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(54) BABY CARRIER

(57) A baby carrier (1) comprising: a support body (2) extending between a lower edge (21) and an opposite upper edge (22) in a longitudinal direction (X-X), said upper edge (22) extending in a transverse direction (Y-Y) orthogonal to said longitudinal direction (X-X); a pair of shoulder straps (3) connected to the support body (2); adjustment means (4) located at the upper edge (22) of the support body (2) and configured to selectively adjust the length of said upper edge (22) along the transverse direction (Y-Y); said adjustment means (4) comprise: an elastic element (41) comprising a fixing portion (42) fixed to the support body (2) and a first free portion (43) extending in the transverse direction (Y-Y) and having a plurality of first coupling members (44) spaced apart from each other in the transverse direction (Y-Y); a second coupling member (45) which is fixed to the support body (2) and is spaced apart from the fixing portion (42) in the transverse direction (Y-Y); wherein the first free portion (43) of the elastic element (41) is elastically extensible to reversibly couple a first coupling member (44) to the second coupling member (45) to reversibly reduce the length of the upper edge (22) of the support body (2) in the transverse direction (Y-Y) from a maximum length to a respective first length that is less than the maximum length.

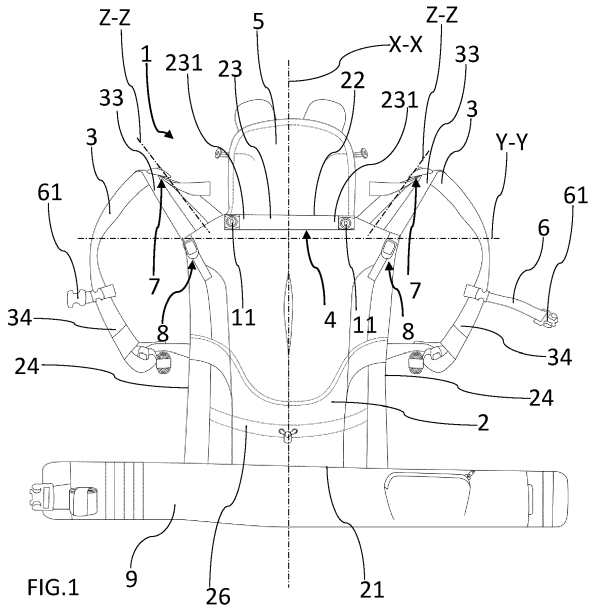

FIG.1

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Description

Field of the invention

[0001] The present invention relates to a baby carrier. This baby carrier finds particular application in carrying children from birth to the age, for example, of three years.

Background art

[0002] A baby carrier is known in the art. This baby carrier comprises a support body which extends between a lower edge and an opposite upper edge in a longitudinal direction. The upper edge extends in a transverse direction orthogonal to the longitudinal direction.

[0003] In addition, the baby carrier comprises a pair of shoulder straps connected to the support body and adapted to be worn by a user with the support body defining a baby-carrying bag. The baby is placed inside the bag and is then accommodated between the user's chest and the support body.

[0004] The baby carrier also comprises adjustment means located at the upper edge of the support body and configured to adjust the length of the upper edge along the transverse direction. These adjustment means can adapt the length of the upper edge to the actual size of the child accommodated in the bag defined by the support body.

[0005] For example, these adjustment means comprise a drawstring arranged inside a channel that extends in the transverse direction at the upper edge of the support body. This drawstring comprises a portion sewn to the support body and a free elastic portion having at least one end that comes out of the channel. By pulling the end of the drawstring, the length of the upper edge of the supporting body in the transverse direction can be reduced.

Problem of the prior art

[0006] The adjustment means of the prior art baby carrier do not afford accurate adjustment of the length of the upper edge of the support body. That is, by pulling the free end of the drawstring the length of the upper edge cannot be accurately and stably adjusted.

[0007] On the other hand, when a baby is carried in the bag, the baby's body presses against the upper edge of the support body, thereby causing the drawstring to loosen. In other words, as the baby is being carried, the length of the upper edge achieved by pulling the free portion of the drawstring, may not be maintained. This can affect the comfort of the baby being carried, but also of the user that wears the baby carrier.

[0008] In addition, the reduction of the length of the upper edge obtained using the drawstring leads to the formation of folds and wrinkles of the fabric of the support body at the upper edge. These folds and wrinkles will contact the delicate body of the baby, and considerably affect the comfort of the baby being carried.

Summary of the invention

[0009] Therefore, the technical purpose of the present invention is to provide a baby carrier that can obviate the drawbacks of the prior art.

[0010] In particular, an object of the present invention is to provide a baby carrier that can be adjusted to accurately fit the actual size of the baby being carried.

[0011] Also, an object of the present invention to provide a baby carrier that ensures high comfort both for the baby being carried and for the user that wears the baby carrier.

[0012] The aforementioned technical purpose and objects are substantially fulfilled by a baby carrier that comprises the technical features as disclosed in one or more of the accompanying claims.

Advantages of the Invention

[0013] In one embodiment of the invention, the upper edge of the support body of the baby carrier can be adjusted in length and the length value so achieved can be maintained as the baby is being carried.

[0014] In the preferred embodiment of the invention, high comfort can be ensured for the baby being carried and the user that wears the baby carrier for any length value achieved at the upper edge of the support body.

