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(54) **Wrapping structure by overlap film**

Aus einer Folie mit sich überlappenden Rändern geformte Hülle

Emballage souple constitué d'une feuille dont les bords se chevauchent

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**Description****BACKGROUND OF THE INVENTION****Field of the Invention:**

[0001] The present invention relates to a wrapping structure comprising an overlap film for wrapping an object such as for example a tape cassette, a disk cassette and the like such that the overlap film can be opened easily, according to the preamble of claim 1.

[0002] Such a wrapping structure is known from e.g. EPA-62736

**Description of the Related Art:**

[0003] A box-shaped object to be wrapped such as, for example, a tape cassette, a disk cassette and the like is wrapped by means of an automatic wrapping machine as shown in FIG. 1.

[0004] That is, referring to FIG. 1, reference numeral 1 denotes a box-shaped object to be wrapped such as a tape cassette, a disk cassette and the like, and reference numeral 2 denotes a film roll formed by winding an overlap film made of heat shrink, thermal bonding type PP (polypropylene). From this film roll 2, a predetermined length of an overlap film 3 is cut out and the object 1 to be wrapped is wrapped in a so-called caramel wrapping style by means of the overlap film 3.

[0005] In the automatic overlapping machine, the object 1 to be wrapped is wrapped by means of the overlap film 3 and then an overlap area at ends of the overlap film is sealed by heat treatment (heat seal).

[0006] Although generally the overlap film for wrapping the object to be wrapped is conventionally provided with a cutting tape for allowing smooth opening, recently an overlap film wrapping structure which does not require this cutting tape has been proposed (e.g., Japanese Patent Laid-open Application No. 8-104360).

[0007] FIG. 2 shows an example of the wrapping structure by an overlap film which does not require this cutting film.

[0008] The overlap film 3 is a film having heat shrink, thermal bonding properties, made of PP or the like ordinarily used and is employed to wrap the box shaped object 1 to be wrapped such as a tape cassette, a disk cassette and the like in the so-called caramel wrapping style.

[0009] The overlap film 3 is heat-sealed at a portion where the ends thereof are overlapped with each other at the front of the object 1 to be wrapped (sealing portion 4 indicated by hatching) and further is heat-sealed at a portion where the ends thereof are overlapped with each other at the sides of the object 1 to be wrapped (sealing portion 5 indicated by hatching), so that the object 1 to be wrapped is wrapped in a sealed condition.

[0010] The wrapping structure of this overlap film 3, as shown in FIG. 2 and FIG. 3, has an opening mouth

portion 6 at a part of the sealing portion 4 on the front side thereof.

[0011] That is, the sealing portion 4 comprises bonding portions 4a by heat sealing and the opening mouth portion 6 formed in the center between the bonding portions 4a and has such a structure that when the overlap film is opened, the sealing portion 4 is peeled off by hooking the opening mouth portion 6 with the nail or the like at a fingertip.

[0012] The opening mouth portion 6 is formed by performing a mat print of an arrow shape on an inner surface (sealing surface) of the overlap film which overlaps on the upper side at the sealing portion 4.

[0013] That is, by performing a mat print 7 on the sealing side surface of the overlap film 3 as shown in FIG. 5, this mat print 7 portion loses heat sealing performance (although those portions which are not printed have unimpaired heat sealing performance), so that printed portion serves as a non-bonding portion.

[0014] The opening mouth portion 6 formed by the mat print is structured so as to pop-up as shown in FIG. 3 and FIG. 4 by heat shrink at the time of heat treatment. When opening the overlap film, the nail or the like at a fingertip is hooked on the popped-up opening mouth portion 6 as shown in FIG. 6 so as to peel off the sealing portion 4, so that the overlap film 3 can be removed easily.

[0015] However, in the conventional overlap film wrapping structure, because the opening mouth portion 6 is not sealed at all, it pop-up largely if it is subjected to heat shrink.

[0016] If the popping-up of the opening mouth portion 6 is so large, there is a fear that the opening mouth portion 6 may be hooked by anything so that the sealing portion 4 is peeled off unexpectedly during distribution or display on a counter and further its appearance is unaesthetic.

