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(54) **ELASTIC BELT CONNECTION PIECE**

(57) The present relates to an elastic belt connection piece having an elongated shape and comprising a first end and an opposing second end, said elastic belt connection piece further comprising a buckle mounting section and at least one strap mounting section, character-

ized in that the elastic belt connection piece further comprises two elastic sections wherein when in use said two elastic sections are at least partially aligned and abutting. Further disclosed is a belt kit and a method for mounting a buckle to a strap.

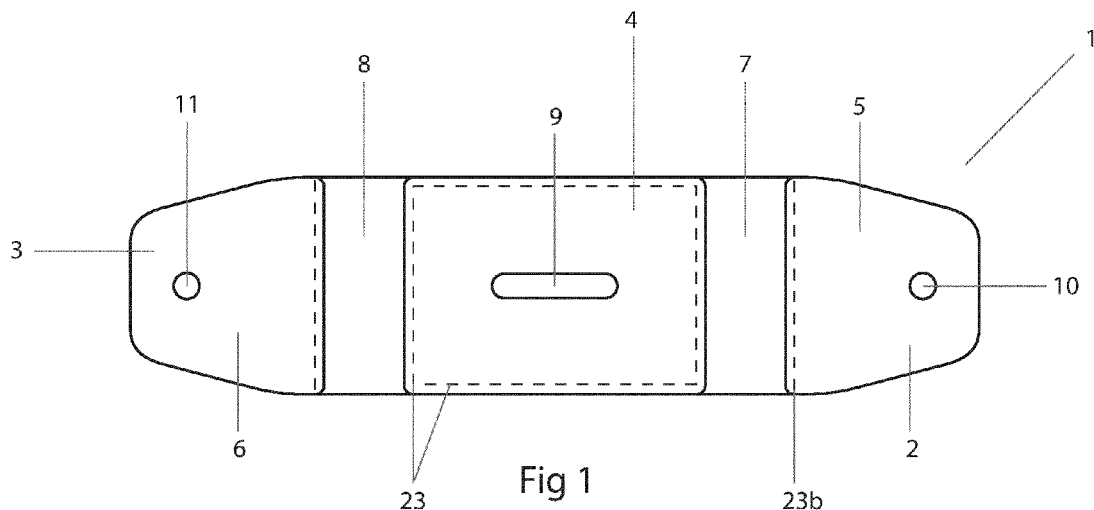


Fig 1

Description

Field of the Invention

[0001] The present invention relates to elastic leather belts, especially elastic belts with interchangeable or adjustable belt straps.

Background of the Invention

[0002] Most belts are based on non-stretchable straps in order to provide a safe, easy and reliable way of keeping a garment such as trousers in place. However, the non-stretchable strap may be the cause of discomfort after long time use or for example when sitting down or otherwise changing positions or activity of the user.

[0003] Various solutions have previously been suggested to provide elasticity to a belt but common for these solutions is that they either compromise the stability and/or visual impression of the belt or they may be based on solutions involving extra steps in the production or are otherwise problematic in large scale production.

Description of the Invention

[0004] These and other problems in known solutions may be solved by an elastic belt connection piece having an elongated shape and comprising a first end and an opposing second end, said elastic belt connection piece further comprising a buckle mounting section and at least one strap mounting section. The elastic belt connection piece further comprises two elastic sections wherein when in use said two elastic sections are at least partially aligned and abutting whereby an elastic belt connection piece is provided which provided elasticity to the belt when connected to a belt strap via the strap mounting section. As the two elastic sections are at least partially aligned and abutting, an elastic solution is provided which allows the full effect of the elasticity of the elastic sections while providing structural integrity of the belt, including the elastic belt connection piece. Furthermore, the combined features of the elastic belt connection piece provide a solution wherein the elastic sections may be completely hidden by the belt tip when a user is wearing the belt with the present elastic belt connection piece.

