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(54) A stack of packaging sleeves

(57) The invention relates to a packaging block (1), comprising a plurality of superposed packaging modules (2). A packaging module (2) comprises two superposed film parts (4a,4b) which are attached to each other at two substantially opposite side edges (3a,3b) via sealed seams to form a packaging sleeve (4) for packaging plant and/or flower products. Further, the packaging module comprises an attachment strip (6) connected via a separation line (5) with an attachment side (9) of the packaging sleeve, for mutually attaching the packaging modules. The packaging modules are also mutually attached to each other via a point of support (10a,10b) that is situated on the attachment side (9) of the packaging sleeve (4) near the separation line (5).

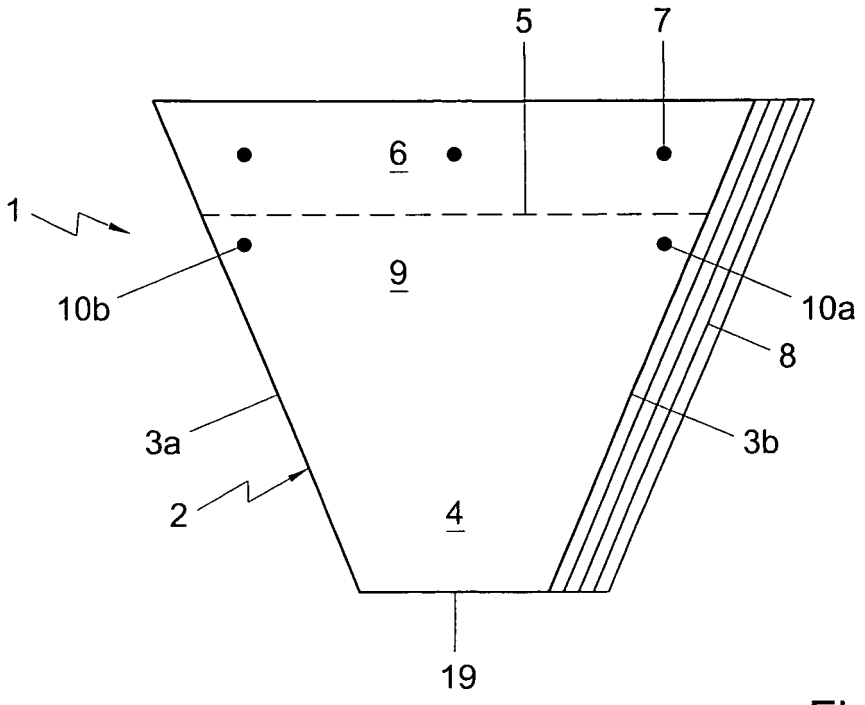

Fig. 1

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Description

[0001] This invention relates to a packaging block, comprising a plurality of superposed packaging modules, wherein a packaging module comprises two superposed film parts which are attached to each other at two substantially opposite side edges via sealed seams to form a packaging sleeve for packaging plant and/or flower products, and wherein the packaging module comprises an attachment strip connected via a separation line with an attachment side of the packaging sleeve, for mutually attaching the packaging modules.

[0002] Such a packaging block is for instance known from European patent publication EP 0 641 645. By attaching the two superposed film parts to each other at two substantially opposite side edges via sealed seams, a packaging sleeve is obtained which on at least one other side can be opened at an opening edge for taking up plant and/or flower products. The whole of a packaging sleeve and an attachment strip connected via the separation line to the attachment side forms the packaging module. Further, the attachment strips of a plurality of packaging modules are mutually attached, so that a packaging block is formed from which the packaging sleeves can be torn off one by one.

[0003] In practice, it has been found that tearing off a packaging sleeve does not always lead to an esthetically shaped sleeve. Thus, a portion of the attachment strip may be torn as well, so that the sleeve comprises unwanted parts that do not embellish the whole in any way. Also, a portion of the packaging sleeve may be left on the block. Certainly in the professional use of the packaging block, where the esthetic effect of a packaging sleeve with a plant or flower product is of commercial importance, tearing loose may be accompanied by quick, routine operations, so that the chance of a deformed torn-loose packaging sleeve is considerable.

[0004] The object of the invention is to obtain a packaging block where these disadvantages are obviated while maintaining the advantages. In particular, the object of the invention is to obtain a packaging block that involves a lesser chance that during tearing off of a packaging sleeve a deformed sleeve is obtained. According to the invention, furthermore, the packaging modules are also mutually attached to each other via a point of support that is situated on the attachment side of the packaging sleeve near the separation line.

[0005] By also attaching the packaging modules to each other mutually via a point of support that is situated on the attachment side of the packaging sleeve near the separation line, a packaging block is obtained where it can be predicted better at what location of the packaging module tearing will occur upon tearing off the packaging sleeve, so that the freedom of design of the packaging module is augmented. The point is that the occurring tensile forces concentrate substantially at the point of support. In this way, the chance of obtaining a torn-off sleeve with an undesired shape can be reduced.