**SUMMARY OF THE INVENTION**

[0017] In view of the above considerations, it is an object of the present invention to provide an overlap film wrapping structure in which an opening mouth portion is appropriately peeled to solve the above problem.

[0018] According to the present invention this is achieved by providing a weak bonding portion by dot print on both sides of said opening mouth portion.

[0019] According to this structure, the opening mouth portion can be opened easily and kept to be peeled appropriately. Consequently, there is little fear that the opening mouth portion may be hooked and the sealing portion peeled out during distribution or the like, and the appearance is improved.

## BRIEF DESCRIPTION OF THE DRAWINGS

### [0020]

FIG. 1 is an explanatory view for explaining wrapping processes by an overlap film;  
 FIG. 2 is a perspective view showing a known wrapping structure by an overlap film;  
 FIG. 3 is a plan view of a major part (sealing portion) of the overlap film according to the prior art;  
 FIG. 4 is a cross-sectional view of a major part (opening mouth portion) of the overlap film according to the prior art;  
 FIG. 5 is an explanatory view for print (mat print) on the overlap film;  
 FIG. 6 is an explanatory view of opening the overlap film;  
 FIG. 7 is a perspective view showing a preferred embodiment of a wrapping structure by an overlap film according to the present invention;  
 FIG. 8 is a plan view of a major part (sealing portion) of the overlap film according to the present invention;  
 FIG. 9 is a cross-sectional view of a major part (opening mouth portion) of the overlap film according to the present invention; and  
 FIG. 10 is an explanatory view of print (mat print, dot print) on the overlap film according to the present invention.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

[0021] Hereinafter, an embodiment of the present invention will be described in detail with reference to the accompanying drawings.

[0022] FIG. 7 shows a preferred embodiment of the overlap film wrapping structure according to the present invention. A basic wrapping structure in the embodiment is the same as the above described conventional example.

[0023] An overlap film 3 is a film having heat shrink, thermal bonding properties made of PP as used ordinarily, or the like, and is employed to wrap a box-shaped object 1 to be wrapped such as a tape cassette, a disk cassette or the like in a so-called caramel wrapping style.

[0024] The overlap film 3 is heat-sealed at a portion where ends of the overlap film 3 are overlapped with each other at the front of the object 1 to be wrapped (sealing portion 4 indicated by hatching) and further is heat-sealed at a portion where side ends of the overlap film 3 are bent and overlapped with each other at the sides of the object 1 to be wrapped (sealing portion 5 indicated by hatching). Consequently, the object 1 to be wrapped is wrapped in a sealing condition.

[0025] As evident from FIGS. 7, 8, the wrapping structure by the overlap film 3 has an opening mouth portion 6 at a part of the sealing portion 4 on the front of the

object 1 to be wrapped.

[0026] That is, the sealing portion 4 has such a structure that: it comprises bonding portions 4a which are bonded by heat sealing and the opening mouth portion 6 formed in the center between the bonding portions 4a; and when the overlap film 3 is opened, the sealing portion 4 is peeled by hooking the opening mouth portion 6 with the nail or the like at a fingertip.

[0027] This opening mouth portion 6 is formed by performing a mat print in an arrow shape on an inner surface (sealing surface) of the overlap film which overlaps on the upper side at the sealing portion 4.

[0028] That is, by performing a mat print 7 on the sealing surface of the overlap film 3 as shown in FIG. 10, this mat print 7 portion loses heat sealing performance completely (although portions which are not printed retain their heat sealing performance), so that printed portion serves as a non-bonding portion.

[0029] The opening mouth portion 6 formed by mat print is structured so as to pop-up by heat shrink at the time of heat treatment. When opening this overlap film, the nail or the like at a fingertip is hooked on the popped-up opening mouth portion 6 so as to peel-off the sealing portion 4, so that the overlap film 3 can be removed easily.