[0005] In various embodiments, the buckle mounting section comprises an opening arranged for receiving the prong of a buckle and/or the at least one strap mounting section is arranged at the first and/or second end of the elastic belt connection piece, the said at least one belt mounting section comprising a mounting opening arranged for receiving a fastening means. A buckle may thus be mounted on the elastic belt connection piece by inserting the prong of the buckle through the opening for receiving the prong whereafter the elastic belt connection piece may be folded about the bar of the buckle.

[0006] In some embodiments, the elastic belt connection piece is provided already mounted to a buckle in

which case the folded elastic belt connection piece may be secured by stitches or other means for keeping the elastic belt connection piece in a folded configuration and thereby attached to the buckle. For example, the belt connection piece may be secured to the buckle by stitches or other means holding the belt mounting section secured around the bar of the buckle.

[0007] If at least one of the one or more belt mounting sections comprise a mounting opening arranged for receiving a fastening means, the elastic belt connection piece can be attached to a belt strap e.g., releasably attached via a screw or similar.

[0008] If the elastic belt connection piece is releasably attached to the belt strap, a user may release the buckle together with the elastic belt connection piece from the strap by releasing the fastening means thereby allowing the user to change belt strap and/or to shorten the existing belt strap before remounting the buckle via the elastic belt connection piece.

[0009] Preferably, the buckle mounting section and/or at least one strap mounting section comprise non-stretch material such as for example leather, canvas, and/or polyester.

[0010] The elastic belt connection piece may be an at least partly layered structure in for example the buckle mounting section and/or at least one strap mounting section may have at least two layers in form of an elastic material and a non-stretch material.

[0011] For example, the elasticity of the two elastic sections is provided by at least one elastic element, wherein said elastic element is one or more of:

- an elastic element arranged as a single throughgoing part from or near mounting opening to mounting opening, in which case it is a layered structure at the buckle mounting section and part of the belt mounting sections. In some embodiments only a small section of the belt mounting section(s) has a layered structure.
- an elastic element arranged as a single throughgoing part from the first end to the second end, in which case it is a layered structure at the buckle mounting section and the belt mounting sections.
- an elastic element arranged as a single throughgoing part from one of the mounting openings to the distant first and/or second end in which case it is a layered structure at the buckle mounting section and a part of one belt mounting section and all of another belt mounting section.

[0012] When the elastic element is arranged as a single throughgoing part as described above the buckle mounting section has two layers in form of an elastic layer and a non-stretch material in which case advantageous embodiments may be achieved. As both elastic and non-stretch material will be arranged around the bar the elastic layer in these configurations is stabilized by the non-stretch material a critical point where uneven and strong

forces may be put upon the buckle mounting section. This means that the elastic layer may keep its structural integrity intact even after long time use.

[0013] Embodiments with a throughgoing elastic element may also be advantageous as both elastic and non-stretch material is arranged around the bar and thus the pull which will be put on the belt connection part in use is not put on to stitches securing non-through going elastic elements to the buckle mounting section.

[0014] Alternatively, the elasticity of the two elastic sections is provided by at least two elastic elements each extending along one of the elastic sections in which case the elastic belt connection piece is substantially a single layer structure.

[0015] In some embodiments each of the elastic section has a length of 0.5 - 10cm, preferably 1 - 5 cm, such as 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 6 or 7 cm.

[0016] In some embodiments the elastic is braided, knit, woven or a special elastic. The width of the elastic may in various embodiments be selected to fit the width of the belt strap.

[0017] The present also relates to a belt and/or a belt kit comprising an elastic belt connection piece, a buckle, a belt strap and a fastening means for mounting the elastic belt connection piece to the belt strap, and optionally the kit may also comprise e.g. a loop. The elastic belt connection piece in the belt kit may be an elastic belt connection piece as described herein.

[0018] The belt and/or belt kit may be arranged to allow the belt strap in use to be inserted between the strap mounting sections and further between the two elastic sections in order to provide a belt where the elastic sections are stabilized by the belt strap sandwiched between at least part of the elastic sections.