BIEF DESCRIPTION OF THE DRAWINGS

[0015] Further features and advantages of the present invention will result more clearly from the illustrative, non-limiting description of a preferred, non-exclusive embodiment of a baby carrier as shown in the annexed drawings, in which:

- Figure 1 is a front view of a baby carrier according to the present invention;
- Figure 2 is a front view of a detail of the baby carrier of Figure 1 in a first configuration;
- Figure 3 is a front view of the detail of Figure 2 in a second configuration;
- Figure 4 is a front view of a component of the baby carrier of Figure 1, not applied to the baby carrier;
- Figure 5 is a rear view of the baby carrier of Figure 1.

DETAILED DESCRIPTION

[0016] Particularly referring to the accompanying figures, numeral 1 designates a baby carrier.

[0017] This baby carrier 1 comprises a support body 2 which extends between a lower edge 21 and an opposite upper edge in a longitudinal direction X-X. The upper edge 22 extends in a transverse direction Y-Y orthogonal to the longitudinal direction X-X. Preferably, the lower edge 21 also extends in the transverse direction Y-Y.

[0018] In addition, the baby carrier 1 comprises a pair of shoulder straps 3 connected to the support body 2 and adapted to be worn by a user with the support body 2 defining a baby-carrying bag. Therefore, this bag is defined by the support body 2 and by the chest of the user.

[0019] The support body 2 has an inner surface 25 and an opposite outer surface 26 which extend from the lower edge 21 to the upper edge 22 in the longitudinal direction X-X. In use, i.e. when the user wears the baby carrier 1, the inner surface 25 faces the user's chest, while the outer surface 26 faces outwards. In other words, when the user wears the baby carrier 2 and the baby is accommodated inside the bag, the inner surface 25 contacts the baby's body, and the outer surface 26 is the only surface that is visible from the outside.

[0020] In use, depending on the size of the baby that is carried in the pocket defined by the support body 2, the head or neck of the baby is supported by the support body 2 at the upper edge 22.

[0021] Furthermore, the baby carrier 1 comprises adjustment means 4 located at the upper edge 22 of the support body 2 and configured to selectively adjust the length of the upper edge 22 in the transverse direction Y-Y.

[0022] Therefore, the adjustment means 4 can adjust the length of the support body 2 level with the area of the support body 2 that supports the head or neck of the baby being carried. Therefore, the length of the upper edge 22 of the support body 2 can be adapted to the actual size of the head and neck of the baby accommodated inside the bag.

[0023] These adjustment means 4 are located at the outer surface 26 of the support body 2. In use, the adjustment means 4 do not contact the body of the baby, thus avoiding any discomfort for the baby or irritation of his/her body, while affording adjustment of the length of the upper edge 22 of the support body 2 even while the baby is accommodated inside the bag.

[0024] The adjustment means 4 comprises an elastic element 41 comprising a fixing portion 42 fixed to the support body 2 and a first free portion 43 extending in the transverse direction Y-Y. Therefore, the first free portion 43 is at least partly fixed to the support body 2.

[0025] Preferably, the first free portion 43 of the elastic element 41 extends between a first end 431 located at the fixing portion 42, and an opposite second end 432, in the transverse direction Y-Y. Still preferably, the first free portion 43 has a rectangular shape. Alternatively, the said free portion 43 is defined by a double-stitched cord.

[0026] The first free portion 43 has a plurality of first coupling members 44 which are spaced apart in the transverse direction Y-Y. Preferably, the first coupling members 44 are equally spaced apart in the transverse direction Y-Y. Also preferably, said first coupling members 44 are positioned between the first end 431 and the second end 432 of the first free portion 43 at a progressively increasing distance from the fixing portion 42 of the elastic element 41.

[0027] In addition, the adjustment means 4 comprise a second coupling member 45 which is fixed to the support body 2 and is spaced apart from the fixing portion 42 in the transverse direction Y-Y. In other words, the support body 2 comprises a separation fabric portion 27 interposed between the second coupling member 45 and the fixing portion 42 of the elastic element 41.

[0028] The first free portion 43 of the elastic element 41 is elastically extensible to reversibly couple a first coupling member 44 to the second coupling member 45 to reversibly reduce the length of the upper edge 22 of the support body 2 in the transverse direction Y-Y from a maximum length to a respective first length that is less than the maximum length. Therefore, each coupling between a first coupling member 44 and the second coupling member 45 is characterized by a respective first length value of the upper edge 22.

[0029] By pulling the first free portion 43 of the elastic element 41, the latter can be extended in the transverse direction Y-Y from an initial length value to a respective final length value, to thereby couple a first coupling member 44 to the second coupling member 45.

[0030] Following the extension of the first free portion 43, the first free portion 43 springs back to a shorter length, i.e. to its initial length. Nevertheless, since a first coupling member 44 is coupled to the second coupling member 45, the length reduction of the first free portion 43, caused by springback reduces the distance of the second coupling member 45 from the fixing portion 42 of the elastic element 41. This distance reduction causes the separation fabric portion 27 of the support body 2 to be shortened and hence reduces the length of the upper edge 22 of the support body 2.

[0031] Advantageously, the separation fabric portion 27 is shortened by folding such separation fabric portion 27 toward the outer surface 26 of the support body 2. Thus, the folds of the separation fabric portion 27 do not contact the body of the baby accommodated inside the bag. This results in high comfort for the baby being carried, irrespective of the length of the upper edge 22 of the support body 2.

