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(71) Applicant: **Cosmewax, S.A.**
11408 Jerez de la Frontera (ES)

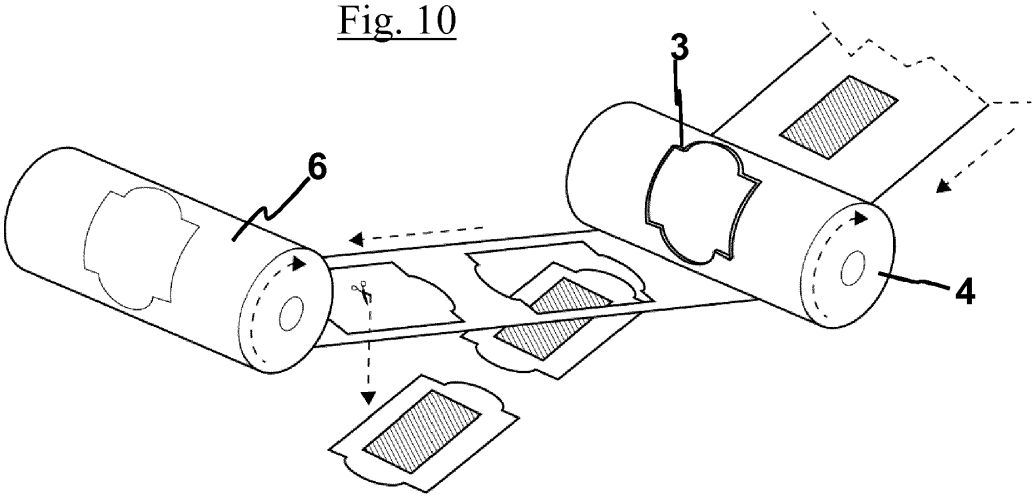
(72) Inventor: **Arjona de Lucio, Juan Carlos**
11408 Jerez de la Frontera (ES)

(74) Representative: **Oficina Ponti, SLP**
C. Consell de Cent, 322
08007 Barcelona (ES)

(54) Method for obtaining a depilatory element

(57) Method for obtaining a laminated-type depilatory element (1), the element comprising (1):
- An adhesive material (11) intended to engage the hair to be removed;
- A support substrate (12) to which is adhered the adhesive material (11) destined to allow the user to press the adhesive material (11) against the skin and pull the element for hair removal;
- A protection film (13) destined to be peeled off before using the strip (1) and that can be of the same material as the support substrate to be also used as a depilatory element;
- Wherein the support substrate (12) comprises at least two opposite extensions (15, 16) adhesive free and that allow to pull the element by both sides;
the method comprising:
- Obtaining a laminated-type continuous strip (2) provided with adhesive material (11), el support substrate (12) and the protection film (13), the adhesive material being distributed in a discreet and periodic manner in the strip;
- Applying to the strip (2) a die (3) whose shape defines said at least two extensions (15, 16), the die not contacting the adhesive material (11);
- Separating the die (3);
- Recovering the remaining scrap continuously using a backup roll gravity or vacuum if it is not continuous.

Fig. 10



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Description

[0001] The invention relates to a method for industrially manufacturing depilatory strip elements of the sandwich type.

BACKGROUND OF THE INVENTION

[0002] This strip, shown in Figures 1 and 2, consists of two support films which internally contain a wax dosage, as if it were a wax filled sandwich. For its application to hair removal, the dual band has to be opened by pulling the ends of each of the two supports such that when the bands are split, at least one of them has a dose of wax to be applied to any area of the body, with the wax on skin contact as illustrated in Figure 3. When pulling the support, the adhered wax will remove the hair in turn, thus achieving waxing. Examples of such strips are disclosed in the documents ES 2275100 T3, T3 ES 2293430, ES 2295596 T3 and JP 2004305310 A.

[0003] Industrially, these bands are created from one or more rolls of support film, on one side of the film a dose of wax is dispensed, and then after lamination, another part of the film is superimposed over the dosed wax and then it is cut to the desired dimensions.

[0004] In recent band technological separation systems, the shape of the end portion of a band matches the shape of the leading end of another. These are linear actuation systems of the shear or scissor type or rotating cutting knives, as shown in Figure 5 and in Figure 6.

[0005] For this reason, the shapes of the sandwich depilatory strips currently on the market are in most cases rectangular as shown in figure 7, made of different sizes to fit in different parts of the body, legs, underarms, bikini area, etc.

[0006] There already exist other forms of double bands commercially available, which are bands with some kind of tab, as shown in Figure 8 that can facilitate its application by pulling from one end more easily.

[0007] If these existing bands are analyzed, both of the rectangular type or provided with some sort of tab, it is observed that the edge of a band matches the initial end of the other, and that, also, the positive form of one end is the negative of the other one. That is because there is currently no technology for manufacturing depilatory strips, at industrial level, where it is possible to remove part of the support film. Without withdrawal of support, necessarily the positive edge of a depilatory element must match the negative edge of the other edge.

