(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 160 952 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.03.2010 Bulletin 2010/10

(51) Int Cl.:
A41F 1/00 *(2006.01)* ***A41F 9/00*** *(2006.01)*

(21) Application number: **09011512.2**

(22) Date of filing: **08.09.2009**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
Designated Extension States:
AL BA RS

(30) Priority: **08.09.2008 DE 102008046212**

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(54) A fastening assembly, use of a fastening assembly and an item of clothing with the fastening assembly

(57) The invention relates to an assembly for releaseably fastening two components, in particular clothing components, with a first fastening element (10) fixable to a first component, in particular a clothing component, and having a pass-through region (12) which can be passed through an opening in the other component, in particular a clothing component, the pass-through region (12) having a receiving section designed to receive an insertion component (30,130) of a second fastening element (20) designed to be fixed, preferably releaseably, to the second component, in particular a clothing component.

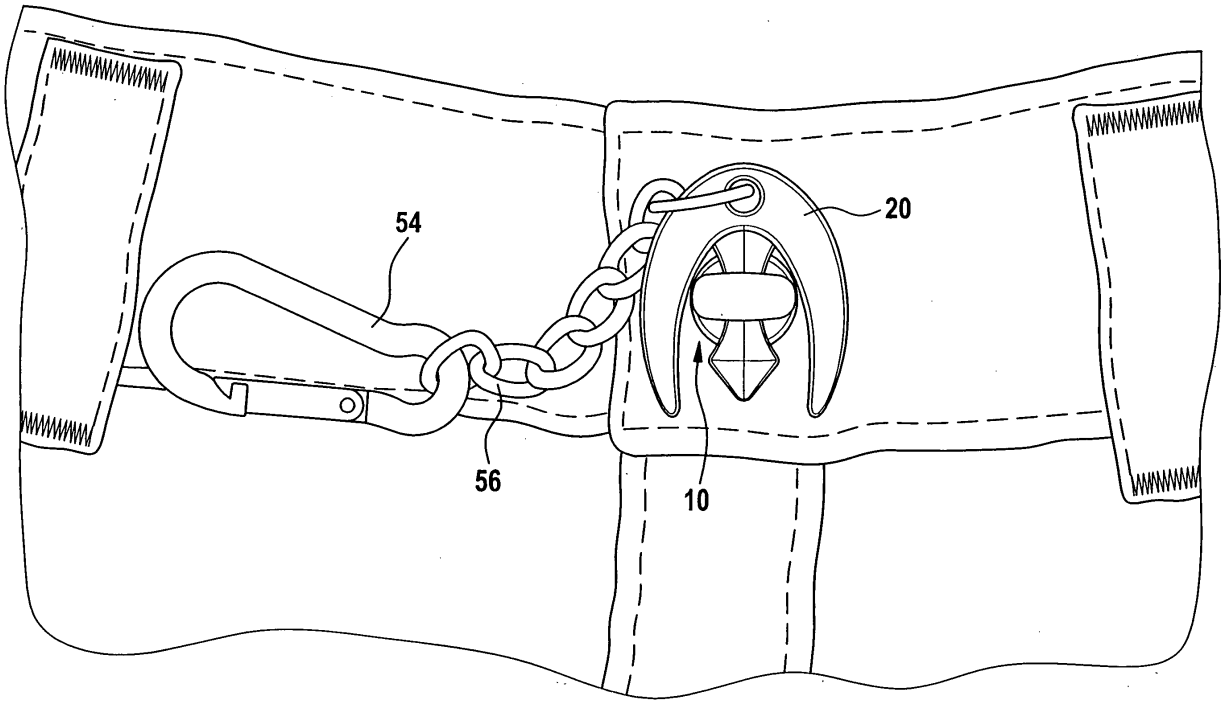

Fig. 6

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Description

[0001] The invention relates to an assembly for releaseably fastening two components, in particular clothing components, with a first fastening element fixable to a first component, in particular a clothing component, and having a pass-through region which can be passed through an opening in the other component, in particular a clothing component, the use of this type of fastening assembly and an item of clothing with this type of fastening assembly.

[0002] Fastening assemblies of this type intended for fastening clothing components are generally produced in the form of buttons with which a button-shaped fastening element is fixed to the first clothing component and is passed through a slit-shaped opening in the second clothing component in order to fasten to a second clothing component. Here the button-shaped fastening element must be of greater dimensions in at least one direction than the slot-shaped cut-out in this direction. In order to obtain a secure fastening the cut-out in the second clothing component must be made as small as possible, but this makes it more difficult to produce the fastening.

[0003] In view of these problems in the prior art, the object which forms the basis of the invention is to provide a fastening assembly on the one hand guaranteeing secure fastening, and on the other hand enabling easy manipulation.

