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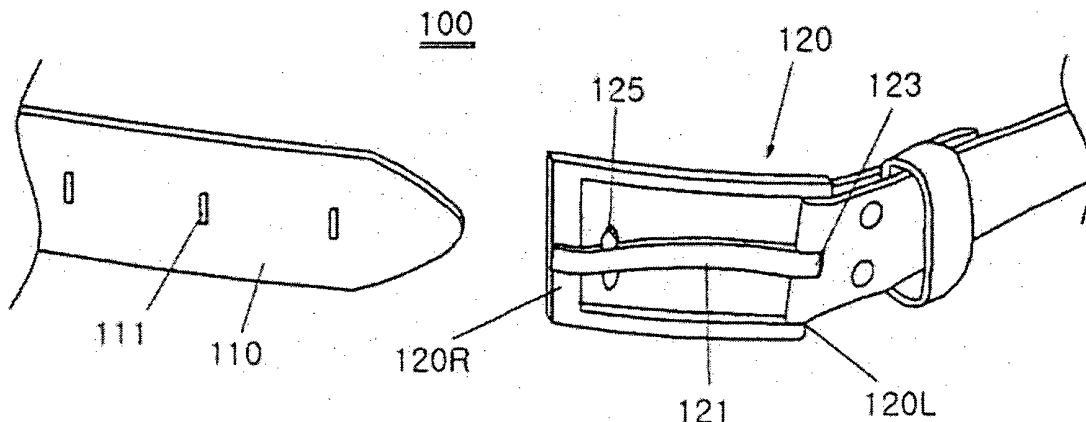
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(54) **BELT BUCKLE**

(57) The present invention relates to a belt buckle and, more particularly, to a belt buckle by which a belt can be loosened while the belt is worn and damage to the belt strap can be prevented from the outset because the belt can be loosened even without having to bend the belt strap. The belt buckle according to the present invention includes: the belt strap in which holes are formed in the lengthwise direction; the buckle to one side

of which the end of the belt strap is fixed and through which the distal end of the belt strap surrounding the waist passes; and a coupling pin which is inserted into one of the holes of the belt strap and which is hinge-coupled with the buckle and penetrates the buckle and in which a step is formed in the end portion thereof in order to block the belt strap from moving in the lengthwise direction when the coupling pin is inserted into the hole.

[Fig. 4]



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## Description

### Technical Field

**[0001]** The present invention relates to a belt buckle, and, particularly, to a belt buckle which enables a belt to be loosened easily and without excessively throwing out the belt strap while the belt is worn, in order to avoid possible damages to the belt strap thereof.

### Background Art

**[0002]** A belt is worn to avoid pants sliding down where formal trousers, casual pants and jeans (hereinafter, 'pants') are worn. Decorative accessories are sometimes attached to the belt to make it look fashionable.

**[0003]** A generable belt described above is composed of a belt strap with holes punched out in its longitudinal direction, and a buckle into which one end of the belt strap is fixed and which is used to adjust the level of tightening up the belt by inserting the buckle into the holes of the belt strap.

### Disclosure

#### Technical Problem

**[0004]** In the drawings, Fig. 1 is an oblique view for showing a prior art belt, and Fig. 2 illustrates an example of loosening the belt shown in Fig. 1. Fig. 3 illustrates another example of loosening the belt shown in Fig. 2.

**[0005]** As shown in Fig. 1, the belt 1 is composed of a belt strap 10 made of natural or synthetic leather, and a buckle 20 fixed into one end of the belt strap 10 to be inserted into one of the holes 11 punched in the belt strap 10 while the front end of the belt strap 10 around wearer's waist is inserted therein.

**[0006]** In the buckle 20 structured a rectangular frame, the left frame 20L of the buckle 20 is connected to a prong 21 to function as a hinge 23, and the belt strap 10 is fixed into the left frame 20L of the buckle 20. The prong 21 connected to the left frame 20L of the buckle 20 to function as a hinge 23 has a length to touch the right frame 20R on the opposite side.

**[0007]** For wearing the belt 1 structured as described above, the belt strap 10 is first worn around wearer's waist, and the front end of the belt strap 10 is inserted into the buckle 20. While pulling and tightening up the belt strap 10, the wearer inserts the prong 21 into one of the holes 11 punched out in the belt strap 10. While the belt strap 10 is discharged into the opposite direction to the insertion direction when the pulled belt strap 10 is released, the prong 21 contacts the right frame 20R of the buckle 20 to complete the process of wearing the belt 1.

**[0008]** To the contrary, the belt 1 in the wearing state is loosened by pulling the front end of the belt strap 10 in the insertion direction and then tightening up the belt

strap 10 to wearer's waist, as shown in Fig. 2. The prong 21 inserted in the hole 11 then pivots towards the front direction of wearer's body. At this time, when the prong 21 is taken out of the hole 11 and the pulled belt strap 10 is released, the belt strap 10 is taken out of the buckle 20 to complete the process of loosening the belt.

**[0009]** However, when the belt strap 10 is pulled to loosen the belt 1, the prong 21 is still in the hole 11. Therefore, the belt strap 10 moves in the longitudinal direction of the prong 21, that is, the hinge-connection direction. At this time, the belt strap 10 should be pulled more than necessary in order to take the prong 21 out of the hole 11.

**[0010]** As shown in Fig. 3, another method of loosening the belt 1 is to throw out the belt strap 10 much into the outward direction of the right frame 20R of the buckle 20. This is an easier method to release the prong 21 from the hole 11 than the method described above, but causes the belt strap 10 to be severely deformed and also damages the hole 11 and the surrounding thereof frequently used.