[0030] Although conventionally, there has occurred such a problem as described above because the popping-up of the opening mouth portion 6 is large, according to the present invention a special formation print is made so as to keep an appropriate peeling condition of the opening mouth portion 6.

[0031] That is, in the present example as evident from FIG. 8, characters "OPEN" are printed substantially in the center of the mat print portion of the opening mouth portion 6 of the arrow shape, and this character portion is formed by dot printing.

[0032] This dot printing refers to a printing style in which print is made in a dot pattern formation using print varnish. By performing this dot printing 8 on the sealing surface of the overlap film 3 as shown in FIG. 10, the overlap film 3 is partially heat-sealed through gaps between the dots. That is, the portion of the dot print 8 has a heat sealing performance intermediate between the non printed portion and the mat printed portion (half seal).

[0033] Thus, the "OPEN" character portion formed by this dot print acts as a weak bonding portion 9 by the half seal.

[0034] Because the "OPEN" character portion of the opening mouth portion 6 is the weak bonding portion 9, the opening mouth portion 6 is kept in appropriate peeling condition without largely popping-up, as shown in FIGS. 8, 9. This is evident if it is compared with the conventional example shown in FIGS. 3, 4.

[0035] When opening this film, it can be opened easily because the weak bonding portion 9 is easily peeled by lightly hooking the opening mouth portion 6 with the nail of the finger tip end or the like.

**[0036]** Although, in this embodiment, the "OPEN" character portion is the weak bonding portion 9 by dot print, it is also permissible to form the weak bonding portion 9 by making the "OPEN" character portion as a non-printed portion (that is, the "OPEN" character portion is formed by printing it in a so-called mortise in mat print).

**[0037]** In this case, by forming the "OPEN" character portion in fine lines or in dotted lines, the weak bonding portion 9 having the same heat sealing performance as the dot print can be ensured.

**[0038]** Further, as evident from FIGS. 7, 8, in the wrapping structure of the present invention, weak bonding portions 10 are provided by dot printing on the right and left sides of the mat print portion of the arrow shape of the opening mouth portion 6 in the sealing portion 4.

**[0039]** Consequently, if the opening mouth portion 6 is hooked by the nail at the finger tip end or the like upon opening the overlap film, the weak bonding portions 10 are peeled easily, and then the bonding portions 4a are peeled continuously with this weak bonding portions 10. Thus, the overlap film can be opened more easily.

**[0040]** Further according to the preferred embodiment of the present invention, because the weak bonding portions by dot print are provided on both sides of the opening mouth portion, the opening procedure for the overlap film is further facilitated. Still further according to a preferred embodiment of the present invention, because the weak bonding portion on the opening mouth portion is formed in a character form, it is possible to recognise a position of the opening mouth portion clearly according to the characters upon opening the overlap film. Thus, it is easy to open the overlap film. Needless to say, this weak bonding portion may be formed, for example, as a graphic design or pattern such as an arrow or the like instead of the character form.

**[0041]** Having described a preferred embodiment of the present invention with reference to the accompanying drawings, it is to be understood that the present invention is not limited to the above-mentioned embodiment and that various changes and modifications can be effected therein by one skilled in the art without departing from the present invention as defined in the appended claims.

## Claims

1. A wrapping structure comprising an overlap film (3) for wrapping an object, a first end of said overlap film (3) being overlapped and head sealed with a second end of said overlap film (3) to form a sealing portion (4), said sealing portion (4) comprising a non-bonding opening mouth portion (6) formed by a mat print pattern on the inner surface of said second end which pops-up when subjected to heat shrink, said opening mouth portion (6) comprising a weak bonding portion (9) formed substantially in the center of the mat print pattern portion by dot print

or non-print, **characterised by** a weak bonding portion (10) by dot print on both sides of said opening mouth portion (6).

2. A wrapping structure according to claim 1, **characterised in that** said opening mouth portion (6) is formed in the center of the sealing portion (4) between bonding portions (4a) of the sealing portion (4).
3. A wrapping structure according to any one of claims 1 and 2, **characterised in that** said weak bonding portion (9) on said opening mouth portion (6) is a character form.
4. A wrapping structure according to any one of claims 1 to 3, **characterised in that** said opening mouth portion (6) presents an arrow shape.