[0004] This object is achieved according to the invention by a further development of the known fastening assemblies which is essentially **characterised in that** the pass-through region has a receiving section designed to receive an insertion component of a second fastening element which can be fixed, preferably releaseably, to a second component, in particular a clothing component.

[0005] Accordingly, a fastening assembly according to the invention comprises two fastening elements, the first of which can be fixed to a first component and, in order to produce the fastening to the second component is first of all passed with a pass-through region through an opening in the second component and is then secured with the insertion component of the second fastening element such that the pass-through region can no longer be pulled out of the opening in the second component. Here one also intends embodiments with which, by passing the pass-through region through the opening in the second component, a fastening is already produced which is only secured by introducing the insertion component into the receiving section. Therefore, in order to produce a secure fastening, it is no longer necessary to make the opening designed for passing through the pass-through region particularly small in relation to the pass-through region. In fact, secure fastening is guaranteed by inserting the insertion component of the second fastening element in the receiving section. Overall the manipulation of fastening assemblies according to the invention is thus facilitated, it being accepted that two fastening elements are required in order to produce a secure fastening. "Inserting" thereby may comprise any kind of connecting involving an insertion, like screwing with at least one element having a thread.

[0006] A particularly secure fastening can be achieved if the receiving section has a through hole or a cut-out in the pass-through region through which the insertion component can be passed in an insertion direction so that the through hole is penetrated by the insertion component. Here, with an embodiment of the invention which is particularly easy to produce, the pass-through region can have an annular section, and preferably be approximately annular in form overall. "Annular" thereby does not only involve circular contours, but may also comprise angled sections like in case of a square, rectangular or triangular contour.

[0007] The first attachment element must be attached to the first of the two components to be fastened to one another. For this purpose the first attachment element preferably has a preferably approximately flat attachment region, attachable to the first component, the pass-through region extending transversely to, in particular laterally away from the attachment region. If the pass-through region is designed in the form of an annular attachment piece, the ring axis preferably extends here approximately parallel to the contact surface of the attachment region. The first attachment element is then approximately T-shaped in design, a T-side piece being formed by the attachment region, and the other T-side piece by the preferably annular pass-through region. The arrangement is advantageously chosen here such that a region of the second component surrounding the opening of the second component is disposed between the attachment region and the insertion component after having passed the pass-through region through the opening and inserting the insertion component in the receiving section.

[0008] While at the same time guaranteeing a particularly secure fastening, particularly easy manipulation of fastening assemblies according to the invention can be achieved if the insertion component has a tip region facilitating insertion into the receiving section and a holding region adjacent to the latter in a direction pointing opposite to the insertion direction. This can be provided in the form of an insertion pin with a holding region designed in the form of an indentation if the cross-section of the insertion component initially increases in size in a section plane extending perpendicularly to the insertion direction from an insertion tip towards the holding region, and then if the holding region itself first of all becomes smaller and then increases again in the direction of the end of the insertion component facing away from the insertion tip.

[0009] For the purpose of producing a particularly secure fastening it has furthermore proved to be particularly advantageous if the second fastening element has a stop region disposed on the end region of the insertion component facing away from the insertion tip and counteracting the passage of the insertion component through the receiving region. Advantageously, in at least one di-

rection extending laterally to the insertion direction this stop region has greater dimensions than the through hole or cut-out in all of the directions extending laterally to the insertion direction. The stop region can also have at least one limiting side piece extending approximately parallel to the insertion region in order to prevent a displacement movement of the insertion component in a direction extending perpendicularly to the insertion direction. With a particularly preferred embodiment the stop region has two stop side pieces extending on opposite sides of the insertion region. Here, in an embodiment which is particularly preferred with regard to obtaining a pleasing appearance and simple producibility, the stop region can be approximately horse shoe-shaped in design.

[0010] In order to obtain a secure fastening between the two components, in particular clothing components, it is sufficient for just the first fastening element to be fixed onto a component, whereas the second fastening element can be designed to be totally loose. In order to avoid losing the second fastening element, which can have a negative impact upon the fastening function, it has however proven to be particularly advantageous if an attachment assembly designed for releaseable attachment to the second component is assigned to the second fastening element. This attachment assembly can have a first attachment element designed for attachment to the second fastening element, a second attachment element designed for releaseable attachment to the second component, and a fastening device fastening the first attachment element to the second attachment element. For the purpose of a particularly simple embodiment of the attachment assembly it has proven to be advantageous if the first attachment element has a ring passing through a cut-out in the second fastening element. This cut-out can be formed, for example, in the stop region or by an annular attachment piece on the second fastening element. The second attachment element can be designed in the form of a clip, pin and/or in the form of a hook, in particular a carabiner hook. With the aid of a carabiner hook the second fastening element can be attached, for example, to a belt loop on a pair of trousers. Variable use of fastening assemblies according to the invention makes it possible to produce a form-variable fastening device, for example in the form of a chain and/or a band.

