(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 359 560 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
05.11.2003 Bulletin 2003/45

(51) Int Cl.[7]: **G09F 3/10**

(21) Application number: **03004817.7**

(22) Date of filing: **04.03.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

(30) Priority: **29.04.2002 IT MI20020909**

(71) Applicant: **Arca Etichette S.p.A.**
20010 Marcallo con Casone (Prov. of Milano) (IT)

(72) Inventor: **Fadiga, Riccardo**
20010 Marcallo con Casone, Milan (IT)

(74) Representative: **Modiano, Guido, Dr.-Ing. et al**
Modiano & Associati,
Via Meravigli, 16
20123 Milano (IT)

(54) Self-adhesive label particularly for packages of medical products

(57) A self-adhesive label particularly for packages of medical products, comprising, on a lower backing layer (2), with the interposition of a first adhesive layer (3), an intermediate backing layer (4) that is flanked by at least one continuous interruption region (11), a front element (39) being further provided, with the interposition of a second adhesive layer (5), with a main portion (40) that overlaps the intermediate backing layer (4) and with a flap (41) that protrudes onto the continuous interruption region, a joining line with assisted separation being provided between the main portion and the flap.

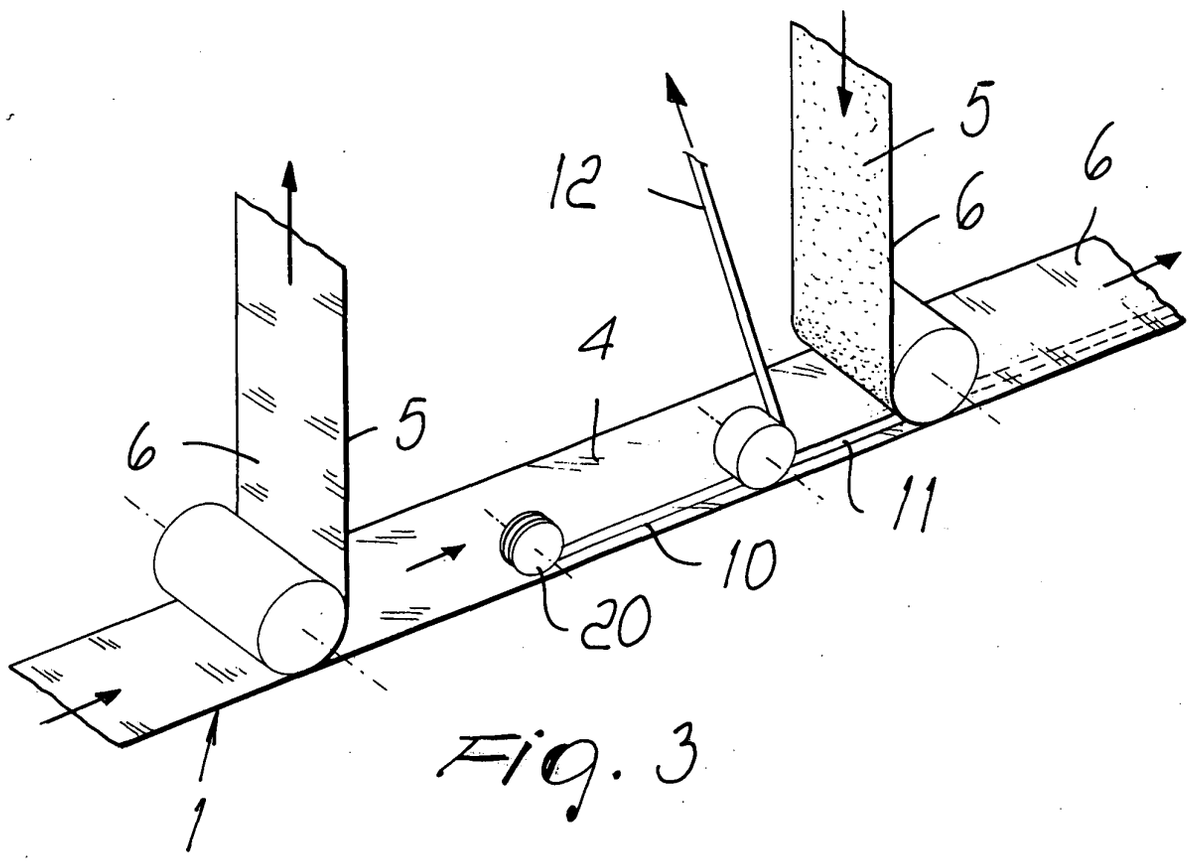

Fig. 3

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Description

[0001] The present invention relates to a self-adhesive label, particularly for packages of medical products.

