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(54) Sling type baby carrier and safety element for use in the same

(57) The invention relates to a sling type baby carrier (3) comprising a sheet (4), at least one strap (5, 6) extending from the sheet (4), and a buckle (7) for closing the sling (3). A safety element (8) extends parallel to the

buckle (7) and is connected to the sling (3) on both sides of the buckle (7) by first and second connections. At least one of the connections comprises a loop (9) extending about the at least one strap (6).

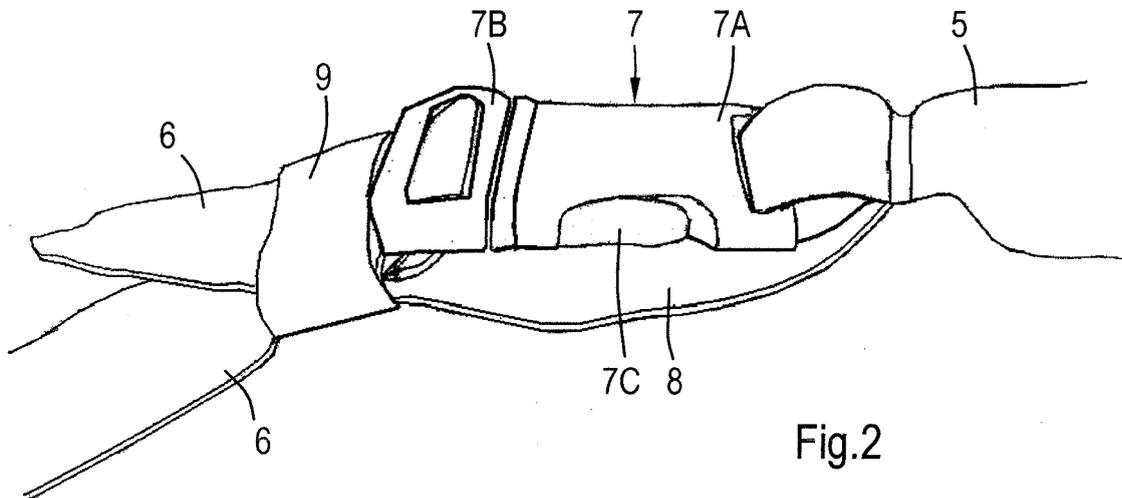


Fig.2

EP 2 140 785 A1

Description

[0001] The invention relates to a sling type baby carrier comprising a sheet, at least one strap extending from the sheet, and a buckle for closing the sling. The invention also relates to a safety element for use in a sling type baby carrier.

[0002] As explained in US 5,857,598, infant sling type carriers are used to facilitate the care and handling of an infant from birth up until an age at which the infant weighs approximately 30 pounds. Such carrier-type slings are typically fabricated from a flexible fabric and comprise a carrier panel terminating at one end in a tail portion, which serves as a sling tie.

[0003] US 5,857,598 relates to a so-called "ring sling", comprising a pair of buckle rings secured to the other end of the carrier panel and the rings' function in concert with the tail portion is to secure the ends of the panel together in an adjustable fashion to provide the sling. The sling is formed by passing the tail portion through both of the buckle rings and doubling the tail portion back over one ring and under the other in a conventional fashion. This arrangement provides a friction tie serving to retain the tail portion in the buckle rings.

[0004] The invention underlying US 5,857,598 resides in an infant sling carrier with an improved retainer for preventing complete separation of the tail portion from the buckle rings whenever the frictional force is accidentally released between the tail portion and the buckle rings and the tail portion slides through the buckle rings.

[0005] European patent application EP 1 767 125 relates to a sling type baby holding carrier comprising a cloth sling body that can be crossed and a back support part having bending rigidity and arranged on the inner surface of the sling body so as to support the back of a baby.

