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(54) **Hanger with clips**

Kleiderbügel mit Klammern

Cintre à pinces

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(56) References cited:
AU-A- 3 660 684
GB-A- 2 185 522
GB-A- 2 213 049
US-A- 3 767 092

- **PATENT ABSTRACTS OF JAPAN vol. 1998, no. 06, 30 April 1998 (1998-04-30) -& JP 10 033351 A (MISUMI HIDEO), 10 February 1998 (1998-02-10)**

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EP 1 421 883 B1

Description

1. Field of the Invention

[0001] This invention principally relates to a hanger with clips.

2. Description of the Related Art

[0002] A general hanger having clips that grip garments or the like has a plastic clip (i.e., synthetic-resin-made clip), which is elastically urged in a direction in which gripping parts of clip pieces are pressed with a metallic, U-shaped spring, near each end of a hanger member held horizontally. Garments are gripped and hung with this plastic clip.

[0003] Moreover, when garments are delivered from a manufacturer to a trading company or a retail store, they are delivered in a state in which the garments are hung by a hanger. Recently, according to the Product Liability Law, metal detectors confirm that sewing needles or the like are not left in garments, and, after that, garments have been delivered. However, in a plastic clip that is elastically urged in a direction in which gripping parts of clip pieces are pressed with a metallic, U-shaped spring, this metallic spring will be detected by the metal detector.

[0004] Therefore, in order to develop a countermeasure to the metal detector, prior to the present invention, the present inventor has proposed Japanese Patent No. 2956956 in which an elastic plastic spring folded to have a "U" shape that is made of a composite material composed principally of a polycarbonate resin is attached to plastic clips, and a hanger is provided with the clips that give careful consideration to safety so that, when the plastic spring is broken, an operator can be prevented from being injured by scattered fragments thereof.

[0005] However, the hanger with clips proposed in that patent has a drawback in the fact that the main part of the hanger and the clip part thereof must be individually constructed, and a plurality of expensive molds for these parts must be constructed, and therefore initial costs rise.

[0006] Another drawback resides in the fact that the number of component parts increases because component parts of the hanger with clips are produced from a plurality of molds.

[0007] Still another drawback resides in the fact that much time is needed for assembly proportionately with an increase in the number of component parts, and manufacturing costs rise.

[0008] Still another drawback resides in the fact that, if the hanger is constructed of many component parts, manufacturing operations must be stopped when a shortage of only one of the component parts occurs.

[0009] United Kingdom Patent Specification GB2185522A discloses a unitarily-moulded garment hanger in which the garment gripping jaws (25,27) are urged by a spring (23) towards each other. In the event that the spring fractures one or more pieces of the spring will due to the construction disclosed be free to fly out of the hanger and possibly cause injury.

[0010] Japanese Patent Specification JP10033351 by the present inventor relates to a garment hanger made from resin to avoid triggering metal detectors.

SUMMARY OF THE INVENTION

[0011] The present invention has been made in consideration of the aforementioned drawbacks. It is therefore an object of the present invention to provide a hanger with clips capable of reducing initial costs by minimizing the production of expensive molds, capable of improving productivity by reducing the number of independent component parts, and capable of preventing the occurrence of an excess or a deficiency of component parts.

[0012] The present invention provides a plastics hanger (1) with clips, comprising a hook (2) provided at a center thereof and clips (4) provided respectively at opposed ends of an arm part (3) of the hanger, each clip (4) comprising a pair of clip pieces (4a, 4b), one of the pieces (4a) being formed integrally with the arm part (3) and the other piece (4b) being molded in a state of being joined to the said one piece (4a) by a joining piece (5), the clip pieces each having gripping parts (7) at one end, and being held with the gripping parts in opposed relationship and urged together by a plastic spring (6) of a 'U' shape, wherein the spring lies between the opposed walls of the clip pieces (4a, 4b) and, at the inner surfaces of arms of the spring (6) there are provided opposedhookingparts (9) each of which is engaged with a catching part (10) extending inwardly from a respective clip piece (4a, 4b), the clip pieces (4a, 4b) having at an end thereof remote from said gripping parts (7) an operating part used to open the plastic clip (4) against the urging of said spring (6), characterized in that there is provided a scatter preventing part (12) of each clip piece (4a, 4b) overlying the arms of the spring (6) to retain fragments of the spring in the clips (4) in the event that the spring fractures.