[0002] As is known, self-adhesive labels are already commercially available which are used for example for packages of medical products and are produced so as to form two separate layers, of which one remains on the package of the medical product and the other is removed and affixed for example to the prescription.

[0003] A known solution uses a label produced starting from three superimposed layers, which are constituted by a lower backing layer, on which an intermediate layer is arranged, the upper printable layer or actual label being arranged on top of such intermediate layer.

[0004] Said label is produced so as to form, by die-cutting, a detachable sticker that has a part in which the upper layer bears the adhesive and is applied directly to the package and a part in which the intermediate layer, on top of which the remaining part of the label is arranged with an interposed adhesive layer, is applied to the package of the medical product by way of adhesive.

[0005] To provide this type of label, during production a die-cutting operation is performed which in practice produces a cut that affects the upper layer and the intermediate layer and forms the separation region of the two portions of the label.

[0006] A die-cutting operation is then performed which cuts into the upper layer and the intermediate layer, so as to surround the portion that must then be removable from the package, while at the remaining portion of the label, which must remain directly connected to the package, the peripheral die-cut is such as to affect only the upper layer.

[0007] During the application of the label to the package, a separation is performed which separates the intermediate layer from the base layer at the first portion and separates the upper layer from the intermediate layer at the second portion, such intermediate layer remaining connected to the lower layer, which is rolled up to be then discarded.

[0008] This type of label suffers many problems, the first of which is constituted by the fact that a clean separation, i.e., an actual cut, is provided between the first and second portions, and therefore there is no absolute certainty that the two corresponding portions are applied to the package of the product; moreover, another problem is constituted by the fact that during the step for recovering the backing layers during labeling, the partial presence of the intermediate layer produces uneven roll-up due to the different thicknesses and halves the quantity of material that can be collected on the same diameter, doubling the machine pivots, with an evident cost increase.

[0009] Furthermore, during the step for producing the label, waste recovery after the die-cutting step is also troublesome, since the typical grid that can be removed as a single part is not formed; the presence of the separation line between the first and second portions instead produces a cut also in the waste, which accordingly requires separate recoveries, with additional difficulties.

[0010] It should be added to the above that the need to provide two-level die-cutting in the final step for producing the label is particularly complicated and further slows the production steps.

[0011] The aim of the invention is to eliminate the drawbacks noted above, by providing a self-adhesive label particularly for packages of medical products, in which it is possible to obtain a label constituted by two detachable portions that however remain physically joined together even when they are applied to the package, thus allowing to have a safe assurance of a match between the two portions.

[0012] Within this aim, an object of the invention is to provide a self-adhesive label that does not form, during application, a roll with recovered material of various thicknesses, since a uniform thickness is removed.

[0013] Another object of the present invention is to provide a self-adhesive label that during production generates waste with a classic grid, so that recovery is particularly easy and quick, since the waste has continuous crosswise and lengthwise elements.

[0014] A further object of the present invention is to provide a self-adhesive label, particularly for packages of medical products, which thanks to its particular constructive characteristics is capable of giving the greatest assurances of reliability and safety in use.

[0015] This aim and these and other objects that will become better apparent hereinafter are achieved by a self-adhesive label particularly for packages of medical products, characterized in that it comprises, on a lower backing layer, with the interposition of a first adhesive layer, an intermediate backing element that is flanked by at least one continuous interruption region, a front element being further provided, with the interposition of a second adhesive layer, with a main portion that overlaps said intermediate backing element and with a flap that protrudes onto said continuous interruption region, a joining line with assisted separation being provided between said main portion and said flap.