[0011] With another embodiment of the invention it is also intended, however, to attach the second attachment element releaseably to the second component by means of an attachment piece provided on the latter itself. This attachment piece can be provided, for example, on the insertion component, in particular as an extension of the insertion component of the second fastening element.

[0012] The second attachment element might be designed for releasable attachment to a third component. This third component can be a zipper.

[0013] As can already be inferred from the above description of fastening assemblies according to the invention, these types of fastening assembly are particularly well suited to fastening two clothing components, in particular of the same item of clothing. Here the first fastening element can be fixed instead of a button onto the waistband of a pair of trousers, in particular a pair of jeans. With the item of clothing according to the invention with an attachment assembly according to the invention the first attachment element is attached instead of a trouser button to the waistband of a pair of trousers.

[0014] In the following the invention is described with reference to the illustrations to which reference is specifically made with regard to all details essential to the invention and not described in detail in the description. The illustrations show as follows:

Fig. 1 a fastening assembly according to a first embodiment of the invention,

Fig. 2 the second fastening element of the fastening assembly illustrated in Fig. 1,

Fig. 3 a detailed illustration of the first fastening element of the fastening assembly illustrated in Fig. 1,

Fig. 4 an attachment assembly according to a second embodiment of the invention,

Fig. 5 a detailed illustration of the second fastening element of the attachment assembly illustrated in Fig. 4, and

Fig. 6 an illustration showing the use according to the invention of a fastening assembly according to the invention.

[0015] The embodiment of the invention illustrated in Fig. 1 comprises a first fastening element 10, a second fastening element 20 and an attachment assembly 50 designed for releaseably attaching the second fastening element 20 to an item of clothing.

[0016] As can be seen particularly clearly in Fig. 2, the second attachment element has a pin-shaped insertion component 30 and a stop region 28 with two stop side pieces 22 and 24. The insertion component 30 comprises a tip region 32 and a holding region 34. This tip region 32 has in a section plane extending perpendicularly to the insertion direction P a cross-section increasing in size towards the stop region 28 and passes into the holding region 34 which has a cross-section which first of all tapers towards the stop region 28, and then becomes wider again towards the stop region 28. Overall an indentation is thus formed in the holding region 34. The stop region 28 has two stop side pieces 22 and 24 extending approximately parallel to the insertion component 30. A cut-out 26 is formed in the fastening region between the stop side pieces 22 and 24.

[0017] According to Figs. 1 and 3 the first fastening element 10 has a plate-shaped attachment region 14 designed for attaching the first fastening element 10 to a component, in particular a clothing component, and an

annular pass-through region 12, the ring axis of the pass-through region 12 extending approximately parallel to the contact surface of the attachment region 14. As can be seen particularly clearly in Fig. 6, the pass-through region 12 can be passed through an opening in a clothing component, such as for example through a button hole. In the fitted state the insertion component 30 of the second fastening element 20 is passed through the annular pass-through region 12 of the first fastening element 10. In this state the region of the clothing component surrounding the opening is disposed between the attachment region 14 and the insertion component 30.

[0018] The fastening assembly illustrated in Fig. 1 with which the second fastening element 20 can be attached to a clothing component comprises an attachment ring 52 which passes through the annular cut-out 26 in the stop region 28 of the second fastening element 20, a carabiner hook-shaped second attachment element 54, and a fastening device produced in the form of a chain in the embodiment shown in the illustration between the first attachment element 52 and the second attachment element 54.

[0019] The embodiment of the invention illustrated by means of Figs. 4 and 5 differs substantially from the embodiment illustrated by means of Figs. 1 and 2 in that the second attachment element 54 has an annular attachment piece 126 through which the first attachment element 52 is passed, the insertion component 130 and the stop region 128 also showing modifications in form with which the stop side pieces 122, 124 extend in the shape of wings approximately perpendicularly to the insertion component 130.

[0020] As can be seen in Fig. 6 the second attachment element 54 can be used, for example, for attaching the attachment assembly to a belt loop of a pair of trousers. By providing the fastening device 56 flexible manipulation of the second fastening element 20 in relation to the first fastening element 10 is made possible. At the same time the attachment assembly prevents loss of the second fastening element 20.

[0021] With all of the embodiments of the invention defined by means of the illustrations, the fastening elements are designed to increase the overall stability of the assembly made of a metallic material. For the same reasons the attachment assembly is also made of a metallic material.