[0006] Preferably, the point of support is situated near a side edge of the packaging sleeve, so that unwanted tearing adjacent the side edge, where the chance of unwanted tear profiles due to tensile forces can be highest, can be prevented.

[0007] In an especially advantageous embodiment, the packaging module is furthermore provided with an additional separation line which extends at least partly from the packaging sleeve to a point near the separation line, the point of support being situated between the separation line and the additional separation line. With the aid of the additional separation line, tear formation can be assessed in advance still better, so that the design of the packaging module can be tailored accordingly. The point is that by the presence of the point of support between the separation line and the additional separation line, the tensile forces that occur upon tearing-off of the sleeve concentrate substantially along the additional separation line and the separation line linking up with it, so that the attachment strip and the part of the packaging sleeve between the separation line and the additional separation line remain behind on the packaging block. This reduces the chance that the packaging sleeve during tearing-off obtains an unwanted shape. The opening edge of the packaging sleeve is thus formed along the additional separation line and the separation line linking up with it. Moreover, by realizing an additional separation line, an esthetically attractive opening edge, formed as an ornamental edge, can be obtained, having a profile that differs from the separation line without adversely affecting the chance of a packaging sleeve with an unwanted shape.

[0008] Advantageously, the additional separation line can at least partly extend from a side edge of the packaging sleeve, so that unwanted tear formation is avoided still more, since the initial tensile force upon tearing is typically oriented transversely to the side edge of the packaging sleeve. It is also possible, however, to position the point of support further away from the side edge. Here, the additional separation line can for instance undercut a part of the packaging sleeve contiguous to the separation line, so that a part of the packaging sleeve contiguous to the separation line is substantially surrounded by the additional separation line and the adjacent separation line. After tearing off of the packaging sleeve, the above-described contiguous part of the packaging sleeve is left behind as a projection on the attachment strip. The cutout on the attachment side of the packaging sleeve gives the sleeve a specific cachet. With the aid of the point of support according to the invention, it is possible to realize such cutouts in the opening edge of the packaging sleeve without adversely affecting the chance of torn-loose sleeves with an unwanted shape.

[0009] If the packaging module is only provided with the additional separation line extending from the packaging sleeve to a point near the separation line, without the point of support between the separation line and the additional separation line, the chance of obtaining a pack-

aging sleeve with an unwanted shape augments, since the part of the packaging sleeve between the additional separation line and the separation line can then be easily entrained along with the packaging sleeve.

[0010] It is noted, however, that for obtaining a specific esthetic effect on the packaging sleeve an additional separation line which undercuts a part of the packaging sleeve contiguous to the separation line can not only be used with advantage in combination with a point of support, but can also be used more generally on a packaging block, comprising a plurality of superposed packaging modules, wherein a packaging module comprises two superposed film parts which are attached to each other at two substantially opposite side edges via sealed seams to form a packaging sleeve for packaging plant and/or flower products, and wherein the packaging module comprises an attachment strip connected via a separation line with an attachment side of the packaging sleeve, for mutually attaching the packaging modules .

[0011] Advantageously, the additional separation line can extend at least partly into the attachment strip, so that tolerance requirements regarding the positioning of the die-cut cut with respect to the separation line can be stretched without adversely affecting the transition between the separation line and additional separation line.

[0012] Preferably, the separation line is designed as a perforated line, so that a profile that is easy to realize can be realized, along which the packaging sleeve can be torn off. Naturally, the separation line can also be designed as a different profile, where the material is locally weakened, for instance by thinning the film material or specific orientations of molecular structures in the material, so that tearing at the desired position is promoted.

[0013] By having the realization of the separation line on the packaging module take place substantially simultaneously with the mutual attachment of the film parts, extra time required for realizing the separation line can be advantageously saved.

[0014] More preferably, the additional separation line comprises an at least partly interrupted die-cut line, so that a well-defined break line can be obtained relatively fast. Naturally, the additional separation line can also be provided in a different manner, for instance with the aid of a perforating wheel. By carrying out the realization of the additional separation line after the packaging modules have been superposed, the additional separation line can be provided fast and simultaneously, and hence well aligned, on all packaging modules of the block or a large number of packaging modules thereof. It is also possible, however, to carry out the provision of the additional separation line at a different time, for instance during the formation of the seams of the side edges, also referred to as 'sealing'. What is thus achieved is that the provision of the additional separation line advantageously does not require any extra production time.

[0015] Preferably, the additional separation line is at least partly interrupted, so that the packaging sleeve prior to tearing off is supported along a large part of the opening edge, which prevents warp and folding. Naturally, it is also possible to make the additional separation line of uninterrupted or at least partly uninterrupted design, so that unwanted tear formation adjacent the additional separation line is reduced to a far-reaching extent.

[0016] The invention also relates to a packaging sleeve.

[0017] The invention further relates to a method for manufacturing a packaging block.