DESCRIPTION OF THE INVENTION

[0008] For overcoming the cited drawbacks, the present invention proposes a method for obtaining a laminated-type depilatory element, the element comprising:

- An adhesive material intended to engage the hair to be removed;
- A support substrate to which the adhesive material is adhered destined to allow the user to press the adhesive material against the skin and pull the element for hair removal;
- A protection film destined to be peeled off before using the strip and that can be of the same material as the support substrate to be also used as a depilatory element;
- Wherein the support substrate comprises at least two adhesive free opposite extensions and that allow to pull the element by both sides;

the method comprising:

- Obtaining a continuous laminated-type strip provided with adhesive material, the support substrate and the protection film, the adhesive material being distributed in a discreet and periodic manner in the strip;
- Applying to the strip a die whose shape defines said at least two extensions, the die not contacting the adhesive material;
- Separating the die;
- Recovering the remaining scrap continuously using a backup roll, gravity or vacuum if it is not continuous.

[0009] The innovative feature of the band is that it is a sandwich type depilatory strip whose shape is such that it does not tile the plane geometrically speaking (i.e. it is not possible to cover the plane with the claimed bands without gaps or without overlays). This innovative feature requires innovative technologies that use scrap removal (i.e. removal of part of the support substrate and the protection film).

[0010] Preferably, the die is arranged in a rotating drum.

[0011] Advantageously, the die is planar and is applied along a direction perpendicular to the plane of the strip.

[0012] According to one embodiment of this latter option, the strip moves and the planar die is mounted in a support that moves alternately such that it is possible to apply the die synchronously with the strip without this one stopping.

[0013] According to another option, the elements are obtained in two sub-steps:

- A first sub-step for obtaining rectangular individual elements by using a rotating drum provided with a straight blade;
- A second sub-step of definitive die cutting of the elements obtained in the first sub-step;

[0014] The second sub-step is carried out by applying the die to many stacked elements obtained in the first sub-step simultaneously.

[0015] Finally, the die has a substantially rectangular shape, wherein two opposite sides comprise semi-circular shaped tabs oriented towards the outside. Obviously,

there may be more than two opposite tabs. For example, a third or a fourth tab could be added to the element.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] For a better understanding of the aforementioned, drawings are attached wherein, schematically and only by way of non-limitative example, a practical embodiment is represented.

Fig. 1 shows a cross-section of a common depilatory element;
Fig. 2 shows a plan view of a common depilatory element.
Fig. 3 shows the separation process of the two substrates of the depilatory strip, before its use;
Fig. 4 schematically shows a cross section of a machine for the manufacture of sandwich type strips;
Fig. 5 shows the process of obtaining an element by linear cutting with a blade, according to the state of the art;
Fig. 6 shows the manufacturing process with die drum, for obtaining strips whose front and back ends are complementary, according to the state of the art;
Figs. 7 and 8 show depilatory elements according to the state of the art;
Fig. 9 show depilatory elements shapes that can be obtained with the inventive method.
Fig. 10 is a perspective view of a machine to carry out the inventive method, according to a first embodiment.
Fig. 11 shows an elevation view of the machine shown in FIG. 10.
FIG. 12 shows an elevation view of the machine to carry out the inventive method, according to a second embodiment.
FIG. 13 and FIG. 14 show two parts of an installation to carry out the inventive method according to a third embodiment.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0017] The present invention relates to a method for obtaining a laminated-type depilatory element 1.

[0018] The element 1 comprises:

- An adhesive material 11 intended to engage the hair to be removed;
- A support substrate 12 to which is adhered the adhesive material 11 destined to allow the user to press the adhesive material 11 against the skin and pull it for hair removal;
- A protection film 13 destined to be peeled off before using the strip 1 and that can be of the same material as the support substrate to be also used as a depilatory element;

[0019] Specifically, according to the invention, and as shown in figure 9, the support substrate 12 comprises at least two adhesive free opposite extensions 15, 16 and that allow to pull the element by both sides.

[0020] The method according to the invention comprises:

- Obtaining a laminated-type continuous strip 2 provided with adhesive material 11, the support substrate 12 and the protection film 13, the adhesive material being distributed in a discreet and periodic manner in the strip;
- Applying to the strip 2 a die 3 whose shape defines said at least two extensions 15, 16, the die not contacting the adhesive material 11;
- Separating the die 3;
- Recovering the remaining scrap continuously o discontinuously.

[0021] According to a first embodiment of the method, depicted in figures 10 and 11, the die 3 is arranged in a rotating drum 4.

[0022] The separation of the of the double bands after the wax dosing is carried out with a rotating cutting group 4 which continuously pulls the scrap with a recovering roll 6. This rotating cutting group will have a matrix for every one of the desired shapes. In case the scrap is discontinuous, it can be removed by gravity or vacuum suction.

[0023] The dies are fixed to the cylinder with any appropriate fixing means. The number of figures in each cylinder development should be calculated as a function of the strip size, such that the scrap is minimized for saving reasons. It is also possible to use cylinders with different diameters for each shape as well.

[0024] According to a second embodiment, the die 3 is planar and is applied along a direction perpendicular to the plane of the strip 2.

[0025] This second embodiment can be implemented in two different ways.

[0026] According to a first option, depicted in figure 12, the strip moves and the planar die 3 is mounted in a support 5 that moves alternately such that it is possible to apply the die 3 synchronously with the strip 2 without the latter stopping.