[0022] The invention is not restricted to the exemplary embodiments defined by means of the illustrations. In fact, it is also intended to provide band-shaped fastening devices or to provide fastening devices fastened rigidly to the second fastening element. Instead of a carabiner hook a velcro fastener, a pin assembly, a clip assembly or similar can also be used as a second attachment element.

Claims

1. An assembly for releaseably fastening two components, with a first fastening element (10) fixable to a first component, and having a pass-through region (12) which can be passed through an opening in the other component, **characterised in that** the pass-through region (12) has a receiving section designed to receive an insertion component (30, 130) of a second fastening element (20) which can be fixed, preferably releaseably, to the second component.

2. The assembly according to Claim 1, **characterised in that** the receiving section has a through hole or a cut-out in the pass-through region (12) through which the insertion component (30, 130) can be passed in insertion direction (P).

3. The assembly according to Claim 2, **characterised in that** the pass-through region (12) has an annular section (12), and is preferably approximately annular in form overall.

4. The assembly according to any of the preceding claims, **characterised in that** the first fastening element (10) has a preferably approximately flat attachment region (14) attachable to the first component, the pass-through region (12) extending transversely to, in particular laterally away from the attachment region (14).

5. The assembly according to any of the preceding claims, **characterised in that** the insertion component (30, 130) has a tip region (32) facilitating insertion into the receiving section and a holding region (34) adjacent to the latter pointing in a direction opposite to the insertion direction (P).

6. The assembly according to Claim 5, **characterised in that** the cross-section of the insertion component (30, 130) initially increases in size in a section plane extending perpendicularly to the insertion direction (P) from an insertion tip (32) towards the holding region (34), then in the holding region (34) becomes smaller, and increases again in the direction of the end of the insertion component (30, 13) facing away from the insertion tip (32).

7. The assembly according to any of the preceding claims, **characterised in that** the second fastening element (20) has a stop region (28, 128) disposed on the end region of the insertion component (30, 130) facing away from the insertion tip (32) and counteracting the passage of the insertion component (30, 130) through the receiving region (12).

8. The assembly according to Claim 7, **characterised in that** the stop region (28, 128) has at least one

stop side piece (22, 24, 122, 124) extending approximately parallel to the insertion region (30, 130).

9. The assembly according to Claim 8, **characterised in that** the stop region (28, 128) has two stop side pieces (22, 24, 122, 124) extending on opposite sides of the insertion component (30, 130).

10. The assembly according to any of Claims 7 to 9, **characterised in that** the stop region (28, 128) is overall approximately horse shoe-shaped in design.

11. The assembly according to any of the preceding claims, **characterised in that** an attachment assembly (50) designed for releaseable attachment to the second component is assigned to the second fastening element (20).

12. The assembly according to any of the preceding claims, **characterised in that** an attachment assembly (50) designed for releasable attachment to a third component is assigned to the second fastening element (20).

13. The assembly according to Claim 11 or 12, **characterised in that** the attachment assembly (50) has a first attachment element (52) designed for attachment to the second fastening element (20), a second attachment element (54) designed for releaseable attachment to the second or third component, and a fastening device (56) fastening the first attachment element (52) to the second attachment element (54).

14. The assembly according to Claim 13, **characterised in that** the first attachment element (52) has a ring (52) passing through a cut-out (26, 126) in the second fastening element (20).

15. The assembly according to Claim 14, **characterised in that** the cut-out (26, 126) is formed in the stop region (28, 128).

16. The assembly according to Claim 14 or 15, **characterised in that** the cut-out (26, 126) is formed by a preferably approximately annular attachment piece on the second fastening element (20).

17. The assembly according to any of Claims 13 to 16, **characterised in that** the second attachment element (54) has a clip, pin or a hook, in particular a carabiner hook.

18. The assembly according to any of Claims 13 to 17, **characterised in that** the fastening device has a chain and/or a band and/or an attachment piece on the second fastening element (20).

