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Specification

Mechanism of length-variable belt, and vehicle and open enclosure equipped with said mechanism

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Field of the Invention

The present invention relates to a mechanism of length-variable belt, belt length of which can be adjusted by using, for example, a buckle, when the wearer puts on this apparatus for cuddling a baby or an infant, and to be further specific, it relates to a mechanism of
10 length-variable belt, wherein the belt can be shortened and/or elongated with simple operations, vehicles and open enclosures equipped with said mechanism.

Background of the Invention

When a mother gives a piggyback ride to her baby, and on other occasions,
15 apparatuses for cuddling babies such as strings for piggyback, and cuddle seats are used. In addition, as another type of such apparatuses for cuddling babies, strings, with which a mother holds her baby in front instead of giving him or her a piggyback ride with such strings, have come to be well known recently, as well.

With referring to Figure 17 as an example of the apparatus for cuddling babies who
20 are to be held in front of his or her mother, fundamental constructions follows: this apparatus for cuddling a baby 50 is comprised of a waist band 51, which a wearer such as a mother puts on, a body 53 that is attached to the waist band 51 and holds the baby while he or she is being seated, and a shoulder belt 54 which the wearer puts on one of his or her shoulders down slantwise.

The shoulder belt 54 has, as shown in Figure 17, an adjuster 55 attached for adjusting
25 the length of the belt.

When a baby is to be lifted down with the apparatus for cuddling a baby 50, the wearer elongates the length of the belt by adjusting the adjuster 55 to make the room between the wearer and the body 53 more spacious to take the advantage of the room left open.

In the case of the shoulder belt 54 used in conjunction with the above-mentioned
30 apparatus for cuddling a baby 50, the wearer needs to loose the belt each time he or she lifts down the baby by adjusting the adjuster. Furthermore, it is not always easy to complete the

process of ensuring a sufficient amount of room (the opening between the shoulder belt 54 and the wearer) when lifting down the baby at a single belt operation. In addition, when a baby is placed back to the apparatus for cuddling the baby with its belt in the loose state, the length of the belt has to be adjusted once again to finally get it fastened. It requires a tremendous amount of effort to shorten the length of the belt by adjusting the adjuster after taking in the baby with the mother's hands alone.

Given the circumstances described above, the present invention is created to address the above-mentioned issues, and aims at providing a mechanism of length-variable belt that can be toggled with easy operations, and vehicle and open enclosure equipped with said mechanism.

Summary of the Invention

In order to achieve the objects, a mechanism of length-variable belt according to the present invention is comprised of the first belt, the first fastening portion that is placed at a place closer to the base portion of said first belt, the second fastening portion that is placed either at the tip portion of the first fastening portion or at a place closer to the tip portion of the first fastening portion apart from the first fastening portion itself, the second belt that is joined to the first belt, and the third fastening portion that is placed on said second belt and has an opening that allows the second fastening portion of the first belt to be inserted wherein the third fastening portion has a revolving body that keeps the second fastening portion with the above-mentioned opening thereof being in an inserted state from falling off, where such a mechanism of length-variable belt is characterized in that the length of the belt is to be toggled by, after the second fastening portion is inserted into the opening of the third fastening portion, having said second fastening portion either hooked up to the above-mentioned revolving body of the third fastening portion, or attached to the first fastening portion.

In the above-mentioned construction, the dimension of joint between the first belt and the second belt, which is inserted into the opening of the third fastening portion, when the second fastening portion is attached to the first fastening portion, is constructed to be shorter than the dimension of joint between the first belt and the second belt when the second fastening portion is inserted to the opening of the third fastening portion and hooked up to the revolving body of third fastening portion.

In the above-mentioned construction, the revolving body of the third fastening portion is constructed to keep the second fastening portion from falling off by, when pulling out

the second fastening portion, having the revolving body of the third fastening portion verged to the second fastening portion.

In the above-mentioned construction, the third fastening portion is preferably comprised of a frame member, and said opening formed by this frame member, and said tab-like shaped revolving body that is supported like a pivot by the frame member in this opening, wherein the tip of the revolving body that revolves is constructed to halt the revolving motion of the revolving body by letting the tip thereof be hooked up to one side of the frame member.