[0013] Preferably the hanger is characterized by a space provided between the wall of each clip piece and the catching part to receive an arm of the spring, such that the scatter preventing part and the catching part do not overlap in an axial direction of the clip piece.

[0014] As described above, according to the present invention, one clip piece of a clip consisting of a pair of segments formed at each of both ends of an arm part extending rightward and leftward from a hook formed at the center of a hanger is molded integrally with the arm part, and the other clip piece is molded in a state of being joined to the one clip piece, and this clip piece is attached to the clip piece molded integrally with the arm part so as to form the hanger with clips. Therefore, the arm part and the clip pieces can be molded by a pair of molds.

[0015] Therefore, advantageously, the number of expensive molds can be reduced, and initial costs thereof can be reduced.

[0016] Further, when molded, the arm part and the one

clip piece are molded integrally with each other, and the other clip piece is molded as a set in a state of being joined to the one clip piece, so that a plurality of hanger bodies can be molded by use of one surface of a mold. Therefore, advantageously, all that is needed is to meet the number of these with the number of springs, and productivity can be improved by continuous production without stopping production because of an excess or a deficiency of components.

[0017] Furthermore, advantageously, the assembly of the hanger with clips can easily and quickly be performed by causing the one clip piece molded integrally with the arm part to face the other clip piece and by providing a spring between the clip pieces. As a result, productivity is improved, and manufacturing costs can be reduced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Fig. 1 is a perspective view of a hanger with clips according to the present invention.

Fig. 2 is a perspective view of a hanger blank of the hanger with clips according to the present invention.

Fig. 3 is a side view of the hanger with clips according to the present invention.

Fig. 4 is a longitudinal side view of a clip part of the hanger with clips according to the present invention.

Fig. 5 is a longitudinal exploded side view of a clip part of the hanger with clips according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0019] A hanger with clips according to the present invention will be hereinafter described with reference to the drawings. Fig. 1 is a perspective view of the hanger with clips, in which reference numeral 1 designates the whole of the hanger.

[0020] This hanger 1 with clips includes a hook part 2 shaped like a question mark, an arm part 3 extending rightward and leftward from the lower part of the hook part 2 substantially straight, and clips 4 and 4 provided at both ends, respectively, of the arm part 3.

[0021] As shown in Fig. 2, the hook part 2, the arm part 3, and one 4a of the clip pieces of the clip 4 described later are integrally made of synthetic resin. The other clip piece 4b is disposed outside the clip piece 4a and is molded while being joined to the clip piece 4a through a thin joining piece 5.

[0022] Next, the clip 4 will be described.

[0023] This clip 4 is used to principally grip and hang garments and is made of synthetic resin so that the clip pieces 4a and 4b have almost the same shape although the clip pieces 4a and 4b differ from each other in a fulcrum 13. The clip pieces 4a and 4b as a pair are caused to face each other, and a plastic spring (i.e., synthetic-resin-made spring) 6 is attached between the clip pieces 4a and 4b.

[0024] As shown in Fig. 3, a mounting part 8 of the clip piece 4a formed integrally with an end of the arm part 3 is displaced leftward in the figure so that a center G1 of the arm part 3 coincides with a center G2 of a gripping part 7 of the clip 4 when seen from the side.

[0025] The plastic spring 6 is made of synthetic resin of a composite material composed principally of polycarbonate resin. As shown in Fig. 4 and Fig. 5, the plastic spring 6 shaped like a "U" is thick in its folded part 6a, and gradually becomes thinner as it approaches its end 6b. The plastic spring 6 has a hooking part 9 protruding like a crook on the inner surface of each end thereof.

[0026] On the other hand, as shown in Fig. 4 and Fig. 5, each of the clip pieces 4a and 4b between which the plastic spring 6 is attached includes a gripping part 7 that grips garments or the like at their lower end, a catching part 10 that catches the hooking part 9 of the plastic spring 6 substantially at its center, and an operating part 11 used to open the plastic clip 4 against the tension of the plastic spring 6 at the other end.

