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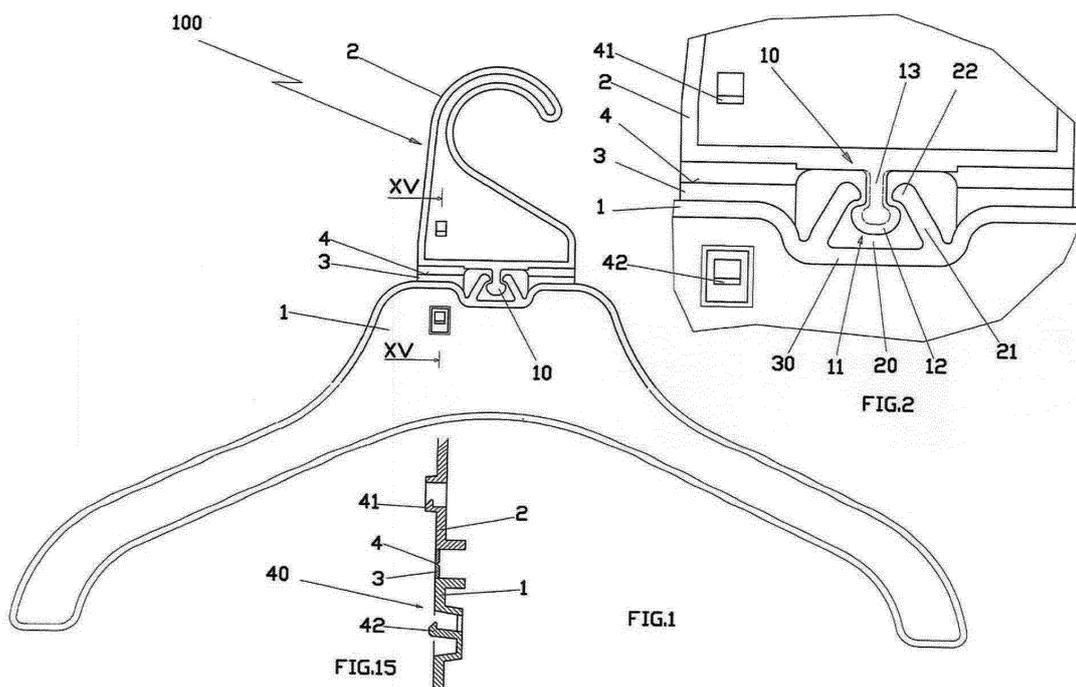
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(54) **CLOTHES HANGER WITH BENDABLE HOOK**

(57) It is a hanger with bendable hook, of the type comprised of a body (1), which can be of various shapes depending on the pieces of clothing it is intended to support, and a hook (2). These two components (1, 2) are mutually connected by means of flexible straps, which bend along a central bending line in order to allow the rotating movement of the hook (2); said hanger being provided with a mechanical snap-fit coupling of the "clip" type (10), in the intermediate region between the body

(1) and the hook (2), wherein two parts interlock mutually when a pressure is exerted, and move apart from one another when a force is exerted to separate them. Said hanger (100) being characterised in that the snap-fit coupling (10) locks the hook (2) in upright position in line with the body (1) and that the flexible straps (3) allow the rotating movement of the hook (2) from the upright position to a folded/bent position wherein the flexible straps (3) are bent.



Description

[0001] The present invention relates to a hanger with bendable hook according to the general part of claim 1.

[0002] Common hangers consist of a body, which can have different shapes depending on the pieces of clothing which it is intended to support (outerwear with arched body, clamp with bar and clips, trouser hanger or other) and which is centrally provided with a protruding hook.

[0003] The hook consists of a shaped clamp, made of the same material as the hanger body. Normally, hangers are reused several times whereby, in addition to the initial production step, after they have been freed from the hanging garments, they must be stored waiting for a new use.

[0004] The drawback that occurs during the step of storing the hangers in the warehouse is due to the overall dimensions of the single hanger, defined by the dimensions in width of the body and by the extension in protrusion of the hook from the top of the hanger body.

[0005] Moreover, one should not underestimate the fact that the projection of the hook from the hanger body takes a considerable space even when the hanger with hanging garment is packed in a container.

[0006] In practice, the hanger footprint depends mainly on the extent of the hook, which thus becomes an important and determining parameter in each usage step of the hanger itself: from the production centres of hangers, where the maximum reduction of the size of the packaging used for their shipment to garment manufacturers is required, to the production and commercial structure, when the hanger with hanging garment must be moved, before being placed on the market.