[0027] In other words, the separation of the double bands after the wax dosage is carried out with a planar cut group with continuous recovering of the scrap. In case the scrap is discontinuous, it can be removed by gravity or vacuum suction.

[0028] For this purpose, the die or planar cutting matrix should be placed on a mobile carriage 5 whose speed while cutting should be the film linear speed. Then a perfect synchronism must be adjusted between the mobile carriage 5 with the remaining part of the machine, synchronism that can be carried out mechanically or electronically.

[0029] Thus a null relative speed is obtained between the film and the cutting die, and thus the vertical move-

ment of the matrix can be activated without tearing the film.

[0030] According to a second variant of positive movement of the die, the elements are obtained in two sub-steps:

- A first sub-step for obtaining rectangular individual elements by using a rotating drum provided with a straight blade; this step is illustrated in figure 13.
- A second sub-step of definitive die cutting of the elements obtained in the first sub-step; this step is illustrated in figure 14.

[0031] Preferably, and as illustrated in figure 14, the second sub-step is carried out by applying the die to many stacked elements obtained in the first sub-step simultaneously.

[0032] In other words, the separation between double bands is carried out by the traditional method with straight blade thus getting rectangular bands, as shown in figure 13. These rectangular strips are stacked in an amount determined by the same machine or another inline machine and after stacking they are cut with a planar die, as seen in figure 14, with elimination of scrap by vacuum or blowing. The stacked bands with the desired shape pass continuously to a packaging machine or directly to the retail box.

[0033] In all the variants, the die 3 has a substantially rectangular shape, wherein two opposite sides comprise semicircular shaped tabs 15, 16 oriented towards the outside.

[0034] Although reference has been made to specific embodiments of the invention, it is apparent to one skilled in the art that the method described is susceptible to numerous variations and modifications, and that all the details mentioned can be substituted by other technically equivalent, without departing from the scope of protection defined by the appended claims.

Claims

1. Method for obtaining a laminated-type depilatory element (1), the element (1) comprising:

   - An adhesive material (11) intended to engage the hair to be removed;
   - A support substrate (12) to which the adhesive material (11) is adhered, said support substrate (12) being intended to allow the user to press the adhesive material (11) against the skin and pull the element for hair removal;
   - A protection film (13) destined to be peeled off before using the strip (1) and that can be of the same material as the support substrate to be also used as a depilatory element;
   - Wherein the support substrate (12) comprises at least two opposite extensions (15, 16) adhesive free and that allow to pull the element by both sides;

   the method comprising:

   - Obtaining a laminated-type continuous strip (2) provided with the adhesive material (11), the support substrate (12) and the protection film (13), the adhesive material being distributed in a discreet and periodic manner in the strip;
   - Applying to the strip (2) a die (3) whose shape defines said at least two extensions (15, 16), the die not contacting the adhesive material (11);
   - Separating the die (3);
   - Recovering the remaining scrap continuously using a backup roll gravity or vacuum if it is not continuous.

2. Method according to claim 1, wherein the die (3) is arranged in a rotating drum (4).

3. Method according to claim 1, wherein the die (3) is planar and is applied along a direction perpendicular to the plane of the strip (2).

4. Method according to claim 3, wherein the strip moves and the planar die (3) is mounted in a support (5) that moves alternately such that it is possible to apply the die (3) synchronously with the strip (2) without this one stopping.

5. Method according to claim 3, wherein the elements are obtained in two sub-steps:

   - A first sub-step for obtaining rectangular individual elements by using a rotating drum provided with a straight blade;
   - A second sub-step of definitive die cutting of the elements obtained in the first sub-step;

6. Method according to claim 5, wherein the second sub-step is carried out by applying the die simultaneously to many stacked elements obtained in the first sub-step.

7. Method according to any preceding claim wherein the die (3) has a substantially rectangular shape, wherein two opposite sides comprise semi-circular shaped tabs oriented towards the outside.