[0027] A scatter-preventing part 12 is provided from the operating part 11 of the clip pieces 4a and 4b to the vicinity of an end 10a of the catching part 10. A space 16 for inserting the tip of the spring 6 is formed between the end 10a of the catching part 10 and an end 12a of the scatter-preventing part 12 facing the end 10a of the catching part 10.

[0028] A fulcrum 13 formed by convex and concave parts is provided at the intermediate point between the operating part 11 and the gripping part 7. A cushion 14 made of a sponge or the like is attached to the gripping part 7 formed at the end of the clip pieces 4a and 4b.

[0029] As shown by the imaginary line of Fig. 2, the gripping part 7 may be formed with a continuous concavo-convex part 15 instead of the cushion 14, or, as shown by the alternate long and short dash line of Fig. 2, the gripping part 7 may be formed with upper and lower projections 18 differing in phase, or the gripping part 7 may be formed with interspersed protrusions not shown.

[0030] The scatter-preventing part 12 extends from the operating part of the clip pieces 4a and 4b to the vicinity of the hooking part 9 of the plastic spring 6, and, as shown in Fig. 5, a gap is provided between the end 12a of the scatter-preventing part 12 and the end 10a of the catching part 10 so that both the ends 12a and 10a do not overlap with each other in a direction Y perpendicular to a sliding direction X of molds (not shown) used to mold the clip pieces 4a and 4b.

[0031] Since interference of the molds with each other is prevented by constructing the clip pieces 4a and 4b so that the end 12a of the scatter-preventing part 12 and the end 10a of the catching part 10 do not overlap in the direction Y as mentioned above, the hook part 2, the arm part 3, and the end of the arm part 3 can be molded integrally with one clip piece 4a as shown in Fig. 2, and a hanger blank (i.e., a semi-finished hanger) 20 can be formed in a state in which the other clip piece 4b joined

to the clip piece 4a through the thin joining piece 5 is disposed outside the clip piece 4a, and therefore the hanger blank 20 can be formed merely by a pair of molds.

[0032] Further, advantageously, since a mold for molding the hanger blank 20 does not use cutting dies as can be understood from Fig. 2, a plurality of shapes for the hanger blank 20 can be formed in one surface of the mold.

[0033] In order to assemble the hanger blank 20 molded by a pair of molds as mentioned above, the other clip piece 4b joined through the joining piece 5 is first bent at the part of the joining piece 5, and the fulcrum 13 formed by a concavo-convex part is fitted to the clip piece 4a formed integrally with the arm part 3 so as to face the clip piece 4a.

[0034] Thereafter, the hooking part 9 of the plastic spring 6 is hooked on the catching part 10 of the clip pieces 4a and 4b.

[0035] As a result, assembled is the hanger 1 provided with the plastic clips 4 in which the pair of clip pieces 4a and 4b are elastically urged in directions in which end faces of the cushion 14 of the gripping part 7 are pressed against each other by the elasticity of the plastic spring 6.

[0036] The hanger 1 with clips assembled in this way can be examined through a meter-reading metal detector (not shown), for example, while garments are being gripped and hung by the gripping part 7 of the plastic clip 4, because the plastic clip 4 is entirely formed of synthetic resin even when garments or the like are gripped and hung by the gripping part 7 of the plastic clip 4.

[0037] There is a case in which the plastic spring 6 of the clip 4 is sometimes broken at its folded part when the hanger 1 with clips is used in this way, and fragments of the plastic spring 6 that have been broken are scattered as a result. However, since the scatter-preventing part 12 catches the fragments, the scatter-preventing part 12 can prevent a person from being injured in the hand or in the face by scattered fragments of the plastic spring 6.

[0038] In the aforementioned embodiment, the spring 6 is made of synthetic resin so that the hanger 1 can be examined through a meter-reading device. However, the spring 6 can, of course, be made of metal if the hanger is used only for display without being examined through the meter-reading device.

[0039] Additionally, the joining piece 5 through which the pair of clip pieces 4a and 4b are joined to each other in the aforementioned embodiment can, of course, be separated or be cut from its root when assembled.