[0032] It should be further noted that the closer a first coupling member 44 is to the fixing portion 42 of the elastic element 41, the shorter the respective first length of the upper edge 22 of the support body 2 will be, once such first coupling member 44 is coupled to the second coupling member 4.

[0033] According to a preferred embodiment of the invention, the baby carrier 1 comprises a protective element 5 configured to protect the head of the baby. For example, the protective element 5 is a hood known to the skilled person. The protective element 5 can protect the baby from the sun and/or the wind.

[0034] This protective element 5 is connected to the upper edge 22 of the support body 2. For example, this protective element 5 is unremovably connected to the upper edge 22 of the support body 2. Alternatively, the

protective element 5 is removably connected to the upper edge 22 of the support body 2.

[0035] According to the preferred embodiment of the invention, the elastic element 41 comprises a second free portion 46 located opposite to the first free portion 43 with respect to the fixing portion 42. The first free portion 46 extends in the transverse direction Y-Y and has a plurality of additional first coupling members 47 which are spaced apart in the transverse direction Y-Y. Therefore, this second free portion 46 is symmetric to the first free portion 43 with respect to the fixing portion 42. Preferably, the additional first coupling members 47 are equally spaced apart in the transverse direction Y-Y.

[0036] Preferably, the second free portion 46 of the elastic element 41 extends between a first end 461 , located at the fixing portion 42, and an opposite second end 462 in the transverse direction Y-Y. Preferably, the second free portion 43 has a rectangular shape. Alternatively, this second free portion 46 is defined by a double-stitched cord.

[0037] Also preferably, the additional first coupling members 47 are arranged between the first end 461 and the second end 462 of the second free portion 43 at a progressively increasing distance from the fixing portion 41.

[0038] Still according to the preferred embodiment of the invention, the adjustment means 4 comprise an additional second coupling member 48 which is fixed to the support body 2 in a position that is symmetric to the second coupling member 45 with respect to the fixing portion 42 of the elastic element 41. This additional second coupling member 48 is also spaced apart from the fixing portion 42 of the elastic element 41. In other words, the support body 2 comprises an additional separation fabric portion 28 interposed between the fixing portion 42 and the additional second coupling member 48.

[0039] The first free portion 43 and the second free portion 46 of the elastic element 41 are elastically extensible to reversibly couple a first coupling member 44 to the second coupling member 45 and an additional first coupling member 47 to the additional second coupling member 48 to reversibly reduce the length of the upper edge 22 of the support body 2 in the transverse direction Y-Y from the maximum length to a respective second length that is less than the maximum length.

[0040] As already described with reference to the extension of the first free portion 43 of the elastic element 41, the extension of the second free portion 46 for coupling a respective additional first coupling member 47 to the additional second coupling member 48 and the subsequent springback of such second free portion 46 will cause the additional separation fabric portion 28 to be shortened.

[0041] Like the separation fabric portion 27, the additional separation fabric portion 28 is also shortened by folding such additional fabric portion 28 toward the outer surface 26 of the support body 2, thereby avoiding contact of such folds with the body of the baby accommodated in the bag.

[0042] It should be further noted that the closer an additional first coupling member 47 is to the fixing portion 42 of the elastic element 41, the shorter the additional fabric portion 28 will be once such additional first coupling member 47 is coupled to the additional second coupling member 4.

[0043] Preferably, each first coupling member 44 and each additional first coupling member 47 comprise a slot 10, whereas the second coupling member 45 and the additional second coupling member 48 comprise a button 11. By inserting the button 11 of a respective first coupling member 44 into the slot 10 of the second coupling member 45, such first coupling member 44 can be coupled to the second coupling member 45. Likewise, by inserting the button 11 of a respective additional first coupling member 47 into the slot 10 of the additional second coupling member 48, this additional first coupling member 47 can be coupled to the additional second coupling member 48.

[0044] According to the preferred embodiment of the invention, the support body 2 comprises a channel 23 arranged along the transverse direction Y-Y at the upper edge 22 of the support body 2. The elastic element 41 of the adjustment means 4 is housed inside this channel 23. The second ends 432, 462 of the first free portion 43 and of the second free portion 46 respectively come out of the channel 23 and may be grasped to elastically extend the first free portion 43 and the second free portion 46.

[0045] The second coupling member 45 and the additional second coupling member 48 are each located proximate to a respective end 231 of the channel 23. Preferably, the second coupling member 45 and the additional second coupling member 48 are each located at a respective end 231 of the channel 23.

[0046] In one aspect, the support body 2 extends between a pair of lateral edges 24 in the transverse direction Y-Y. Preferably, these lateral edges 24 of the support body 2 extend in the longitudinal direction X-X.

[0047] Still preferably, each shoulder strap 3 comprises a front portion 33 connected to the upper edge 22 of the support body 2 and extending in a forward direction of extension Z-Z of the shoulder strap 3. In addition, each shoulder strap 3 comprises a rear portion 34 connected to a respective lateral edge 24 of the support body and extending in a backward direction of extension of the shoulder strap K- K. In use, the front portion 33 of each shoulder strap 3 at least partly rests on the person's chest, and the rear portion 34 of each shoulder strap 3 rests on the person's back.

[0048] According to the preferred embodiment of the invention, each shoulder strap 3 comprises a guide 31 arranged in a backward direction of extension K-K of the shoulder strap 3 and a slider 32 adapted to slide along its respective guide 31. Each guide 31 is located at the rear portion 34 of its respective shoulder strap 3.