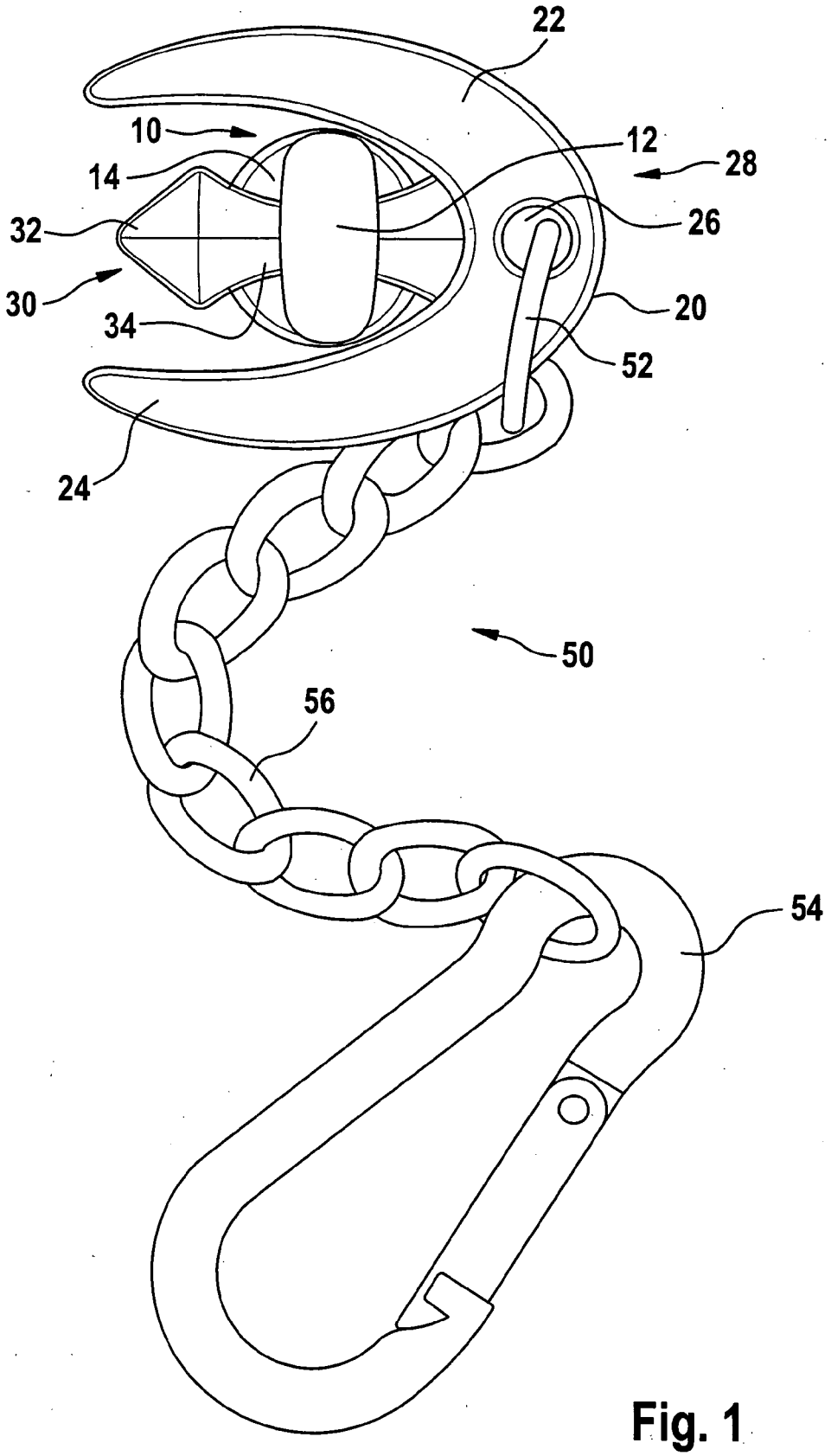

Fig. 1

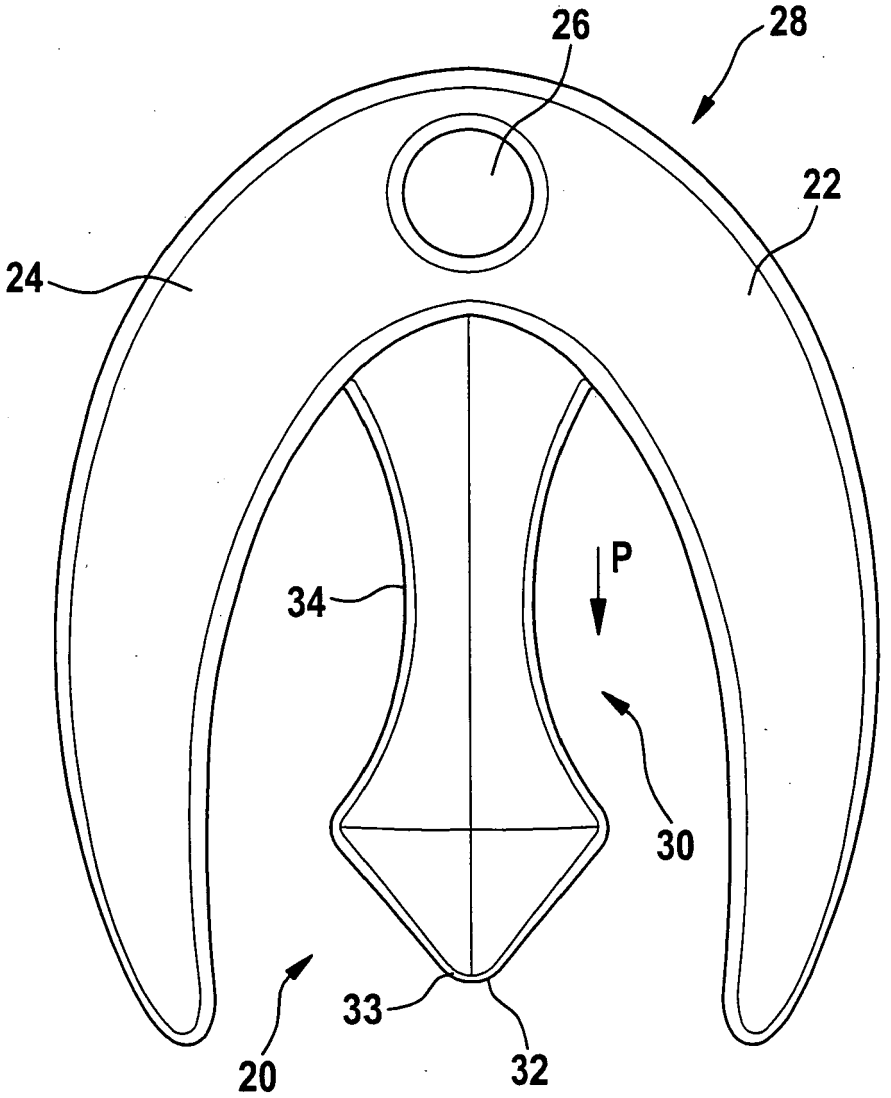

Fig. 2

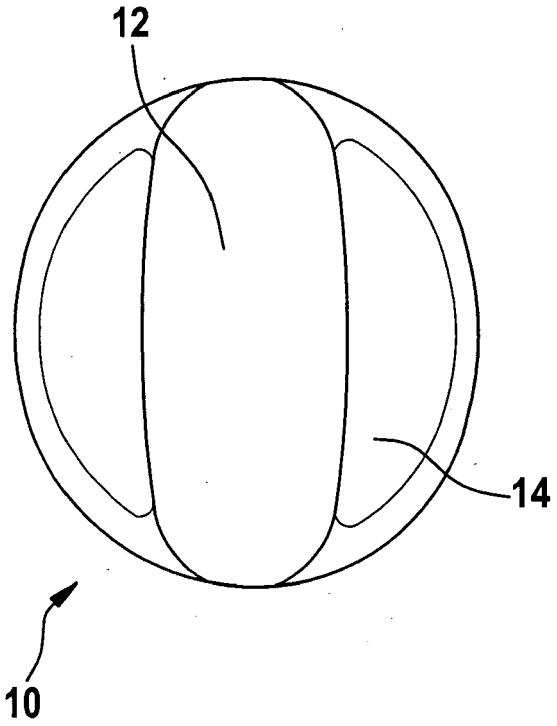