#### Technical Solution

**[0011]** The present invention has been made in an effort to address the aforementioned prior art problems by providing a belt buckle structured to enable the belt to be loosened easily and without tightening up the belt to wearer's waist too much, and to avoid possible belt strap damages.

**[0012]** The belt buckle according to the present invention to achieve the aforementioned object of the invention is characterized by comprising: a belt strap with holes punched out in the longitudinal direction thereof; a buckle into one side of which the end of the belt strap is fixed and through which the front end of the belt strap worn around wearer's waist passes; and a prong connected to the buckle to function as a hinge and inserted into one of the holes in the belt strap which passes through the buckle, having a stopper at the end thereof for blocking the movement of the belt strap in the longitudinal direction while inserted in the hole.

**[0013]** According to a preferred embodiment of the invention, the buckle is structured a rectangular frame, in which the end of the belt strap is fixed into the left frame, and the prong is connected to the left frame to function as a hinge. The end of the prong rotating around the hinge-connection touches the right frame.

**[0014]** According to another preferred embodiment of the invention, the belt strap passes under the right frame and then through the buckle, and the prong is inserted into one of the holes in the belt strap that passes through the buckle. The stopper contacts the inner side of the belt strap.

**[0015]** According to still another preferred embodiment of the invention, the buckle is structured a rectangular frame, and the end of the belt strap is fixed into the left frame. The prong is connected to the right frame to func-

tion as a hinge, and the end of the prong rotating around the hinge-connection touches the left frame.

**[0016]** According to still another preferred embodiment of the invention, the belt strap passes under the right frame and then through the buckle, and the prong is inserted into one of the holes in the belt strap that passes through the buckle. The stopper contacts the outer side of the belt strap.

**[0017]** According to still another preferred embodiment of the invention, a decorative object is attached to the prong.

**[0018]** According to still another preferred embodiment of the invention, the stopper branches out of the end of the prong and extends in the direction of the end of the prong. A plurality of rows of holes are punched out in the belt strap to insert the prong and the stopper therein.

### Advantageous Effects

**[0019]** As described above, the belt buckle according to the invention is preferred in that the stopper interferes with the belt strap although the front end of the belt strap is pulled in order to loosen the belt, so that the belt strap cannot follow the movement of the prong to easily loosen the belt. Therefore, it is easy to loosen the belt, so that possible belt strap damages can be avoided because it is not necessary to forcibly pull the belt strap in order to loosen the belt.

**[0020]** The belt buckle according to one embodiment of the invention is preferred in that the prong is connected to function as a hinge in the direction for inserting the belt strap, and is positioned in the direction for taking the belt strap out of the buckle to be inserted in the hole. This implements easy connection of the belt strap to the prong and also easy disconnection of the connected belt strap from the prong.

**[0021]** The belt buckle according to one embodiment of the invention also minimizes possible belt strap damages because the prong is not hidden by the belt strap in wearing the belt. Therefore, it is not necessary to excessively throw out the belt strap in order to insert the prong into a relevant role. In particular, because the prong is positioned on the outer side of the belt strap, fat people who cannot see the buckle because of their big belly can insert the prong into one of the holes easily and accurately while watching the position of the prong and the hole in the belt strap by means of a mirror.

**[0022]** The belt buckle according to one embodiment of the invention also implements the belt to be loosened easily and fast because the only thing needed is to pull the belt strap to result in the prong of the buckle being discharged from the hole in the belt strap in order to loosen the belt. Possible belt strap damages are also avoided because it is not necessary to excessively throw out the belt strap.

**[0023]** The belt buckle according to the invention also increases the effect of decoration by attaching decorative objects to the prong because most parts of the prong are

positioned on the outer side of the belt strap in wearing the belt. The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, the embodiment, and features described above, further aspects, embodiments, and features will become apparent by reference to the drawings.

### Description of Drawings

#### [0024]

Fig. 1 is an oblique view for showing a prior art belt; Fig. 2 illustrates an example of loosening the belt shown in Fig. 1;

Fig. 3 illustrates another example of loosening the belt shown in Fig. 2;

Fig. 4 is an oblique view for showing a belt according to the embodiment 1 of the invention;

Fig. 5 is an oblique view for showing the state of wearing the belt shown in Fig. 4;

Fig. 6 is an oblique view for showing the process of wearing a belt according to the embodiment 2 of the invention;

Fig. 7 is an oblique view for showing the process of loosening the belt shown in Fig. 6, worn around wearer's waist;

Fig. 8 is an oblique view for showing a decorative object attached to the prong shown in Fig. 6;

Fig. 9 is an oblique view for showing the process of wearing a belt according to the embodiment 3 of the invention; and

Fig. 10 is an oblique view for showing a modified example of the belt shown in Fig. 9.

**[0025]** It should be understood that the appended drawings are not necessarily to scale, presenting a somewhat simplified representation of various features illustrative of the basic principles of the invention. The specific design features of the present invention as disclosed herein, including, for example, specific dimensions, orientations, locations, and shapes will be determined in part by the particular intended application and use environment.

### Best Mode

**[0026]** Hereinafter, the preferred embodiments of the belt buckle according to the invention will be described in detail with reference to the accompanying drawings.

**[0027]** It should be noted that the same reference numbers refer to the same or equivalent components of the present invention throughout the several figures of the drawings although they are shown in different figures. If it is deemed that specific description of already well-known functions or configuration may unnecessarily make the gist of the present invention unclear in describing the present invention, the detailed description is omit-

ted. The terms described below are defined in consideration of the functions in the embodiments of the present invention, and may be different depending on the intention or practices of users and operators. Therefore, the definitions of the terms should be based on the contents throughout the specification of the present invention.