[0019] A distance D_s between throughgoing hole and a belt end fastened to the buckle by the elastic belt connection piece may be arranged to limit how far the belt strap is inserted between the strap mounting section and elastic sections. In some embodiments D_s is larger than D_c which is the distance from through going hole in one or more strap mounting sections to the nearest part of an elastic section.

[0020] The present invention also relates to a buckle with an elastic belt connection piece.

[0021] The present also relates to a method of mounting a buckle to a belt strap via an elastic belt connection piece, said method comprising the steps of:

- providing a belt buckle
- providing a belt strap
- providing an elastic belt connection piece
- attaching the belt buckle to the belt strap via the elastic belt connection piece by aligning at least one mounting opening on the elastic belt connection piece with at least one strap mounting opening on the strap and inserting a mounting means through the aligned mounting openings.

[0022] In some embodiments of the method, the buckle is provided with the elastic belt connection piece attached.

5 Description of the Drawing

[0023]

Fig. 1 is a top view of an elastic belt connection piece.

Fig. 2 shows side views of elastic belt connection pieces.

Fig. 3 is a kit comprising an elastic belt connection piece.

Fig. 4 is a top view of a belt with an elastic belt connection piece.

Fig. 5 is a side view of a belt with an elastic belt connection piece.

Fig. 6 is a belt in use position.

20 Detailed Description of the Invention

[0024] Fig. 1 shows a top view of an elastic belt connection piece (1) having an elongated shape and comprising a first end (2) and an opposing second end (3), said elastic belt connection piece further comprising a buckle mounting section (4) and at least one strap mounting section (5, 6), characterized in that the elastic belt connection piece further comprises two elastic sections (7, 8). At the buckle mounting section there is a throughgoing, preferably centred and elongated, hole (9) and at each belt mounting section there is a throughgoing hole (10, 11). The buckle mounting section (4) is centred in the elastic belt connection piece (1) with respect to the first and the second end. The belt connection piece further comprises a number of stitches (23, 23b)

[0025] Fig. 2a - 2c show side views of three different embodiments of elastic belt connection pieces. Fig. 2a shows an embodiment with two layers at each of the strap mounting sections (5, 6) and a buckle mounting section (4) with a full-length single elastic element (24a).

[0026] Fig. 2b shows an embodiment with two layers at a part of each of the strap mounting sections (5, 6) and all of buckle mounting section (4) with a partial length elastic element (24b). In the illustrated embodiment only a relatively small section of the strap mounting section has two layers. The section with the two layers is at least wide enough to fasten the strap mounting section to the elastic e.g. by stitches (23b).

[0027] Fig. 2c shows an embodiment with a single layer at each of the strap mounting sections (5, 6) and the buckle mounting section (4) with two short elastic elements 24c. However, there may be a small overlap section (12) with two layers in the transition from one section to another (e.g. from one elastic section (7) to a strap mounting section (5)) in order to fasten the buckle mounting section or strap mounting section to the elastic elements.

[0028] Fig. 3a - 3e show a kit according to the present

invention comprising an elastic belt connection piece (1), a belt buckle (13) comprising a frame (14), a prong (15) and a bar (16), a belt strap (17) having a throughgoing hole (18) and a belt tip (19), a loop (20) and a mounting means (21) in form of a screw. The distance D_s between throughgoing hole (18) and a strap end (17a) may be arranged to limit how far the belt strap is inserted between the strap mounting section (5,6) and elastic sections (7,8).

[0029] The distance D_s between throughgoing hole (18) and a belt end (17a) which is to be fastened to the buckle (13) by the elastic belt connection piece (1) may be arranged to limit how far the belt strap (17) is inserted between the strap mounting sections (5,6) and elastic sections (7, 8). In some embodiments D_s is longer than D_c which is the distance from through going hole (10) to the nearest part of an elastic section which may be defined by stitches 23b. When D_s is larger than D_c the belt strap (17) extends at least partly in between the elastic sections (7, 8) when the belt strap is mounted to the buckle via the elastic belt connection piece.