The third fastening portion is preferably constructed either with a circular member having said opening, or with a member in a rectangular shape with one side thereof is missing yet having said opening.

The above-mentioned mechanism of length-variable belt is applicable to vehicles and open enclosures. The vehicles referred to herein include transportation apparatuses (devices, equipment, among other things) such as a apparatus for cuddling and a baby carriage for transporting a baby and/or infant, and further include a wider range of commodities of which purposes are to be utilized in conjunction with transportation of individuals such as for adults and for care of the aged. Moreover, the open enclosures referred to herein signify apparatuses that provide accommodation for individuals except mainly for apparatuses for transportation, yet include apparatuses such as chairs exclusively for babies and/or infants, and child seats(child restraint) that allow a baby and/or infant to be maintained in a desired posture after he or she is seated on. However, they do not exclude apparatuses for maintaining adults in a desired posture, and the present invention is applicable to all the cases where a belt is used and an apparatus requires the length thereof to be adjusted, no matter what types they are, wherein bags, cases or among other things are irrelevant.

Brief Description of the Drawings

The present invention will be understood more fully from the detailed description given in the following and from the accompanying drawings of the preferred embodiments of the invention, which, however, should not be taken to be limitative to the invention, but are for explanation and understanding only.

Figure 1 is an elevation view showing a apparatus for cuddling having the mechanism of the length-variable belt according to an embodiment example of the present invention.

Figure 2 is an exploded view of the fastening members according to an embodiment of

the present invention.

Figure 3 (A) is an enlarged B-B cross-sectional view of Figure 2, and Figure 3 (B) is an enlarged C-C cross-sectional view of Figure 2.

Figure 4 is a perspective view showing a mechanism joining the portion extended
5 from the apparatus for cuddling with the second belt in an embodiment of the present invention.

Figure 5 shows a revolving body according to an embodiment of the present invention.

Figures 6 (A) through (C) are illustrative diagrams showing the joining construction of the belt according to an embodiment of the present invention, respectively.

10 Figures 7 (A) through (E) are illustrative diagrams showing how the apparatus for cuddling according to an embodiment of the present invention is put on, respectively.

Figures 8 (a) through (c) are diagrams showing processes how a baby/infant can be lifted off from the apparatus for cuddling according to an embodiment of the present invention, respectively.

15 Figure 9 is a cross-sectional view of the fastening member according to an embodiment of the present invention.

Figure 10 is an elevation view showing another apparatus for cuddling having the mechanism of the length-variable belt according to an embodiment example of the present invention.

20 Figure 11 shows a baby carriage to which a mechanism of a length-variable belt according to the present invention is applied.

Figure 12 (A) is a development elevation of the shield that covers the mechanism of a length-variable belt according to the present invention, and Figure 12 (B) shows how the shield is placed.

25 Figures 13 (A) and (B) are diagrams showing a conventional baby carriage and its members (reclining member), respectively.

Figure 14 (A) is a diagram showing the conventional reclining portion, and Figures 14 (B) and (C) exemplify diagrams where the mechanism of a length-variable belt according to the present invention is applied to each of the reclining members.

30 Figure 15 (A) is a diagram showing the conventional child seat (child restraint), and Figure 15 (B) exemplifies a diagram where the mechanism of a length-variable belt according to the present invention is applied to its shoulder belt.

Figure 16 is an perspective view showing a member of which shape is rectangular one side of which is missing according to an embodiment of the present invention.

Figure 17 is a perspective view showing a conventional apparatus for cuddling.

5 Detailed Description of the Preferred Embodiments

Several embodiments of the present invention will be described hereinafter with reference to the accompany drawings.

Firstly, an illustration is provided when a mechanism for a length-variable belt according to an embodiment of the present invention is utilized in a apparatus for cuddling.