**[0028]** Furthermore, it should be understood that the embodiments described below are illustrative only, but not limiting the invention, in all respects. It should be interpreted that the scope of the invention is represented by the following claims, and all modifications or transformed forms derived from the meaning, the scope and the equivalent concept of the claims are included in the scope of the invention.

### Embodiment 1

**[0029]** In the drawings, Fig. 4 is an oblique view for showing a belt according to the embodiment 1 of the invention, and Fig. 5 is an oblique view for showing the state of wearing the belt shown in Fig. 4.

**[0030]** As shown in Fig. 4, the belt 100 comprises a belt strap 110 with holes 111 punched out in its longitudinal direction and a buckle 120.

**[0031]** As described above, the buckle 120 is structured a rectangular frame, into the left frame 120L of which the end of the belt strap is fixed.

**[0032]** The prong 121 is connected to the left frame 120L of the buckle 120 to function as a hinge 123, and the prong 121 has a length to touch the right frame 120R. Therefore, the prong 121 is connected to the left frame 120L to function as a hinge 123 and can thus rotate around the front side of the buckle 120.

**[0033]** Meanwhile, a stopper 125 is formed at the end of the prong 121, and the distance from the end of the prong 121 to the stopper 125 is longer than the minimum thickness of the belt strap 110.

**[0034]** For wearing the belt 100 with a configuration described above, it is necessary to position the belt strap 110 around wearer's waist and then to insert the front end of the belt strap 110 into the buckle 120. In this case, the belt strap 110 passes under the right frame 120R of the buckle 120 and is then led through the inner side of the buckle 120.

**[0035]** The wearer pulls the belt strap 110 to put desired pressure on the waist. While the belt strap 110 is pulled, the end of the prong 121 is inserted into a relevant hole 111 of the belt strap 110. When the force for pulling the belt strap 110 is then removed, the end of the prong 121 touches the right frame 120R while the belt strap 110 moves into the discharge direction.

**[0036]** In this case, the stopper 125 of the prong 121 contacts the inner side of the belt strap 110 while the end of the prong 121 is inserted in the hole 111 of the belt strap 110.

**[0037]** The belt 100 is kept worn in this state, and the front end of the belt strap 110 is held and pulled to move the belt strap 110 in the pulling direction and thus to fasten

the belt 100. In this case, the stopper 125 interferes with the inner side of the belt strap 110 so that the belt strap cannot move toward the hinge connection 23 following the movement of the prong 21 as a prior art belt strap does, and thus can be positioned at the end of the prong 121. Therefore, although the wearer does not excessively pull the belt strap 110 in order to loosen the belt 100, it is easy to separate the belt strap 110 across the end of the prong 121 from the prong 121 in order to loosen the belt 100.

### Embodiment 2

**[0038]** Fig. 6 is an oblique view for showing the process of wearing a belt according to the embodiment 2 of the invention, and Fig. 7 is an oblique view for showing the process of loosening the belt shown in Fig. 6, worn around wearer's waist. Fig. 8 is an oblique view for showing a decorative object attached to the prong shown in Fig. 6.

**[0039]** As shown in Fig. 6, the belt 100 comprises a belt strap 110 and a buckle 120 shaped a rectangular frame 120 into which the end of the belt strap 110 is fixed.

**[0040]** For the buckle 120 according to the embodiment 2, the prong 121 is connected to the right frame 120R to function as a hinge. That is, the prong 121 is connected to the right frame 120R which is the side where the belt strap 110 is inserted into the buckle 120 to function as a hinge 123, and the end of the prong 121 touches the left frame 120L. A stopper 125 described above is formed at the end of the prong 121.

**[0041]** The method of using the belt buckle according to the embodiment 2 with a configuration described above is described below.

**[0042]** As shown in Fig. 6, the wearer positions the belt strap 110 around the waist, and lets the front end of the belt strap 110 pass under the right frame 120R of the buckle 120 and then through the buckle 120. The belt strap 110 is then extended in the direction of the left frame 120L. The end of the prong 121 is positioned in the direction where the prong 121 touches the left frame 120L, so that the wearer can easily insert the end of the prong 121 in the hole 111 of the belt strap 110.

**[0043]** In the buckle 120 according to the embodiment 2 described above, the prong 121 is positioned on the outer side of the belt strap 110 and the stopper 125 is also positioned on the outer side of the belt strap 110, in order to block the movement of the belt strap 110 into the longitudinal direction of the prong 121.

**[0044]** To loosen the belt 100 worn in the process described above, the wearer just pulls the belt strap 110 to discharge the prong 121 from the hole 111 and then to loosen the belt, without pulling and throwing out the belt strap 110, as shown in Fig. 7.

**[0045]** Therefore, possible belt strap damages are avoided and it is easy loosen the belt because it is not necessary to throw out the belt strap 10 to loosen the prior art belt 1.

**[0046]** As shown in Fig. 8, because the prong 121 is positioned on the outer side of the belt strap 110, a decorative object 130 can be attached to the prong 121 to increase the effect of decoration.

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Embodiment 3

**[0047]** The belt buckle according to the embodiment 3 has a prong of which the front end is branched out. The branched end also performs the same function as the stopper described in the embodiments 1 and 2.

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**[0048]** In the drawings, Fig. 9 is an oblique view for showing the process of wearing a belt according to the embodiment 3 of the invention, and Fig. 10 is an oblique view for showing a modified example of the belt shown in Fig. 9.

**[0049]** As shown in Figs. 9 and 10, the end of the prong 121 is branched out to have at least one branch 127. Two branches 127 are formed in Fig. 9, and three branches 127 are formed in Fig. 10. The branches 127 are extended into the direction of the end of the prong 121 in parallel.