[0030] Fig. 4 shows a belt (22) comprising an elastic belt connection piece (1). Here, it is shown how the belt strap (17) is attached to the buckle (13) via the elastic belt connection piece (1). The elastic belt connection piece (1) is folded about the bar of the buckle and in this embodiment it is secured in the folded state by stitches (23a). The belt strap (17) is attached to the elastic belt connection piece (1) by a screw (21).

[0031] Fig. 5. Shows a side view of the belt in fig. 4. It is seen how the elastic element 24 is arranged to have a double-layer structure in the buckle mounting section (4) and in part of the belt mounting sections (5, 6). The belt strap (17) and the belt mounting sections (5, 6) are arranged so that the throughgoing holes (10, 11, 18) of each section (5, 6) and the belt strap (17) align in order for the insertion of a screw (21).

[0032] Fig. 5a shows how the belt and/or belt kit of fig. 3 and 4 also may arranged to allow the belt strap (17) in use to be inserted between both the strap mounting section (5,6) and further between the two elastic sections (7, 8) in order to provide a belt where the elastic sections are stabilized by the belt strap sandwiched between the elastic sections. In this case D_s is larger than D_c .

[0033] In both fig. 5 and 5a the belt mounting section is fastened around the bar (16) of the buckle (13) by through going stitches (23a) through both buckle mounting section (4) and elastic sections (7,8). Stitches (23b) secures the elastic elements (7,8) to the belt mounting sections (5,6).

[0034] Fig. 6 shows the belt in use. Here, it is seen how the belt tip covers the now hidden elastic section as indicated with the dotted arrow and indication number (7).

Claims

1. An elastic belt connection piece having an elongated

shape and comprising a first end and an opposing second end, said elastic belt connection piece further comprising a buckle mounting section and at least one strap mounting section, **characterized in that** the elastic belt connection piece further comprises two elastic sections wherein when in use said two elastic sections are at least partially aligned and abutting.

2. The elastic belt connection piece according to claim 1, wherein the buckle mounting section comprises an opening arranged for receiving the prong of a buckle and wherein the at least one strap mounting section is arranged at the first and/or second end of the elastic belt connection piece, said at least one belt mounting section comprising a mounting opening arranged for receiving a fastening means.

3. The elastic belt connection piece according to any of the preceding claims, wherein the elasticity of the two elastic sections is provided by at least one elastic element, wherein said elastic element preferably is one or more of:

- an elastic element arranged as a single throughgoing part from or near mounting opening or section of the strap mounting section to the other mounting opening or section of the strap mounting section,
- an elastic element arranged as a single throughgoing part from the first end to the second end,
- an elastic element arranged as a single throughgoing part from or near one of the mounting openings to the distant first and/or second end.

4. The elastic belt connection piece according to any of the preceding claims, wherein the elasticity of the two elastic sections is provided by at least two elastic elements each extending along at least one of the elastic sections.

5. A belt kit comprising an elastic belt connection piece, a buckle having a prong, a strap and a fastening means for mounting the elastic belt connection piece to the strap, and optionally, a loop.

6. Belt kit cording to claim 5 wherein a distance D_s between a throughgoing hole of the strap and belt is larger, smaller than or the same as D_c which is the distance from through going hole in one or more strap mounting sections to the nearest part of an elastic section.

