig. 1 shows an embodiment of a child carrier from an outside;
Fig. 2 shows the child carrier of Fig. 1 from an inside;
Fig. 3 schematically shows the child carrier in use by a user for carrying a child, in side view;
Fig. 4 schematically shows the child carrier in use by a user for carrying a child, in frontal view;
Fig. 5 shows, different from Fig. 4 that child carrier being adjusted to provide a narrower seat portion;
Fig. 6 shows, different from Fig. 3, a head support unfolded from the main body of the carrier to support at least partially the child's head;
Fig. 7A shows an embodiment of the child carrier 1 in use;
Figs. 7B-7D schematically shows the child carrier in use by a user for carrying a child, in side view, in different configurations;
Figs. 8-10 show further embodiments of a child carrier;
Fig. 11 schematically shows the child carrier in use by a user for carrying a child, in side view, together with a partial further child carrier of the same construction.

DETAILED DESCRIPTION OF EMBODIMENTS

[0043] It is noted that the drawings are schematic, not necessarily to scale and that details that are not required for understanding the present invention may have been omitted. The terms "upward", "downward", "below", "above", and the like relate to the embodiments as oriented in the drawings, unless otherwise specified.

[0044] Further, elements that are at least substantially identical or that perform an at least substantially identical function are denoted by the same numeral, where helpful individualised with alphabetic suffixes.

[0045] Further, unless otherwise specified, terms like "detachable" and "removably connected" are intended to mean that respective parts may be disconnected essentially without damage or destruction of either part, e.g. excluding structures in which the parts are integral (e.g. welded or molded as one piece), but including structures in which parts are attached by or as mated connectors, fasteners, releasable self-fastening features, etc. The verb "to facilitate" is intended to mean "to make easier and/or less complicated", rather than "to enable".

[0046] Figs. 1 and 2 show a child carrier 1 from an outside (Fig. 1) and an inside (Fig. 2) respectively. Figs. 3-6 show schematically an embodiment of the child carrier 1 in use.

[0047] The carrier 1 comprises a main body 3 attached to a waist belt 5 and shoulder bands 7, 9 attached to the main body 3 for carrying a child 11 seated in the main body 3 against a torso of a user 13. Fig. 7A shows an embodiment of the child carrier 1 in use, wherein the main body is adjusted to provide a bucket seat in which the child can assume a frog-posture (see also below). Figs. 7B-7D show different use options of the carrier 1 for carrying a child 11.

[0048] The main body 3 comprises a central portion 15 and side portions 17, 19 on lateral opposite sides of the main body 3, bordering the central portion 15.

[0049] The shoulder bands 7, 9 may be worn over the shoulders straight (cf. Figs. 1, 2) or crossed (e.g. cf. Figs. 3-6).

[0050] Releasable connectors 8A, 8B, 8C, 10A, 10B are optionally provided. The connectors 8A and 10A, respectively are provided on the shoulder bands 7, 9. The connectors 8B are provided on the waist belt 5, here optionally on the top edge T thereof. Further the connectors 8C are provided on a lateral side of the side portions 17, 19 of the main body 3. The connectors 10B are provided on a top side of the main body 3, in particular on the side portions 17, 19, thereof. One or more connectors 8A, 8B, 8C, 10A, 10B and/or sets thereof may be at least partly covered by a piece of fabric 12 (possibly padded) e.g. for security and/or aesthetics; such optional piece of fabric 12 may be releasably attached to at least part of the carrier, e.g. using one or more fasteners of a suitable type such as hook-and-loop type fastener, button, zipper, etc.

[0051] The connectors 8A, 8B, 8C, 10A, 10B may be used for selectively adjusting the shoulder bands 7, 9 between straight configuration (not shown) and crossed configurations (shown). Releasable connectors 8A, 8B, 8C, 10A, 10B may be used also for selectively adjusting the shoulder bands 7, 9 between lower attachment to the carrier 1, here to the waist belt 5 for providing a bucket seat (Figs. 3, 6, 7B), or higher attachment to the carrier 1, here to the main body 3 e.g. for providing a straighter seat (Fig. 7C - compare with Fig. 7B).

[0052] Also or alternatively, the carrier 1 may be used for carrying a child 11 on the back of a user; see Fig. 7D, again with straight shoulder bands (indicated) or crossing shoulder bands (not shown).

[0053] The connectors 8A, 8B, 8C, 10A, 10B may be formed as a matching set, e.g. connectors 8A and 10A provided on the shoulder bands 7, 9 being identical and connectors 8B, 8C, 10B provided on the main body being identical, and connectors 8A and 10A being mated to connectors 8B, 8C, 10B so that one or both shoulder bands 7, 9, may be attached to plural positions on the main body 3 and/or waist belt 5. E.g., (opposite ends of) one shoulder band may be connected to both connectors 10A and 10B for facilitating (potentially asymmetric) shoulder wearing. For simplifying connecting pairs of

connectors to each other, each of the connectors may be a connector for longitudinal connection, i.e. connection along the line of intended maximum loading of the connector in use such as in longitudinal direction of the respective shoulder band; e.g. belt buckles, snap buckles, clasps and/or double-ring connectors may suitably be employed.

[0054] The waist belt 5 has a direction of elongation between matching fasteners 21, 23 on respective lateral ends and has height defined by a top edge T and a bottom edge B opposite the top edge T so that a middle line M is defined between. The middle line M may be imaginary but a middle line M may also be indicated by at least part of a stitching pattern in the waist belt 5. The waist belt 5 may be at least partly padded.