Claims

1. A plastics hanger (1) with clips, comprising a hook (2) provided at a center thereof and clips (4) provided respectively at opposed ends of an arm part (3) of the hanger, each clip (4) comprising a pair of clip pieces (4a, 4b), one of the pieces (4a) being formed integrally with the arm part (3) and the other piece (4b) being molded in a state of being joined to the said one piece (4a) by a joining piece (5), the clip pieces each having gripping parts (7) at one end, and being held with the gripping parts in opposed relationship and urged together by a plastic spring (6) of a 'U' shape, wherein the spring lies between the opposed walls of the clip pieces (4a, 4b) and, at the inner surfaces of arms of the spring (6) there are provided opposed hooking parts (9) each of which is engaged with a catching part (10) extending inwardly from a respective clip piece (4a, 4b), the clip pieces (4a, 4b) having at an end thereof remote from said gripping parts (7) an operating part used to open the plastic clip (4) against the urging of said spring (6), **characterised in that** there is provided a scatter preventing part (12) of each clip piece (4a, 4b) overlying the arms of the spring (6) to retain fragments of the spring in the clips (4) in the event that the spring fractures.

2. A plastic hanger as claimed in claim 1 **characterised in that** a space (16) is provided between the wall of each clip piece (4a, 4b) and the catching part (10) to receive an arm of the spring, such that the scatter preventing part (12) and the catching part (10) do not overlap in an axial direction of the clip piece.

Patentansprüche

1. Kleiderbügel (1) aus Kunststoff mit Klammern, der einen Haken (2), der in einer Mitte davon vorhanden ist, und Klammern (4) aufweist, die jeweils an gegenüberliegenden Enden eines Armteils (3) des Kleiderbügels vorhanden sind, wobei jede Klammer (4) ein Paar Klammerteile (4a, 4b) aufweist, wobei eines der Teile (4a) zusammenhängend mit dem Armteil (3) gebildet wird, und wobei das andere Teil (4b) in einem Zustand geformt wird, in dem es mit dem einem Teil (4a) durch ein Verbindungsteil (5) verbunden ist, wobei die Klammerteile jeweils Greifteile (7) an einem Ende aufweisen und mit den Greifteilen in einer gegenüberliegenden Beziehung mittels einer Kunststofffeder (6) in "U"-Form gehalten und zusammengedrückt werden, worin die Feder zwischen den gegenüberliegenden Wänden der Klammerteile (4a, 4b) liegt und an den Innenflächen der Arme der Feder (6) gegenüberliegende Hakenteile (9) vorhanden sind, von denen ein jedes mit einem Fangteil (10) in Eingriff gebracht wird, das sich nach innen von einem entsprechenden Klammerteil (4a, 4b) erstreckt, wobei die Klammerteile (4a, 4b) an einem Ende davon, abgelegen von den Greifteilen (7), ein Funktionsteil aufweisen, das benutzt wird, um die Kunststoffklammer (4) gegen das Drücken der Feder (6) zu öffnen, **dadurch gekennzeichnet, dass** ein eine Streuung verhinderndes Teil (12) eines jeden Klammerteils (4a, 4b) vorhanden ist, das über den Armen der Feder (6) liegt, um Bruchstücke

der Feder in den Klammern (4) in dem Fall zurückzuhalten, dass die Feder zu Bruch geht.

2. Kleiderbügel aus Kunststoff nach Anspruch 1, **dadurch gekennzeichnet, dass** ein Zwischenraum (16) zwischen der Wand eines jeden Klammerteils (4a, 4b) und dem Fangteil (10) vorhanden ist, um einen Arm der Feder aufzunehmen, so dass sich das eine Streuung verhindernde Teil (12) und das Fangteil (10) nicht in der axialen Richtung des Klammerteils überdecken.

Revendications

1. Cintre en plastique (1) comportant des pinces, comprenant un crochet (2) agencé au niveau d'un centre correspondent et des pinces (4) agencées respectivement au niveau des extrémités opposées d'une partie de bras (3) du cintre, chaque pince (4) comprenant une paire de pièces de pince (4a, 4b), une des pièces (4a) étant formée d'une seule pièce avec la partie de bras (3) et l'autre pièce étant moulée lors de sa liaison à ladite une pièce (4a) par une pièce de jonction (5), les pièces de pince comportant chacune des parties de préhension (7) au niveau d'une extrémité et étant retenues par les parties de préhension dans une relation opposée et comprimées par un ressort plastique (6) ayant une forme en U, le ressort étant agencé entre les parois opposées des pièces de pince (4a, 4b), des parties de crochet opposées (9) étant agencées au niveau des surfaces internes des bras du ressort (6), chacune étant engagée dans une partie d'accrochage (10) s'étendant vers l'intérieur à partir d'une pièce de pince respective (4a, 4b), les pièces de pince (4a, 4b) comportant au niveau d'une extrémité éloignée desdites parties de préhension (7) une partie opérationnelle servant à ouvrir la pince plastique (4) contre la poussée dudit ressort (6), **caractérisé en qu'**une partie empêchant un éparpillement (12) de chaque pièce de pince (4a, 4b) est superposée aux bas du ressort (6) pour retenir des fragments du ressort dans les pinces (4) en cas d'une cassure du ressort.