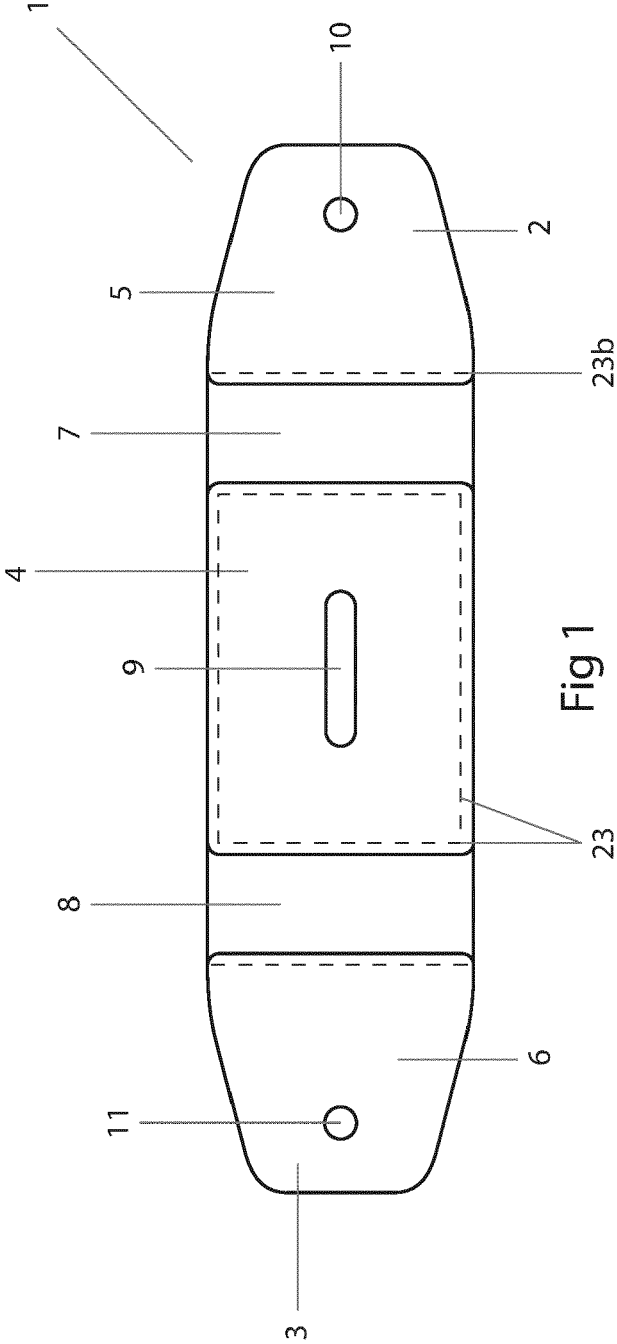
7. Belt kit cording to any of claim 5 or 6, wherein the elastic belt connection piece is an elastic belt connection piece according to any of the claims 1 - 4.