[0055] Best seen in Fig. 2, is that the central portion 15 of the main body 3 is attached to the waist belt 5 at a central attachment location 25, here defined by a length of stitching. The stitching may span a main width W15 of the central portion 15 for less than 75% of the width of the central portion 15 between the side portions 17, 19, in particular less than 66% such as less than 50% e.g. about 25% or less than the width between the side portions 17, 19, of the central portion 15 between the side portions 17, 19. The width may in particular be in a range of 7 cm - 12 cm, e.g. in range of 8-10 cm, e.g. 9 cm, and/or wherein the width may be corresponding with a size of a label, e.g. a label bearing information regarding use and/or warnings. The central attachment location 25 is located in an upper half of the waist belt 5 between the bottom and top edges B, T, i.e. between the middle line M and the top edge T.

[0056] Each side portion 17, 19 is attached to the waist belt 5 at a respective side attachment location 27, 29 located laterally adjacent the central attachment location 25. The side attachment locations 27, 29 are located laterally adjacent and below the central attachment location 25. The side attachment locations 27, 29 are formed such that the side portions 17, 19 are free from (the top edge T of) the waist belt 5 for a height of at least 3 cm, such that each of the thus-attached side portions 17, 19 is free from the top edge and movable along the top edge T.

[0057] Thus, the width of the main body 3 at and near the top edge T is adjustable by moving the side portions 17, 19 toward each other; this is shown in Figs. 1 and 2 with dashed lines and is also visualised in Figs. 4 (wide) and 5 (narrow).

[0058] Here, the side attachment locations 27, 29 are located at the bottom edge B of the waist belt 5, the waist belt 5 being higher than 3 cm between the top and bottom edges at least in a main portion where the main body 3 is attached to the waist belt 5; there the waist belt may be higher than 5 cm, e.g. larger than 6 cm such as larger than 7,5 cm, preferably 8 cm, 9 cm or 10 cm or any other value in a range 5-15 cm. A larger distance may be provided but 3 cm from the top edge is considered sufficient to achieve the desired adjustability of the carrier between configurations for an average newborn to an average toddler, but larger values allow greater versatility. Similarly, the side attachment locations may be attached at least 1 cm, preferably at least 3 cm below the central attachment location, e.g. more than 6 cm such as more than 7,5 cm, preferably 8 cm, 9 cm or 10 cm or any other value in a range 5-15 cm below the central attachment portion. A larger value allowing larger versatility. A lateral overlap of the central attachment location 25 and side attachment locations 27, 29 is not desired; a lateral separation between the two is preferred for increasing adjustability of the side portions with respect to and/or along the top edge T. A vertical and/or lateral offset of the central and side attachment locations may define a path of adjustment of the side portions about the side attachment location relative to the central attachment location in which folds and/or tension in the fabric of (the central portion of) the main body may be substantially prevented; e.g. a generally circular path about the side attachment location as indicated by dotted lines P in Fig. 2.

[0059] Best seen in Figs. 3 and 7A is that the child 11 may be supported facing the user 13, with the legs 39 of the child 11 bent upward in frog-posture. For simplicity this is not shown in Figs. 4-5. By adjustment of the width of the main body 3, the main body 3 may be adjusted to support the child 11 ergonomically without obstructing blood flow in the child's legs 39 and/or for adjusting the child's posture to conform to the user's physique. The adjustment may comprise adjusting tension in the side portions 17, 19 relative to the central portion of the main portion thus improving shaping of a relatively deep bucket seat (Figs. 3 and 7) or rather providing a flatter seat (Fig. 6).

[0060] In Fig. 1 and from a comparison of Figs. 3 and Figs. 6 and 7 it may be seen that the child carrier 1 can optionally comprise a head support 41, arranged between the shoulder bands 7, 9, and on an upper side of the main body 5. The head support 41 comprises a piece of fabric extending from the central portion 15 and being attached to the shoulder bands 7, 9. Fixated by the attachment, the fabric is folded at least twice, in zigzag-fashion (or: harmonica-fashion), toward an inside of the carrier 1 for storage (Figs. 1 and 3) while being unfoldable for use as the head support 41 (Fig. 6, 7). Unfolding the fabric while that is attached as shown facilitates forming the fabric into a 3-dimensional cup-shape for fitting about the neck of the child 11 to support the head; one or more strings and/or straps may be provided for (further) shaping the head support 41, but by providing the folds such strings and/or straps may also be obviated.

[0061] Elements and aspects discussed for or in relation with a particular embodiment may be suitably combined with elements and aspects of other embodiments, unless explicitly stated otherwise. E.g. the disclosure is not restricted to the above described embodiments which can be varied in a number of ways within the scope of the claims.

[0062] For instance, in Figs. 8-10, further embodiments of child carriers are shown. E.g. compared to Figs.

1-2, the optional connectors 10A, 10B are omitted and the shoulder bands are attached to the main body 3 directly. Also, compared to Figs. 1-2, the attachment of the side portions 17, 19 to the waist band 5 differs:

[0063] In Fig. 8the side portions 17, 19 each are attached to the waist belt 5 with straps 31, 33 and via an optional loop 35, 37, here formed as a D-ring; the straps 31, 33 may form loops about the D-rings facilitating rotation about the D-ring in hinging manner with respect to the attachment of the D-ring to the waist belt 5 (see the path P). Thus, localised tension on stitches for fastening the D-ring may prevented or reduced compared to a continuous strap 31, 33 and/or extension directly attached to the waist belt 5 as in Figs. 1-2.

[0064] In Fig. 9 the side portions 17, 19 each comprise an extension 17E, 19E from the main body 3 below the central portion 15 between the central attachment portion 25 and the side attachment portion 27, 29. Each of the extensions 17E, 19E is attached to a strap 31, 33 extending from (the side portion 17, 19 of) the main body 5 to the side attachment location 27, 29. The straps 31, 33 are attached to the main body 5 on one side, here: to the side portions 17, 19 of the main body. In between the extensions 17E, 19E fabric of the main body is removed providing a cutout or opening 43 or (or in other words: the extensions here are formed by the opening).