2. Cintre en plastique selon la revendication 1, **caractérisé en ce qu'**un espace (16) est établi entre la paroi de chaque pièce de pince (4a, 4b) et la partie d'accrochage (10) pour recevoir un bras du ressort, de sorte que la partie empêchant un éparpillement (12) et la partie d'accrochage (10) ne se chevauchent pas dans une direction axiale de la pièce de pince.

Fig. 1

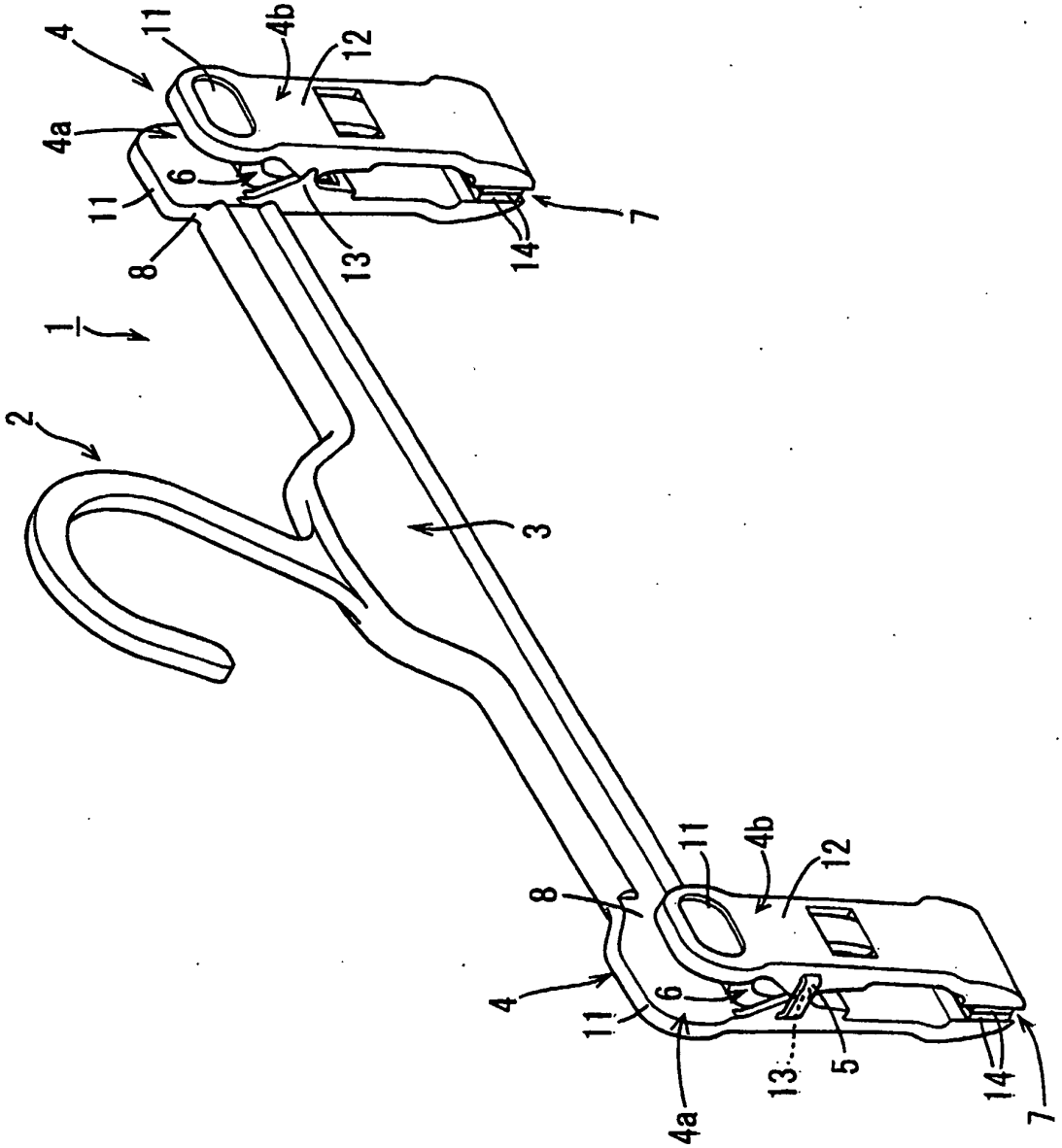


Fig.2

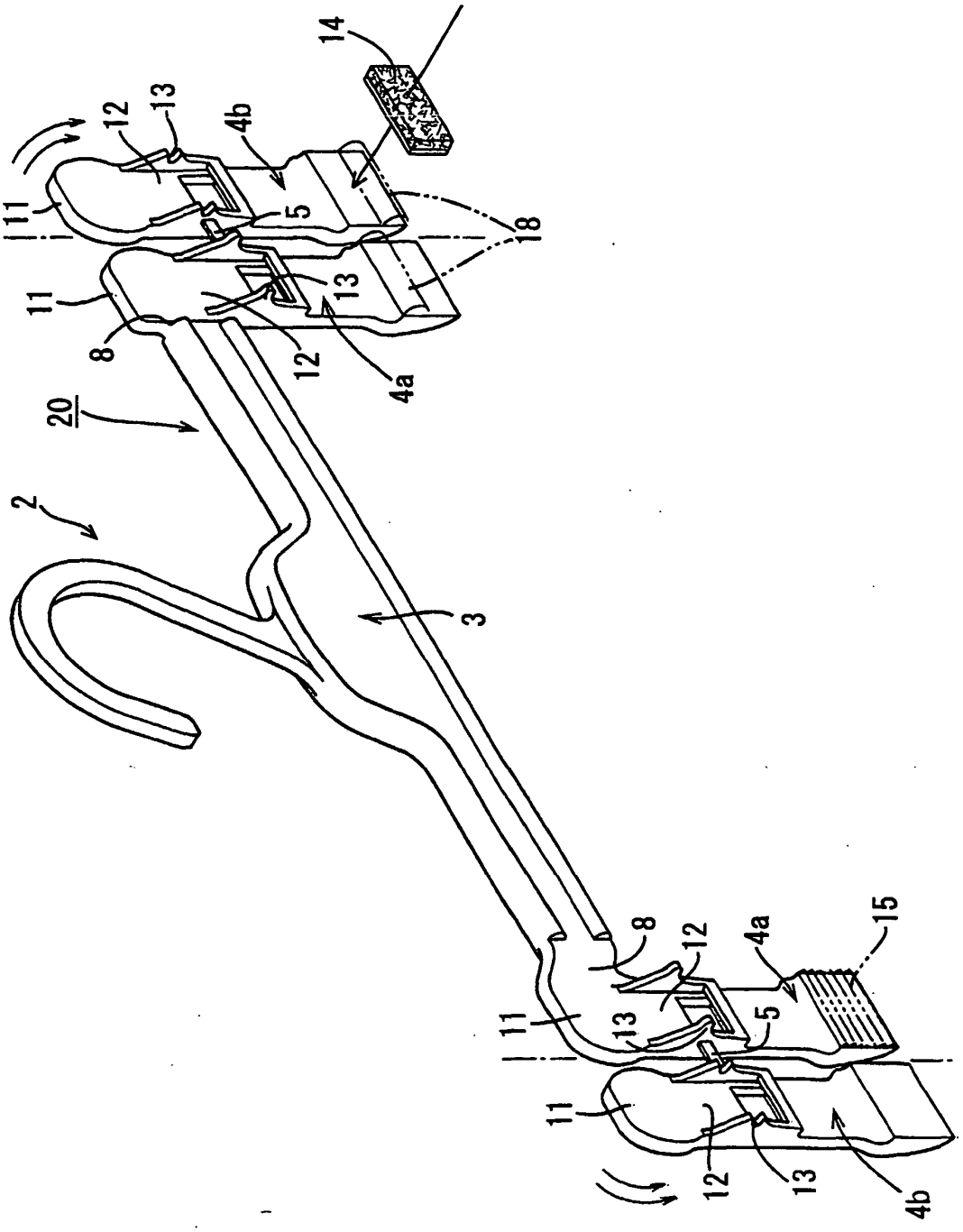


Fig. 3

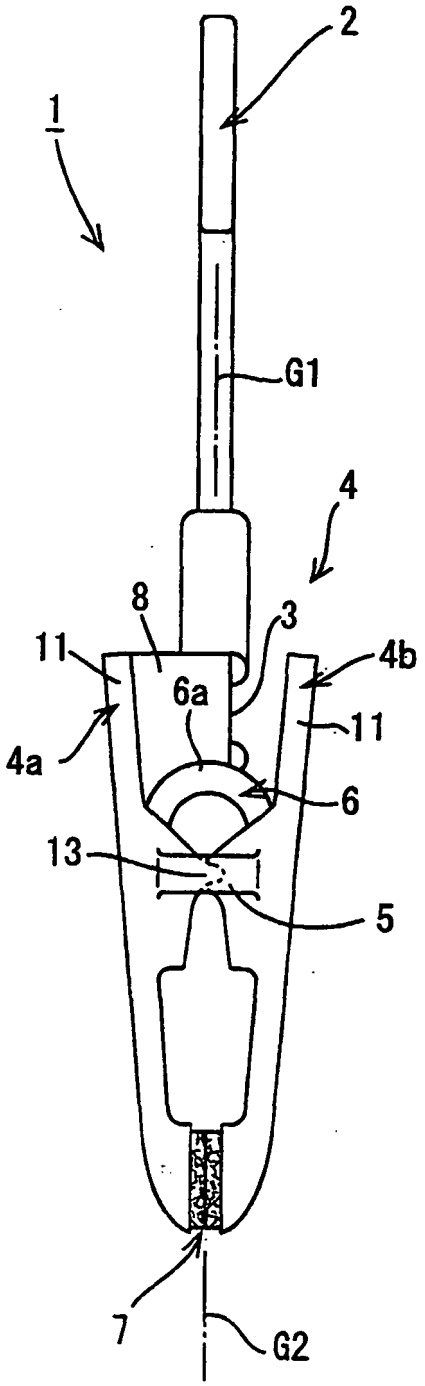


Fig. 4