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**[0050]** The branches 127 formed at the end of the prong 121 as described above are inserted in other holes 112 punched out in the belt strap 110 in the manner that the end of the prong 121 is inserted in the hole 111 in the belt strap 110. Because the end and the branches 127 of the prong 121 are inserted in the holes 111 and 112 of the belt strap 110, the movement of the belt strap 110 into the longitudinal direction of the prong 121 is blocked as the stopper 125 does in the embodiments 1 and 2. In this case, holes 111 and 112 are punched out in the belt strap 110 as many as the number of the end and the branches 127 of the prong 121 in the longitudinal direction of the belt strap 110.

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**[0051]** As described above, the preferred embodiments have been described and illustrated in the drawings. The exemplary embodiments have been chosen and described in order to explain certain principles of the invention and their practical application, to thereby enable those skilled in the art to make and utilize various exemplary embodiments of the present invention, as well as various alternatives and modifications thereof. As is evident from the foregoing description, certain aspects of the present invention are not limited by the particular details of the examples illustrated herein, and it is therefore contemplated that other modifications and applications, or equivalents thereof, will occur to those skilled in the art. All such changes, modifications, variations and other uses and applications which do not depart from the spirit and scope of the invention are deemed to be covered by the invention which is limited only by the claims which follow.

\*\*Description of numerals in drawings

**[0052]**

100: belt

110: belt strap  
111, 112: hole  
120: buckle  
120L: left frame  
120R: right frame  
121: prong  
123: hinge  
125: stopper  
127: branch  
130: decorative object

## Claims

**15** 1. A belt buckle, comprising:

a belt strap (110) with holes (111) punched out in the longitudinal direction thereof;  
a buckle (120) into one side of which the end of the belt strap (110) is fixed and through which the front end of the belt strap worn around wearer's waist passes; and  
a prong (121) connected to the buckle (120) to function as a hinge (123) and inserted into one of the holes (111) in the belt strap (110) which passes through the buckle (120), having a stopper (125) at the end thereof for blocking the movement of the belt strap (110) in the longitudinal direction while inserted in the hole (111).

**2.** The belt buckle of claim 1, wherein the buckle (120) is structured a rectangular frame;  
the end of the belt strap (110) is fixed into the left frame (120L);  
the prong (121) is connected to the left frame (120L) to function as a hinge (123); and  
the end of the prong (121) rotating around the hinge-connection (123) touches the right frame (120R).

**3.** The belt buckle of claim 1 or 2, wherein the belt strap (110) passes under the right frame (120R) and then through the buckle (120);  
the prong (121) is inserted into one of the holes in the belt strap (110) that passes through the buckle (120); and  
the stopper (125) contacts the inner side of the belt strap (110).

**4.** The belt buckle of claim 1, wherein the buckle (120) is structured a rectangular frame, and the end of the belt strap (110) is fixed into the left frame (120L);  
the prong (121) is connected to the right frame (120R) to function as a hinge (123); and  
the left frame (120L) interferes with the end of the prong (121) rotating around the hinge-connection (123).

**5.** The belt buckle of claim 4, wherein the belt strap

(110) passes under the right frame (120R) and then through the buckle (120); the prong is inserted into one of the holes in the belt strap (110) that passes through the buckle (120); and the stopper (125) contacts the outer side of the belt strap (110). 5

6. The belt buckle of claim 5, wherein a decorative object (130) is attached to the prong (121).

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7. The belt buckle of claim 1 or 2, wherein the stopper (125) branches out of the end of the prong (121) and extends in the direction of the end of the prong (121); and a plurality of rows of holes (111 and 112) are punched 15 out in the belt strap (110) to insert the prong (121) and the stopper (125) therein.