[0018] Further advantageous embodiments of the invention are represented in the subclaims.

[0019] The invention will be further elucidated on the basis of exemplary embodiments represented in the drawing. In the drawing:

Fig. 1 shows a schematic view of a first exemplary embodiment of a packaging block according to the invention;
Fig. 2 shows a schematic perspective view of a packaging module of the packaging block of Fig. 1;
Fig. 3 shows a view of a second exemplary embodiment of a packaging block according to the invention;
Fig. 4 shows a schematic view of the packaging module of Fig. 3 in which a pot plant has been accommodated;
Fig. 5 shows a view of a third exemplary embodiment of a packaging block according to the invention;
Fig. 6 shows a view of a fourth exemplary embodiment of a packaging block according to the invention;
Fig. 7 shows a view of a fifth exemplary embodiment of a packaging block according to the invention; and
Fig. 8 shows a view of film webs.

[0020] The figures are only schematic representations of the invention and are given exclusively by way of non-limiting exemplary embodiments.

[0021] Figure 1 shows a schematic view of a first exemplary embodiment of a packaging block 1 according to the invention. The packaging block 1 has a plurality of superposed packaging modules 2. The packaging modules 2 are built up from two superposed film parts which are attached to each other at two substantially opposite side edges 3a, 3b via sealed seams, as will be elucidated in more detail hereinafter. The packaging module 2 comprises an attachment strip 6 which is connected via a separation line, designed as a perforated line 5, with an attachment side 9 of a packaging sleeve 4 of the packaging module 2. The attachment strip 6 of packaging module 2 is attached to attachment strips of subjacent packaging modules 8 with the aid of points of support, designed as sealed eyes 7, for forming the packaging block 1. Situated opposite the attachment side 9 of the packaging sleeve 4 is a free side 19 of the packaging sleeve.

[0022] By tearing the packaging sleeve 4 off the packaging block 1, a loose sleeve 4 is obtained which can serve as package of plant and/or flower products. Plant

and/or flower products are understood to mean all kinds of plants and/or flowers, such as pot plants, flower bouquets and the like.

[0023] According to the invention, the packaging module 2 is provided with points of support, designed as sealed eyes 10a, 10b, which are provided on the attachment side 9 of the packaging sleeve 4 near the separation line 5 and attach the packaging module 2 extra firmly to the subjacent packaging modules 8. Apart from the extra stiff structure which the packaging block 1 thereby obtains, the provision of the sealed eyes 10a, 10b on the attachment side 9 of the packaging sleeve 4 moreover has the advantage that during tearing loose of the sleeve 4, the perforated line 5 can be easily followed, since the tear provided opens near one of the two sealed eyes 10a, 10b. The occurrence of unwanted tears, for instance near the sealed eyes on the attachment strip 6, is thereby prevented, so that the chance of obtaining a packaging sleeve 4 having a desired shape increases compared with known packaging blocks where no extra sealed eyes 10a, 10b are provided on the attachment side of the packaging sleeves. As will be shown with reference to the other embodiments, in addition to the separation line designed as a perforated line 5, an additional separation line can be used.

[0024] Fig. 2 shows a schematic perspective view of a packaging module 2 of the packaging block 1 from Fig. 1. The bottom film part 4a is attached via the perforated edge 5 to the attachment strip 6. As shown, the top film part 4b is connected via a further additional separation line, likewise designed as a perforated line 11, with an additional attachment strip 12, so that the packaging sleeve 4 is extra firmly attached to the packaging block 1. The packaging module 2, however, can also be designed without additional attachment strip 12, in which case, advantageously, the packaging sleeve 4 can already be opened relatively easily when the sleeve 4 is still attached to the block 1. The user can thus place a plant and/or flower product in the sleeve 4 before the sleeve 4 is torn off the block 1.

[0025] Fig. 8 illustrates how the packaging modules 2 can be manufactured. A top film web 13a is laid over a bottom film web 13b, with the longitudinal axes of the two film webs 13a, 13b substantially coinciding. The top film web 13a is narrower than the bottom film web 13b and is situated approximately in the middle of the wider bottom film web 13a. By means of sealed seams, the opposite side edges 3a, 3b of a packaging module 2 are formed. Thus, the film parts 4a, 4b of the film webs 13a, 13b situated between the sealed seams constitute the packaging module 2. Naturally, the side edges 3a, 3b can also be formed in a different manner, for instance with an adhesive technique. Simultaneously, a perforating wheel provides the perforated line 5 on the bottom film web 13b, so that a packaging module 2 with an attachment strip 6 is formed by a quasi-continuous process. During the manufacture of the packaging modules, the film webs 13 are moved in a longitudinal direction thereof. At the moment when the side edges 3a, 3b are provided, the movement is temporarily interrupted, so that sealed seams can be realized. Side strips 14a, 14b of the attachment strip 6 can be cut loose, for instance, by means of a die-cut operation. Further, also the single strip 15 can be cut loose from the free side 19 of the packaging sleeve, which is preferably done likewise with a die-cut operation, so that a clean, taut edge 19a, 19b on the free side 19 is obtained. For applications with relatively long bouquets, an open free side of the sleeve is attractive, since the stems of the bouquet can then reach through the free side 19 out of the sleeve 4. Naturally, it is also possible to close the free side 19 of the sleeve, for instance with an additional sealed seam, to package relatively small bouquets or plants.