[0007] Hangers are currently known in the prior art which can reduce their footprint by providing that the hook is retained on the body by a connection that allows, in case of need, a rotation thereof so as to move substantially within the space defined by the body of the hanger itself.

[0008] As an example, we may cite the patent document no. VI2010A000293, where a hanger with foldable hook is described, connected to the body by a flexible tongue, allowing an elastic warping to said hook.

[0009] Disadvantageously, the hanger mentioned above, as well as other hangers that provide for the displacement of the hook to reduce the size (by way of example, we may cite those described in patent documents VI2013A000059, US3726452, US4487343, US2428820, US4063670, US 2011/068067 and US 4168791) are implemented using a construction technique that is very complex and requires the configuration of both the hanger body and the end of the hook to be strongly modified, with considerable moulding costs.

[0010] Moreover, a fact of no less importance is that in many constructive solutions known to date, because of the mobility of the connection between hook and body, necessary to allow folding the hook, when the hanger is in use it does not have the same rigid structure of a mono-

bloc hanger and this, in practice, results in a difficulty of optimally retaining the hanging garment.

[0011] Document US 3870206, which is the most important prior art document, describes a hanger with bendable hook, of the type comprised of a body which can be of various shape depending on the pieces of clothing it is intended to support, and of a hook, said two components being mutually connected by means of means which bend along a central bending line, in order to allow the rotating movement of the hook, said hanger being provided with a mechanical snap-fit coupling of the "clip" type, in the intermediate region between the body and the hook, wherein two parts interlock mutually when a pressure is exerted, and move apart from one another when a force is exerted to separate them, said coupling being made up of a projection that fits in a cavity, defined by opposing elastic tongues.

[0012] This device, however, has the considerable drawback consisting in that the element that allows bending the hook tends to break easily, making the hanger unusable even after a limited period of use.

[0013] The object of the present invention is to provide a hanger with bendable hook, which is free from the drawbacks of similar products of a known type.

[0014] Specifically, the object of the invention is to provide a hanger with bendable hook that does not deviate considerably from the configuration of a normal hanger with fixed hook, so that the usual moulding equipment can be used for its production to ensure cost-effectiveness of the product.

[0015] Again specifically, the object of the invention is to provide a hanger with bendable hook in which the bending of the hook requires a simple and quick manual operation. Again specifically, the object of the invention is to provide a hanger with bendable hook which, when is in the raised working position, ensures a stable locking, forming a rigid structure with the hanger body.

[0016] Such objects are achieved by implementing a bendable hanger of the type in which it is provided that the hook is connected to the hanger body by means of flexible straps, which is characterized in that its locking in the upright usage position, i.e. when is perfectly in line with the underlying hanger body, is ensured by a mechanical snap-fit coupling of the "clip" type, which will be better described in a possible embodiment thereof, given only by way of non-limiting example, with the aid of the accompanying drawings, in which:

- figs. 1-2 show two front and detail views, respectively, of the hanger according to the invention with raised hook;
- figs. 3-4 show two rear and detail views, respectively, of the hanger according to the invention with raised hook;
- figs. 5-6 show two front and detail views, respectively, of the hanger according to the invention with bent hook;
- figs. 7-8 show two rear and detail views, respectively,

of the hanger according to the invention with bent hook;

- figs. 9-14 show two front and rear views, respectively, of the hook bending steps.
- figs. 15, 16 show a detailed view of the elastic coupling in the raised and bent hook positions, respectively.

[0017] As can be seen in the figures, the hanger of the invention, indicated as a whole with reference numeral 100, consists of a body 1 and a hook 2 mutually connected by flexible bands 3, which bend along a central bending line 4 to allow the rotating movement of the hook, said hanger is characterised in that it is provided, in the intermediate zone between the hook and the body, with a mechanical snap-fit coupling of the clip type, indicated as a whole with reference numeral 10, consisting of two parts, which interlock mutually when a pressure is exerted and which, on the contrary, separate when a force is exerted to separate them.

[0018] Specifically, coupling 10 comprises a projection, indicated as a whole with reference numeral 11, which fits into a cavity 20, defined by opposing elastic tongues 21.