Fig. 3

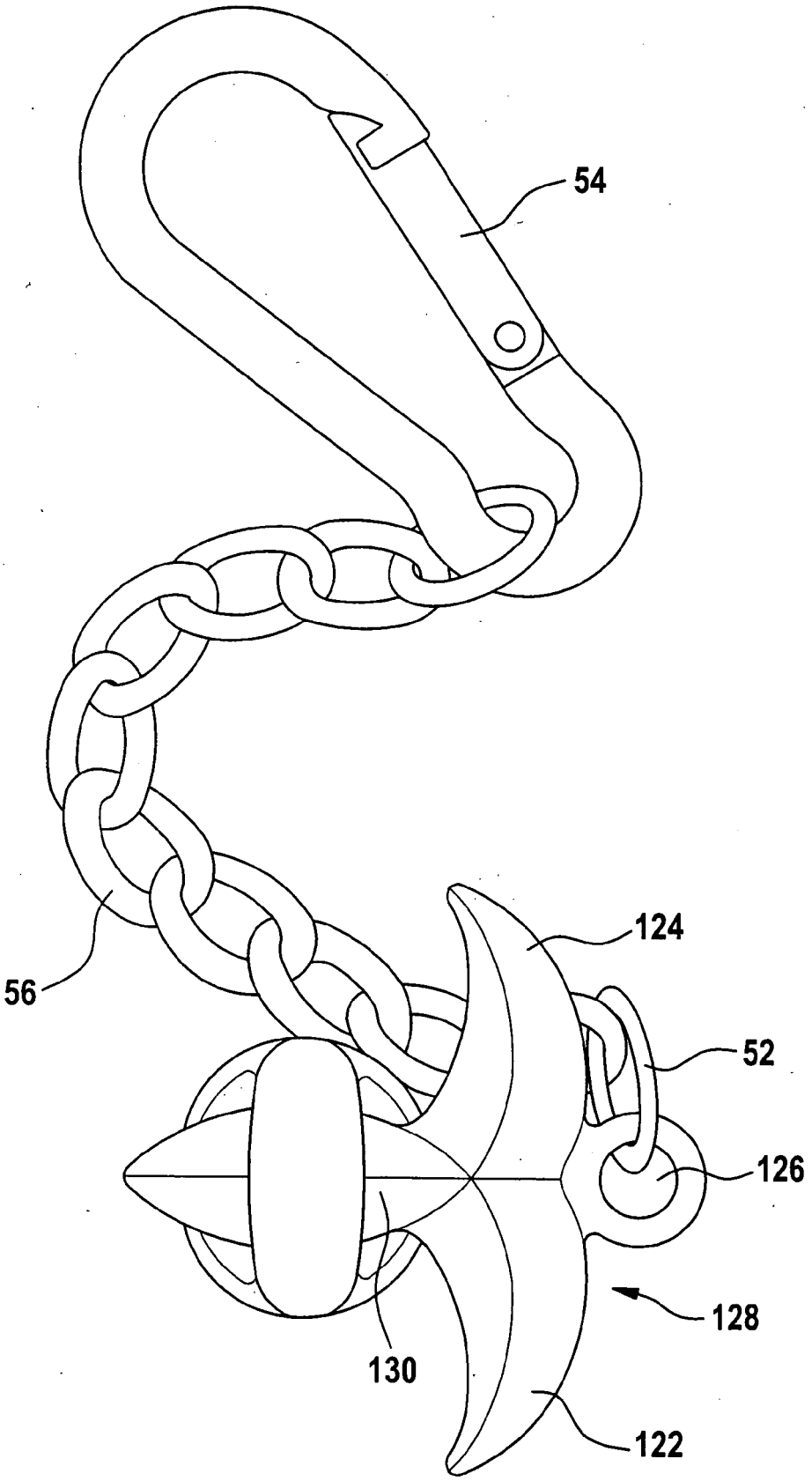

Fig. 4

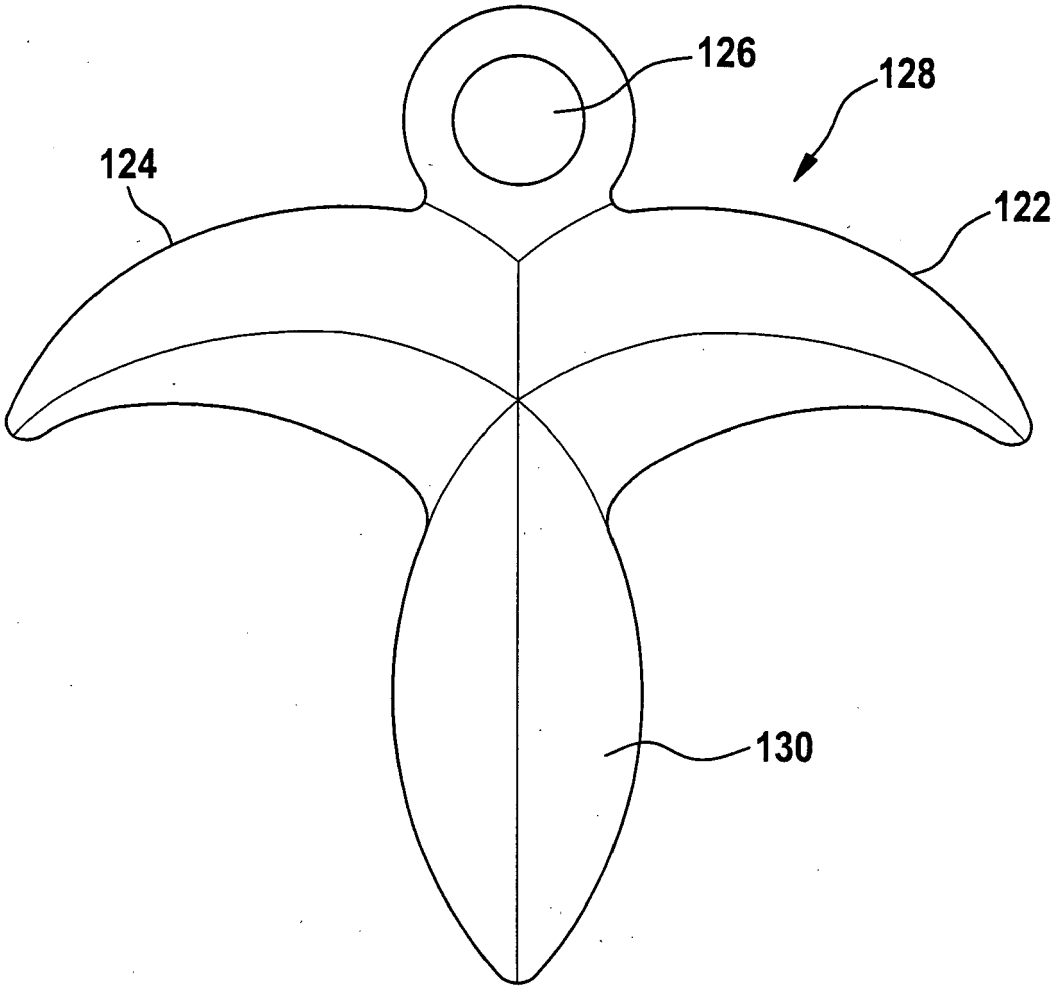

Fig. 5