[0026] The material of the film webs 13a, 13b is preferably a flexible packaging material, such as a plastic, film, paper and the like, or combinations of such materials. The packaging material can further be made of transparent design. Naturally, also other materials are usable. In addition, the packaging material may be provided with a printing, for instance the logo of the manufacturer or a (pattern) design.

[0027] In the exemplary embodiment shown, the side edges 3a, 3b substantially taper, so that the film material can be optimally utilized. Adjacent packaging modules 2 in the film webs 13a, 13b are then in inverted orientation with respect to each other. Naturally, the side edges 3a, 3b can also substantially taper in a different manner, for instance by way of a funnel shape. By making the side edges not of substantially tapering design but, for instance, of a circular segment shape, esthetically attractively shaped packaging sleeves can be manufactured.

[0028] After the manufacture of the separate packaging modules 2, the modules 2 are placed onto each other, sometimes referred to as collating, preferably aligned or oriented relative to each other with a predetermined angular displacement, and attached to each other by means of sealed seams in the attachment strips 6 and in the attachment side 9 of the packaging sleeves 4, thereby yielding the package block 1. A sealed seam is formed by driving a hollow needle brought to a high temperature, through the film material. Adjacent the circumference of the hollow needle, the film material singes together. The opening provided by the needle can for instance be utilized to string the packaging block 1 on a pin-shaped holder. Instead of sealed seams, other types of supports can be realized, such as a clamping element or a staple.

[0029] Fig. 3 shows a second embodiment of a packaging block 1 according to the invention, in which two additional separation lines 15a, 15b have been provided, which extend at least partly from the packaging sleeve 4 to a point near the separation line 5, such that the additional separation line extends at least partly from a side edge 3a, 3b of the packaging sleeve 4 into the attachment strip 6. The sealed eyes 10a, 10b are situated between the perforation line 5 and the additional separation line 15a, 15b. The additional separation line is at least partly

interrupted, so that the sleeve 4 prior to tearing off is also supported by the block 1 via the additional separation line. Upon tearing off of the sleeve 4, an upper edge of the sleeve 4 is obtained, which is formed by a part of the two additional separation lines 15a, 15b and the separation line 5 situated between them.

[0030] Fig. 4 shows a packaging module of the packaging block from Fig. 3, where a pot plant 16 has been included in the sleeve 4.

[0031] Figs. 5 and 6 shows a third and fourth embodiment of a packaging block 1, in which the additional separation lines 15a, 15b likewise extend from the side edges 3a, 3b into the attachment strip 6, however, the shape is not a segment of an arc, as in the second exemplary embodiment, see Figs. 3 and 4, but respectively comprises a straight and an ornamental profile. Naturally, also other profiles are conceivable. Furthermore, the additional separation lines 15a, 15b can also extend to other parts of the packaging module 2, for instance as far as a sealed eye 7 in the attachment strip 6.

[0032] Fig. 7 shows a fifth embodiment of a packaging block 1 according to the invention, in which a third additional separation line 15c is provided which undercuts a part 16 of the packaging sleeve 4 contiguous to the perforated line 5. By virtue of the third additional separation line 15c an extra ornament is formed in the opening edge of the sleeve 4. Upon tearing off of the sleeve 4, the part 16 contiguous to the perforated line 5 is left as a projection 16 on the attachment strip 6. Preferably, the projection 16 is provided with a sealed eye, so that unwanted tearing off of the projection 16 is prevented.

[0033] The invention is not limited to the exemplary embodiment described here. Many variants are possible.

[0034] For instance, the attachment side of the packaging sleeve can comprise the sleeve's wider side extending between the side edges, as shown in the figures. It is also possible, however, to manufacture the sleeve such that the attachment side is the narrower side extending between the side edges. The attachment strip is then connected with the narrower side of the sleeve, so that the separation line is relatively short and tearing off of the packaging sleeve likewise takes place over a relatively short distance. The additional separation line can then generate specific edges on the narrow side of the sleeve.

[0035] Such variants will readily occur to those skilled in the art and are understood to fall within the scope of the invention, as set forth in the appended claims.

Claims

1. A packaging block, comprising a plurality of superposed packaging modules, wherein a packaging module comprises two superposed film parts which are attached to each other at two substantially opposite side edges via sealed seams to form a packaging sleeve for packaging plant and/or flower products, and wherein the packaging module comprises an attachment strip connected via a separation line with an attachment side of the packaging sleeve, for mutually attaching the packaging modules, wherein furthermore the packaging modules are also mutually attached to each other via a point of support that is situated on the attachment side of the packaging sleeve near the separation line.