Fig. 1

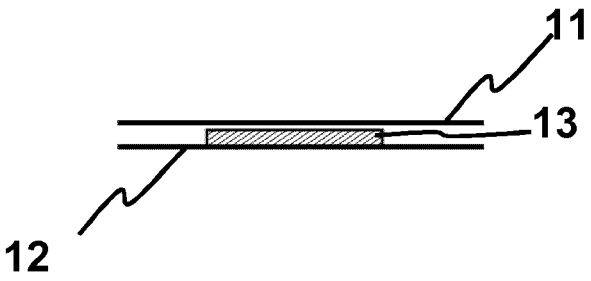


Fig. 2

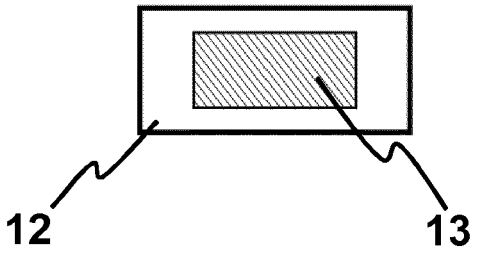


Fig. 3

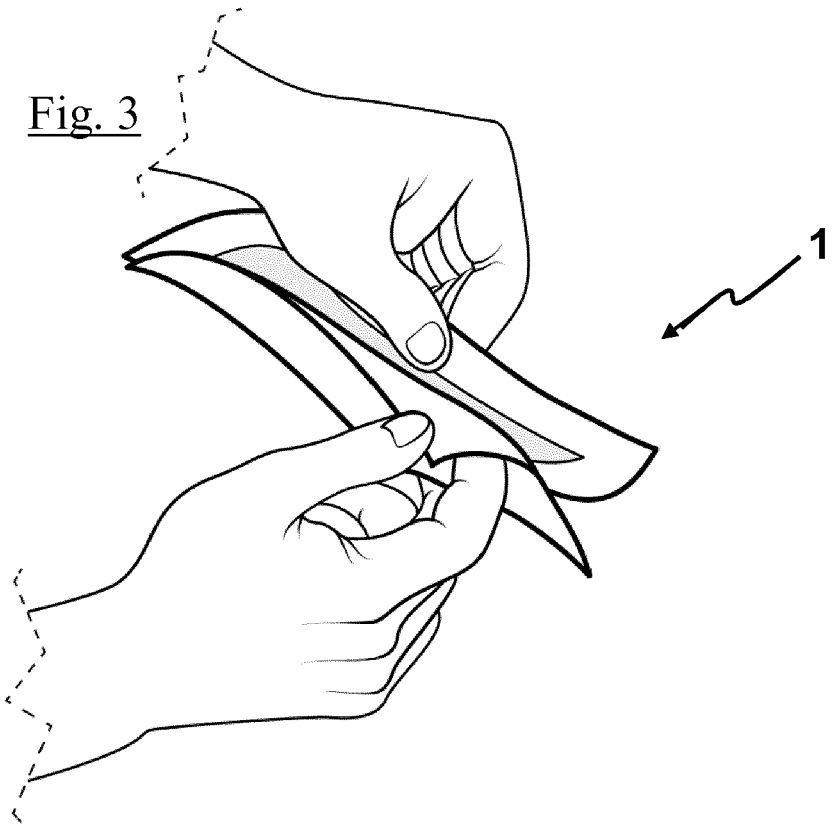


Fig. 4