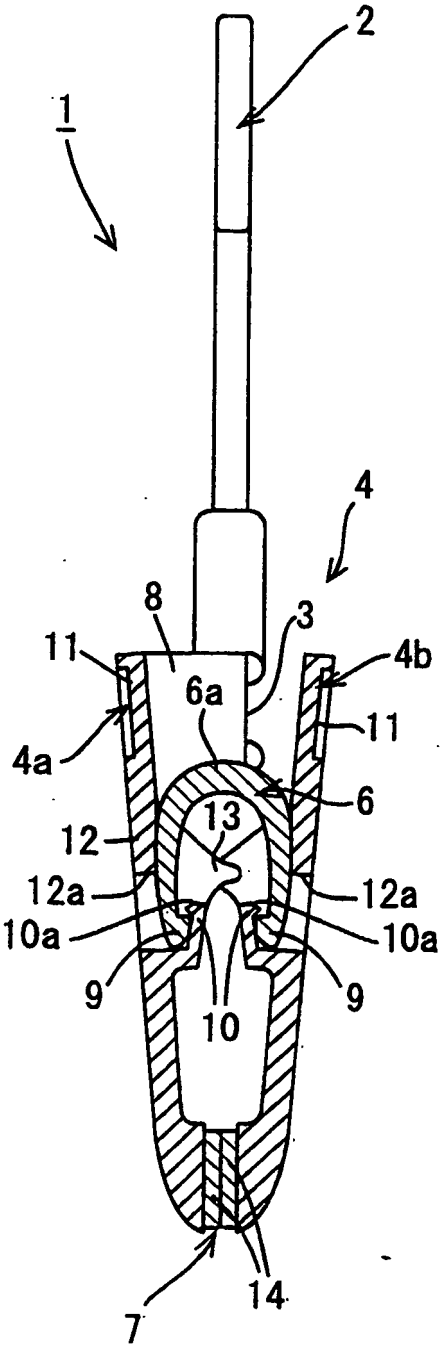
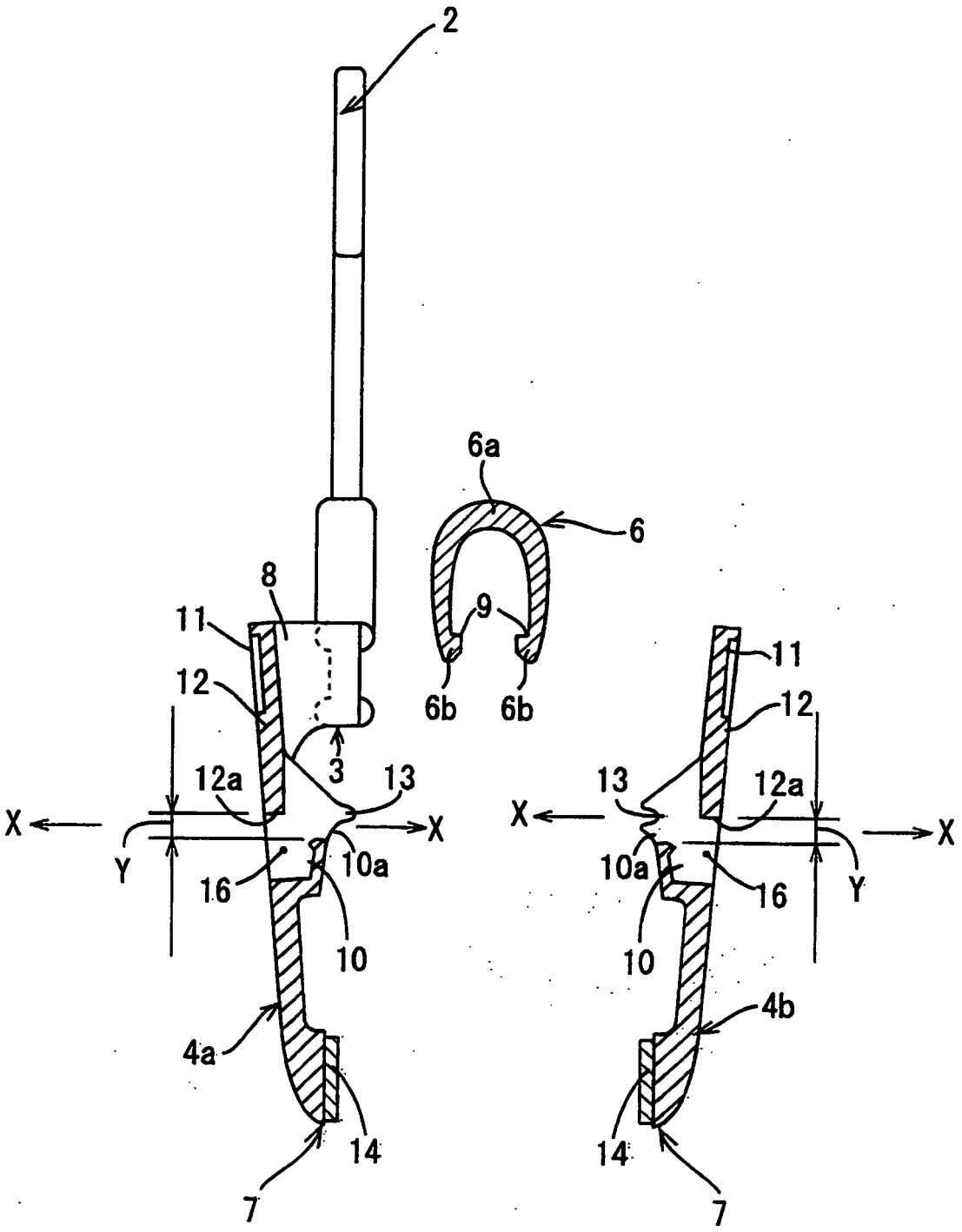


Fig. 5


2
6a
6
8
9
11
12
6b
6b
3
12a
13
X
X
Y
16
10a
10
4a
14
7
11
12
13
12a
X
X
10a
16
Y
10
4b
14
7