[0006] The sling type baby holding carrier shown in Fig. 10 of EP 1 767 125 comprises first and second belts, denoted by numerals 13 and 14, and a buckle comprising a female component 15 mounted on the first belt 13 and a male component 16 mounted on the second belt 14. An annular member 107 is mounted on the first belt 13 in order to avoid a risk that the connection between the female component 15 mounted on the first belt 13 and the male component 16 mounted on the second belt 14 is disconnected unexpectedly. It is preferred that the annular member 107 is positioned so as to engage with the male component 16, since the connected state between the first belt 13 and the second belt 14 is maintained even when the connection between the female component 15 and the male component 16 is unexpectedly disconnected.

[0007] It is an object of the present invention to improve the safety of the sling type baby carrier in the opening paragraph, without significantly impairing normal use.

[0008] To this end, the sling type baby carrier according to the present invention is characterized by a safety element extending parallel to the buckle and connected

to the sling on both sides of the buckle by first and second connections, wherein at least one of the connections comprises a loop extending about the at least one strap.

[0009] In one aspect the at least one strap is slidably connected to the buckle such that the length of the strap between the buckle and the sheet is adjustable.

[0010] In a further aspect said at least one strap is slidable inside the at least one loop.

[0011] The loop extending about the strap on the one hand provides an effective catch mechanism if the buckle is inadvertently opened or if the buckle is not closed when the sling is subjected to a load, in particular a baby. On the other hand the loop does not or at least not significantly interfere with the normal use of the sling, such as adjusting the length of the strap.

[0012] To further improve the efficacy of the mechanism, the width of the loop can be chosen smaller than the width of the buckle. In a further aspect, the width of the loop is adjustable and/or the loop is openable. In one embodiment, the loop is formed by two arms extending laterally with respect to the strap, which arms are provided with connecting means, such as Velcro, a buckle or press-stud.

[0013] In a further embodiment, when the sling is loaded and the buckle is open or opens, a part of the buckle is caught by the loop and, once caught, urges the loop onto strap.

[0014] The safety element can be provided with a loop on each end or be fixedly connected to, e.g. sewn to, the sling with one end.

[0015] In a further aspect, the safety element is at least as strong as the material of the strap, e.g. made of the same material as the strap(s).

[0016] The invention further relates to a safety element for use in a sling type baby carrier comprising a sheet, at least one strap extending from the sheet, and a buckle for closing the sling. The safety element comprises an elongated member to be arranged parallel to the buckle of the sling and, at or near both ends of the member, means for attaching the safety element to the sling, wherein at least one of the means comprises a loop to be arranged about the at least one strap.

[0017] In one aspect, both means comprise a loop to be arranged about the strap of the sling. In a further aspect, the loop(s) is (are) formed by two arms extending laterally with respect to the elongated member, which arms are provided with connecting means, such as Velcro, a buckle or press-stud.

[0018] Within the framework of the present invention, the term "baby" is defined as a human child at the youngest stage of life, including children up to a specific weight, e.g. up to fifteen kilos. As a matter of course, the present sling type baby carrier is also suitable for carrying, e.g., small animals, such as cats and dogs.

[0019] The invention will now be explained in more detail with reference to the drawings, which schematically show a preferred embodiment according to the present invention.

[0020] Figure 1 shows a mother carrying a child by means of a baby sling according to the present invention.

[0021] Figure 2 is perspective view of the buckle and safety element of the baby sling shown in Figure 1.

[0022] Figure 3 is a top view of a safety element to be (retro)fitted to a baby sling.

[0023] Elements that are at least substantially the same or perform at least substantially the same function are denoted by the same numeral.

[0024] Figure 1 shows a mother 1 carrying a child 2 by means of a baby sling 3. The sling 3 comprises a carrier sheet 4, optionally provided with padded edges, two straps 5, 6 extending from opposite ends from the sheet 4, and a buckle 7 for closing the sling 3.

[0025] As shown in detail in Figure 2, the buckle 7 comprises a male part 7A and a female part 7B having, respectively, at least one resilient ledge 7C and at least one corresponding opening, for snap fitting the parts 7A, 7B together so as to close the buckle 7. In this example, both parts 7A, 7B of the buckle 7 are provided with a rectangular opening or slot, the lower part further having a cross-bar dividing its rectangular opening. The upper part 7A (in Figure 1) is connected to the upper strap 5 by lacing the strap 5 through the rectangular opening and sewing the strap onto itself. The lower part 7B is connected to the lower strap 6 by lacing the strap 6 through the rectangular opening and about the crossbar, thus establishing an friction fit, which allows adjusting the length of the strap 6 between the buckle 7 and the sheet 4. Buckles of this type are generally known in the art.