[0019] Projection 11 is formed by a head 12 connected, by means of a rib 13, to the first element, specifically the base of hook 2, while the two elastic tongues 21 are applied in a recess 30, obtained in the upper part of the back of the other element, specifically the back of the arched body 1, and project from the same.

[0020] In order to facilitate the hook/release action, head 12 has an essentially frustoconical shape and a rounded section and the two elastic wings 21 are mutually inclined and end at their top with knuckles 22 having a rounded section.

[0021] In practice, in order to ensure that hook 2, when bent, stays adjacent to body 1, a snap-fit element, usually of the so-called "button" type, is provided.

[0022] Alternatively, the invention provides for a snap-fit element consisting of an elastic coupling consisting of two opposing hooks that mate with each other.

[0023] Constructively, as shown in fig. 15, the elastic coupling, indicated as a whole with reference numeral 40, comprises two crooks 41 and 42, one of which (41) is rigid and integral to one of the two parts, specifically to hook 2, while the other crook 42, integral to the other part, specifically to body 1, is elastic, thus allowing the final coupling, as shown in fig. 16.

[0024] The invention thus conceived is susceptible of modifications and variations, and its constructive details may be shaped differently, for example, the mechanical coupling 10 may be applied on the opposite side, provided that all falls within the inventive concept defined by the following claims.

Claims

1. HANGER WITH BENDABLE HOOK, of the type comprised of a body (1) which can be of various shape depending on the pieces of clothing it is intended to support, and of a hook (2), said two components (1, 2) being mutually connected by means of flexible straps (3) which bend along a central bending line (4), in order to allow the rotating movement of the hook (2), said hanger being provided with a mechanical snap-fit coupling of the "clip" type (10), in the intermediate region between the body (1) and the hook (2), wherein two parts interlock mutually when a pressure is exerted, and move apart from one another when a force is exerted to separate them, said coupling (10) being made up of a projection (11) that fits in a cavity (20), defined by opposing elastic tongues (21), said hanger (100) **being characterised in that** the snap-fit coupling (10) locks the hook (2) in upright position in line with the body (1) and that the flexible straps (3) allow the rotating movement of the hook (2) from the upright position to a folded/bent position wherein the flexible straps (3) are bent.
2. HANGER WITH BENDABLE HOOK, according to claim 1, **characterised in that** the projection (11) is formed by a head (12), connected to the base of the hook (2) by means of a rib (13).
3. HANGER WITH BENDABLE HOOK, according to claim 2, **characterised in that** head (12) has an essentially frustoconical shape and a rounded section.
4. HANGER WITH BENDABLE HOOK, according to claim 1, **characterised in that** the elastic tongues (21) are applied in a recess (30), obtained in the upper part of the back of the body (1), and project from the same.
5. HANGER WITH BENDABLE HOOK, according to claim 4, **characterised in that** the two elastic tongues (21) are mutually inclined and end at their top with knuckles (22) having a rounded section.
6. HANGER WITH BENDABLE HOOK, according to one or more of the preceding claims, **characterised in that** the hook (2) is held in its bended position by means of a fitting element which is comprised of an elastic coupling (40), consisting of two opposing, mutually engaging crooks (41, 42).
7. HANGER WITH BENDABLE HOOK, according to claim 6, **characterised in that** one of the two crooks (41) is rigid and integral with one of the two parts, namely with the hook (2), while the other crook (42), which is integral with the other part, namely the body (1), is elastic, in order to allow the final coupling.

8. HANGER WITH BENDABLE HOOK, according to one or more of the preceding claims, **characterised in that** the coupling (10) is overturned, having the projection (11) applied on the top of the body (1) and the opposing elastic tongues (21) projecting from the base of the hook (2).