10 Figure 1 is an elevation view showing a apparatus for cuddling 1 having the mechanism of the length-variable belt according to an embodiment of the present invention, and just as the figure shows, the apparatus for cuddling 1 has a supportive body 11 that supports the body of a baby and/or infant and is assumed to be roughly drawn as a pseudo- trapezoid, a hole belt 12 that is to be wound around the waist of the baby and/or infant while being attached to the front side of the supportive body 11 whereby a wearer can hold the baby and/or infant even when
15 the wearer tries to put on and off the belt, the first belt 13, 15 that is to be wound around the body of the wearer, and the second belts 14, 16.

The supportive body 11 is formed in such a way that the top thereof is formed wider, while the width becomes narrower and narrower as it moves downward. Moreover, since the
20 supportive body 11 is comprised of clothing fabric, it can be folded. Here, the supportive body 11 is shaped in a pseudo-trapezoidal form. However, it maybe formed in other shapes such as oval, and rectangular shapes.

The first belt 13 and the second belt 14 are placed over the portions which are extended from the top of the supportive body 11, and the first belt 15 and the second belt 16 are
25 placed over the portions which are extended from the bottom of the supportive body 11 where in this example the first belt 13 and the second belt 14 are to be tied up with each other after they come up together over the shoulders of the wearer, and the first belt 15 and the second belt 16 are to be tied up with each other after they come together around the waist of the wearer.

The portions close enough to the bases of each of the first belts 13, 15 have female
30 buckles 13b, 15b arranged as the first fastening portions while the tips or the portions close enough to the tips of each of the first belts 13, 15 but apart from the above-mentioned first fastening portions have male buckles 13d, 15d as the second fastening portions. Hereinafter, the

extended portions toward the tips over the first fastening portions 13b, 15b of the first belts 13, 15 are named as the extended portions 13c, 15c. The illustration given herein assumes that the extended portions 13c, 15c are formed as a whole as part of the first belts 13, 15. However, these extended portions 13c, 15c may be formed separately from the first belts 13, 15 where they are to be attached to the first belts or the first fastening portions 13b, 15b.

In addition, the portions close enough to the tips of each of the second belts 14, 16 have the third fastening portion 20 arranged. This third fastening portion 20 is provided for allowing the extended portions 13c, 15c, and the male buckles 13d, 15d as the second fastening portions to be inserted, and for allowing the male buckles 13d, 15d to be hooked up to. For this reason, this third fastening portion 20 is, as is shown in Figure 2, comprised of a circular member 21 as a frame member having an opening 21a, and a revolving body 22 that serves as an axis to allow its revolving motion at the opening 21a of this circular member 21, all of which contributes to keeping the male buckles 13d and 15d after they are inserted into the opening 21a via the tab-like shaped revolving body 22 from falling off.

The frame member of the third fastening portion 20 is shaped like a pseudo-D form or as an anglewise circular member 21, and this circular member 21 in turn forms the opening 21a. The circular member 21, as is shown in Figure 3 (A), consists of a hole 21b to which the axis 22a of the revolving body 22 is penetrated, and a crena portion 21c is formed by notching one side of the front rim of the frame member.

The revolving body 22, as is shown in Figures 2 and 3 (B), is formed to have an axis 22a in its middle portion, an outthrust portion 22b that is projecting to diagonally to the front thereof, and an slit 22c that allows the second belts 14, 16 to be inserted and fixed.

Moreover, the revolving body 22 is, as shown in Figure 5, preferably formed with a concave portion (crena) 22d. This way of construction allows the wearer to hook his or her finger in the concave portion 22d when holding the revolving body 22, which in turn provides easy access to the revolving body 22.

Further, by having the axis 22a of the revolving body 22 inserted into the hole 21b of the circular member 21, the revolving body 22 revolves inside the opening 21a of the circular member 21 around the axis 22a, wherein the bottom of the outthrust portion 22b of the revolving body 22 is to be hooked up by the crena portion 21c of the circular member 21, which prevents revolving further downward. In other words, the revolving motion is stopped by the tip of the revolving body 22 being hooked to one side of the circular member 21.