## Patentansprüche

1. Hülle zum Verpacken eines Gegenstands, die eine Überlappungsfolie (3) umfasst, deren erstes Ende mit ihrem zweiten Ende überlappt und mit diesem heißgesiegelt ist, um einen Versiegelungsabschnitt (4) zu bilden, wobei dieser Versiegelungsabschnitt (4) einen durch ein Mattdruckmuster auf der Innenseite des zweiten Endes gebildeten nichthaftenden und sich beim Wärmeschrumpfen aufstellenden Öffnungsabschnitt (6) umfasst und der Öffnungsabschnitt (6) einen schwach haftenden Abschnitt (9), der durch Punktdrucken oder Nichtbedrucken im Wesentlichen in der Mitte des Mattdruckmusterabschnitts gebildet ist, umfasst, **gekennzeichnet durch** einen beiderseits des Öffnungsabschnitts (6) **durch** Punktdrucken gebildeten schwach haftenden Abschnitt (10).
2. Hülle nach Anspruch 1, **dadurch gekennzeichnet, dass** der Öffnungsabschnitt (6) in der Mitte des Versiegelungsabschnitts (4) zwischen haftenden Abschnitten (4a) des Versiegelungsabschnitts (4) gebildet ist.
3. Hülle nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der schwach haftende Abschnitt (9) des Öffnungsabschnitts (6) die Form von Zeichen hat.
4. Hülle nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** der Öffnungsabschnitt (6) pfeilförmig ist.

## Revendications

1. Structure d'emballage comprenant une pellicule (3)

à chevauchement, qui sert à emballer un objet, une première extrémité de ladite pellicule à chevauchement (3) se chevauchant avec une deuxième extrémité de ladite pellicule à chevauchement (3) et étant thermiquement scellée à cette deuxième extrémité afin de former une partie de scellement (4), ladite partie de scellement (4) comprenant une partie orifice d'ouverture non soudée (6) formée par un motif d'impression mat sur la surface interne de ladite deuxième extrémité qui fait saillie vers le haut lorsqu'on la soumet à un thermorétrécissement, ladite partie orifice d'ouverture (6) comprenant une partie de soudage faible (9) formée sensiblement au centre de la partie motif d'impression mat par impression de points ou par non-impression, **caractérisée par** une partie de soudage faible (10) par impression de points des deux côtés de la partie orifice d'ouverture (6).

2. Structure d'emballage selon la revendication 1, **caractérisée en ce que** ladite partie orifice d'ouverture (6) est formée au centre de la partie de scellement (4) entre les parties de soudage (4a) de la partie de scellement (4).
3. Structure d'emballage selon la revendication 1 ou 2, **caractérisée en ce que** la partie de soudage faible (9) se trouvant sur la partie orifice d'ouverture (6) présente la forme de caractères.
4. Structure d'emballage selon la revendication 1, 2 ou 3, **caractérisée en ce que** ladite partie orifice d'ouverture (6) présente la forme d'une flèche.