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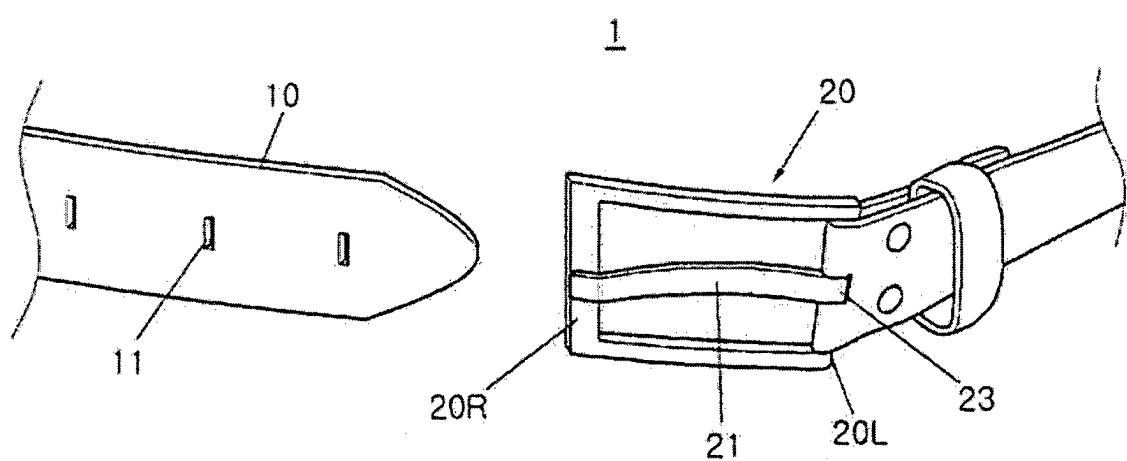
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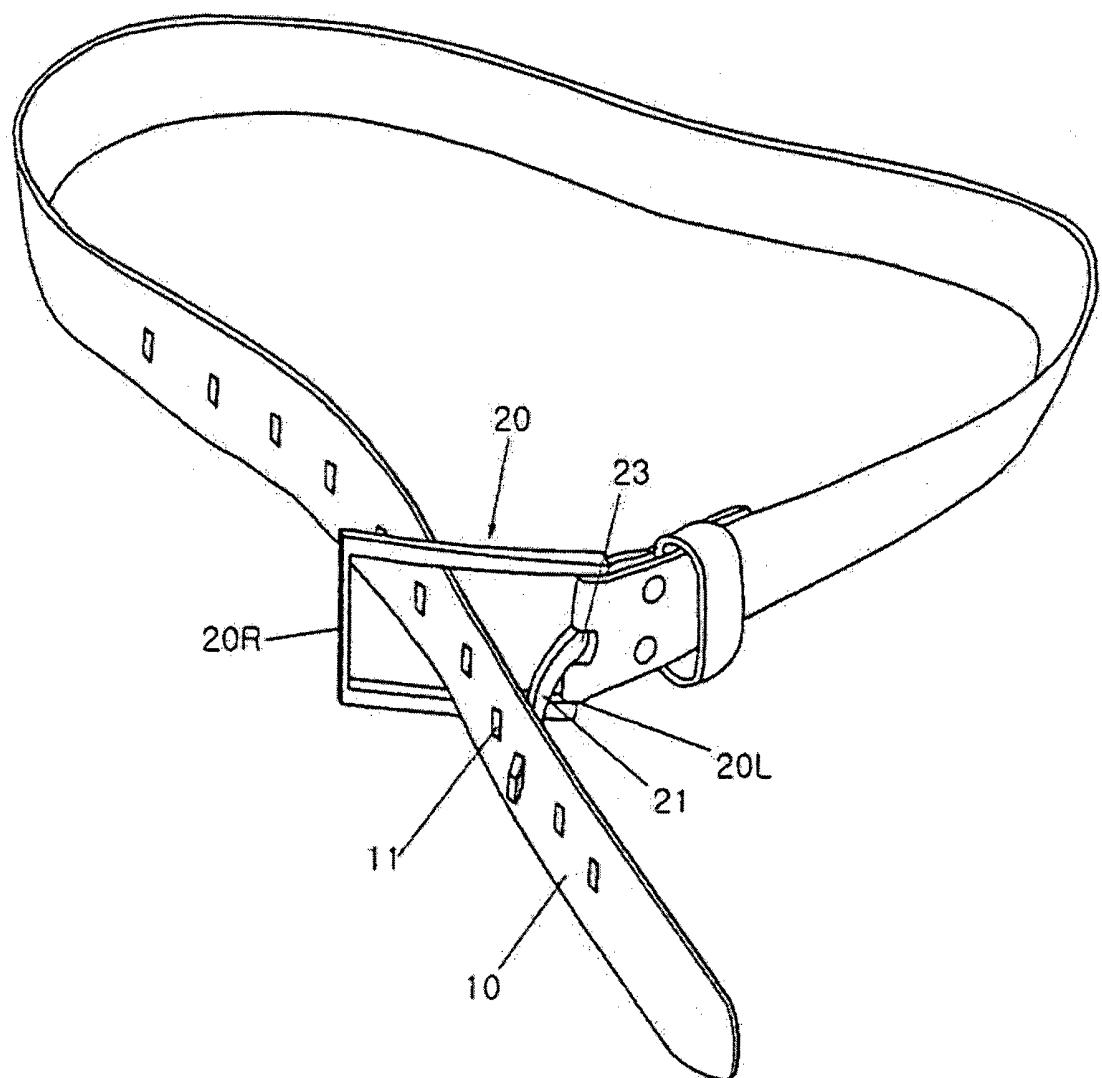
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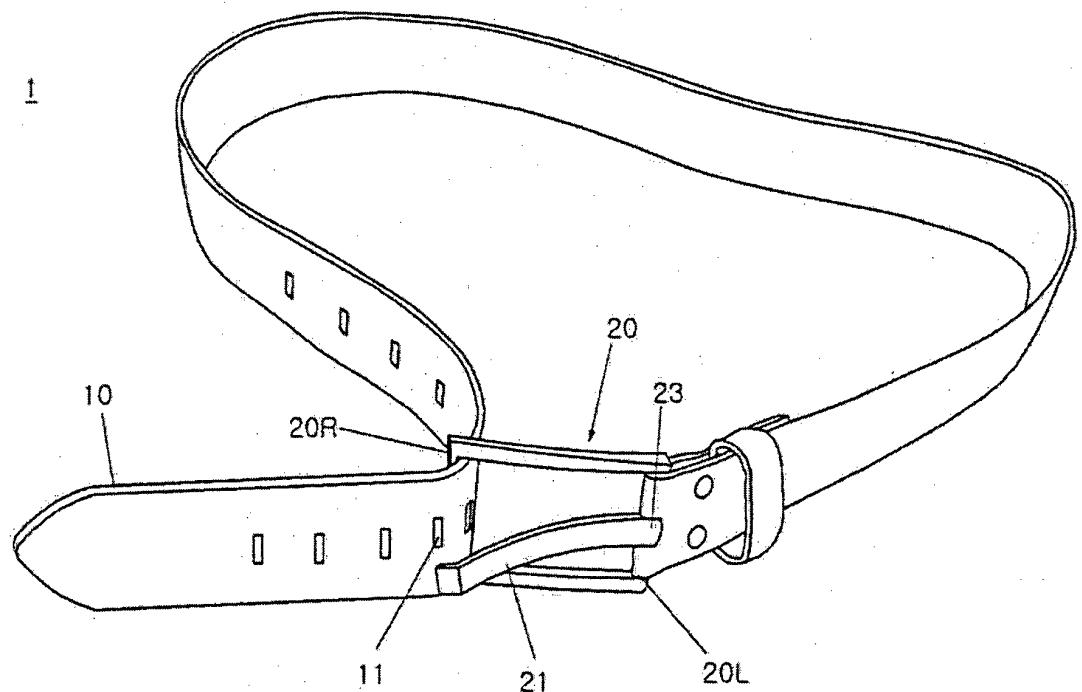
[Fig. 1]