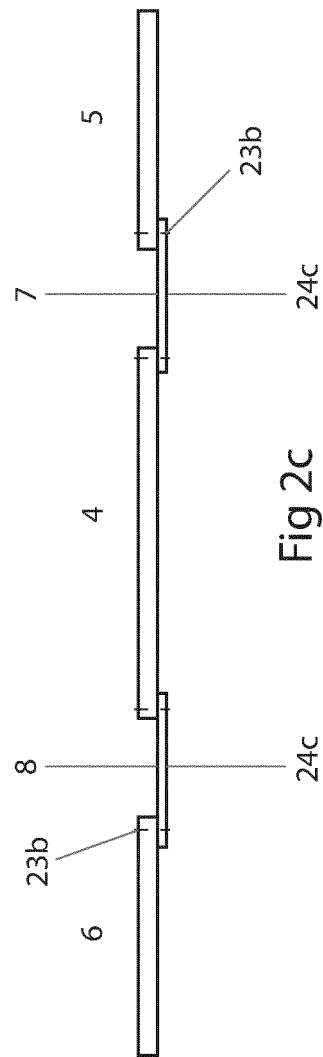
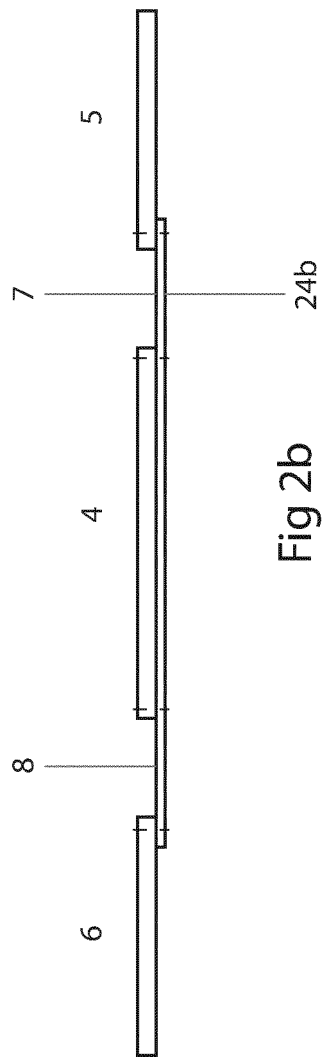
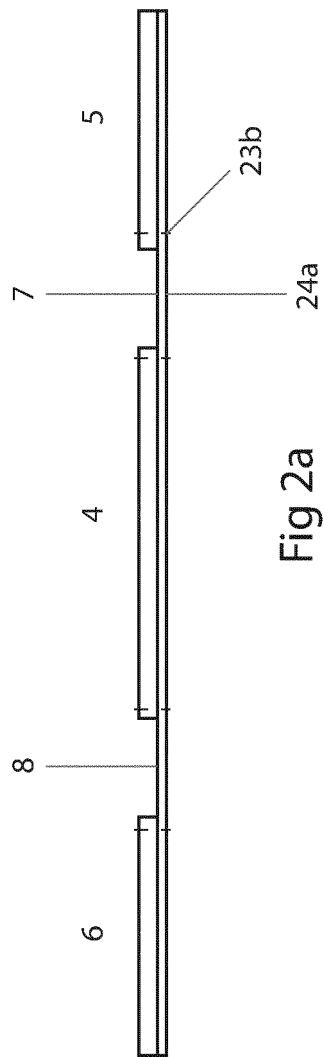
8. A belt buckle mounted with an elastic belt connection piece according to claim 1-4.
9. Use of an elastic belt connection piece according to any of the claims 1 - 4 to attach a buckle to a belt strap. 5
10. Use of an elastic belt connection piece according to any of the claims 1 - 4 to releasably attach a buckle to a belt strap. 10
11. A belt comprising an elastic belt connection piece according to claim 1 -4.
12. A belt according to claim 11 wherein a distance D_s between a throughgoing hole of the strap and belt is larger, smaller than or the same as D_c which is the distance from through going hole in one or more strap mounting sections to the nearest part of an elastic section. 15
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13. A method of mounting a buckle to a strap via an elastic belt connection piece, said method comprising the steps of: 25
- providing a belt buckle
 - providing a belt strap
 - providing an elastic belt connection piece
 - attaching the belt buckle to the belt strap via the elastic belt connection piece by aligning at least one mounting opening on the elastic belt connection piece with at least one strap mounting opening on the strap and inserting a mounting means through the aligned mounting openings. 30
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14. The method according to claim 13, wherein the elastic belt connection piece is an elastic belt connection piece according to claim 1-4. 40