2. A packaging block according to claim 1, wherein the point of support is situated near a side edge of the packaging sleeve.

3. A packaging block according to claim 1 and/or 2, wherein the packaging module is furthermore provided with an additional separation line which extends at least partly from the packaging sleeve to a point near the separation line, and wherein the point of support is situated between the separation line and the additional separation line.

4. A packaging block according to any one of the preceding claims, wherein the additional separation line extends at least partly from a side edge of the packaging sleeve.

5. A packaging block according to any one of the preceding claims, wherein the additional separation line undercuts a part of the packaging sleeve contiguous to the separation line.

6. A packaging block according to any one of the preceding claims, wherein the additional separation line extends at least partly into the attachment strip.

7. A packaging block according to any one of the preceding claims, wherein the separation line is designed as a perforated line.

8. A packaging block according to any one of the preceding claims, wherein the additional separation line comprises an at least partly interrupted die-cut line.

9. A packaging block according to any one of the preceding claims, wherein the point of support comprises a sealed eye.

10. A packaging block according to any one of the preceding claims, wherein the attachment strip comprises at least one point of support.

11. A packaging block according to any one of the preceding claims, wherein the attachment strip is connected via the separation line with a first film part and wherein the packaging module furthermore comprises an additional attachment strip which is connected via a further additional separation line with a second film part of the packaging sleeve.

12. A packaging block according to any one of the preceding claims, wherein the side edges of the packaging sleeve substantially taper.

13. A packaging block according to any one of the preceding claims, wherein the attachment side of the packaging sleeve comprises the packaging sleeve's wider side extending between the side edges.

14. A packaging block according to any one of the preceding claims, wherein the free side of the packaging sleeve, opposite to the attachment side, comprises a die-cut edge.

15. A packaging sleeve for packaging plant and/or flower products, comprising two superposed film parts which are attached to each other at two substantially opposite side edges via sealed seams, the packaging sleeve having been torn off a packaging block according to claim 1.

16. A method for manufacturing a packaging block, comprising the steps of

- superposing two film parts onto each other;
- attaching the two film parts to each other at two substantially opposite side edges via sealed seams so as to form a packaging module;
- providing a separation line on the packaging module for forming a packaging sleeve for packaging plant and flower products and for forming an attachment strip which is connected via the separation line with an attachment side of the packaging sleeve;
- superposing a plurality of packaging modules onto each other;
- mutually attaching the attachment strips of the packaging modules; and
- mutually attaching the packaging modules also via a point of support which is situated on the attachment side of the packaging sleeve near the separation line.

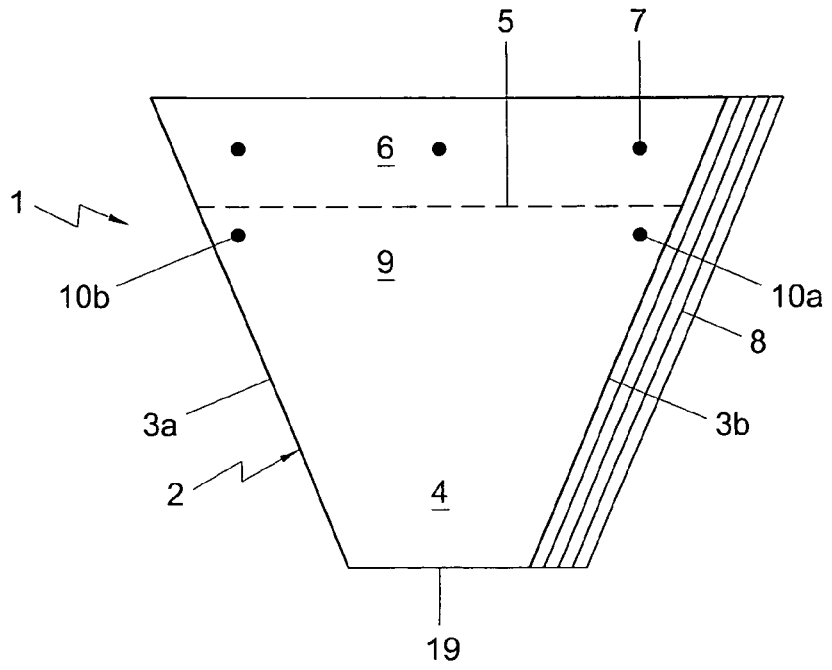
17. A method according to claim 16, further comprising the step of providing an additional separation line which extends at least partly from the packaging sleeve to a point near the separation line, wherein the point of support is situated between the separation line and the additional separation line.

18. A method according to claim 17, wherein the provision of the additional separation line takes place after superposing the plurality of packaging modules onto each other.

19. A method according to any one of claims 16-18, wherein the provision of an additional separation line comprises a die-cutting operation.