[0065] In Fig. 10 the main body 3 is attached to the waist belt 5 with a trapezoidal stitching pattern 47-49-47 defining a central attachment location 25 along part of a top portion (49) thereof. The side portions 17, 19 each are attached additionally to the waist belt 5 near the bottom edge B of the waist belt 5 with additional stitching patterns providing side attachment locations 27, 29. The side portions 17, 19 and part of the central portion 5 are free from the top edge T of the waist belt 5. The side attachment locations 27, 29 are arranged below central attachment location 25 and the top edge T such that the side portions 17, 19 are freely movable with respect to the top edge T and the central attachment location 25 over a path P extending about the attachment locations with a radius of more than 3 cm.

[0066] As an option, a portion of fabric of the main body 3 underneath the trapezoidal stitching pattern 47-49-47 may be removed, providing a cutout or opening 51. In such case the stitching pattern 47-49-47 may also serve for finishing and/or hemming the fabric around the cutout 51. In other embodiments, instead of the shown trapezoidal stitching pattern a comparable stitching pattern may be provided that is, at least in part, more polygonal and/or smoothly curved like elliptic and/or circular between the side attachment portions. The central attachment location may be polygonal and/or smoothly curved as well.

[0067] Further, as indicated in Figs. 1-2, the main body 3 may be provided with mated transverse connectors 38C/38D providing a mating direction for operably (dis-)connecting the connectors 8C extending along a length direction of the side portions 17, 19, for decoupling the connector 8C from the main body 3. E.g. a slide connector 38C/38D may be used. The decoupled connector 8C may be stored for later use, reducing bulk of the carrier 1. Also or alternatively and preferred, the carrier 1 may comprise one or more further connectors 58C mated to the disconnected connector 8C for releasably reattaching that disconnected connector 8C elsewhere on the carrier 1, e.g. here on the shoulder bands 7, 9. In particular, one or more of the connectors 8C may be mated to a connector 8A and/or a connector 10B (in general, connectors 8A and 10B may be the same and connectors 10A, 8B and 8C may be the same) so that shoulder band connectors 8A and/or 10B may be connected to the relocated connector 8C. This may allow attaching a second main body 3 (with attached waist belt 5) to the same set of shoulder bands and allow carrying two children together in separate carriers as shown in Fig. 11; note that in Fig. 11 an optional strap 59 is provided between the connectors 38C and 8C.

Claims

1. A child carrier (1) comprising a main body (3) attached to a waist belt (5) and one or more shoulder bands (7, 9) attached to the main body (5) for carrying a child (11) seated in the main body (3) against a torso of a user (13), the child carrier (1) having an inside for facing the user and carrying the child (11),

   wherein the main body (3) comprises a central portion (15) and side portions (17, 19) on lateral opposite sides of the main body (3), and
   wherein the waist belt (5) has a height defined by a top edge (T) and a bottom edge (B) opposite the top edge (T);
   wherein the central portion (15) is attached to the waist belt (5) at a central attachment location (25), and
   each side portion (17, 19) is attached to the waist belt (5) towards the inside thereof at a respective side attachment location (27, 29) located laterally adjacent and below the central attachment location (25), and free from the waist belt (5) for a height of at least 3 cm from the top edge (T), such that each of the thus-attached side portions (17, 19) is movable along the top edge (T).

2. The child carrier (1) according to claim 1, wherein the central attachment location (25) is located in an upper half of the waist belt (5) between the bottom and top edges (B; T).

3. The child carrier (1) according to any preceding claim, wherein the main body (3) comprises an opening (45) between the respective central and side attachment locations (25; 27, 29).

4. The child carrier (1) according to any preceding claim, wherein at least one of the side portions (17, 19) comprises an extension (17E, 19E) from the main body (3) below the central portion (15) between the central attachment portion (25) and the side attachment portion (17, 19).

5. The child carrier (1) according to any preceding claim, comprising a strap (37, 39) extending from the main body (3) to the side attachment location (17, 19) attached to the main body (3) on one side and attached to the waist belt (5) on an opposite side.

6. The child carrier (1) according to any preceding claim, wherein each side portion (17, 19) is attached to the waist belt (5) via a loop (37) attached to the main portion (3) and the waist belt (5).

7. A child carrier (1) comprising a main body (3) and a waist belt (5) and shoulder bands (7, 9) attached to the main body (3) on lateral opposite sides of the main body (3) for carrying a child (11) seated in the main body (3) against a torso of a user (13), the child carrier (1) having an outside and an inside for facing the user (13) and carrying the child (11),in particular a child carrier (1) according to any preceding claim, wherein the child carrier (1) comprises a head support (41), arranged at least in part between the shoulder bands (7, 9) and on an upper side of the main body (3) for supporting the neck and head of the child (11) when carried in the carrier (1), being attached to the side portions (17, 19) and/or shoulder bands (7, 9) folded at least twice in zigzag-fashion for storage and being at least partly unfoldable for use as the head support.

8. The child carrier (1) according to claim 7, wherein at least part of the head support (41) is attached to the main body (3), e.g. as a continuation or unitary portion thereof.

9. The child carrier according to claim 7 or 8 wherein the piece of fabric (41) is attached on an inside of the side portions (17, 19).