[0016] Further characteristics and advantages of the invention will become better apparent from the description of a preferred but not exclusive embodiment of a self-adhesive label particularly for packages of medical products, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a schematic perspective view of a multilayer element with three separate layers, mutually joined by respective layers of adhesive material;

Figure 2 is a schematic perspective view of the multilayer element with the separation of the upper layer;

Figure 3 is a schematic perspective view of the step for forming, after the separation of the upper layer,

a continuous die-cut in order to provide a continuous region or strip for interruption of the intermediate backing layer;

Figure 4 is a view of the step of final die-cutting of the multilayer element;

Figure 5 is a schematic perspective view of the removal of the waste in the form of a continuous grid;

Figure 6 is a diagram of the operation of the apparatus for forming the self-adhesive label;

Figure 7 is a view of the self-adhesive label according to the invention, taken from its lower face, which is provided with adhesive material;

Figure 8 is a perspective view of the detail of the separation between the main portion and the flap of the front element that constitutes the self-adhesive label;

Figure 9 is a perspective view of the self-adhesive label applied to the package of a product;

Figure 10 is a perspective view of the separation of the main portion from the remaining part that remains on the package.

[0017] With reference to the figures, the self-adhesive label particularly for packages of medical products, according to the invention, is obtained starting from a multilayer element with three layers, generally designated by the reference numeral 1, which generally has a lower layer 2, on which an intermediate backing layer 4 is superimposed, with the interposition of a first adhesive layer 3; an upper layer, designated by the reference numeral 6, is arranged on the intermediate layer 4 with the interposition of a second adhesive layer 5.

[0018] The lower backing layer 2 and the intermediate layer 4 are advantageously provided with at least one siliconized face, so as to allow, in a per se known manner, the separation of the adhesive material, which remains connected to the directly overlying layer.

[0019] In practical execution, in order to obtain the label, first of all the upper layer 6 is separated and a continuous die-cut, designated by the reference numeral 10, is formed on the intermediate backing layer 4 in order to form a continuous interruption region or strip 11.

[0020] It should be noted that the example shown in the drawings illustrates a single pair of continuous die-cut lines that allows the separation of a strip 12 of intermediate layer; obviously, in the practical embodiment there are, on the same layer, a plurality of lines arranged side by side and spaced so as to provide a plurality of labels simultaneously.

[0021] Downstream of the first die-cutter 20, which forms the continuous die-cut line 10, there is a take-up reel 21, so as to move away the strip 12; after this, the upper layer 6, which had been separated, is reapplied to the intermediate backing layer by means of an applicator 30; then a die-cut is formed, by means of a second die-cutter 31, so as to provide on the upper layer 6 a front element or self-adhesive label 39 that has a main portion 40, which overlaps the intermediate layer and more specifically an intermediate element 4', which is die-cut from the intermediate layer 4.

[0022] The main portion 40 is flanked by a flap 41, which is arranged at the continuous interruption region and in practice adheres to the lower backing layer 2, since the strip 12 has been removed below it.

[0023] Furthermore, between the main portion 40 and the flap 41 there is a joining line, generally designated by the reference numeral 50, which is of the type with assisted separation and is advantageously constituted by a cutting line 51 that affects the edges of the region of the label and is interrupted by connecting portions 52 that can be torn easily.

[0024] It should be noted, as shown in Figure 5, that the final die-cutting step is performed in the conventional manner, since the die-cutting does not have to be performed on two levels but is provided so as to affect the upper layer and the existing portion of the intermediate layer.

[0025] It should also be noted that a resulting waste grid 55, shown in Figure 5, is continuous and therefore can be removed easily so as to separate the individual labels, which are constituted, as already mentioned, by the intermediate backing element 4', which is connected to the lower layer 2 and is arranged below the main portion 40, which is flanked by the flap 41, which protrudes with respect to the intermediate supporting element and adheres by means of the second layer of adhesive material 5 directly to the lower backing layer 2.

[0026] It should be added to the above that it is possible to provide, on the flap 41, an indication 45 or the like, which can be for example printed, and that an identical indication 45 can be provided on the main portion 40.

[0027] The resulting label, generally designated by the reference numeral 39, can be easily connected to a package 50, with the assurance that the two component parts, i.e., the main portion 40 and the flap 41, cannot separate accidentally; furthermore, since the flap 41 acts directly on the surface of the package, a substantially permanent adhesion is produced, while the main portion, below which the intermediate backing element 4' is provided, can be separated easily from the package, by breaking the joining portions 52, since the line 50 is of the assisted-separation type.