[0049] Still according to the preferred embodiment of

the invention, the baby carrier 1 comprises a connector 6 having a snap-on buckle 61. The connector 6 is well-known to the skilled person and will not be further described herein.

[0050] This connector 6 is connected to the sliders 32 of the shoulder straps 3 so that the sliding movement of the sliders 32 along their respective guides 31 will cause the connector 6 to slide. Therefore, this connector 6 allows connection of the two shoulder straps 3 at the back of the person that wears the baby carrier 1. By adjusting the position of the connector 6 along the guides 31 the weight of the baby accommodated in the bag may be more easily supported.

[0051] Still according to the preferred embodiment of the invention, the baby carrier 1 comprises a pair of adjustment buckles 7. The adjustment buckle 7 is also well-known to the skilled person and will not be further described herein.

[0052] Each adjustment buckle 7 is fixed to the front portion 33 of a respective shoulder strap 3 and is configured to adjust the length of the respective front portion 33 of the shoulder strap 3 along the forward direction of extension Z-Z of the shoulder strap 3.

[0053] By adjusting the length of the front portions 33 of the shoulder straps 3 along the respective forward directions of extension Z-Z the volume of the bag defined by the support body 2 can be adapted to the actual size of the baby's body. Indeed, as the length of the front portions 33 of the shoulder straps 3 increases, the volume of the bag increases.

[0054] Still according to the preferred embodiment of the invention, the baby carrier 1 comprises a pair of lateral adjustment buckles 8. Each lateral adjustment buckle 8 is latched to a respective front portion 33 of a shoulder strap and to a portion of the respective lateral edge 24 of the support body 2. For example, each lateral adjustment buckle 8 is fixed to the shoulder strap 3 and to the support body 2 at the outer surface 26 of such support body.

[0055] The lateral adjustment buckles 8 are configured to move the front portions 33 of the shoulders 3 toward the lower edge 21, and hence to adjust the distance between the upper edge 22 and the lower edge 21 of the support body 2 along the longitudinal direction X-X. Thus, using each lateral adjustment buckle 8 the lower edge 21 of the support body 2 can be moved toward and away from the shoulder straps 3 and accordingly the lower edge 21 can be moved toward and away from the upper edge 22 of the support body 2.

[0056] Advantageously, using the lateral adjustment buckles 8 the length of the lateral edges 24 in the longitudinal direction X-X may be adjusted to adapt the support body 2 to the length of the baby accommodated in the bag.

[0057] Preferably, the baby carrier 1 comprises a belt 9 connected to the lower edge 21 of the support body 2. This belt 9 can be fastened to the waist of the user. Advantageously, the support body 2 is secured more stably to the user.

Claims

1. A baby carrier (1) comprising:

- a support body (2) extending between a lower edge (21) and an opposite upper edge (22) in a longitudinal direction (X-X), said upper edge (22) extending in a transverse direction (Y-Y) orthogonal to said longitudinal direction (X-X);
- a pair of shoulder straps (3) connected to the support body (2) and adapted to be worn by a user with the support body (2) defining a baby-carrying bag;
- adjustment means (4) located at the upper edge (22) of the support body (2) and configured to selectively adjust the length of said upper edge (22) along the transverse direction (Y-Y);

characterized in that said adjustment means (4) comprise:

- an elastic element (41) comprising a fixing portion (42) fixed to the support body (2) and a first free portion (43) extending in the transverse direction (Y-Y) and having a plurality of first coupling members (44) spaced apart from each other in the transverse direction (Y-Y);
- a second coupling member (45) which is fixed to the support body (2) and is spaced apart from the fixing portion (42) in the transverse direction (Y-Y);

in which

- the first free portion (43) of the elastic element (41) is elastically extensible to reversibly couple a first coupling member (44) to the second coupling member (45) to reversibly reduce the length of the upper edge (22) of the support body (2) in the transverse direction (Y-Y) from a maximum length to a respective first length that is less than said maximum length.

2. A baby carrier (1) as claimed in claim 1, comprising a protective element (5) which is configured to protect the baby's head, said protective element (5) being connected to the upper edge (22) of the support body (2).

3. A baby carrier (1) as claimed in any of claims 1 to 2, wherein:

- the elastic element (41) comprises a second free portion (46) which is located opposite to the first free portion (43) with respect to fixing portion (42), said second free portion (46) extending in the transverse direction (Y-Y) and having a plu-

rality of additional first coupling members (47) spaced apart from each other in the transverse direction (Y-Y);
- the adjustment means (4) comprise an additional second coupling member (48) which is fixed to the support body (2) in a position symmetrical to the second coupling member (45) with respect to the fixing portion (42) of the elastic element (41);
- wherein the first free portion (43) and the second free portion (46) of the elastic element (41) are elastically extensible to reversibly couple a first coupling member (44) to the second coupling member (45) and an additional first coupling member (47) to the additional second coupling member (48) to reversibly reduce the length of the upper edge (22) of the support body (2) in the transverse direction (Y-Y) from the maximum length to a respective second length that is less than the maximum length.

4. A baby carrier as claimed in claim 3, wherein:

- the first free portion (43) and the second free portion (46) of the elastic element (41) extend respectively between a first end (431,461), located at the fixing portion (42), and an opposite second end (432,462) in the transverse direction (Y-Y).