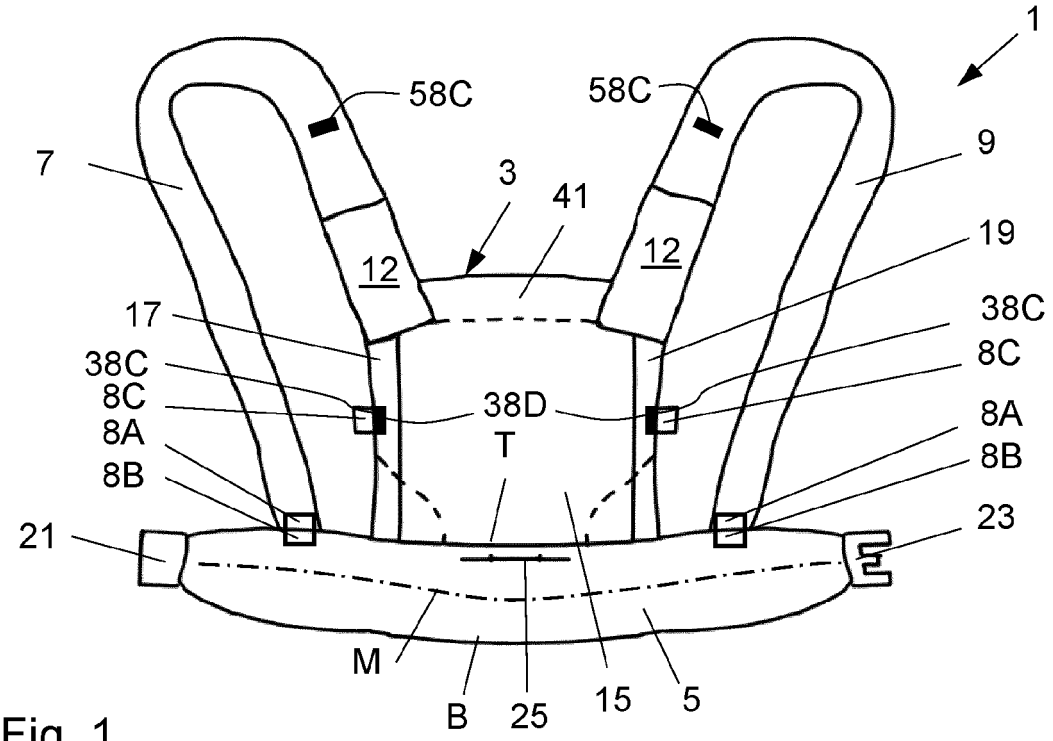
10. The child carrier (1) according to any preceding claim, wherein the carrier (1) is provided with releasable connectors (8A, 8B, 8C, 10A, 10B) for releasably connecting the one or more shoulder bands (7, 9) to different locations of the carrier (1), in particular for selectively adjusting the shoulder bands (7, 9) between a straight configuration and a crossed configurations and/or for selectively adjusting the shoulder bands (7, 9) between a higher and a lower attachment to the carrier relative to at least part of the main body (3) and/or the waist belt (5).

11. The child carrier (1) according to any preceding claim, wherein the one or more shoulder bands (7, 9) and the side portions (17, 19) are attached to each other in lateral direction and/or are provided with mated connectors (38A, 38C) for releasably attaching the one or more shoulder bands (7, 9) and the side portions (17, 19) to each other in lateral direction.

12. The child carrier (1) according to any preceding claim, wherein the one or more shoulder bands (7, 9) and the waist band (5) are attached to each other and/or are provided with mated connectors (8A, 8B) for releasably attaching the one or more shoulder bands (7, 9) and the waist band (5) to each other.

13. The child carrier (1) according to any preceding claim, wherein at least one of the main body (3) and at least one shoulder band (7, 9) are provided with mated transverse connectors (58C; 38A, 38C) providing a first mating direction for operably (dis-)connecting the connectors (58C; 38A, 38C), wherein the first mating direction extends along a length direction of the side portions (17, 19) and transverse to the shoulder band (7, 9).

14. The child carrier (1) according to claim 13, wherein the main body (3) and the at least one shoulder band (7, 9) are provided with mated longitudinal connectors (8A, 8B, 8C, 10A, 10B), e.g. snap buckles, providing a second mating direction for operably (dis-) connecting the connectors (8A, 8B, 8C, 10A, 10B), wherein the second mating direction extends along a length direction of the shoulder band (7, 9) and transverse to a length direction of the side portion (17, 19), wherein at least one of the longitudinal connectors (8A, 8B, 8C, 10A, 10B) is detachably connectable to the main body (3)_by the transverse connectors (38A, 38C).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58C
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9
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19
17
38C
38C
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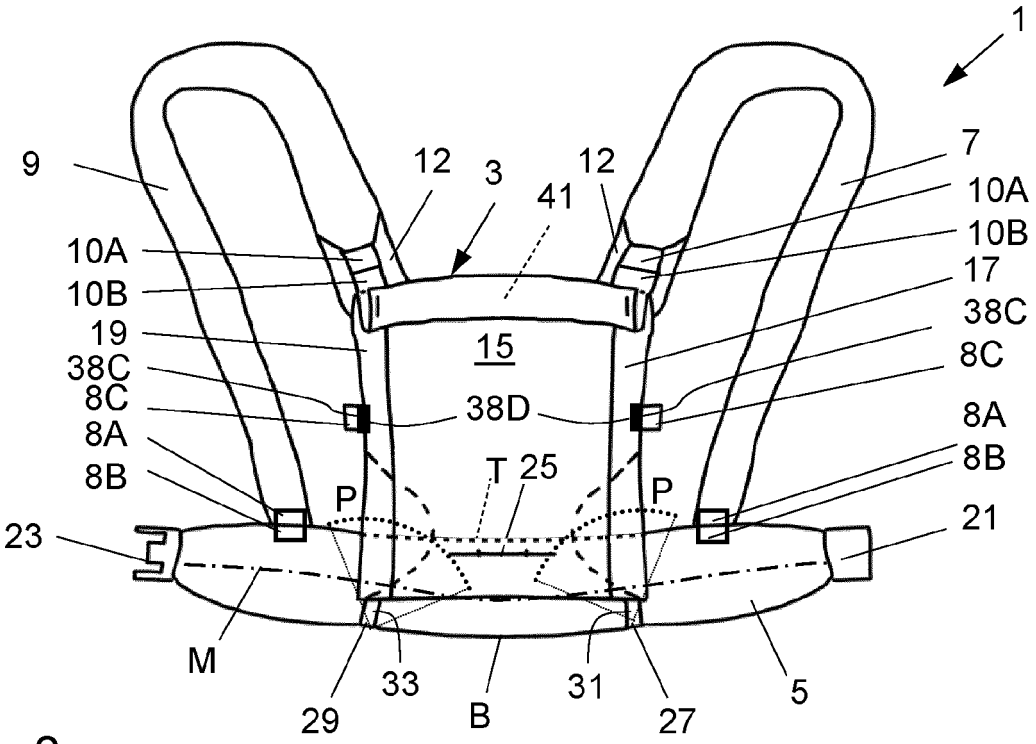
38D
8C
8A
T
8A
8B
8B
21
23
M
B
25
15
5