[0028] It is thus evident from the above description that the invention achieves the intended aim and objects, and in particular the fact is stressed that a self-adhesive label is provided which allows to use conventional die-cutting and application methods, since the label, despite being constituted by two parts that can be easily separated from each other, consists of a single element during all handling steps.

[0029] Furthermore, in order to obtain the label it is not necessary to perform complicated processes such as two-level die-cuts, and the backing layers can be rolled up for their removal conventionally and rapidly, since there are no different thicknesses.

[0030] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0031] All the details may further be replaced with other technically equivalent elements.

[0032] In practice, the materials used, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to requirements.

[0033] The disclosures in Italian Patent Application No. MI2002A000909 from which this application claims priority are incorporated herein by reference.

[0034] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A self-adhesive label particularly for packages of medical products, **characterized in that** it comprises, on a lower backing layer, with the interposition of a first adhesive layer, an intermediate backing element that is flanked by at least one continuous interruption region, a front element being further provided, with the interposition of a second adhesive layer, with a main portion that overlaps said intermediate backing element and with a flap that protrudes onto said continuous interruption region, a joining line with assisted separation being provided between said main portion and said flap.

2. The label according to claim 1, **characterized in that** in said lower backing layer and said intermediate backing element the face that faces the superimposed layer is siliconized.

3. The label according to the preceding claims, **characterized in that** said joining line with assisted separation has a cutting line with at least one portion for joining said flap and said main portion.

4. The label according to one or more of the preceding claims, **characterized in that** it comprises indications provided on said flap and identical indications provided on said main portion.

5. A method for manufacturing a self-adhesive label particularly for packages of medical products, **characterized in that** it comprises the steps of: providing a multilayer element with three layers, having a lower layer on which an intermediate layer is superimposed, with the interposition of a first adhesive layer, an upper layer being arranged on said intermediate layer with the interposition of a second adhesive layer; separating said upper layer; forming on said intermediate backing layer at least one continuous die-cut in order to form, on said intermediate backing layer, at least one continuous interruption region; removing the intermediate backing layer in the portion that constitutes said continuous interruption region; superimposing said upper layer again; forming a die-cut that affects said upper layer and said intermediate backing layer, providing a joining line with assisted separation between a flap of the intermediate backing layer that is superimposed on said continuous die-cut strip and the laterally adjacent portion of said intermediate layer.

6. The method according to claim 5, **characterized in that** said joining line is constituted by a partial cut provided starting from the edges of the upper layer that forms the label in order to provide a guide for tearing.

7. The method according to one or more of the preceding claims, **characterized in that** said joining line is provided by providing at least one connecting portion between said flap and said main portion.

8. The method according to one or more of the preceding claims, **characterized in that** it comprises the step of printing an indication on said flap and an identical indication on said main portion.