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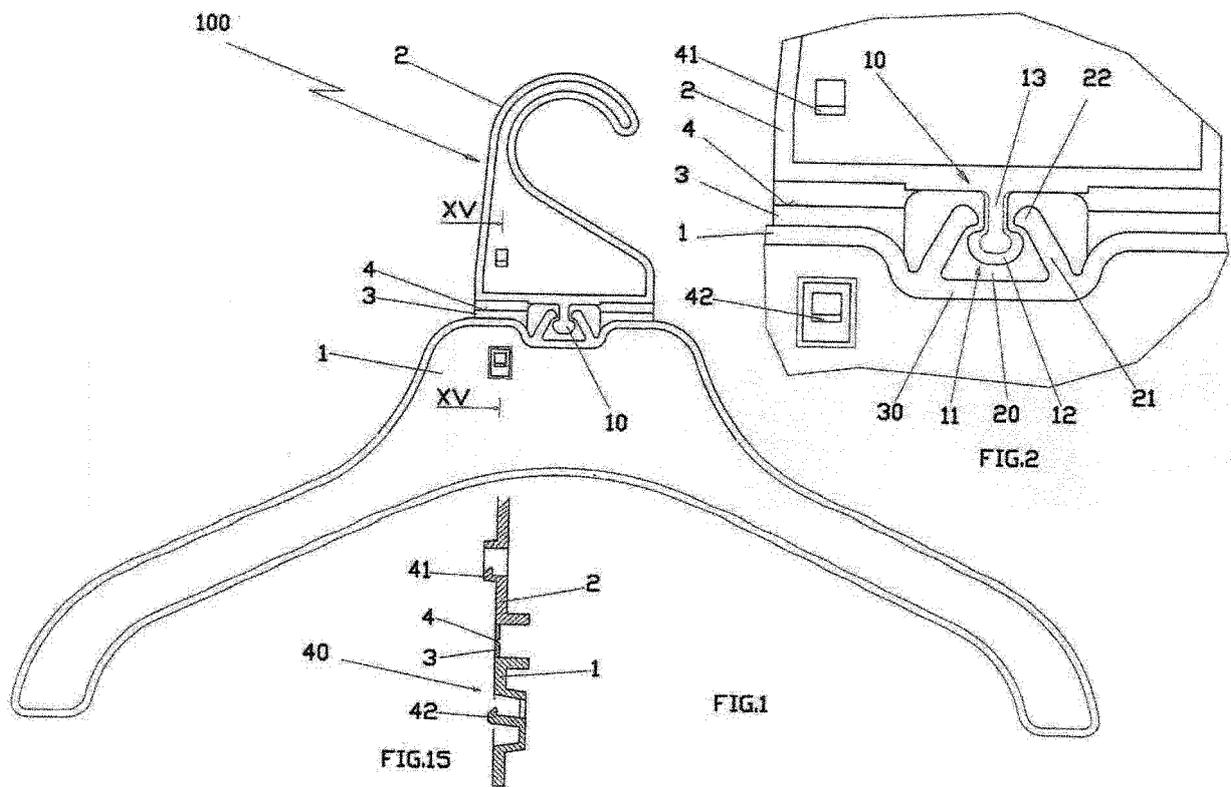
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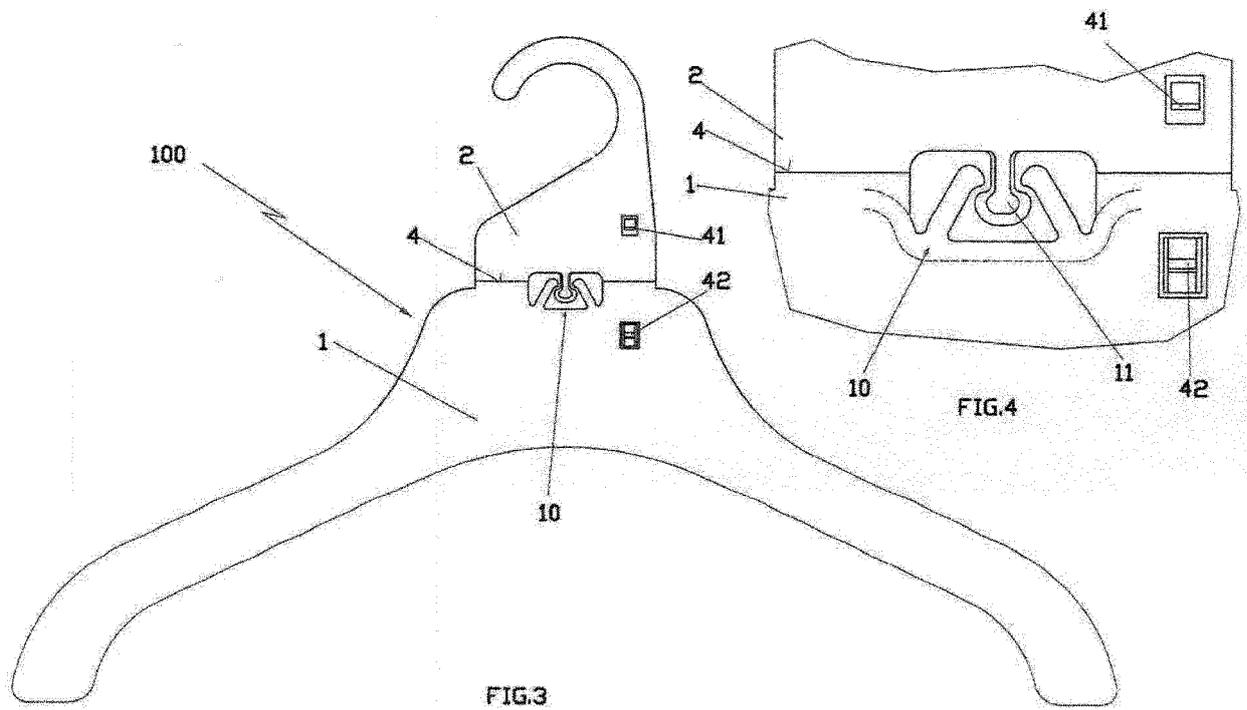
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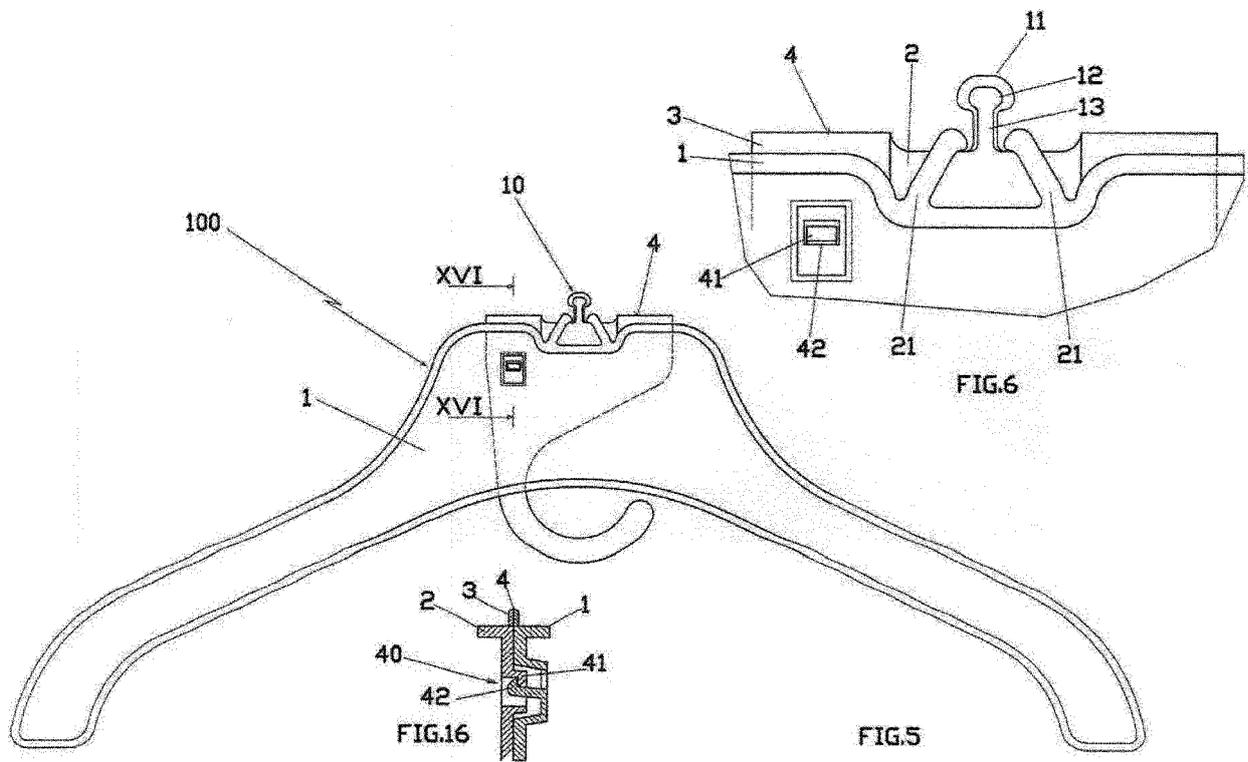