[0026] The baby sling 3 further comprises a safety element 8, made of the same material as the adjustable strap 6. The safety element 8 extends parallel to the buckle 7 and is at one end fixedly connected, e.g. by sewing, to the upper strap 5. The other end is connected to the lower strap 6 by means of a loop 9 extending about the strap 6. In this example, the loop 9 comprises two arms extending laterally with respect to the strap 6. The arms are provided with connecting means, such as Velcro, a buckle or press-stud.

[0027] The sling 3 can be put on by closing the buckle 7, placing the arms of loop 9 about the (lower) strap 6 and, in case of Velcro, pressing the arms onto each other to form the loop 9, e.g. having a width slightly smaller than that of the (lower part of) buckle 7. The length of the sling 3 can be adjusted by pulling the end of the lower strap 6. These steps can be carried out while the sling 3 is already over a shoulder or before the sling 3 is put over a shoulder.

[0028] The elongated member and loop provide an effective safety mechanism that does not significantly interfere with the normal use of the baby sling. I.e., when the sling is loaded and the buckle inadvertently opens or has not been closed, the lower part of the buckle drops and is caught by the loop. In the embodiment shown in the Figures, the buckle, once caught, urges the loop onto the strap and thus reinforces the connection of the loose buckle, the loop and the lower strap to the sling. Yet,

adjusting the length of the strap between the buckle and the sheet can be carried out in the same way as with baby slings without this additional safety.

[0029] The baby sling can also be mounted across a playpen and serve as a hammock. In this application too, the invention adds safety.

[0030] Figure 3 shows a safety element 8 to be (retro) fitted to a sling type baby carrier 3 that does not have a safety element 8. The safety element 8 comprises an elongated member 8A to be arranged parallel to the buckle of the sling. In this example, the elongated member 8A is made of the same material as the straps of the sling for which it is intended. Means for attaching the safety element to the sling are provided at both ends of the member. In this example, both these means include two arms 9A, 9B extending laterally with respect to the elongated member 8A. One of each pair of arms 9A, 9B is provided with a patch 10 of the "hook" side of Velcro, whereas the other of each pair of arms is provided with a patch of the "loop" side of Velcro (hidden from view). The safety element 8 can be (retro)fitted to a sling by placing the arms 9 of safety member 8 about the straps on either side of the buckle and, in case of Velcro, pressing the arms onto each other to form a loop, e.g. both having a width slightly smaller than that of respective buckle parts.

[0031] The invention is not restricted to the above-described embodiments, which can be varied in a number of ways within the scope of the claims. For instance, the elongated member can have a width smaller than that of the straps and be reinforced with one or more additional layers or layers of a stronger material and/or reinforced by yarn, such as yarn comprising extended chain polyethylene or aramid. Also, the elongated member can be padded and/or provided with a layer for increasing friction between the member and the strap and/or buckle.

Claims

1. Sling type baby carrier (3) comprising a sheet (4), at least one strap (5, 6) extending from the sheet (4), and a buckle (7) for closing the sling (3), **characterised by** a safety element (8) extending parallel to the buckle (7) and connected to the sling (3) on both sides of the buckle (7) by first and second connections, wherein at least one of the connections comprises a loop (9) extending about the at least one strap (6).
2. Sling type baby carrier (3) according to claim 1, wherein the at least one strap is (6) slidably connected to the buckle (7) such that the length of the strap (6) between the buckle (7) and the sheet (4) is adjustable.
3. Sling type baby carrier (3) according to claim 2, wherein said at least one strap (6) is slidable inside

the at least one loop (9).