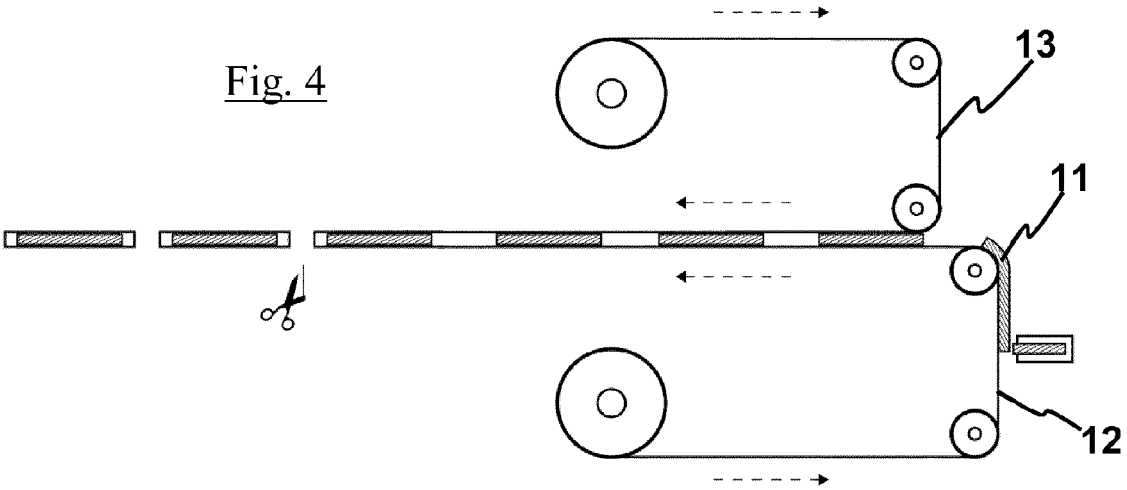


Fig. 5

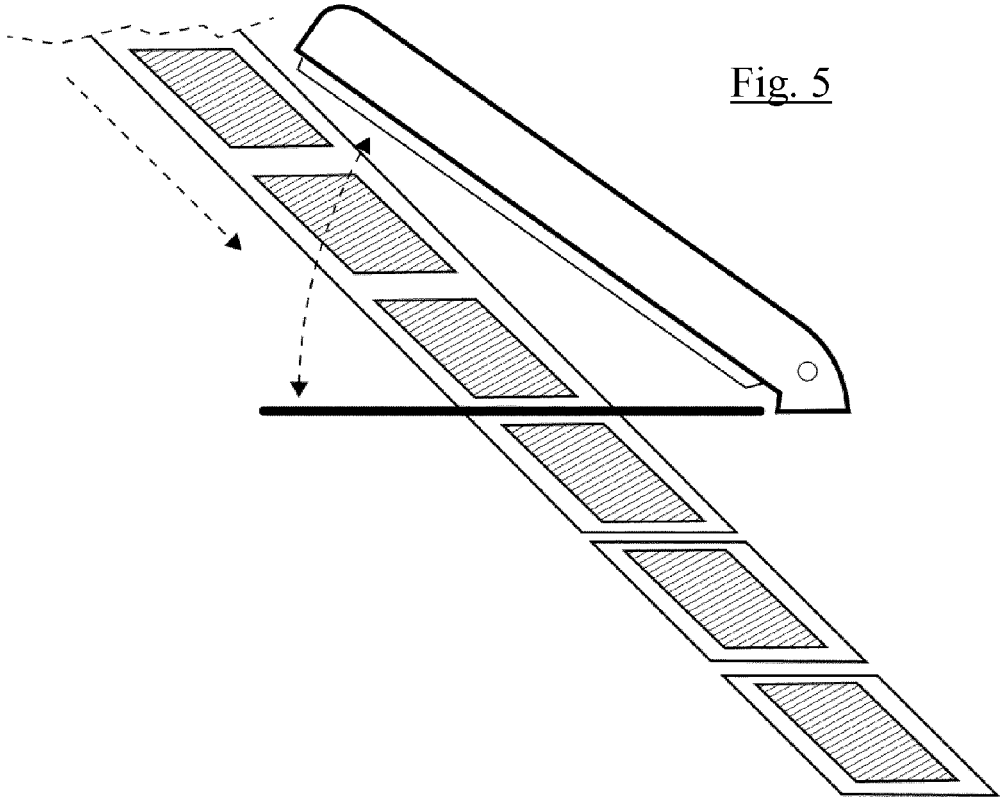


Fig. 6

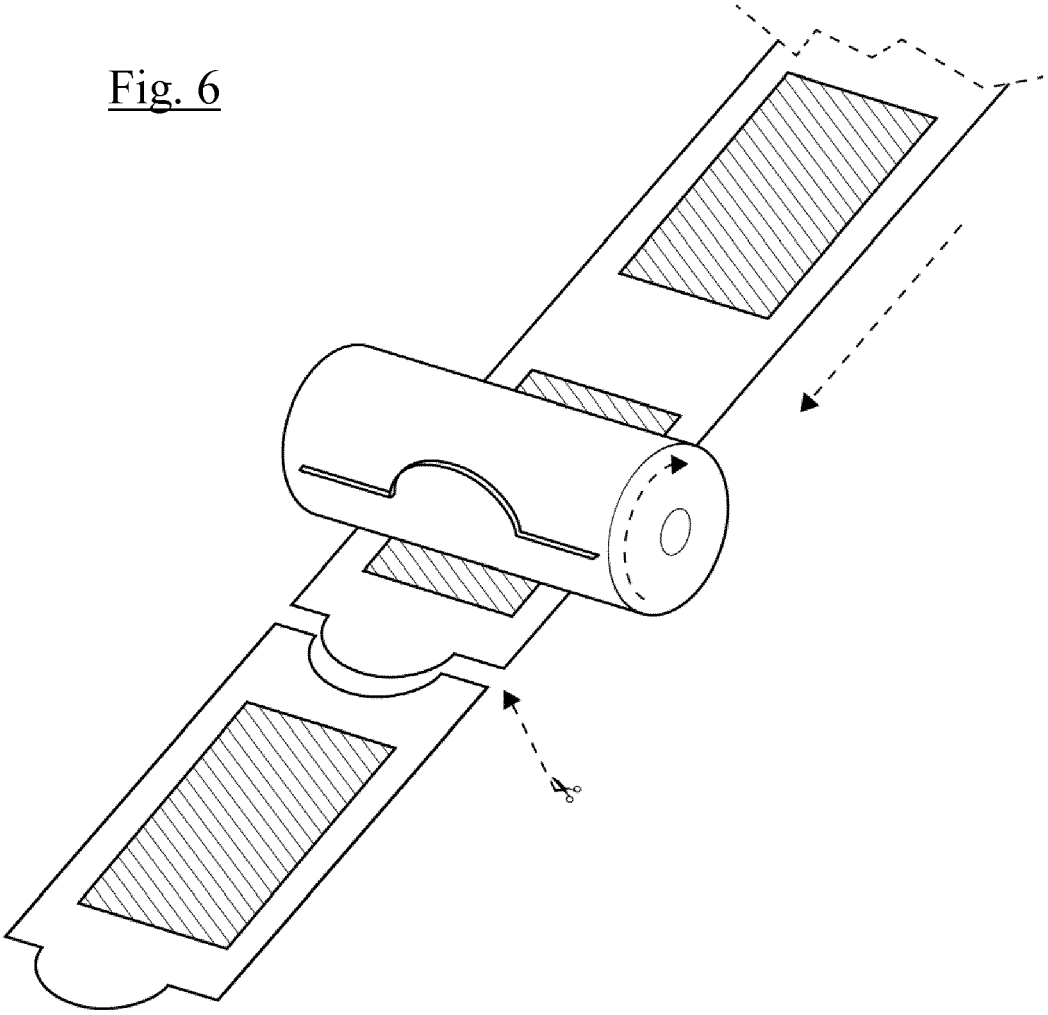


Fig. 7