20. A method according to any one of claims 16-19, wherein the attachment of the film parts to each other takes place substantially simultaneously with the provision of the separation line on the packaging module.

21. A method according to any one of claims 16-20, further comprising the provision of a die-cut edge on a free side of the packaging sleeve, situated opposite to the attachment side.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3a
3b
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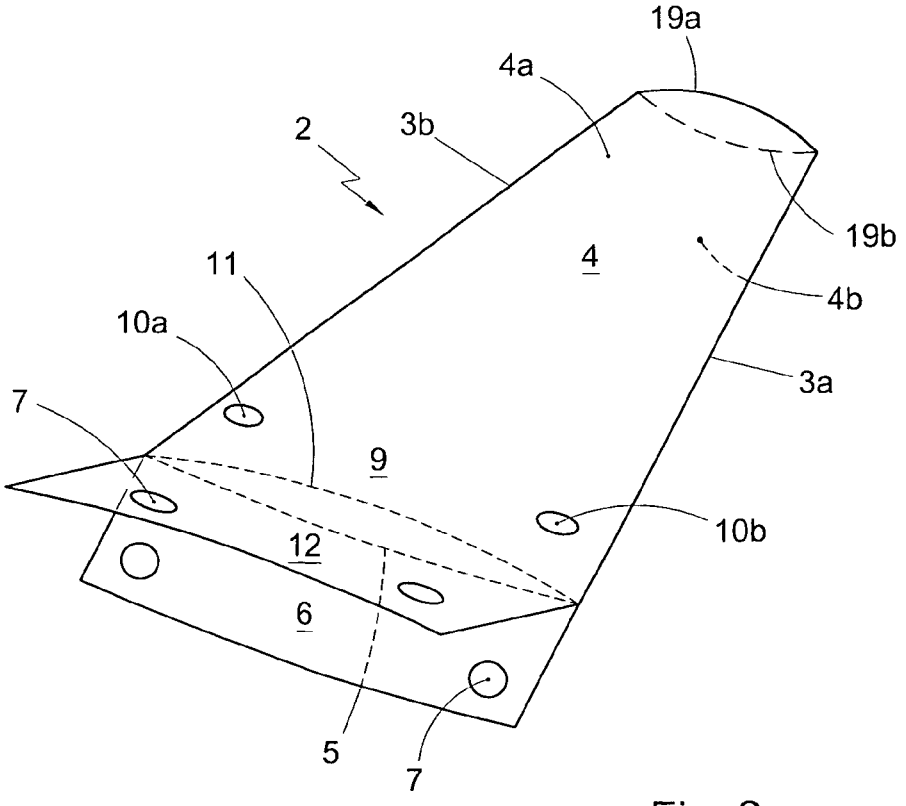
Fig. 1


19a
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19b
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Fig. 2

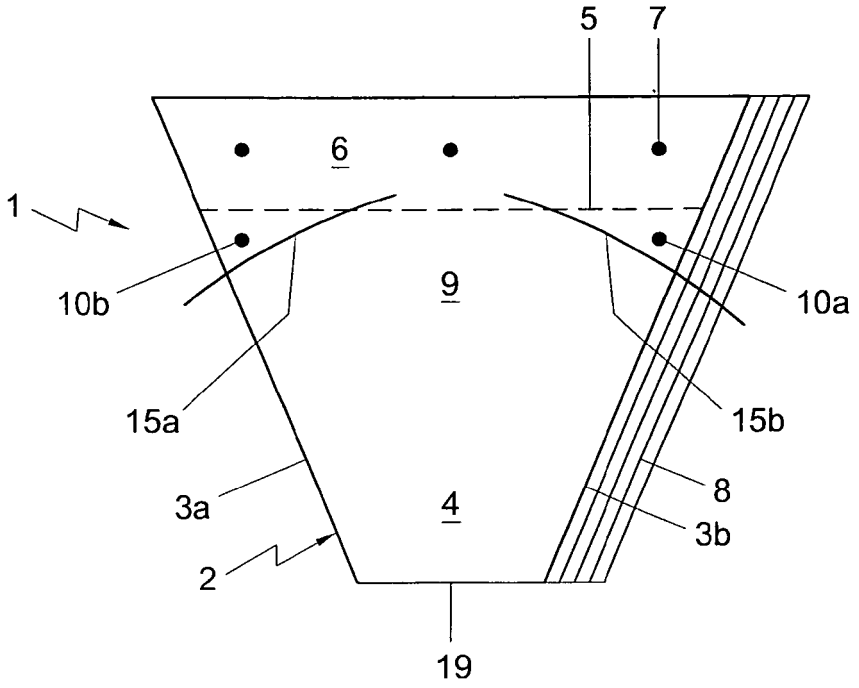
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Fig. 3