4. Sling type baby carrier (3) according to anyone of the preceding claims, wherein the width of the loop (9) is smaller than the width of the buckle (7). 5
5. Sling type baby carrier (3) according to anyone of the preceding claims, wherein the width of the loop (9) is adjustable. 10
6. Sling type baby carrier (3) according to anyone of the preceding claims, wherein the loop (9) is openable.
7. Sling type baby carrier (3) according to claim 6, wherein the loop (9) comprises two arms (9A, 9B) extending laterally with respect to the strap (6), which arms (9A, 9B) are provided with connecting means, such as Velcro (10). 15
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8. Sling type baby carrier (3) according to anyone of the preceding claims, wherein, when the sling (3) is loaded and the buckle (7) is open or opens, a part (7B) of the buckle (7) is caught by the loop (9) and, once caught, urges the loop (9) onto strap (6). 25
9. Sling type baby carrier (3) according to anyone of the preceding claims, wherein one end of the safety element (8) is fixedly connected to the sling (3). 30
10. Sling type baby carrier (3) according to anyone of the preceding claims, wherein the safety element (8) is at least as strong as the material of the strap (6).
11. Sling type baby carrier (3) according to anyone of the preceding claims, wherein the safety element (8) is made of the same material as the strap(s) (5, 6). 35
12. Safety element (8) for use in a sling type baby carrier (3) comprising a sheet (4), at least one strap (5, 6) extending from the sheet (4), and a buckle (7) for closing the sling (3), the safety element (8) comprising an elongated member to be arranged parallel to the buckle (7) of the sling (3) and, at or near both ends of the member, means for attaching the safety element to the sling, wherein at least one of the means comprises a loop (9) to be arranged about the at least one strap (6). 40
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13. Safety element (8) according to the claim 12, wherein both means comprise a loop (9) to be arranged about a strap (5, 6) of the sling (3). 50
14. Safety element (8) according to the claim 12 or 13, wherein the loop(s) (9) comprise(s) two arms (9A, 9B) extending laterally with respect to the elongated member, which arms (9A, 9B) are provided with connecting means, such as Velcro (10). 55

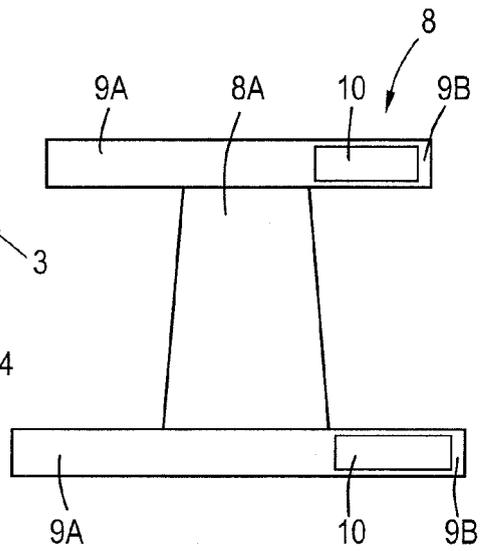
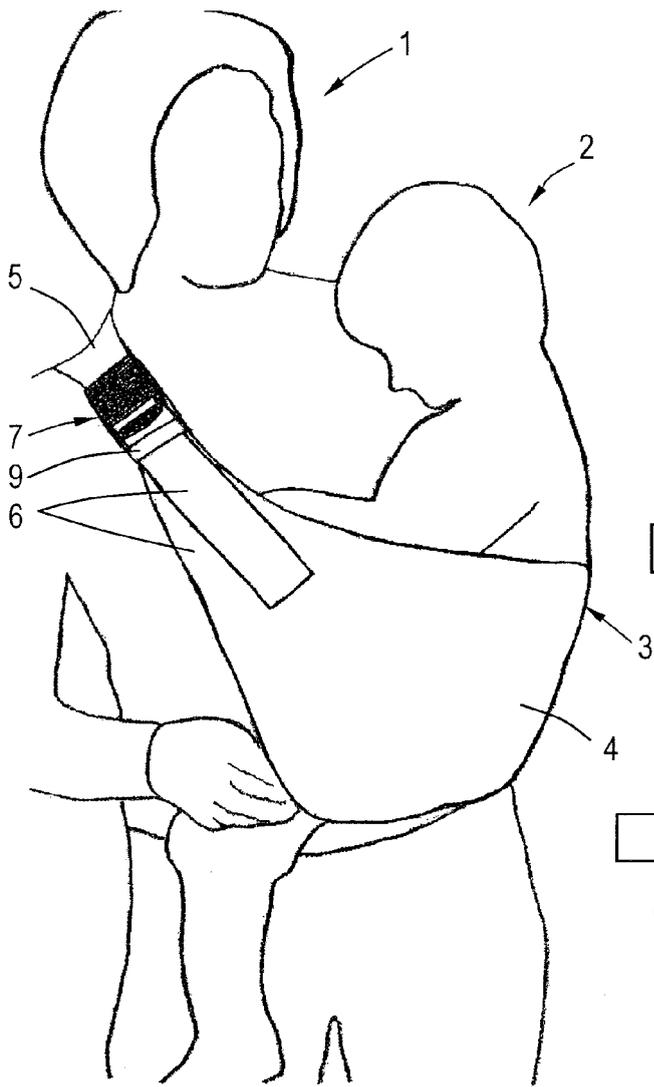