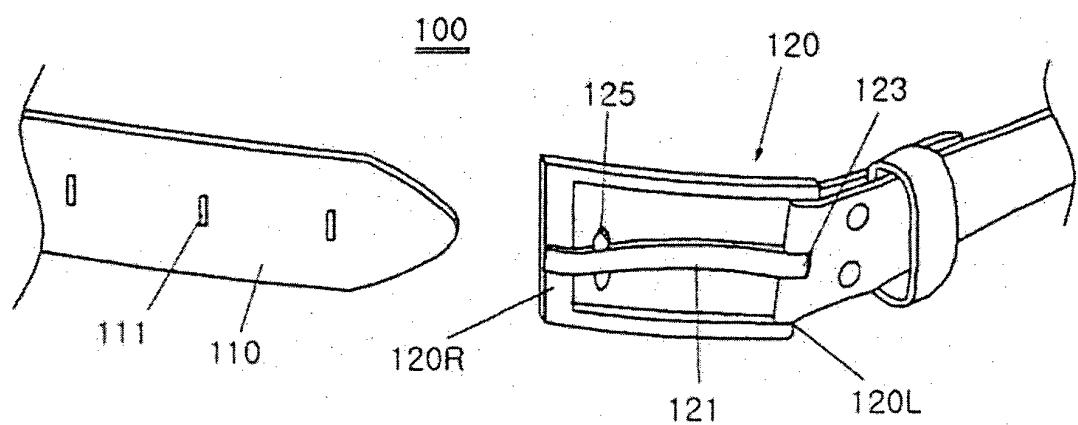
[Fig. 2]



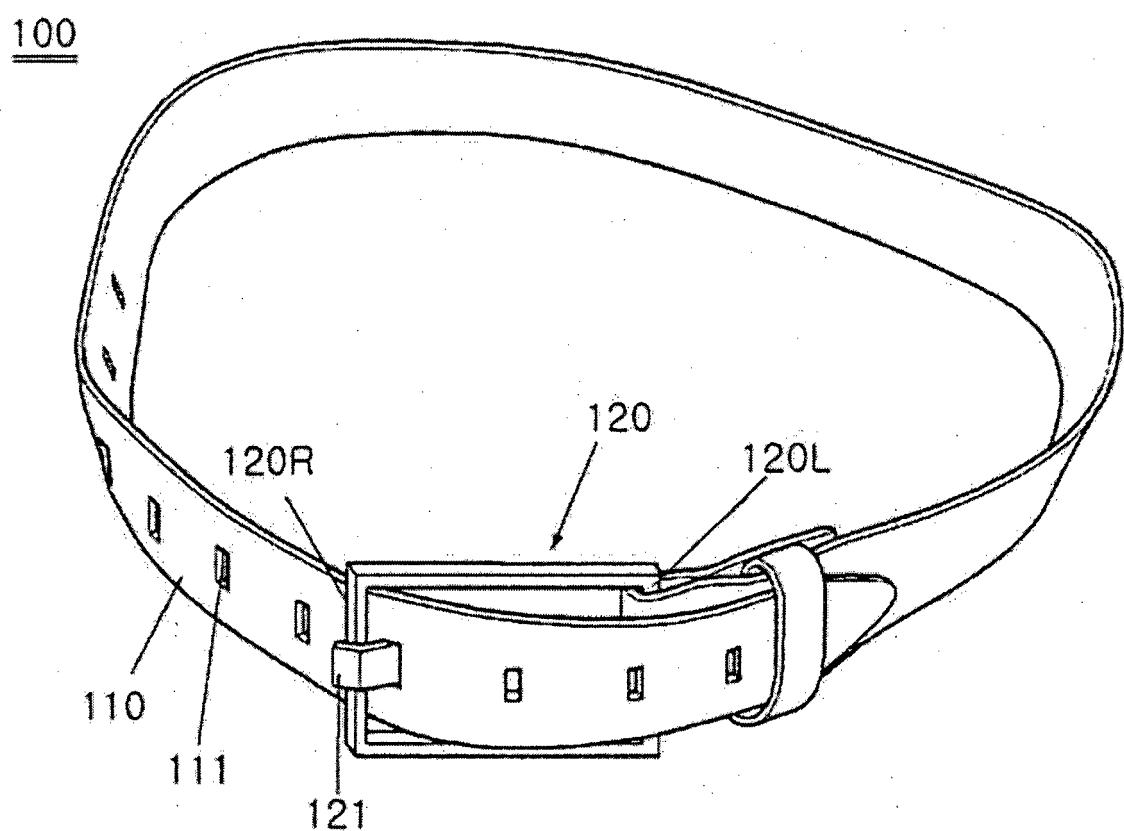
[Fig. 3]