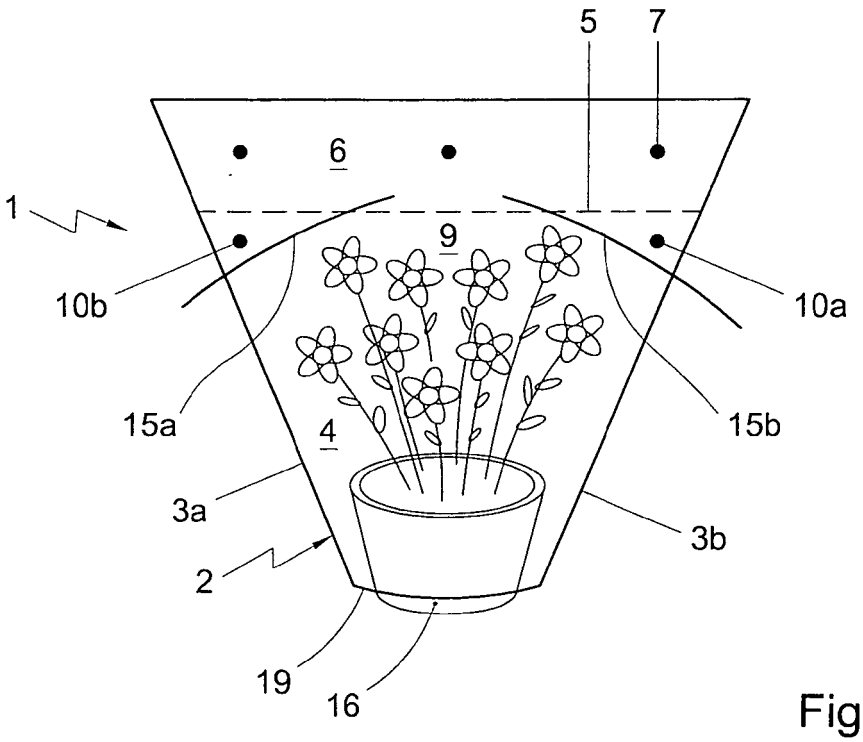
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Fig. 4