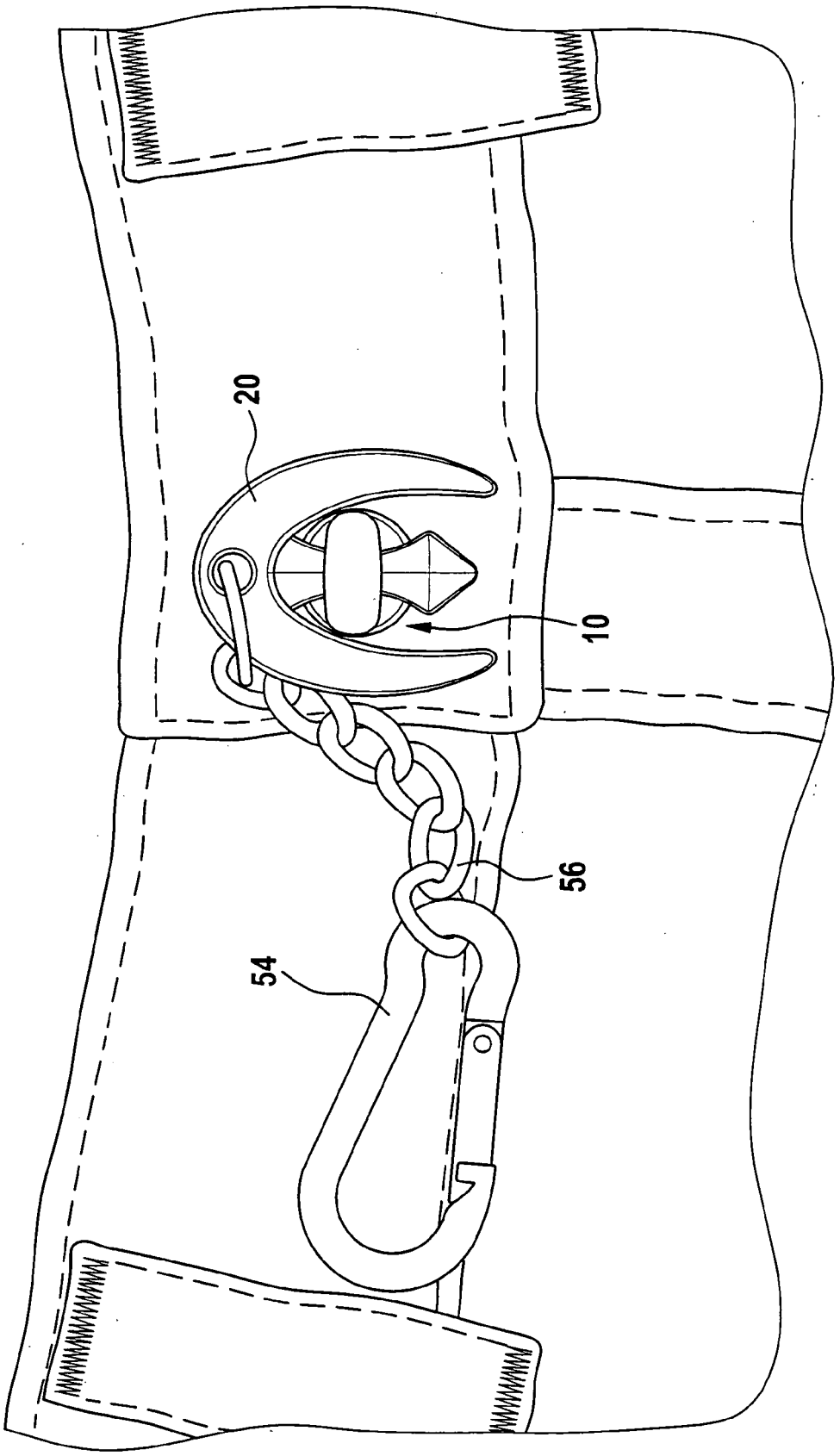

Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 09 01 1512

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	4 December 2009	Fonseca Fernandez, H

CATEGORY OF CITED DOCUMENTS

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