Incidentally, the second belts 14, 16 have, as is shown in Figure 4, an adjuster 30 attached for adjusting the length thereof, and hooking up the second belts 14, 16 to the adjuster 30 enables the length of the second belts 14, 16, length of which has been adjusted, to be maintained constant.

5 The usage of a thus constructed apparatus for cuddling 1 is provided below.

As is shown in Figure 6 (A), the male buckle 13d as the second fastening portion is to be inserted to the opening 21a of the third fastening 20 of the second belt 16, then as is shown in Figure 6 (B), the extended portion 13c that has been inserted to the third fastening portion 20 is folded toward the female buckle 13b as the first fastening portion with the center of folding being
10 the third fastening portion 20, and by having these penetrate into each other, in other words, by having the first fastening portion and the second fastening portion link to each other, the first belt 13 and the second belt 16 are to be linked to each other. Likewise, the second belt 14 and the first belt 15 are to be linked to each other.

15 The series of operations complete the linkage among each of the belts 13 through 16, whereby these belts can be used as shoulder belts as is shown in Figures 7 (A) and (B).

In this case, when the female buckle 13b and the male buckle 13d are linked to each other, the extended portion 13c is folded in two with the center of the folding being the third fastening portion 20. In other words, the extended portion 13c that has been inserted to the third fastening portion 20 is folded back toward the female buckle 13b with the center of the folding
20 being the third fastening portion 20 wherein the middle of the extended portion 13c is hooked to the third fastening portion 20.

Next, a baby/infant is placed between the abdominal part of the wearer and the supportive body 11 with the baby/infant facing the wearer, and the hold belt 12 is to be wound around the body of the baby/infant. Then, the length of the hold belt 12 is to be adjusted to the
25 dimension of the baby/infant. In that case, the first belt 13 and the second belt 14 is to be positioned just as they come under the pits of the baby/infant. Then, the lengths of the first belt 13 and the second belt 14 are to be adjusted to the dimension of the wearer. In this way, the apparatus for cuddling 1 can be harnessed completely with the baby/infant being positioned inside the apparatus for cuddling 1, as is shown in Figure 7.

30 Next, an illustration how to lift off the baby/infant from the apparatus for cuddling 1 will follow.

In this case, an example is shown where the loop formed with the first belt 13 and the

second belt 16 is to be released. As is shown in Figure 8 (A), by releasing the male buckle 13d from the female buckle 13b, the extended portion 13c is elongated to allow the length of linkage between the first belt and the second belt longer, which provides more room sufficient to lift off the baby/infant (see also Figure 8 (B)). Here, in the course of the extended portion 13c being pulled out from the third fastening portion 20, the male buckle 13d is collided against the tab-like shaped revolving body 22 of the third fastening portion 20, where it is set at rest (see also Figure 6 (C)). That is to say, the male buckle 13d is, as is shown in Figure 9, collided against the revolving body 22, and kept from penetrating into the opening 21a of the third fastening portion 20. Just as has been illustrated, the revolving body 22 of the third fastening portion 20 does not interfere with the male buckle 13d in the course of insertion, but when the male buckle 13d is pulled out from the third fastening portion 20, the revolving body 22 thereof is slid against the male buckle 13d, which keeps the male buckle 13d from falling off. In this case, the male buckle 13d is hooked up to the third fastening portion 20, which installs the extended portion 13c between the female buckle 13b and the third fastening portion 20, where the distance (dimension of linkage) between the female buckle 13b and the third fastening portion 20 (dimension of linkage) becomes longer than the distance between the female buckle 13b and the third fastening portion 20 when the male buckle 13d is inserted into the female buckle 13b.

With maintaining the first belt and the second belt being tied to each other in this way, the total length can be elongated, which provides easy operations when lifting off a baby or infant, thus the wearer can lift him or her off from the more spacious room. Alternatively, the baby or infant may be lifted off from the apparatus for cuddling 1 by opening the revolving body 22 of the third fastening portion 20, and pulling out the extended portion 13c and the male buckle 13d from the third fastening portion 20 (see also Figure 8 (C)) while holding the baby.