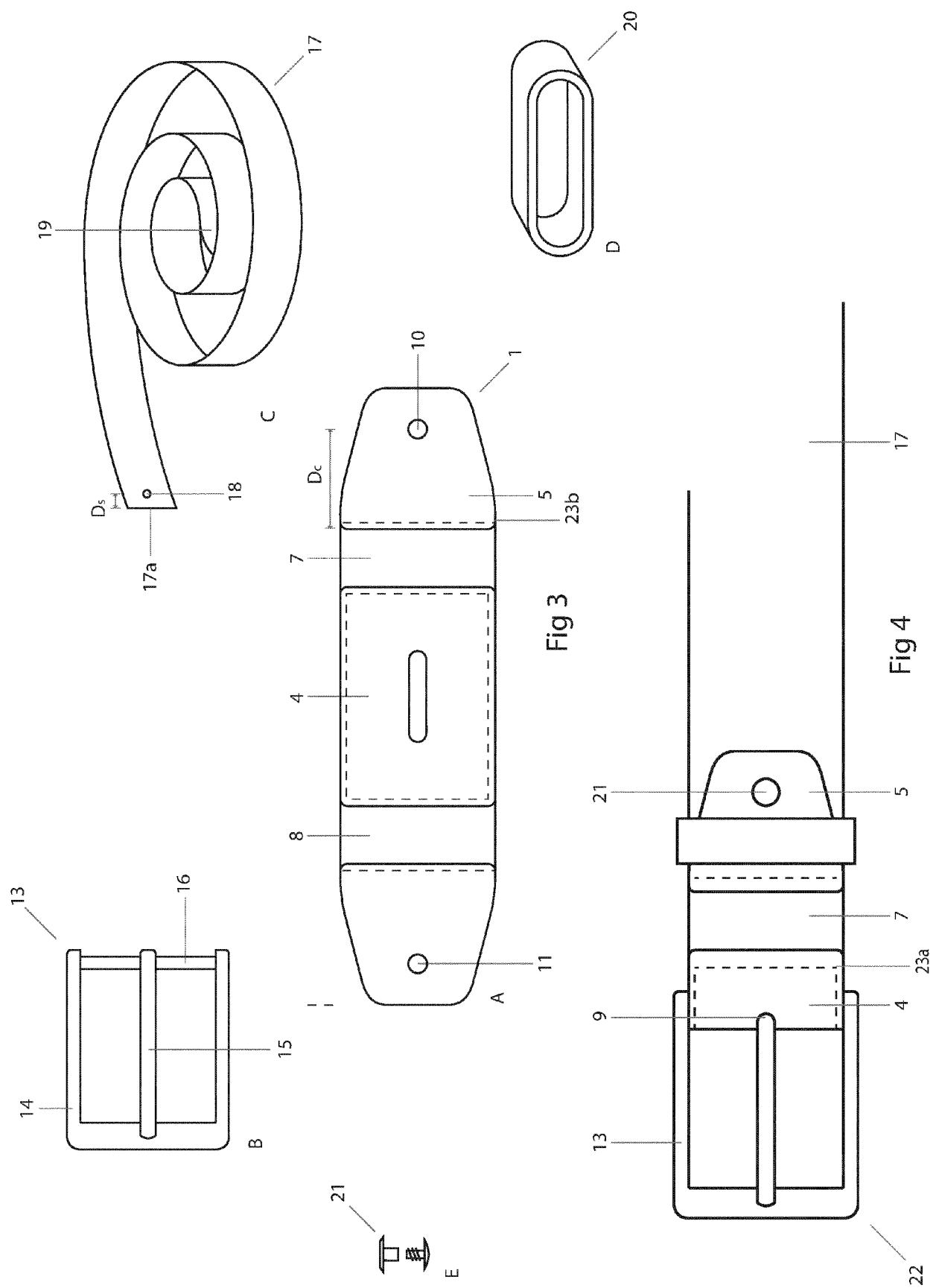
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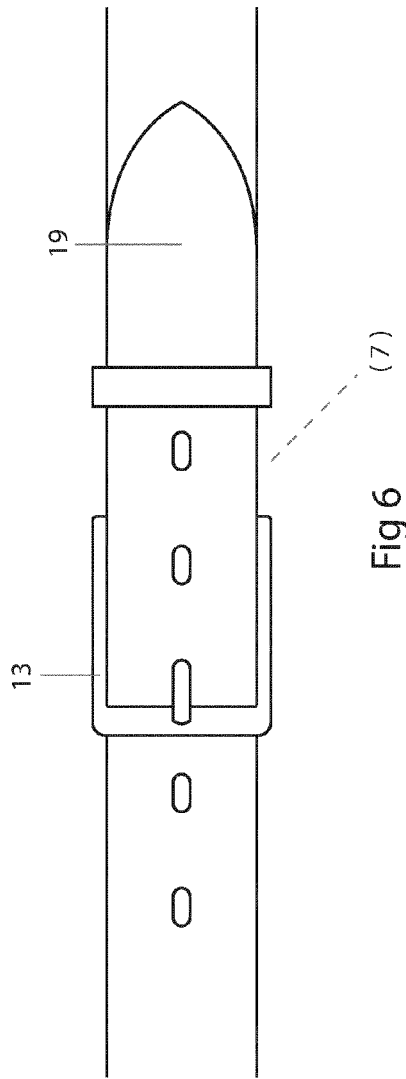
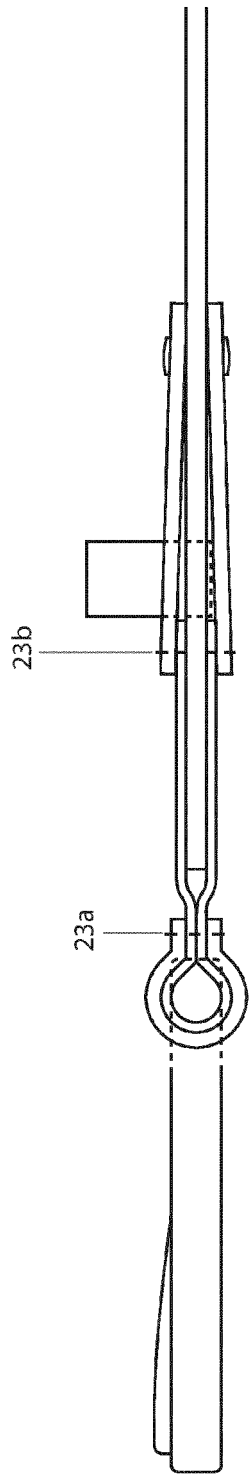
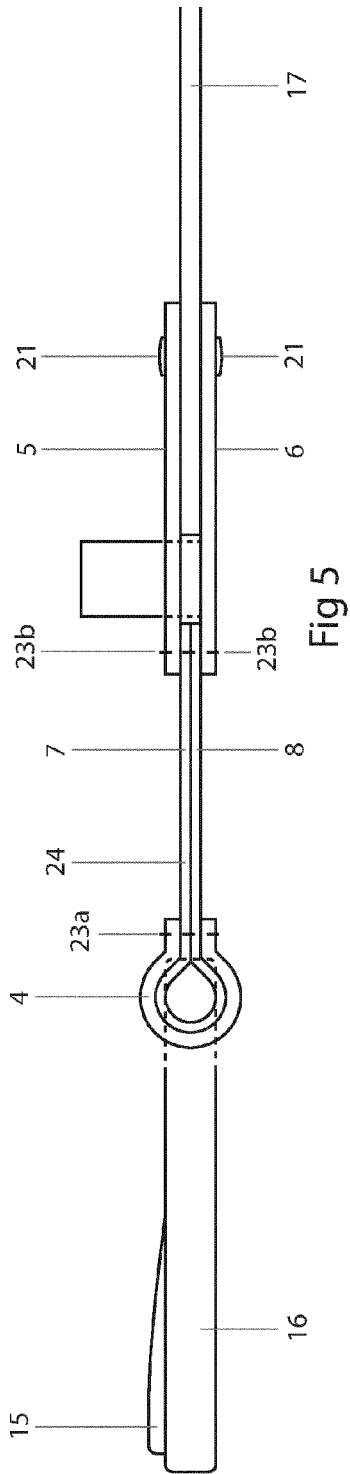
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EUROPEAN SEARCH REPORT

Application Number

EP 23 17 8345

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 842 912 B1 (KING MARY RICE [US] ET AL) 18 January 2005 (2005-01-18) * figures 1, 2 *	1-14	INV. A41F9/00 A44B11/00 A44B11/24
X	WO 2008/013384 A1 (KIM MI LEE [KR]) 31 January 2008 (2008-01-31) * figures 4-8 *	1, 3, 5-12	
A		4	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A41F A44C A44B
Place of search			Examiner
The Hague			Dal Bó, Paolo
Date of completion of the search			
18 September 2023			
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EPO FORM 1503 03.82 (P04C01)

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

EP 23 17 8345

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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18-09-2023

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