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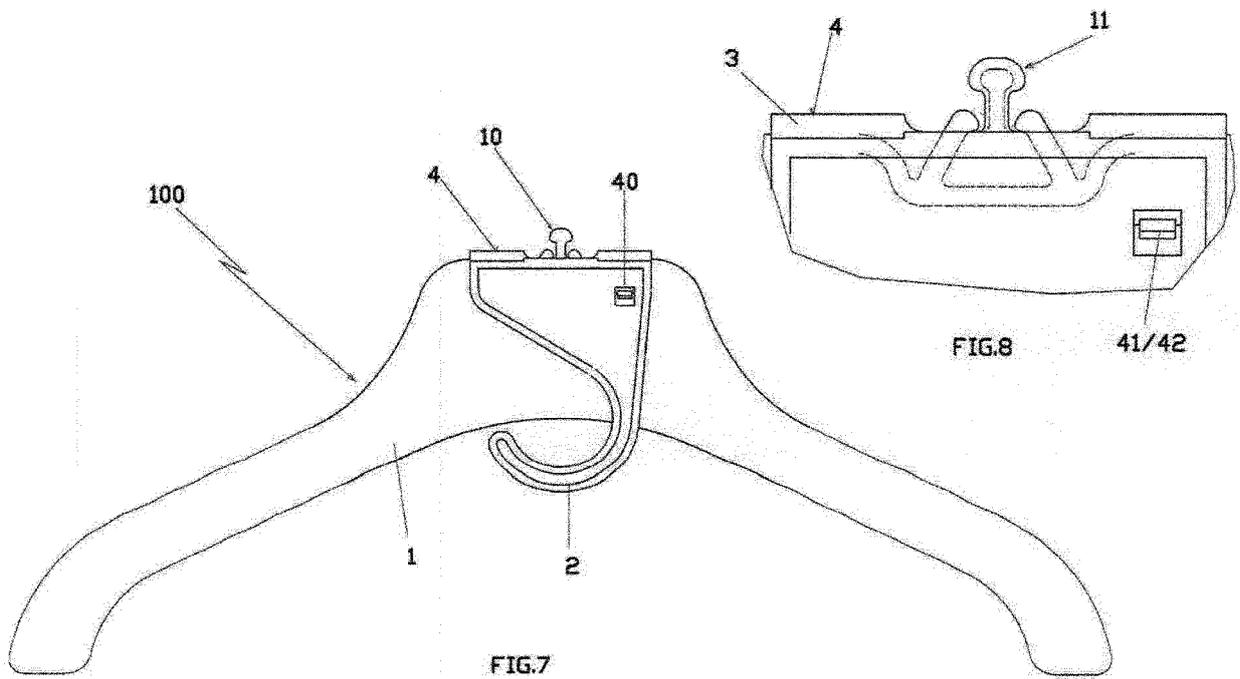
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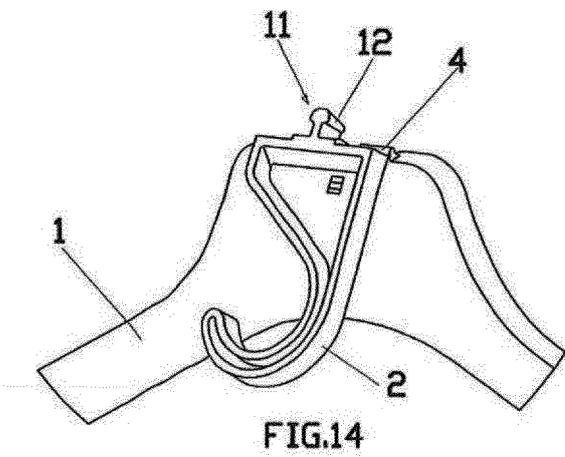
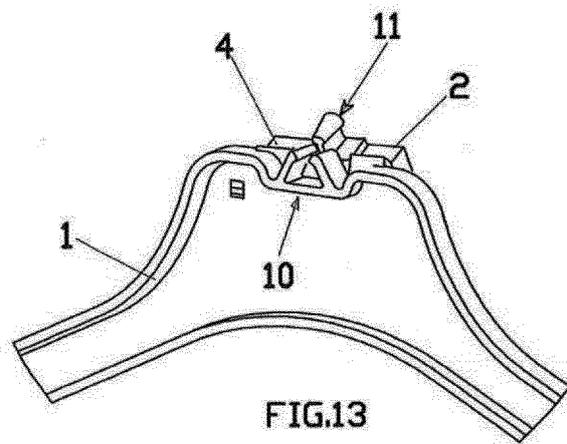