When positioning the baby or infant back into the cuddling apparatus 1, since the length of the belt (loop) has been already adjusted, the process completes only by inserting the male buckle 13d into the opening of the third fastening portion 20, putting onto the female buckle 13b. Here, when holding the baby or infant, the length of the belt may be fine tuned at the belt thrusting portion.

According to the thus constructed apparatus for cuddling 1 having a mechanism of a length-variable belt in the present invention, once the wearer puts on the apparatus for cuddling 1 and establishes the linkage obtained by tying up the first belt 13 and the second belt 16, length between which has been fixed via the adjuster 30 at this point, then the usage thereafter does not

require any adjustment of such a length but requires the process of linking the buckles 13b, 13d to each other, which allows to toggle the length of linkage between the first belt 13 and the second belt 16 with a single operation. To be specific, this can be done by inserting the male buckle 13d to the opening 21a of the third fastening portion 20, and either hooking up the male buckle 13d to the revolving body 22 of the third fastening portion 20, or folding at the extended portion to have the female buckle 13b affixed.

For example, when used as shoulder belts by linking the first belt 13 and the second belt 16 to each other, even if the male buckles 13d, 15d are unexpectedly dropped from the female buckles 13b, 15b, since the male buckles 13d, 15d are hooked up to the third fastening portion 20, which merely elongates the length of linkage, and still keeps the linkage between the first and second belts, safety will not be affected.

The illustration above is based on to an apparatus for cuddling 1, which includes the belts 13 through 16 tied up to one another to form two loops being crossed over the shoulders. However, a mechanism for a length-variable belt according to the present invention may be, as shown in Figures 8 and 10, applied to an apparatus for cuddling of a single-shoulder crossing type. In this case, the loop formed by the linkage between the first belt 15 and the second belt 16 is to be used as a waist band.

Next, the following provides an example where a mechanism of a length-variable belt of the present invention is applicable to another property. For example, a chair for babies 2 is under such a scope, which is used when a baby and/or infant takes his or her meals or on other occasions as is shown in Figure 11. This chair for babies 2 is provided with a supportive belt 31 between the table and the bearing surface for keeping the baby and/or infant from slipped off from the state of his or her being seated, and the present invention is applicable to the supportive belt 31. In this case, the supportive belt 31 is divided up into two belts, the first belt and the second belt, one of which is attached with the third fastening portion 20, the other of which is arranged with the female buckle 13b (the first fastening portion) and the extended portion 13c that is extended therefrom, and the male buckle 13d (the third fastening portion) that is provided at the tip of the extended portion 13c.

According to the chair for babies 2 that has been applied the mechanism of a length-variable belt to, when lifting off the baby who is seated on the bearing surface, removing the male buckle 13d from the female buckle 13b immediately releases the supportive belt 31 with a single operation, which allows the baby and/or infant to be lifted off easily. In addition, if the

baby and/or infant falls asleep while seated, pulling out the male buckle 13d, which is released from the female buckle 13b, from the third fastening portion 20 divides the supportive belt 31, which allows the baby and/or infant to be lifted off from the chair for babies quietly.

Moreover, when a mechanism of a length-variable belt of the present invention is used with a cover 40 as is shown in Figure 12 covering the mechanism, the area coming in touch with the user is protected, which provides soft holding of the user with the cushion effect. Here, Figure 12 (A) shows a development of the cover 40, and Figure 12 (B) shows the usage where the cover 40 is folded to cover the mechanism of a length-variable belt.

A mechanism of a length-variable belt of the present invention is applicable to a baby carriage, as is shown in Figure 13 (A), as well. On the back side of the seat 32 of the baby carriage 3 is provided a reclining member 33 having a belt and a buckle to adjust the extent of the slope of the seat 32. It is to the reclining member 33 that the present invention is applicable, as well.

Here, the conventional reclining member 33 is, as is shown in Figure 14 (A), comprised of an adjuster 33b, which is attached to one belt 33a, and another belt 33c, which inserts to the former, wherein the reclining member 33 allows the slope of the seat 32 to be changed by adjusting the length of the belt 33c via the adjuster 33b.