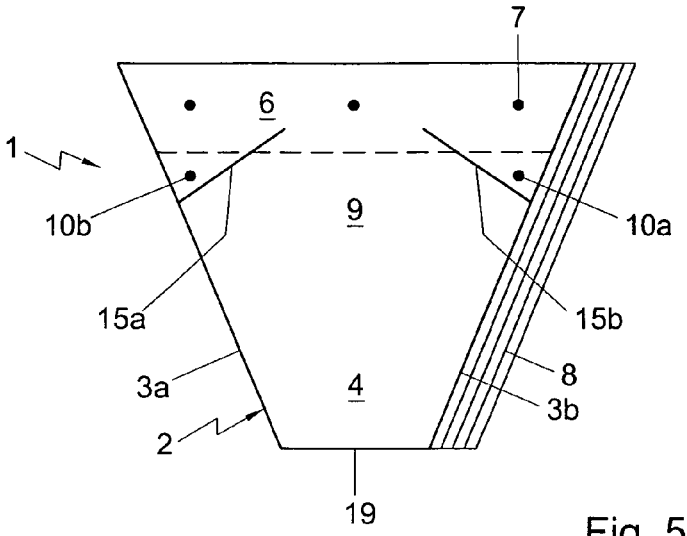

Fig. 5

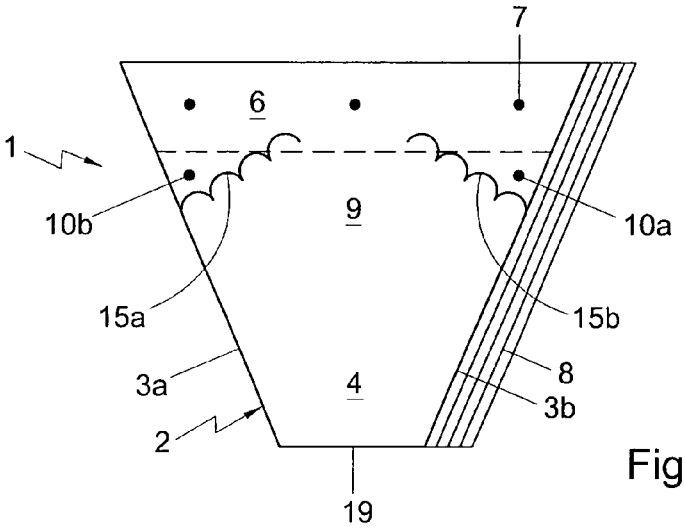

Fig. 6

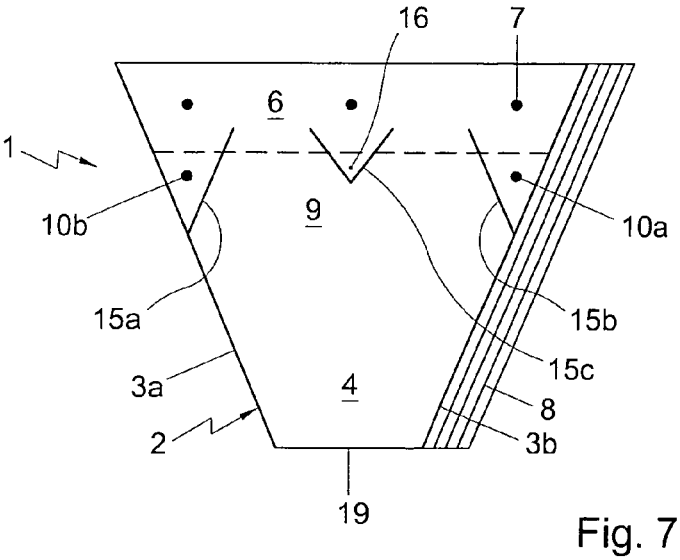

Fig. 7

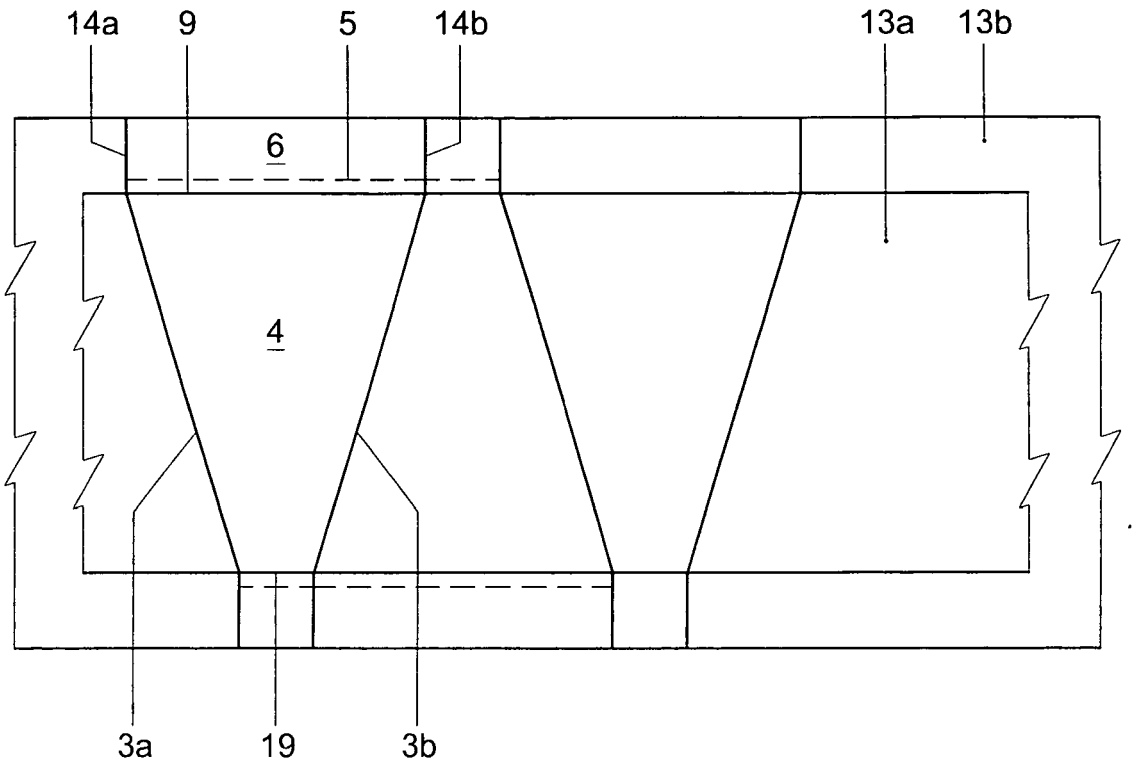

Fig. 8

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 07 5324

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
D,X	EP 0 641 645 A (JEI LEE CORPORATION) 8 March 1995 (1995-03-08)	15	INV. B65D33/00
A	* abstract; figure 4 *	1,16	B65D85/52 B65D85/50

X	EP 0 967 155 A (LEMO MASCHINENBAU GMBH) 29 December 1999 (1999-12-29)	15	
A	* paragraphs [0006], [0013]; figures 1-4 *	1,16	

X	US 6 453 605 B1 (CHIEN MICKEY) 24 September 2002 (2002-09-24)	15	
A	* abstract; figures 1-5 *	1,16	

TECHNICAL FIELDS SEARCHED (IPC)

B65D
B31B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21 April 2006	Wartenhorst, F

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 06 07 5324

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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21-04-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0641645 A	08-03-1995	AT 151342 T	15-04-1997
		DE 69402489 D1	15-05-1997
		DE 69402489 T2	23-10-1997
		NL 9301532 A	03-04-1995
		US 5496251 A	05-03-1996
EP 0967155 A	29-12-1999	DE 19827987 A1	30-12-1999
US 6453605 B1	24-09-2002	NONE	

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