FIG. 1

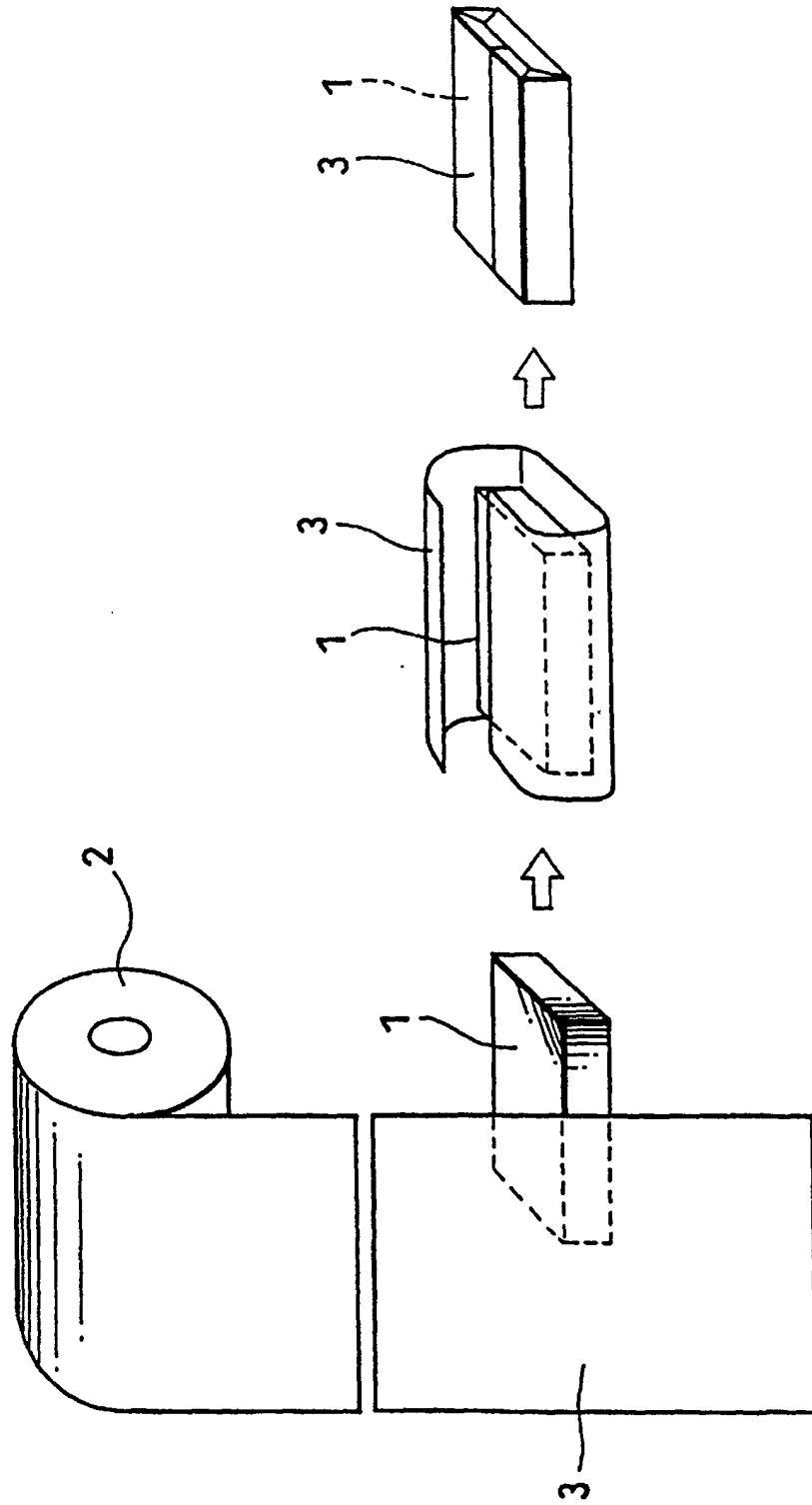


FIG. 2

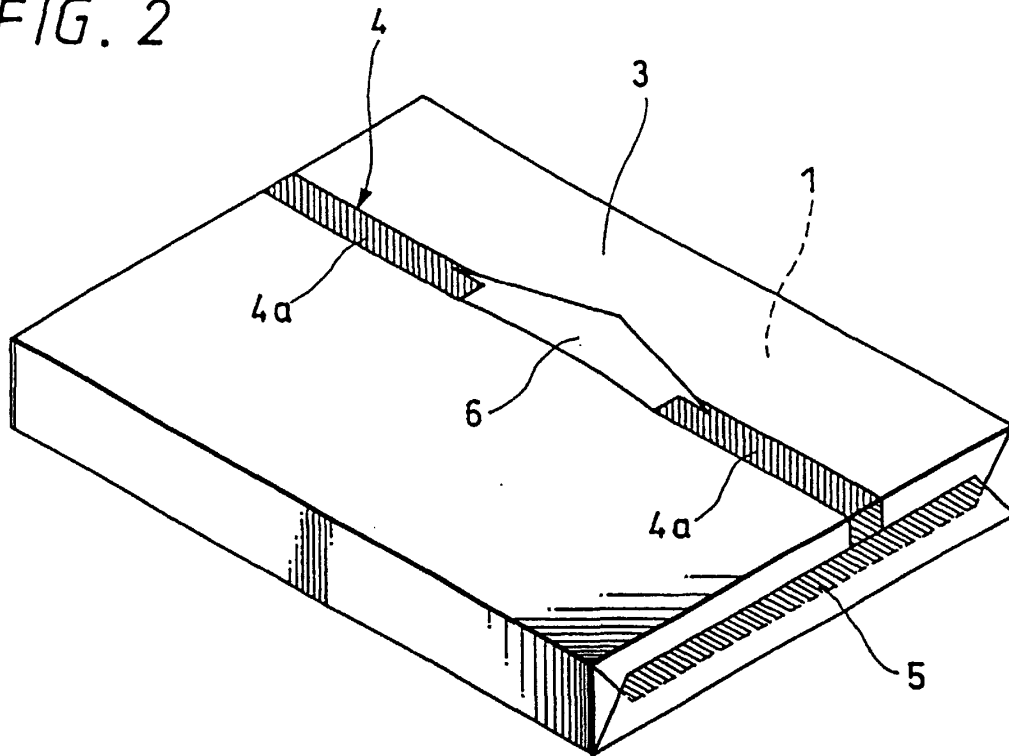


FIG. 3