In order to apply the present invention in lieu of the conventional reclining buckle 33b, it is necessary to set the length at a standard level, as is shown in Figure 14 (B). And when toggling the seat 32 to the reclining mode, remove the male buckle 13d from the female buckle 13b, whereby the male buckle 13d is hooked up to the third fastening portion 20, and this allows the toggling with a single operation as is shown in Figure 14 (C). Also, the process reversing from the state as is shown in Figure 14 (C) to the state as is shown in Figure 14 (B) can be completed in a single operation.

Furthermore, a mechanism of a length-variable belt of the present invention is applicable to shoulder belts of a child seat (child restraint) equipped in a vehicle, as well. Figure 15 (A) shows a conventional child seat 4, as is shown in this figure, the shoulder belts 34 have a tongue 34a in the middle of its entire length, which is to be connected to the buckle 35.

When a mechanism of a length-variable belt of the present invention is applied to the child seat 4, as is shown in Figure 15 (B), the shoulder belts 34 are attached with the female buckle 13b, and the extended portion 13c extended therefrom, and the male buckle 13d provided at the tip of the extension. Moreover, the buckle 35 has the third fastening portion 20 via the

extended portion 35a attached.

According to the child seat 4 like this, simply removing the male buckle 13d from the female buckle 13b allows the belt length to be toggled, whereby a child can be put in a seated position and he or she can be lifted off in a facilitated manner.

5 The present invention can be embodied in various forms unless such a formation does not go astray from the purposes of the invention. For instance, in the illustration of the apparatus for cuddling 1, the circular member 21 is used as a frame member of the third fastening portion. Instead, a rectangular member 23 with its one side being missing, as is shown in Figure 16, may be used, as well.

10 Moreover, the description above is given where the extended portion 13c (extended portion) is provided from the female buckle 13b as the first fastening portion, and the tip of this extended portion 13c is attached with the male buckle 13d as the second fastening portion. However, it is also acceptable to replace the alignment of the male buckle 13d and the female buckle 13b with each other, and use the male buckle 13d as the first fastening portion, and the
15 female buckle 13b as the second fastening portion.

Moreover, the illustration above refers to the case where the insertion is made by the male buckle 13d as the second fastening portion and the female buckle 13b as the first fastening portion, but it may be affixed with fasteners, Hook-and-Loop fasteners, or snap mechanism, as well.

20 Incidentally, a mechanism of a length-variable belt of the present invention is applicable to cases to transport people such as a baby, an infant, or a care receiver with the body being supported in a vehicle such as an apparatus for cuddling 1, 1a, a baby carriage 3, or a wheelchair for nursing care. Moreover, it is applicable to open enclosures such as a chair for babies 2, a child carriage 4, or a chair specifically designed for nursing care purposes so as to seat
25 or hold the body of people such as a baby, an infant, or a care receiver, furthermore, it is applicable to other various types of machines and equipment for babies and infants, as well as machines and equipment for social welfare purposes for adults and the aged care receivers, thus applications or users should not be considered as being specifically restricted.

30 Industrial Applicability

As has been discussed in a minute manner, according to a mechanism of a length-variable belt of the present invention, once the second fastening portion is inserted to the

opening of the third fastening portion, and having the second fastening portion hooked up either to the revolving body of the third fastening portion, or to the first fastening portion provides a single toggling process to shorten and/or elongate the belt, i.e., to change the distance between the first fastening portion and the third fastening portion. Therefore, the easy toggling of the
5 length improves the convenience of usage of the materials to which the present invention is applied.

The present invention is extremely useful when applied to a vehicle and an open enclosure that has rolling materials such as a belt.

What is Claimed:

1. A mechanism of length-variable belt comprising:

a first belt,

a first fastening portion that is placed at a place closer to the base portion of said first

5 belt,

a second fastening portion that is placed either at the tip portion of said first fastening portion or at a place closer to the tip portion of said first fastening portion apart from said first fastening portion itself,

a second belt that is joined to said first belt,

10 and a third fastening portion that is placed on said second belt, having an opening which allows said second fastening portion of said first belt to be inserted into,

wherein said third fastening portion has a revolving body portion that keeps said second fastening portion that has been inserted to said opening from falling off, and after inserting said second fastening portion into said opening of said third fastening portion, either
15 hooking up said second fastening portion to said revolving body of said third fastening portion, or having said second fastening portion affixed to said first fastening portion allows the belt to be shortened or elongated.