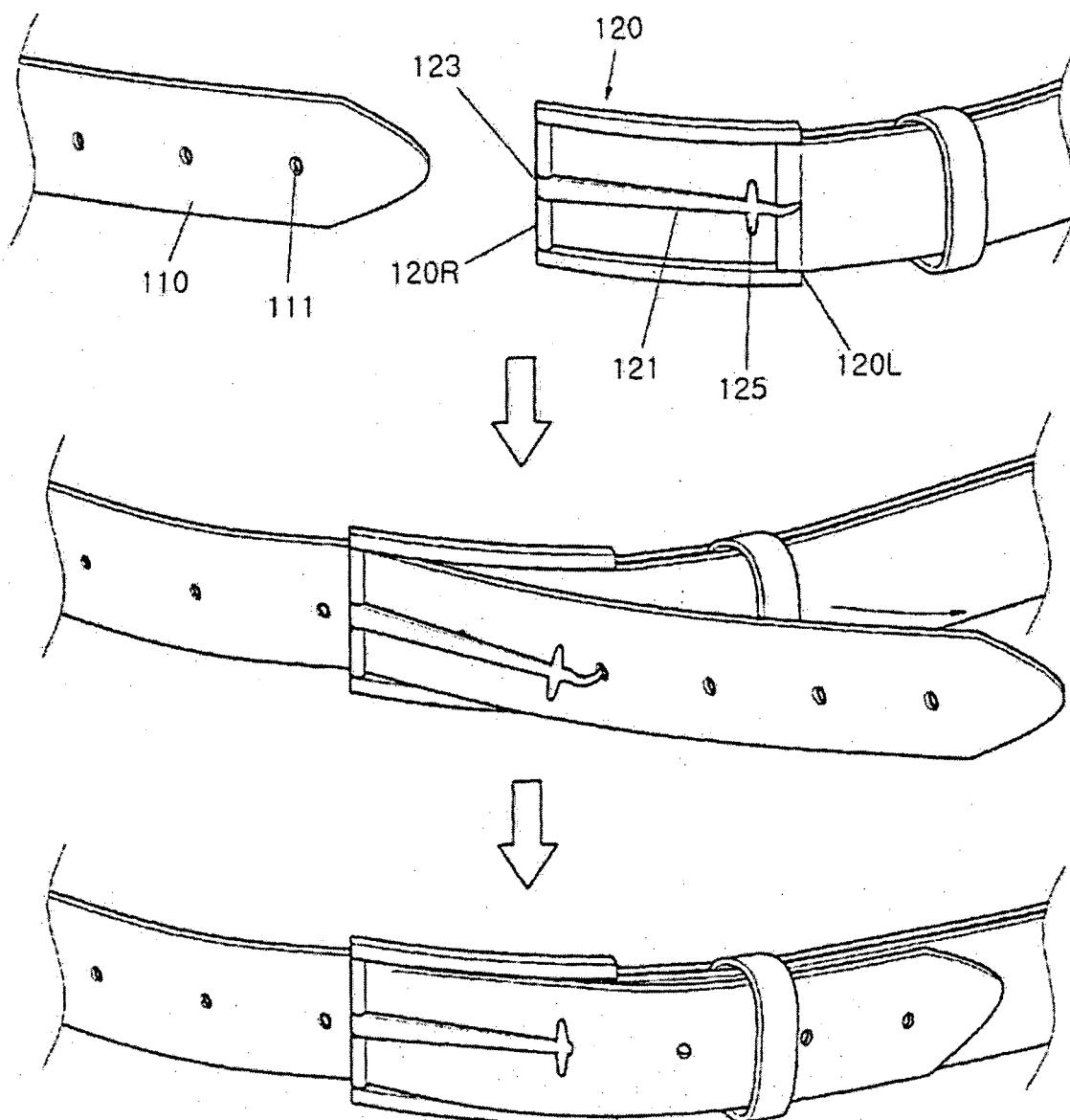
[Fig. 4]



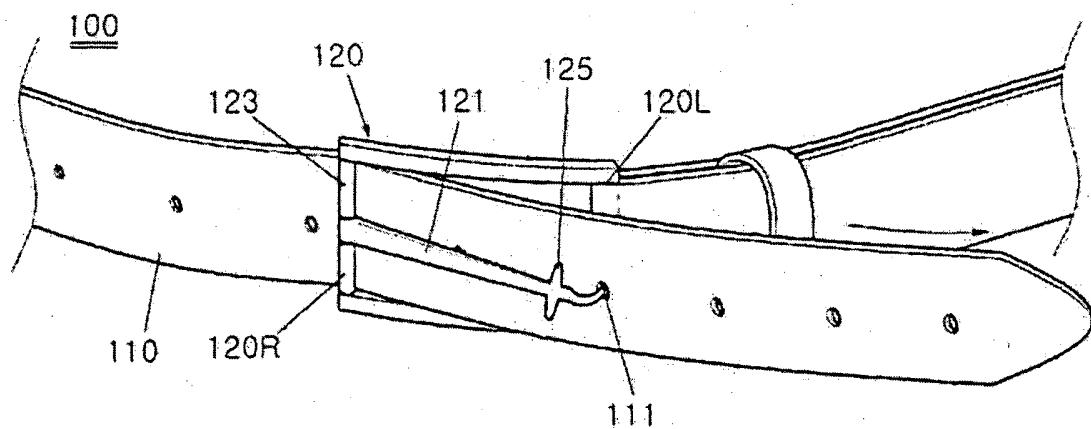
[Fig. 5]



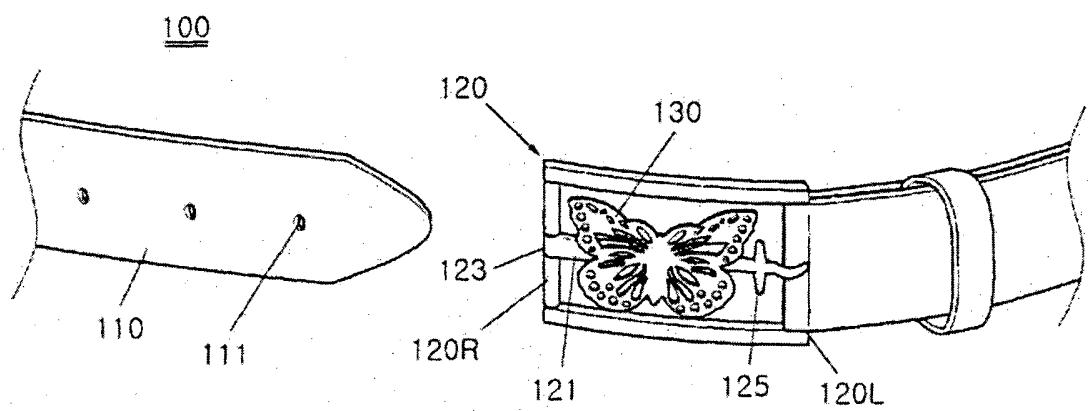
[Fig. 6]