5. A baby carrier as claimed in claim 3 or 4, wherein:

- each first coupling member (44) and each additional first coupling member (47) comprise a slot (10);
- the second coupling member (45) and the additional second coupling member (48) comprise a button (11).

6. A baby carrier as claimed in any of claims 3 to 5, wherein the support body (2) comprises a channel (23) extending in the transverse direction (Y-Y) at the upper edge (22) of the support body (2), the elastic element (41) of the adjustment means (4) being at least partially held within said channel (23), the second coupling member (45) and the additional second coupling member (48) being each placed close to a respective end (231) of the channel (23).

7. A baby carrier (1) as claimed in any of claims 1 to 6, wherein:

- each shoulder strap (3) comprises a guide (31) arranged in a backward direction of extension (K-K) of the shoulder strap (3) and a slider (32) adapted to slide along its respective guide (31);
- the baby carrier (1) comprises a connector (6) having a snap buckle (61), said connector (6) being connected to the sliders (32) of the shoulder straps (3) so that the sliding movement of the sliders (32) along their respective guides (31) will cause the connector (6) to slide.

8. A baby carrier (1) as claimed in any of claims 1 to 7, wherein:

- each shoulder strap (3) comprises a front portion (33) connected to the upper edge (22) of the support body (2) and extending in a forward direction of extension (Z-Z) of the shoulder strap (3), and
- the baby carrier (1) comprises a pair of adjustment buckles (7), each adjustment buckle (7) being fixed to the front portion (33) of a respective shoulder strap (3) and being configured to adjust the length of the respective front portion (33) of the shoulder strap (3) along the forward direction of extension (Z-Z) of the shoulder strap (3).

9. A baby carrier (1) as claimed in any of claims 1 to 8, wherein:

- the support body (2) extends in the transverse direction (Y-Y) between a pair of lateral edges (24), and
- the baby carrier (1) comprises a pair of lateral adjustment buckles (8), each lateral adjustment buckle (8) being located between the front portion (33) of the respective shoulder strap (3) and a portion of the respective lateral edge (24) of the support body (2), the lateral adjustment buckles (8) being configured to adjust the distance between the front portion (33) of the respective shoulder strap (3) and the lower edge (21) of the support body (2) in the longitudinal direction (X-X).

10. A baby carrier (1) as claimed in any of claims 1 to 9, comprising a belt (9) connected to the lower edge (21) of the support body (2), said belt (9) being adapted to be connected to the waist of the user.

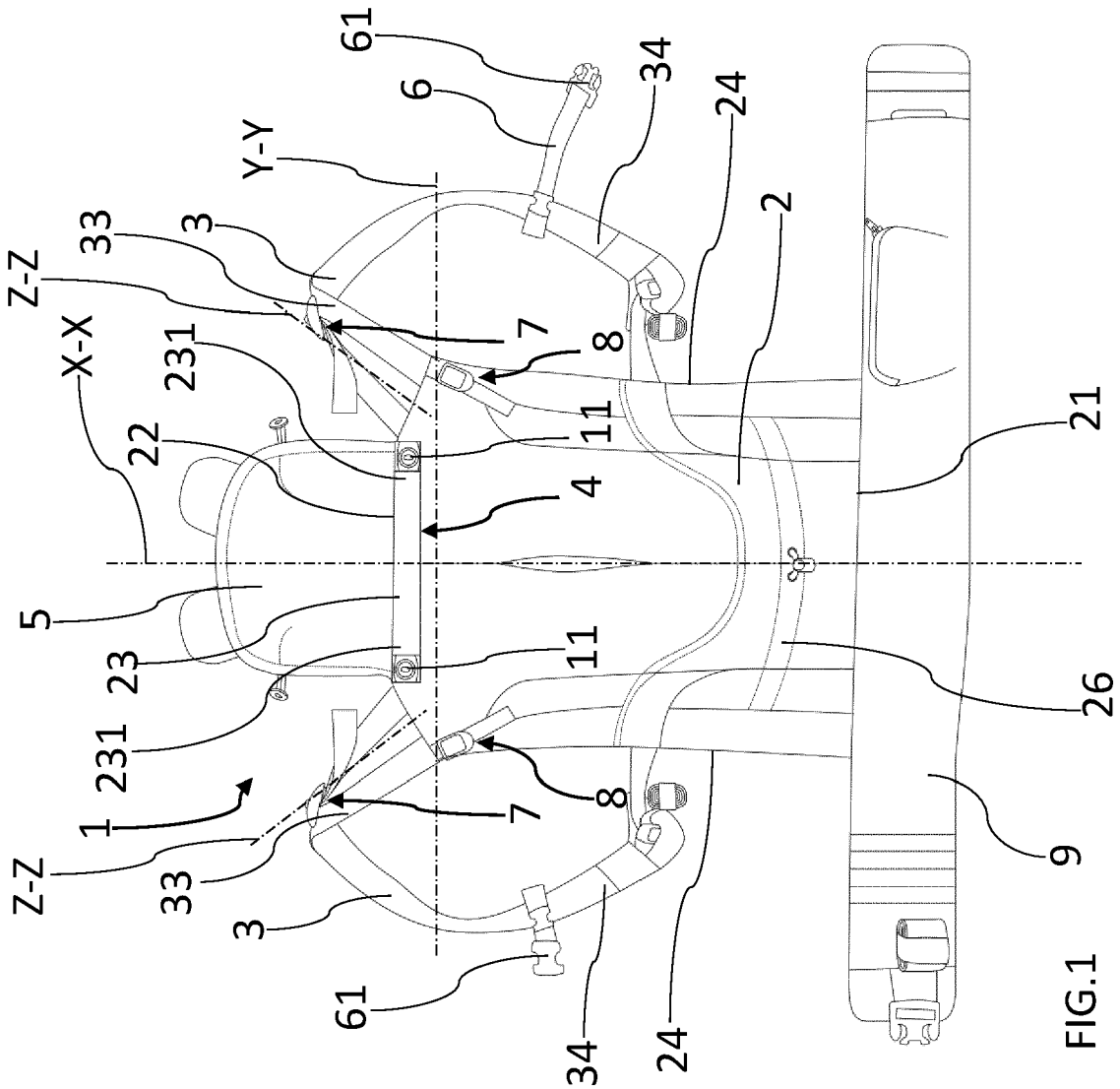
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FIG.1