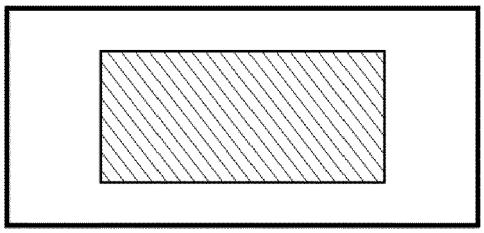
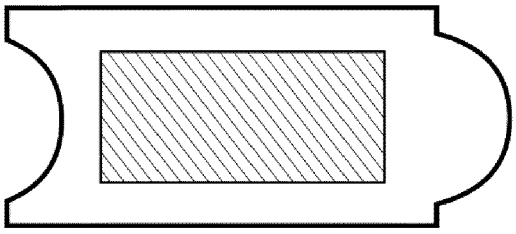


Fig. 8



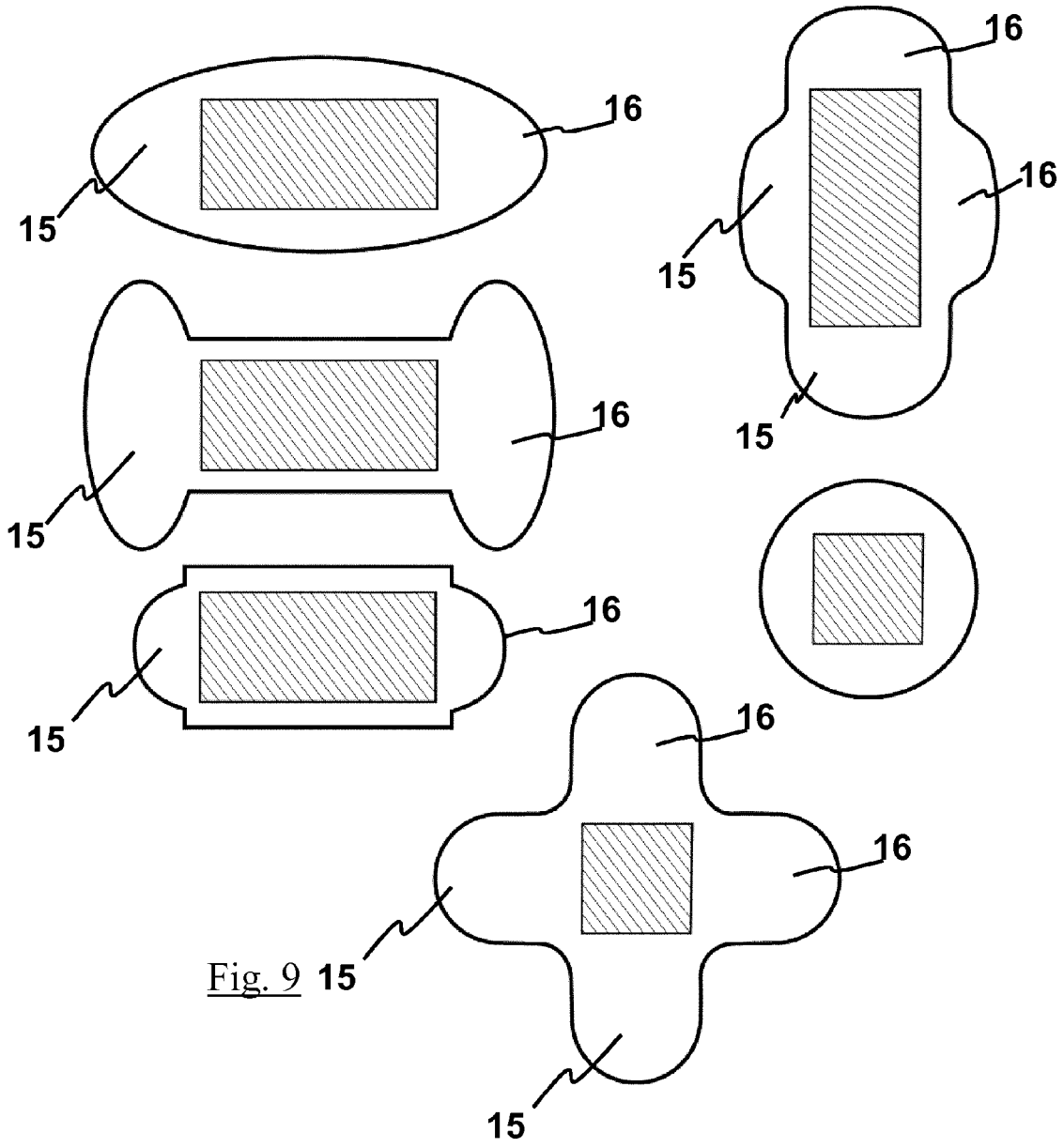
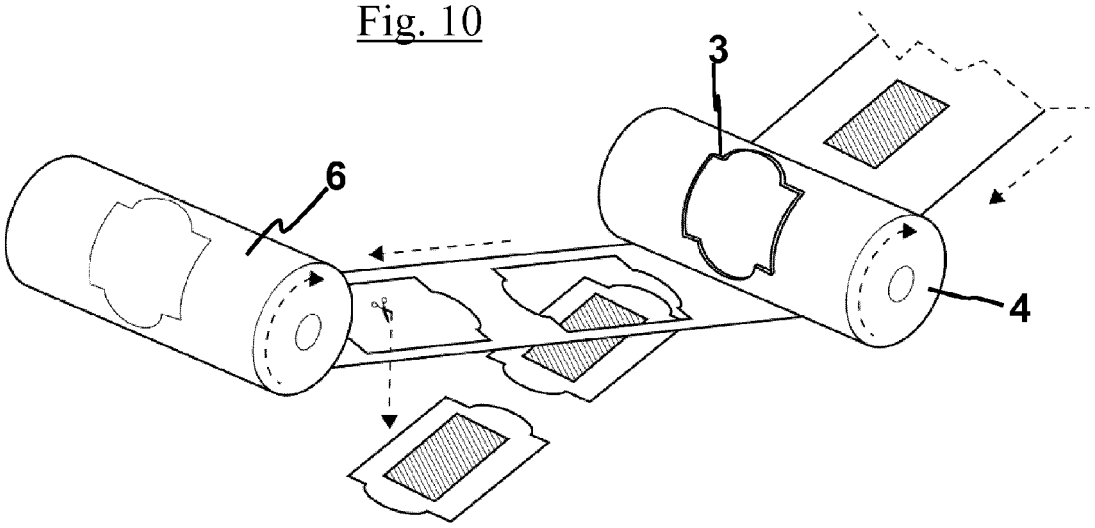