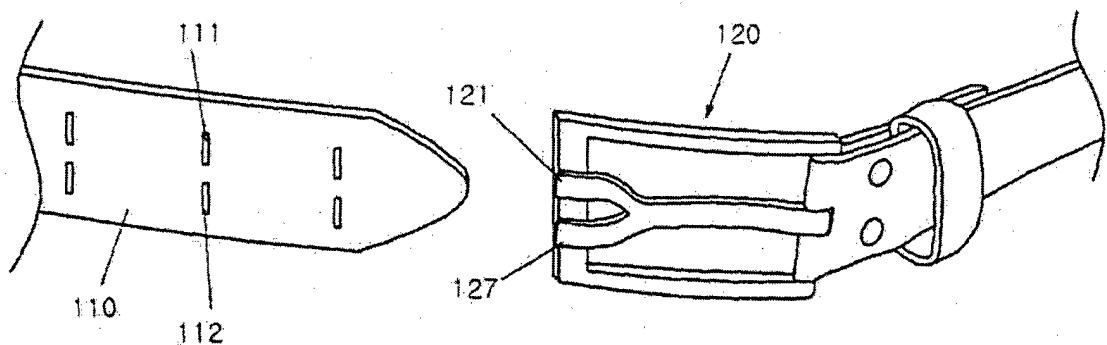
[Fig. 7]



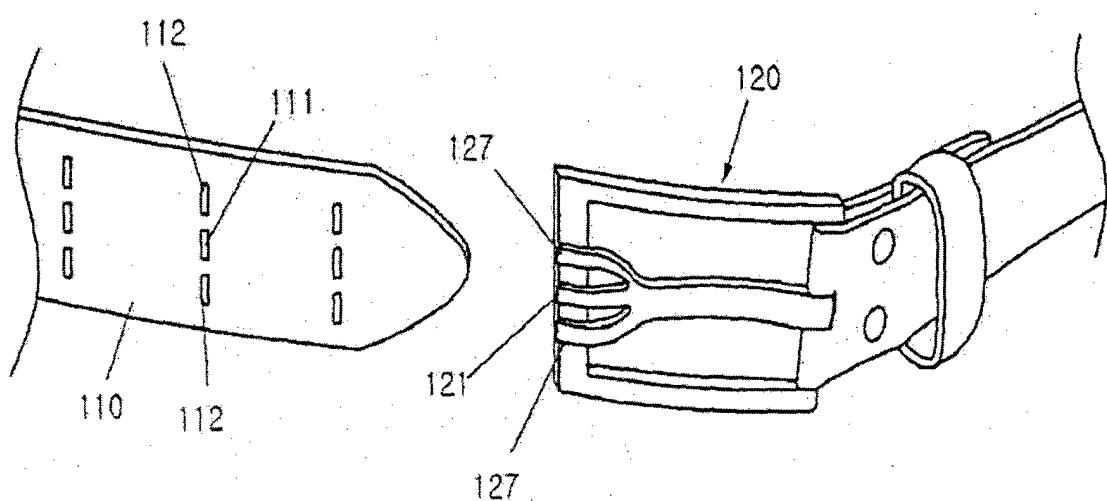
[Fig. 8]



[Fig. 9]



[Fig. 10]



INTERNATIONAL SEARCH REPORT		International application No. <b>PCT/KR2013/006734</b>
5	A. CLASSIFICATION OF SUBJECT MATTER <b>A44B 11/20(2006.01)i, A44B 11/00(2006.01)</b> According to International Patent Classification (IPC) or to both national classification and IPC	
10	B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) A44B 11/20; A44B 11/00; A44B 11/10; A44B 11/24	
15	Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean Utility models and applications for Utility models: IPC as above Japanese Utility models and applications for Utility models: IPC as above	
20	Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS (KIPO internal) & Keywords: belt, buckle, fin	
25	C. DOCUMENTS CONSIDERED TO BE RELEVANT	
30	Category*	Citation of document, with indication, where appropriate, of the relevant passages
35	A	KR 20-2000-0004419 U (BAK, Hui Chang) 06 March 2000 See claims 1-2, figures 2-5b.
40	A	JP 2000-333708 A (NAKAMOTO, Norihiro) 05 December 2000 See abstract, claim 1 and figures 1-3.
45	A	JP 2002-017407 A (TOAKE:KK) 22 January 2002 See abstract, claims 1-3 and figures 1-7.
50	A	KR 20-0161493 Y1 (BAK, Hyeong Guk) 15 November 1999 See claim 1, figures 1-4.
55	A	KR 20-0175759 Y1 (YU, Seong Ho) 15 April 2000 See claims 1-3, figures 2-5c.
40	<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.	
45	* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	
50	Date of the actual completion of the international search  28 OCTOBER 2013 (28.10.2013)	Date of mailing of the international search report  <b>28 OCTOBER 2013 (28.10.2013)</b>
55	Name and mailing address of the ISA/KR   Korean Intellectual Property Office Government Complex-Daejeon, 189 Seonsa-ro, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer  Telephone No.

Form PCT/ISA/210 (second sheet) (July 2009)

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.

**PCT/KR2013/006734**

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