Fig.3

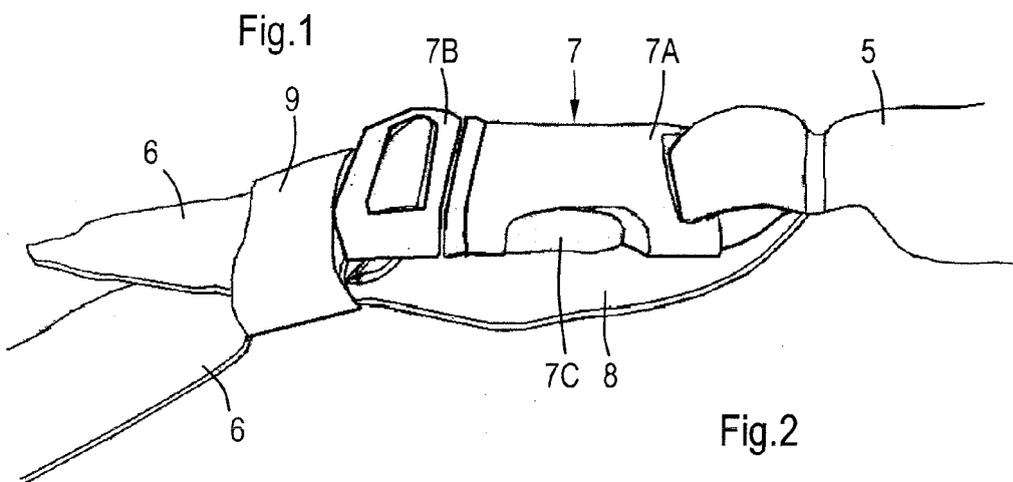


Fig.2



EUROPEAN SEARCH REPORT

Application Number
EP 08 15 9638

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	GB 2 371 830 A (HOPE; HOSKIN) 7 August 2002 (2002-08-07) * abstract; figures *	12-14	INV. A47D13/02
A	JP 2007 268076 A (COMBI CO) 18 October 2007 (2007-10-18) * figures 1,15 *	1	
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A	JP 08 242980 A (APRICA KASSAI KK) 24 September 1996 (1996-09-24) * figures *	1,8	
A	EP 0 744 136 A (MOMMYART CO LTD) 27 November 1996 (1996-11-27) * abstract; figures *		
A	US 5 873 505 A (SOVITSKI) 23 February 1999 (1999-02-23) * abstract; figures *		
			TECHNICAL FIELDS SEARCHED (IPC)
			A47D A45F A44B B62H E05B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		1 December 2008	Kis, Pál
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	

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EPO FORM 1503 03.82 (P04001)



Application Number

EP 08 15 9638

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
- The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 08 15 9638

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-11

Sling type baby carrier

2. claims: 12-14

Safety element

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 15 9638

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-12-2008

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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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- EP 1767125 A [0005] [0006]