Fig. 9

Fig. 10



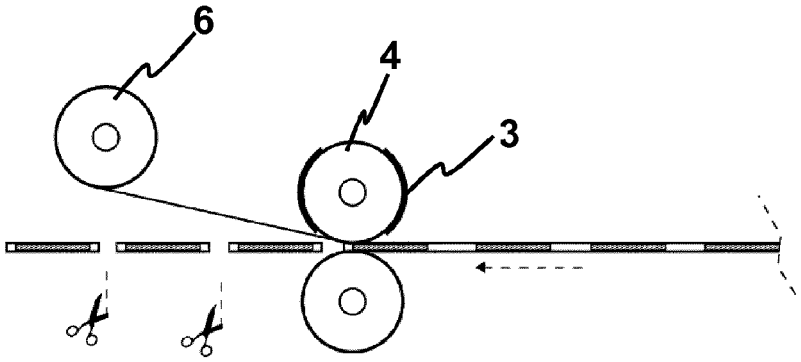


Fig. 11

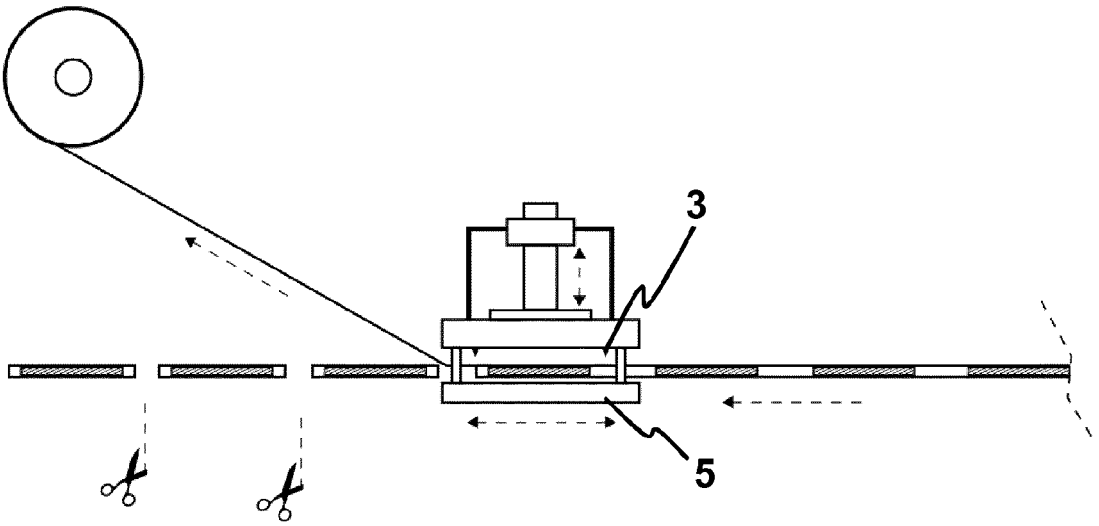


Fig. 12

Fig. 13

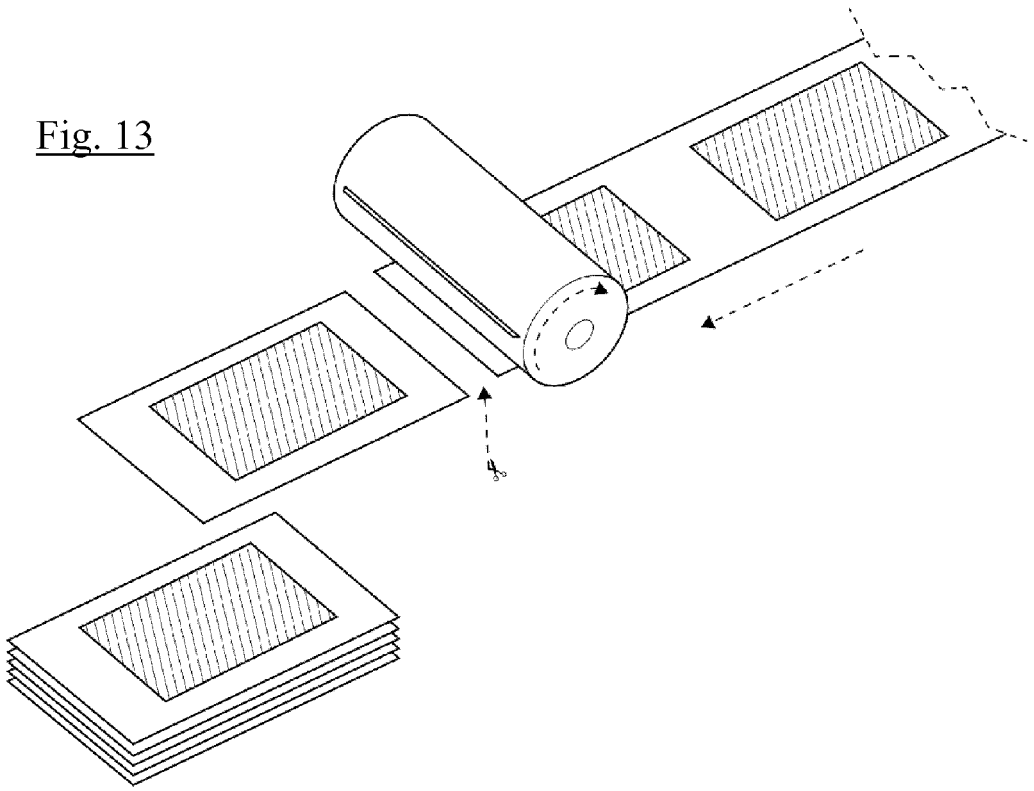
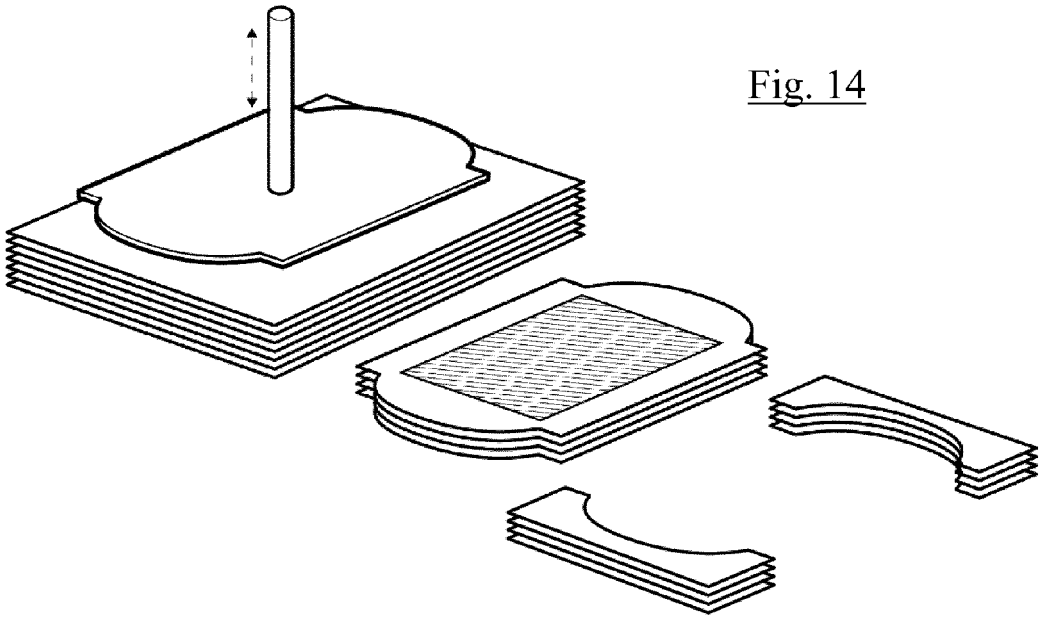


Fig. 14



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EUROPEAN SEARCH REPORT

Application Number
EP 14 38 2414

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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X	JP S60 38320 A (DAIKO KK) 27 February 1985 (1985-02-27) * the whole document *	1-7	
A	WO 2011/151674 A1 (E V F DELACOUR BV [NL]; ATTEIA MAMDOUH H [EG]; MAGDY GEORGE [EG]) 8 December 2011 (2011-12-08) * figures 1-3 *	1-7	
A	EP 2 749 186 A1 (COSMEWAX S A [ES]) 2 July 2014 (2014-07-02) * the whole document *	1-7	
A	WO 2009/006681 A1 (CHEMCORP PTY LTD [AU]; FISHER JOHN [AU]) 15 January 2009 (2009-01-15) * figures 1-3 *	1-7	
			TECHNICAL FIELDS SEARCHED (IPC) B26D A45D A61Q

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	29 April 2015	Hinrichs, Wiebke

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29-04-2015

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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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- JP 2004305310 A **[0002]**