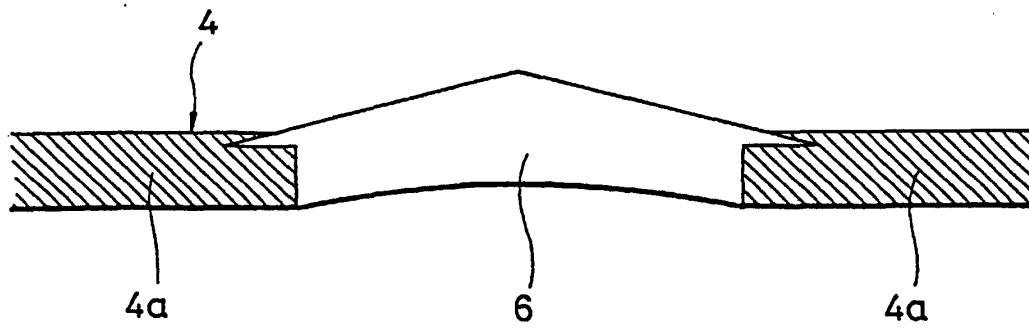


FIG. 4

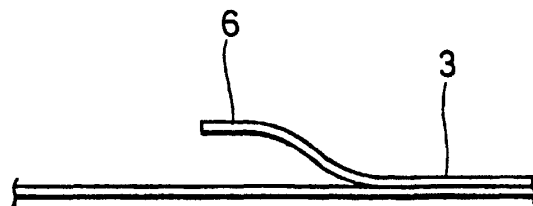


FIG. 5

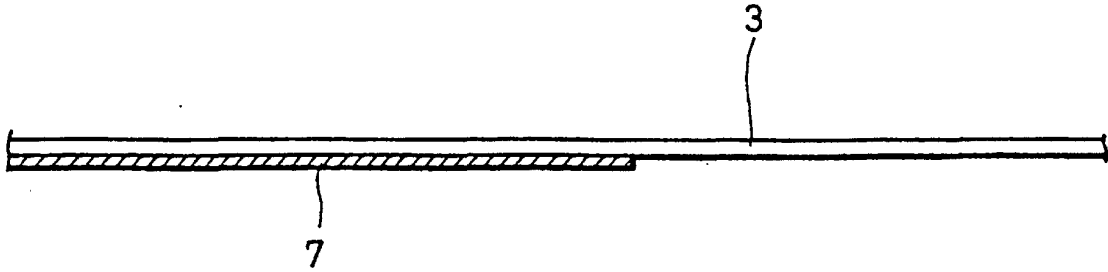