2. A mechanism of a length-variable belt according to claim 1, wherein the dimension
20 of joint between said first belt and said second belt, which is inserted into said opening of said third fastening portion, when said second fastening portion is attached to said first fastening portion, is constructed to be shorter than the dimension of joint between said first belt and said second belt when said second fastening portion is inserted to said opening of said third fastening portion and hooked up to said revolving body of third fastening portion.

25

3. A mechanism of a length-variable belt according to claim 1, wherein said revolving body of said third fastening portion is constructed to keep said second fastening portion from falling off by, when pulling out said second fastening portion, having said revolving body of said third fastening portion verged to said second fastening portion.

30

4. A mechanism of a length-variable belt according to claim 1, wherein said third

fastening portion is comprised of a frame member, and said opening formed by this frame member, and said tab-like shaped revolving body that is supported like a pivot by the frame member in this opening,

and the tip of said revolving body that revolves is constructed to halt the revolving motion of said revolving body by letting the tip thereof be hooked up to one side of said frame member.

5 5. A mechanism of a length-variable belt according to claim 1, wherein said third fastening portion is constructed with a circular member having said opening.

10 6. A mechanism of a length-variable belt according to claim 1, wherein said third fastening portion is formed with a rectangular shape member with its one side being missing yet having said opening.

15 7. A vehicle using a belt having a mechanism of length-variable belt characterized in that said belt is provided to support and transport objects and the mechanism of length-variable belt is comprised of a first belt,

a first fastening portion that is placed at a place closer to the base portion of said first belt,

20 a second fastening portion that is placed either at the tip portion of said first fastening portion or at a place closer to the tip portion of said first fastening portion apart from said first fastening portion itself,

a second belt that is joined to said first belt,

25 and a third fastening portion that is placed on said second belt, having an opening which allows said second fastening portion of said first belt to be inserted into,

wherein said third fastening portion has a revolving body that keeps said second fastening portion that has been inserted to said opening from falling off, and after inserting said second fastening portion into the opening of said third fastening portion, either hooking up said second fastening portion to said revolving body of said third fastening portion, or having said 30 second fastening portion affixed to said first fastening portion allows the belt to be shortened or elongated.

8. A vehicle having a mechanism of length-variable belt according to claim 7, wherein said vehicle is a baby carriage to transport a baby or an infant.

9. A vehicle having a mechanism of length-variable belt according to claim 7, wherein
5 said vehicle is a wheelchair to transport a care receiver.

10. An open enclosure using a belt having a mechanism of length-variable belt characterized in that said belt is provided to support and hold objects and the mechanism of length-variable is comprised of a first belt,

10 a first fastening portion that is placed at a place closer to the base portion of said first belt,

a second fastening portion that is placed either at the tip portion of said first fastening portion or at a place closer to the tip portion of said first fastening portion apart from said first fastening portion itself,

15 a second belt that is joined to said first belt,

and a third fastening portion that is placed on said second belt, having an opening which allows said second fastening portion of said first belt to be inserted into,

wherein said third fastening portion has a revolving body that keeps said second fastening portion that has been inserted to said opening from falling off, and after inserting said
20 second fastening portion into said opening of said third fastening portion, either hooking up said second fastening portion to said revolving body of said third fastening portion, or having said second fastening portion affixed to said first fastening portion allows the belt to be shortened or elongated.

25 11. An open enclosure having a mechanism of length-variable belt according to claim 10, wherein said open enclosure is either a chair for babies or child seat to support a baby or an infant.

12. An open enclosure having a mechanism of length-variable belt according to claim
30 10, wherein said open enclosure is a wheelchair for nursing care purposes to support a care receiver.