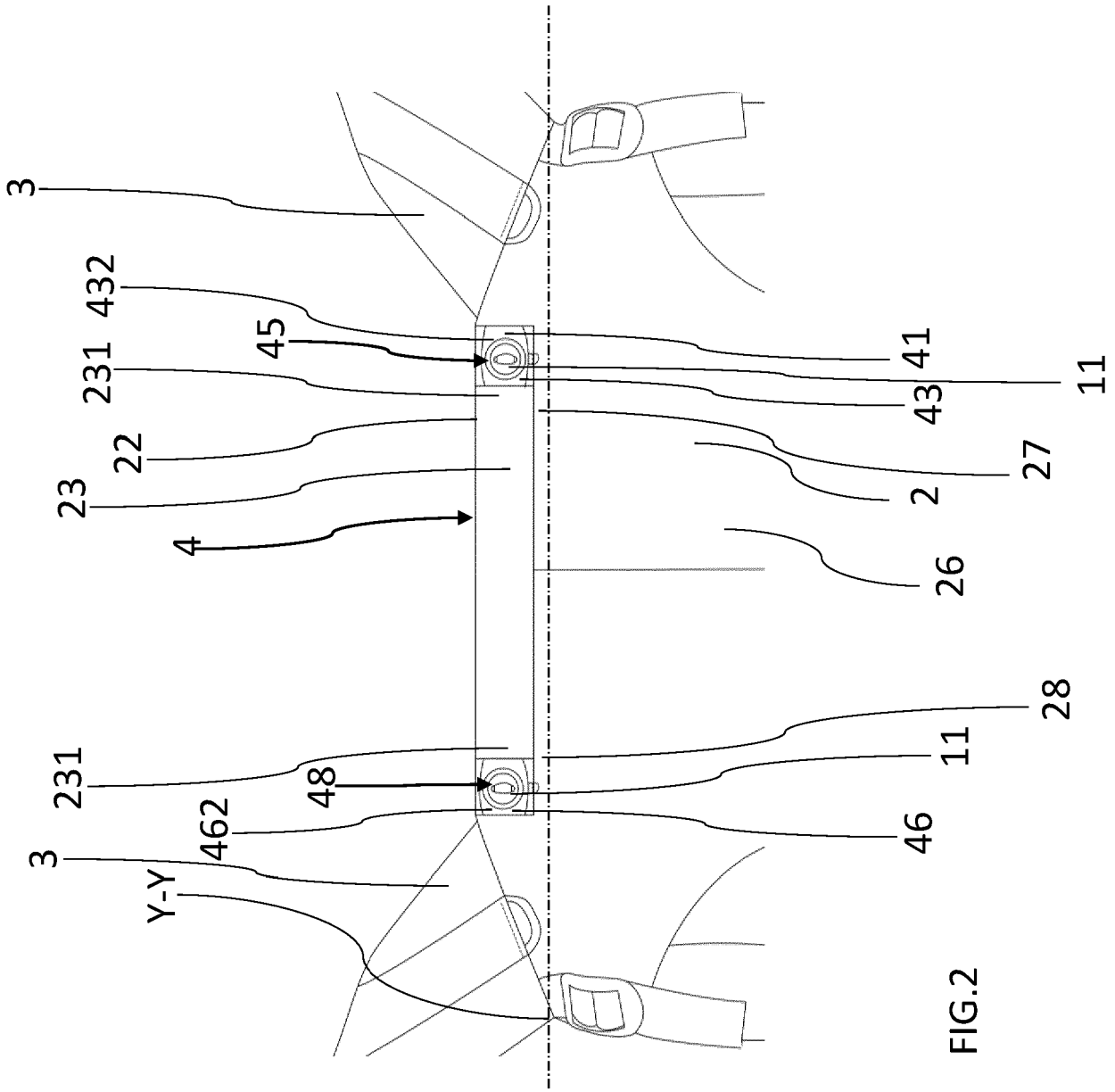

FIG.2

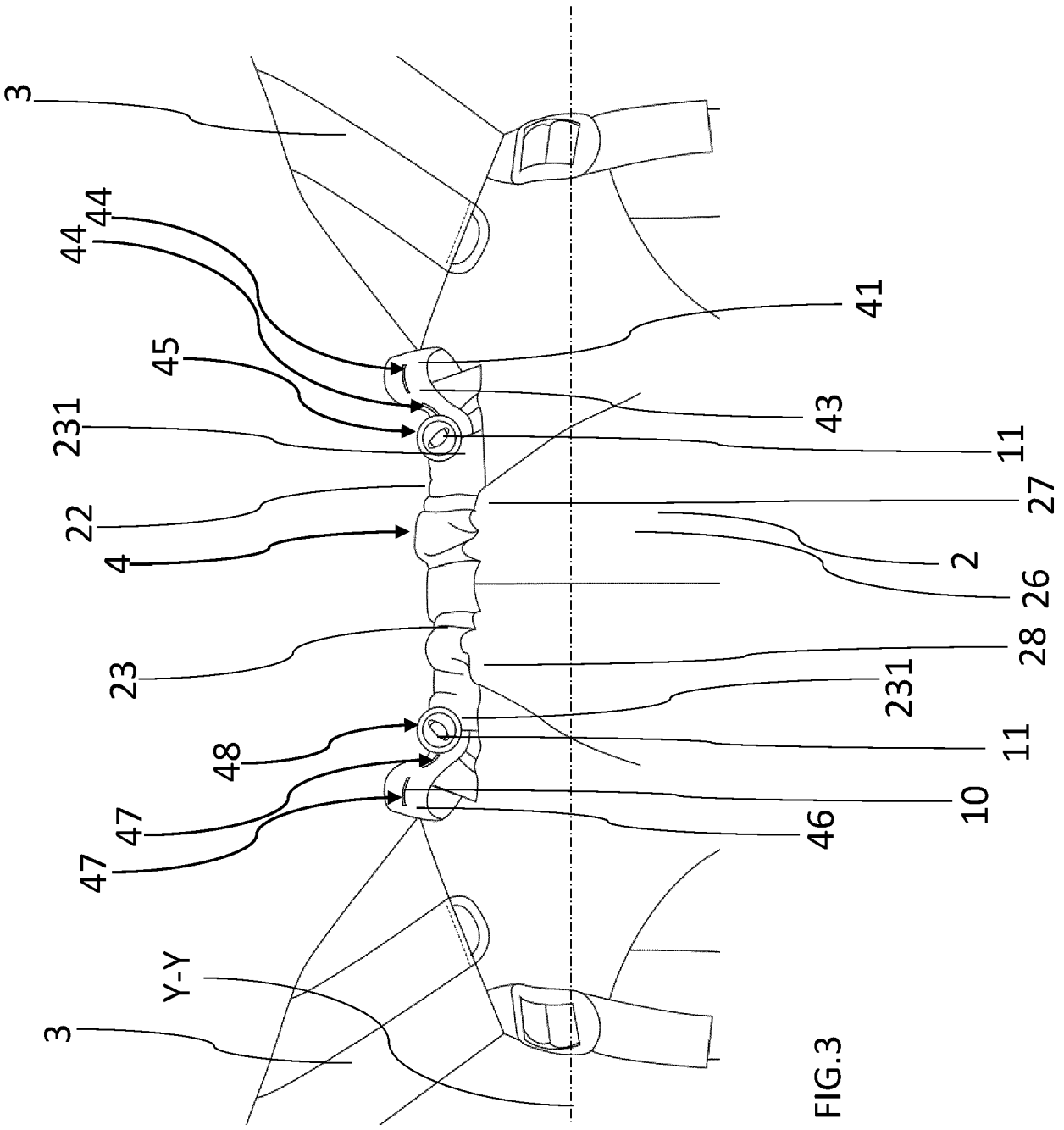

FIG.3

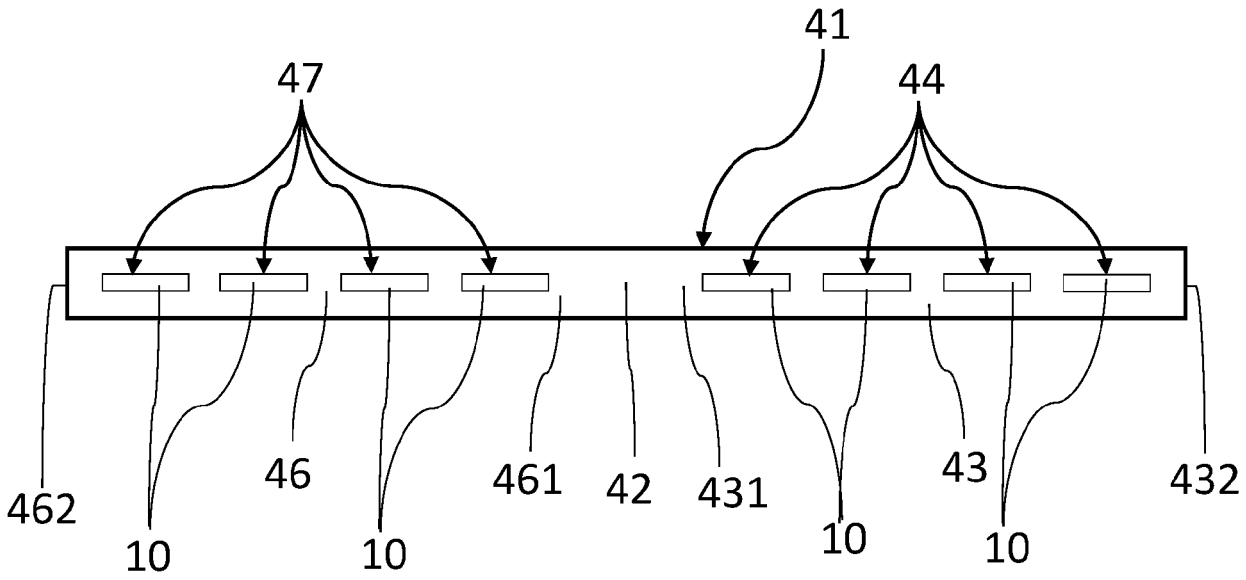

FIG.4

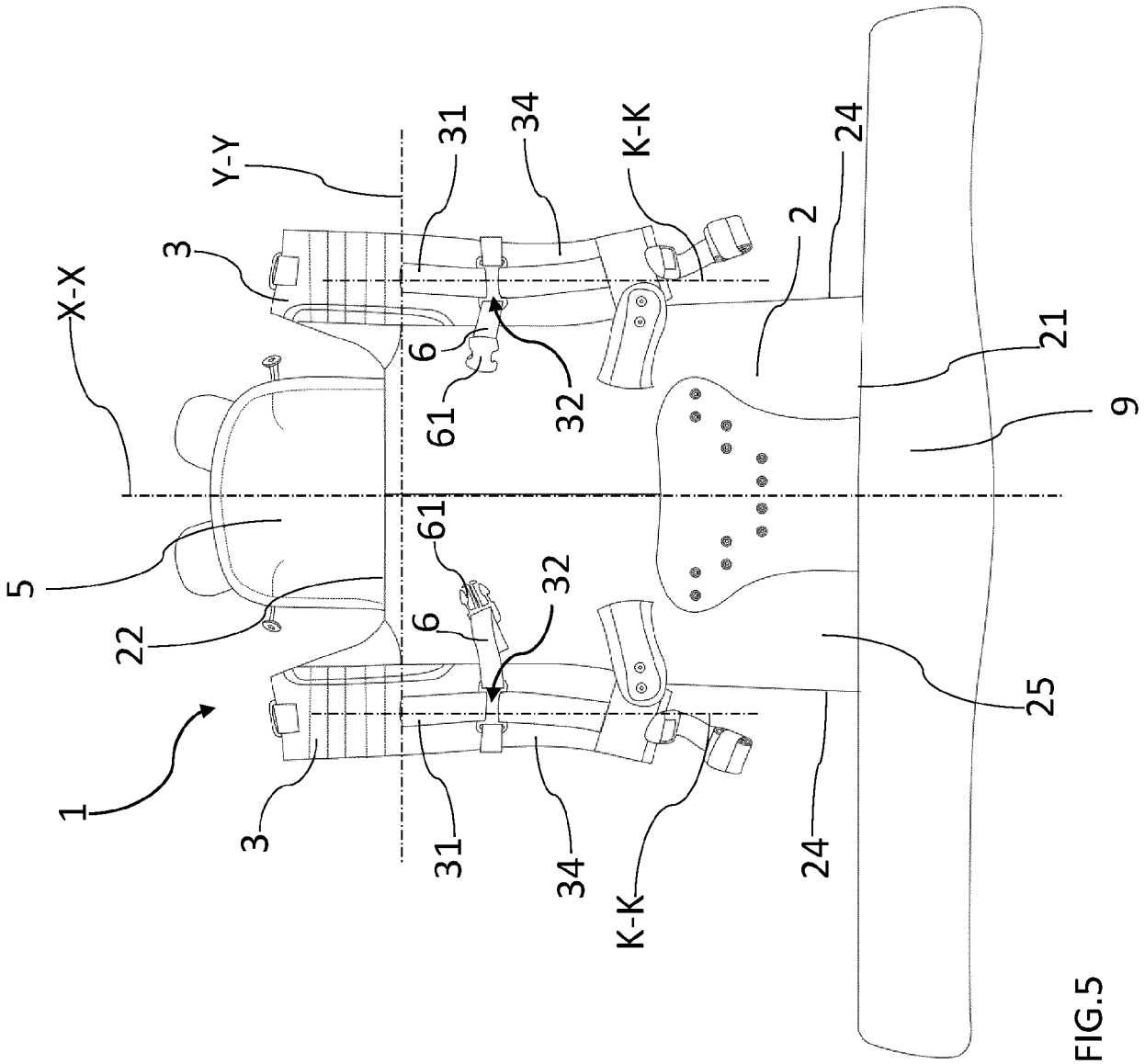

FIG.5

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EUROPEAN SEARCH REPORT

Application Number
EP 21 16 7801

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 20 2019 001342 U1 (CORDES KRYSTYNA [DE]) 5 June 2019 (2019-06-05) * paragraph [0015]; claim 1; figures *	1-10	INV. A47D13/02
A	RU 171 342 U1 (SHKARBANENKO V V) 29 May 2017 (2017-05-29) * paragraph [0017]; figures *	1-10	
A	CN 201 384 280 Y (RUIQIAN CAO) 20 January 2010 (2010-01-20) * figures *	1-10	
A	US 2018/139921 A1 (KATH LIY [US]) 24 May 2018 (2018-05-24) * paragraph [0023]; figures *	1-10	
A	US 2014/117065 A1 (FITZPATRICK NILDA [US]) 1 May 2014 (2014-05-01) * figures *	1-10	
			TECHNICAL FIELDS SEARCHED (IPC) A47D A45F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	20 April 2021	Kis, Pál

CATEGORY OF CITED DOCUMENTS

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202019001342 U1	05-06-2019	NONE	
RU 171342 U1	29-05-2017	NONE	
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