FIG. 6

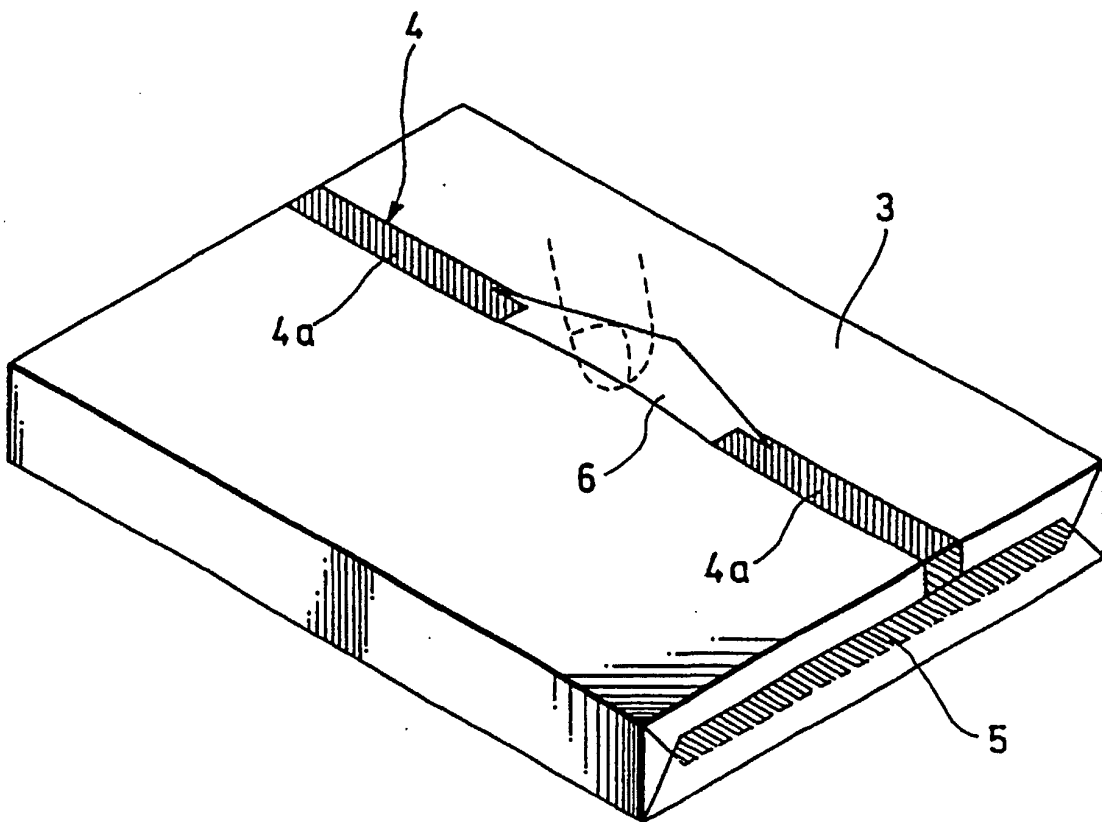


FIG. 7

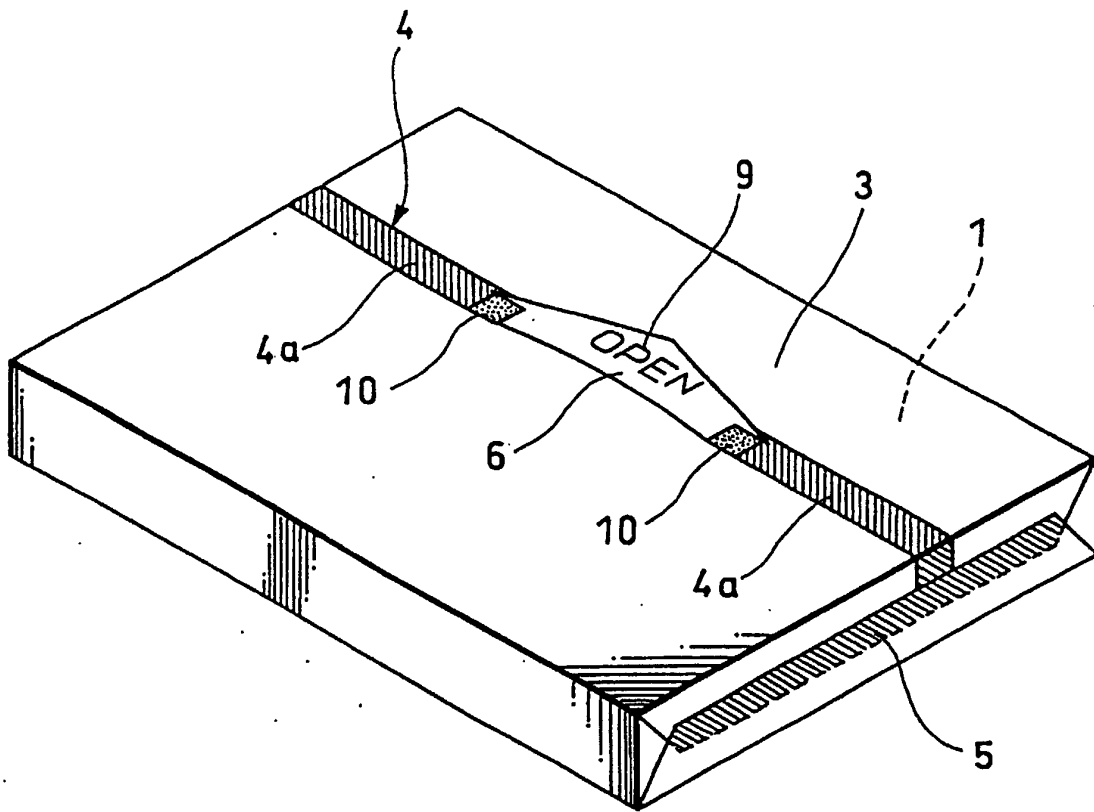