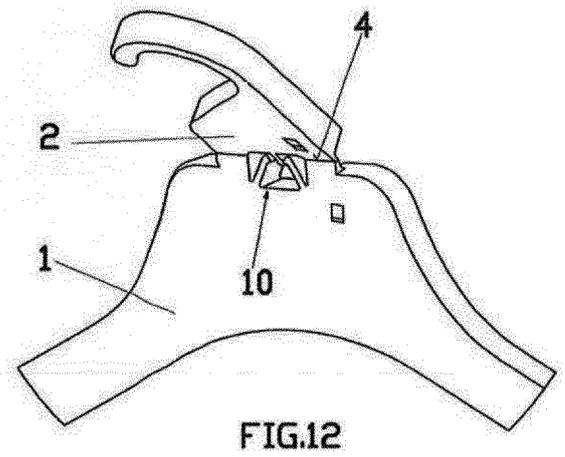
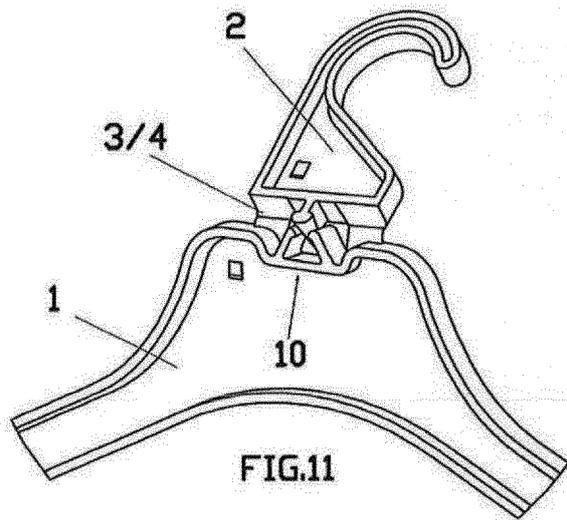
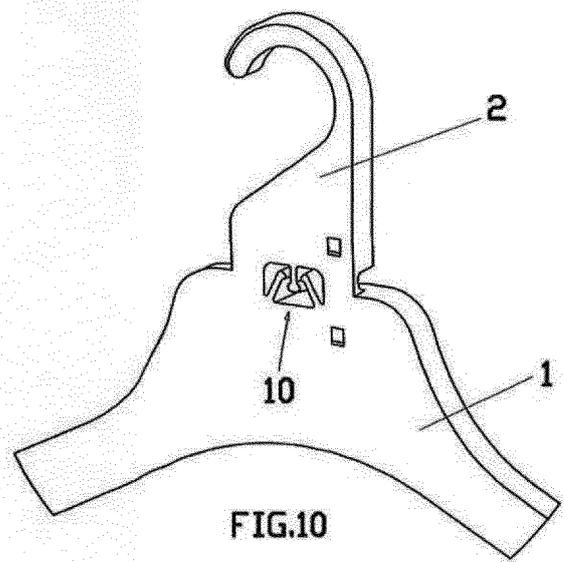
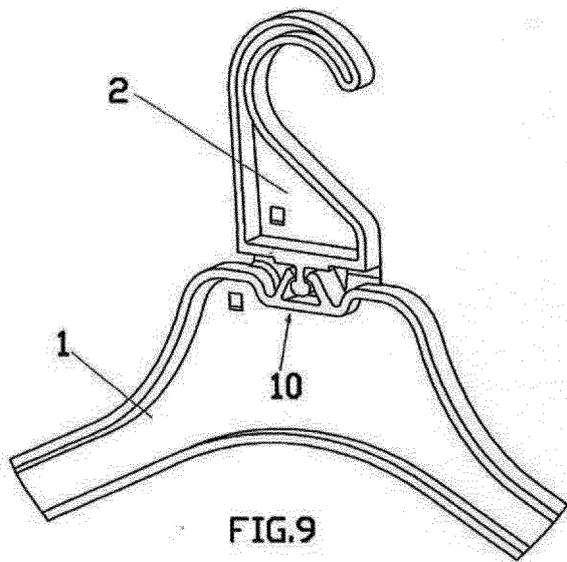
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Application Number
EP 17 16 0918

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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 2 August 2017	Examiner Beugeling, Leo
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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