Fig. 1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7
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10A
10A
10B
10B
17
19
15
38C
38C
8C
8C
38D
8A
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T
25
8B
8B
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P
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23
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29
27

Fig. 2

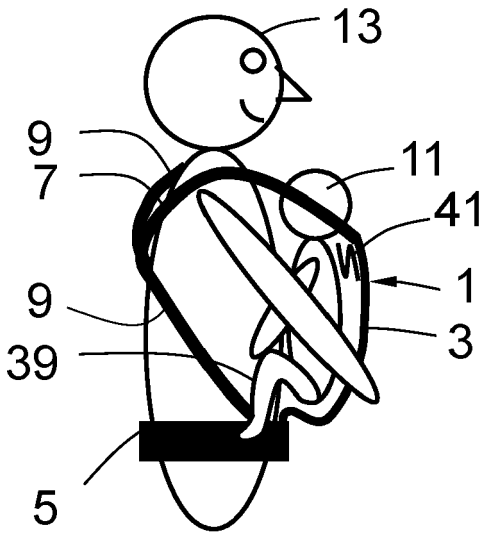


Fig. 3

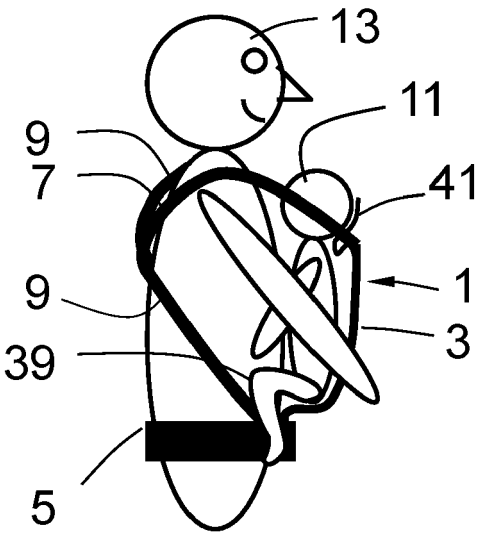


Fig. 6

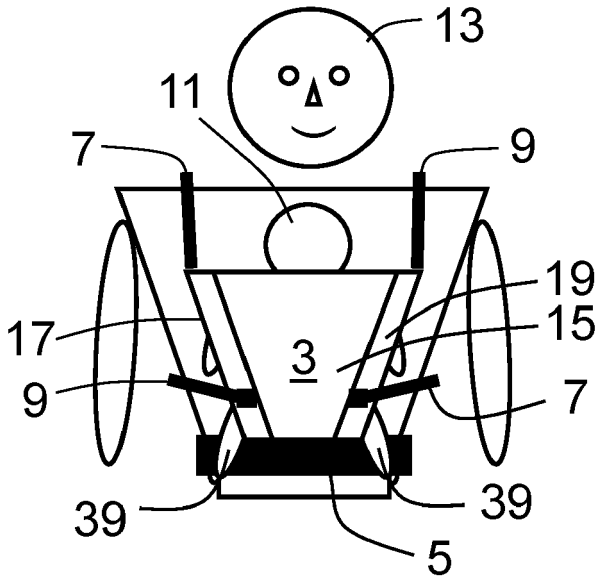


Fig. 4

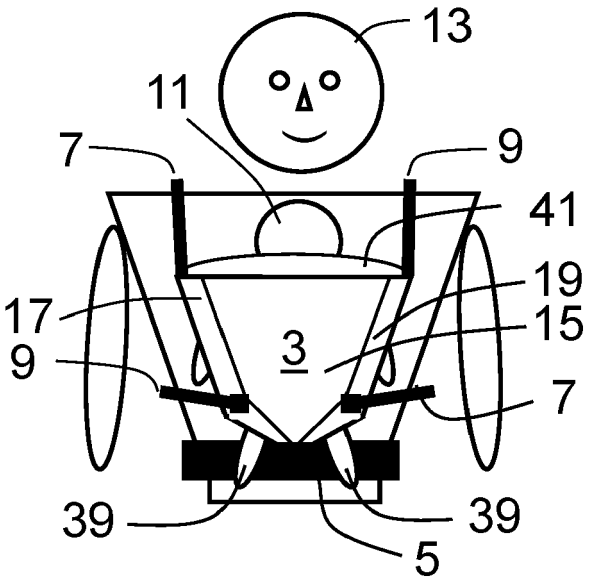


Fig. 5

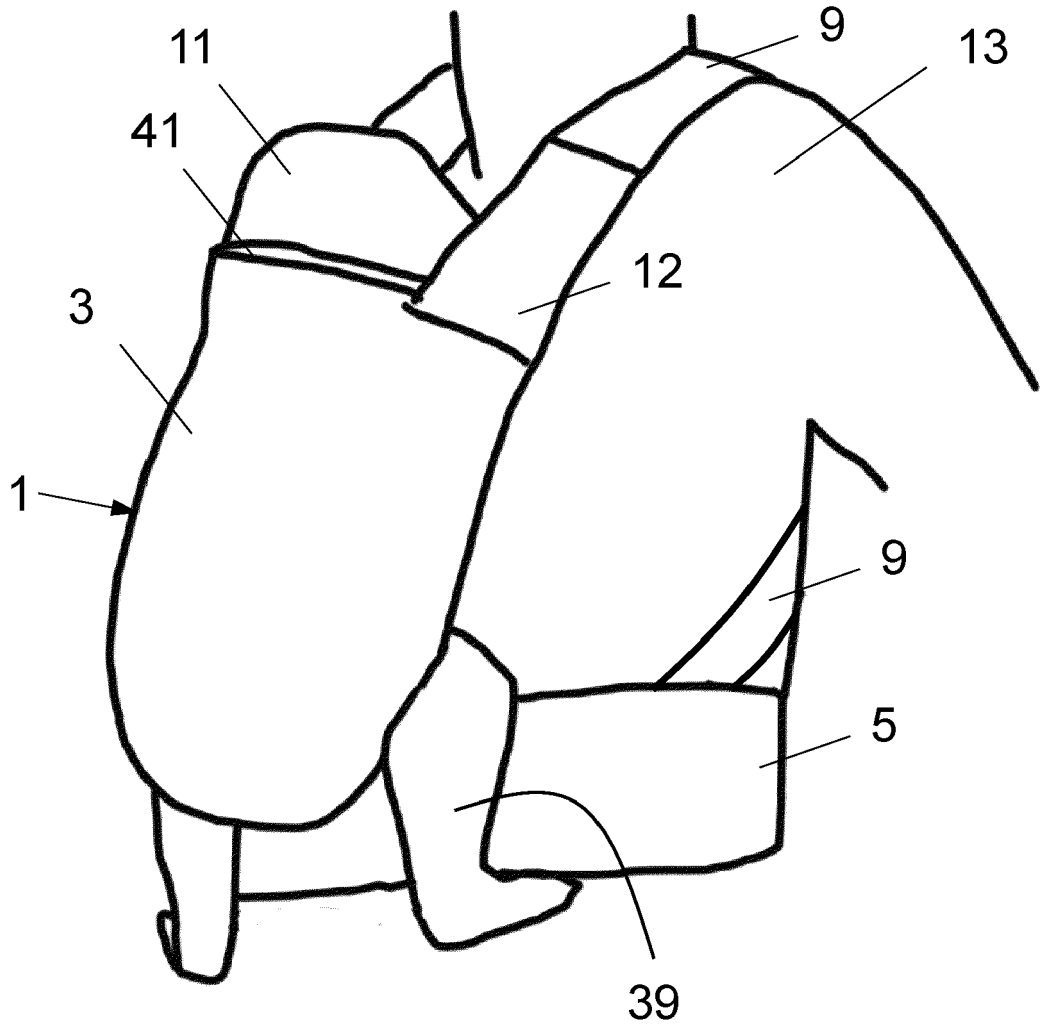


Fig. 7A

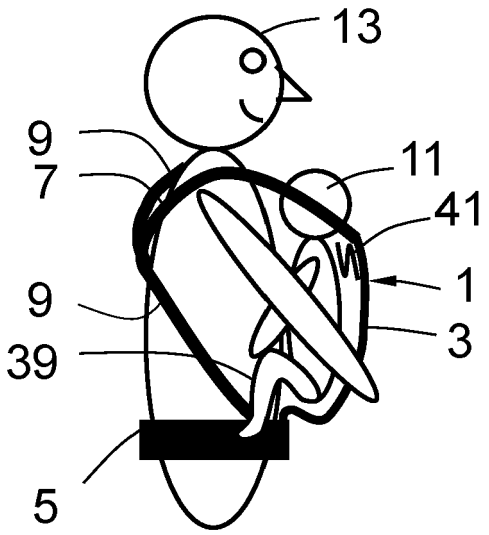


Fig. 7B

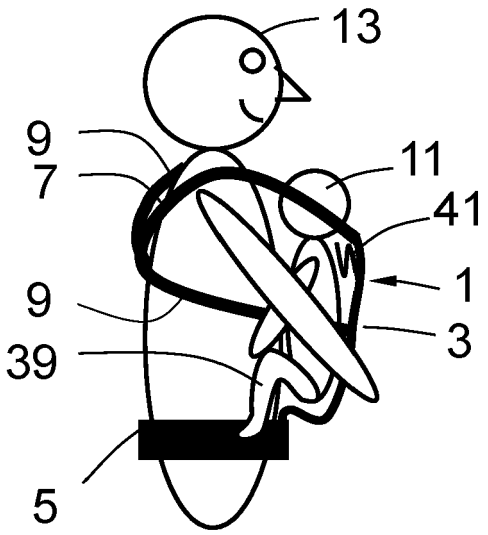


Fig. 7C

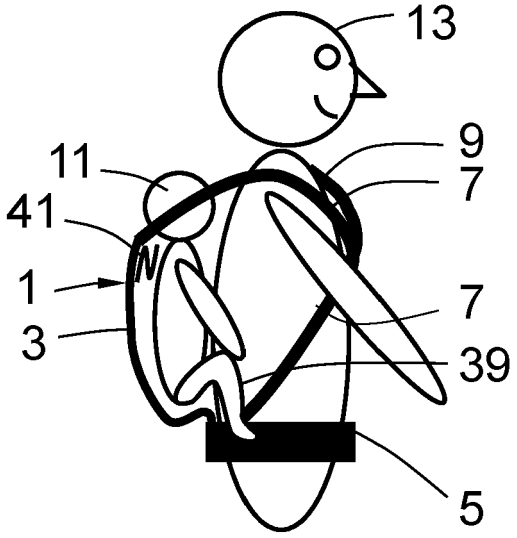
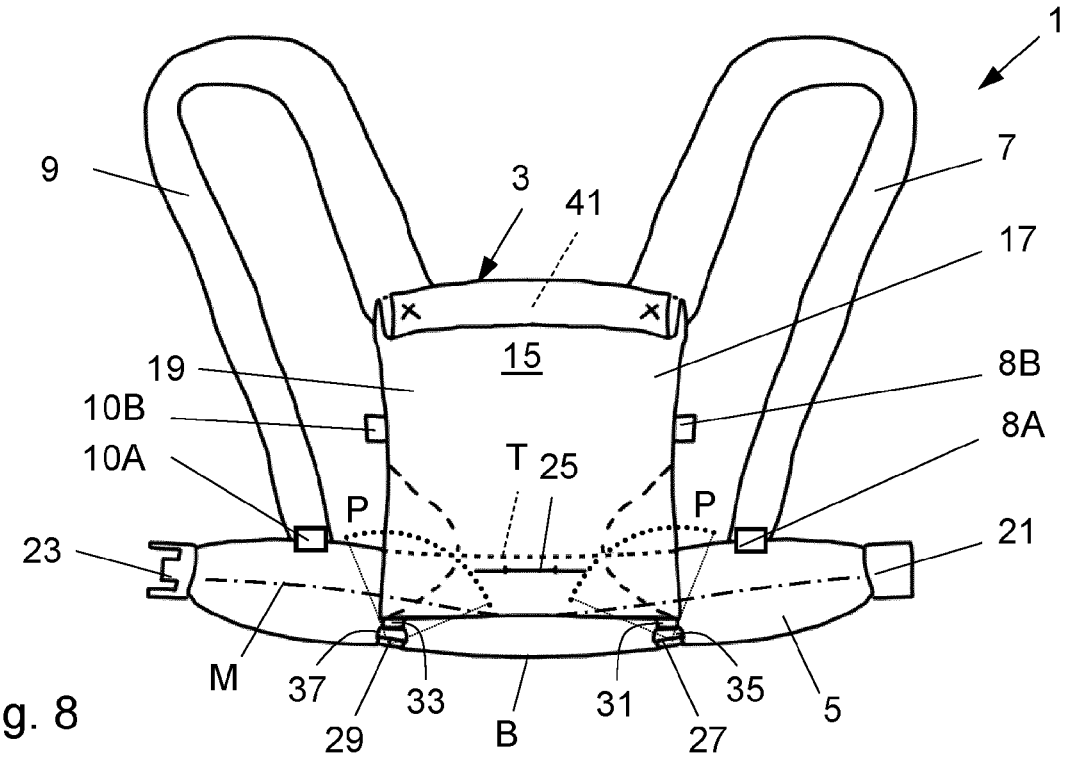


Fig. 7D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9