FIG. 8

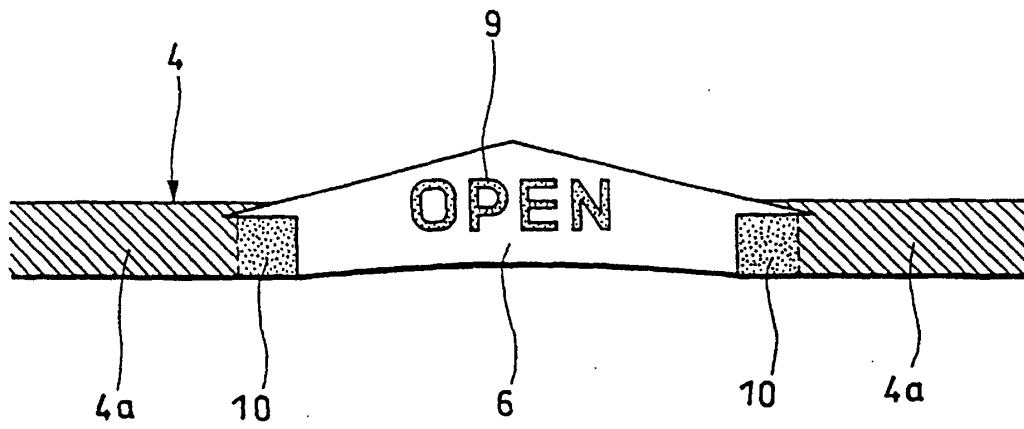


FIG. 9

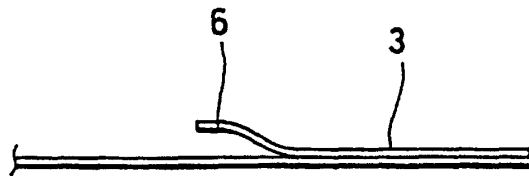


FIG. 10