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41
7
17
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19
8B
10B
8A
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T
25
P
P
23
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M
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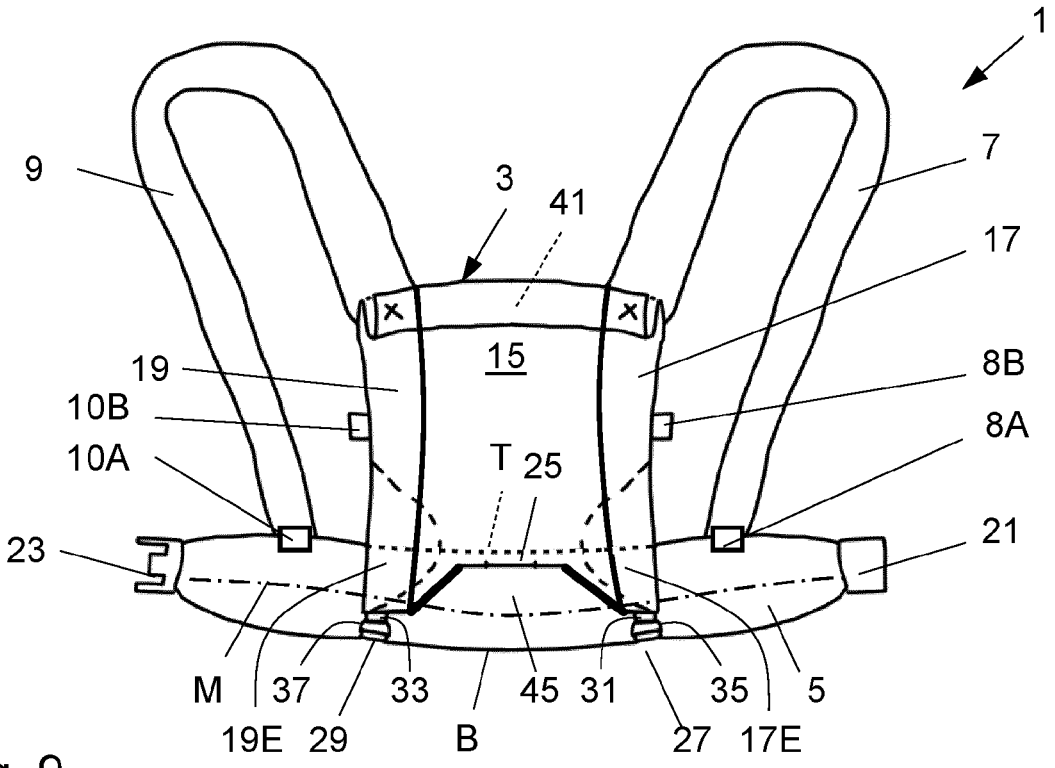
Fig. 8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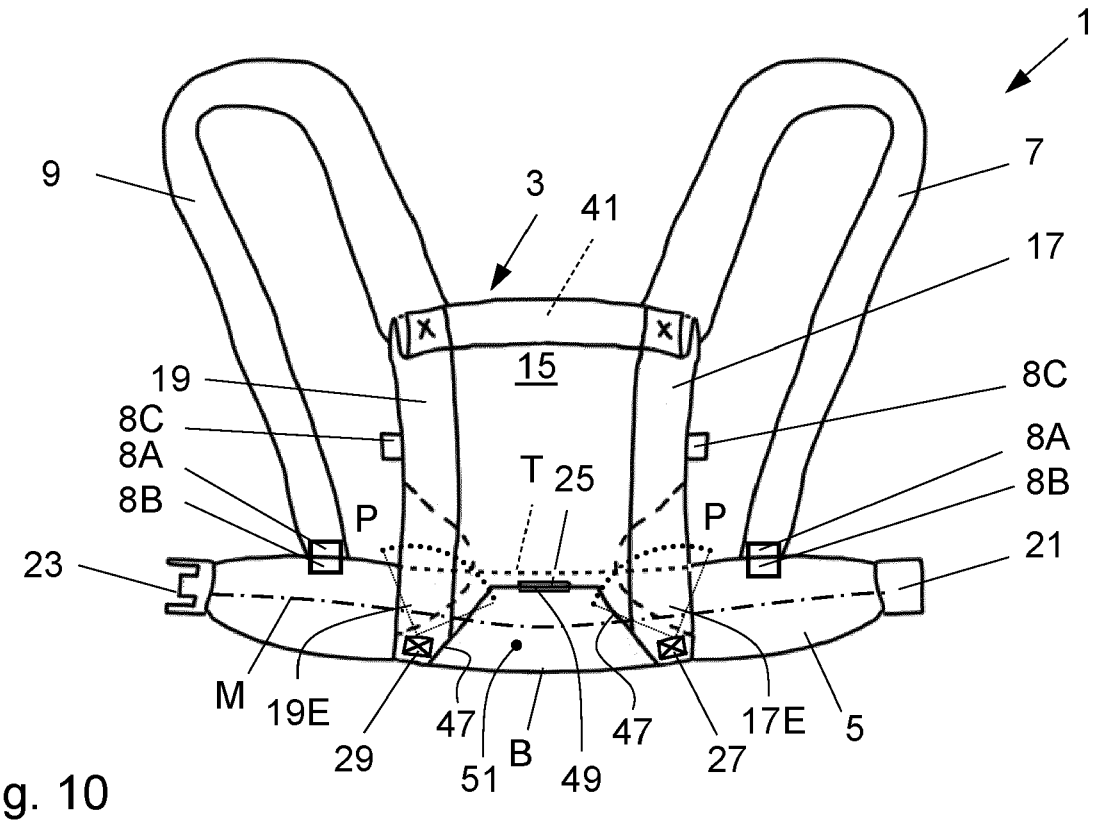
17E

Fig. 9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17E
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Fig. 10

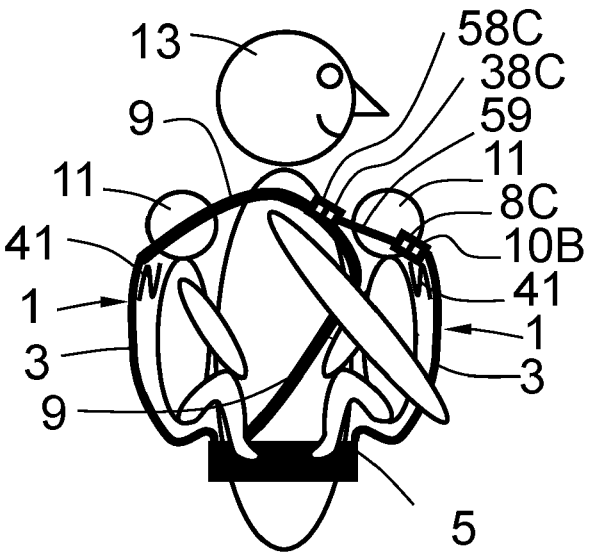
13
58C
38C
9
59
11
11
8C
41
10B
41
1
1
3
3
9
5

Fig. 11

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PARTIAL EUROPEAN SEARCH REPORT

under Rule 62a and/or 63 of the European Patent Convention. This report shall be considered, for the purposes of subsequent proceedings, as the European search report

Application Number
EP 21 20 5578

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	US 7 766 199 B1 (CAPERON GABRIELA [US]) 3 August 2010 (2010-08-03) * column 2, line 7 - column 6, line 67; figures 1-6 *	1-5,10, 12-14 6,11	INV. A47D13/02
X	US 2020/253392 A1 (SAHADI ALEXA [US] ET AL) 13 August 2020 (2020-08-13) * paragraph [0007] - paragraph [0134]; figures 1-34 *	1,2,4, 10,12-14	
X	RO 134 871 A2 (OLARIU MONICA RODICA [RO]) 29 April 2021 (2021-04-29) * the whole document *	1,2,4, 10,12-14	
X	US 10 736 436 B2 (THE ERGO BABY CARRIER INC [US]) 11 August 2020 (2020-08-11) * column 4, line 23 - column 20, line 31; figures 1-11C *	1	

TECHNICAL FIELDS SEARCHED (IPC)

A47D

INCOMPLETE SEARCH

The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.

Claims searched completely :

Claims searched incompletely :

Claims not searched :

Reason for the limitation of the search:

see sheet C

Place of search	Date of completion of the search	Examiner
The Hague	20 May 2022	Lehe, Jörn

CATEGORY OF CITED DOCUMENTS

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

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

EPO FORM 1503 03.82 (P04E07)

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INCOMPLETE SEARCH
SHEET C

Application Number
EP 21 20 5578

Claim(s) completely searchable:
1-6, 10-14

Claim(s) not searched:
7-9

Reason for the limitation of the search:

The applicant has requested that the search report be drawn up on the basis of independent claim 1 and to further consider independent claim 7 as a dependent claim. The filing of new dependencies of claims is however not foreseen under Rule 62(a) EPC.
It is therefore considered that - in reply to the invitation to file a a statement indicating the subject-matter to be searched - the applicant failed to file such a statement.
The search has been therefore carried out on the basis of the first claim in each category, in this case claim 1 and further on claims 2-6 and 10-14 which depend on claim 1.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 21 20 5578

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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20-05-2022

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- WO 2013037514 A **[0006]**
- WO 2018081603 A **[0008]**
- WO 2020112660 A **[0009]**