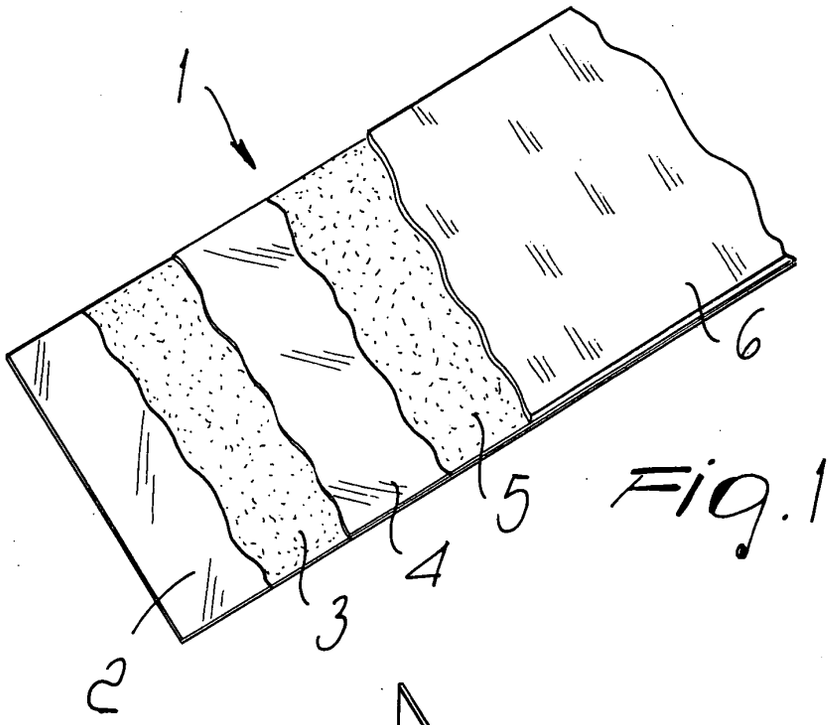

Fig. 1

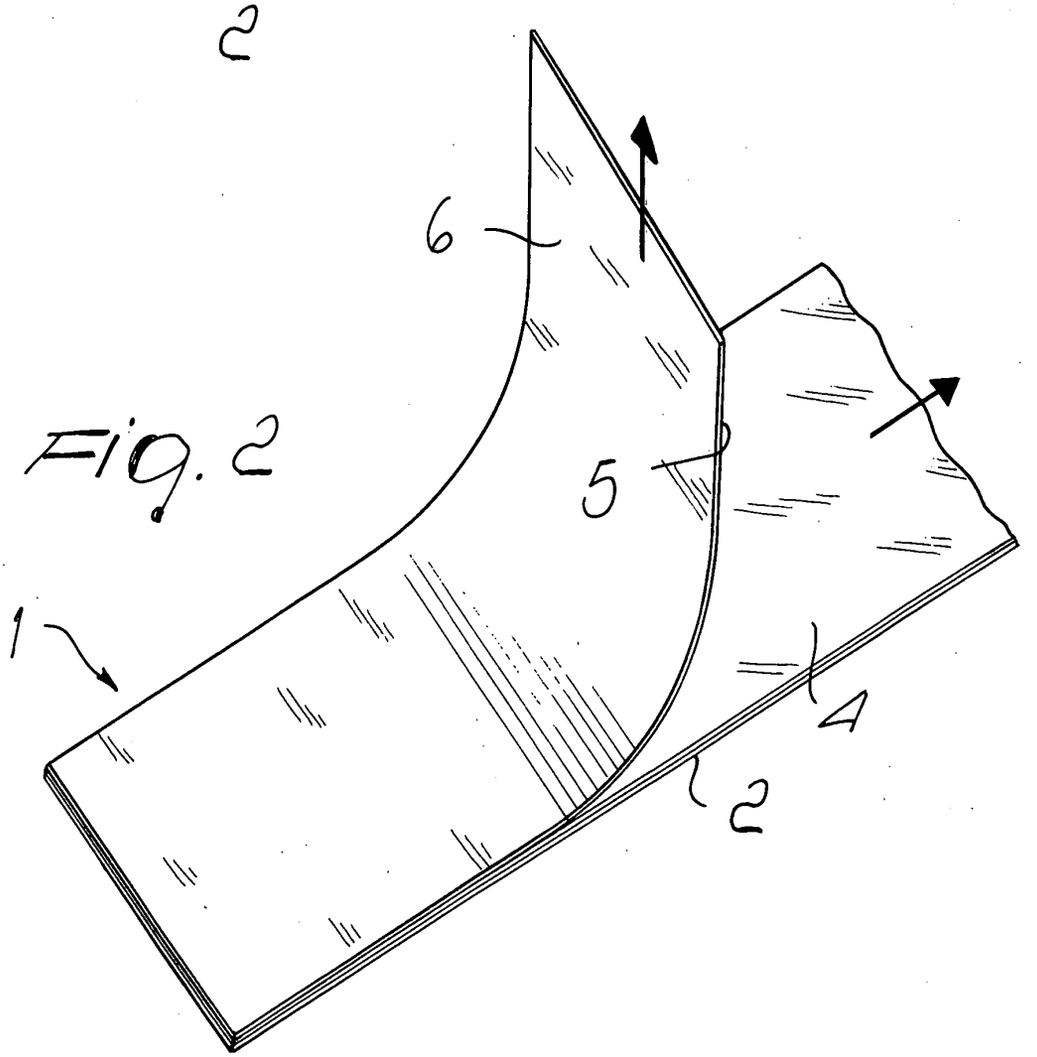

Fig. 2

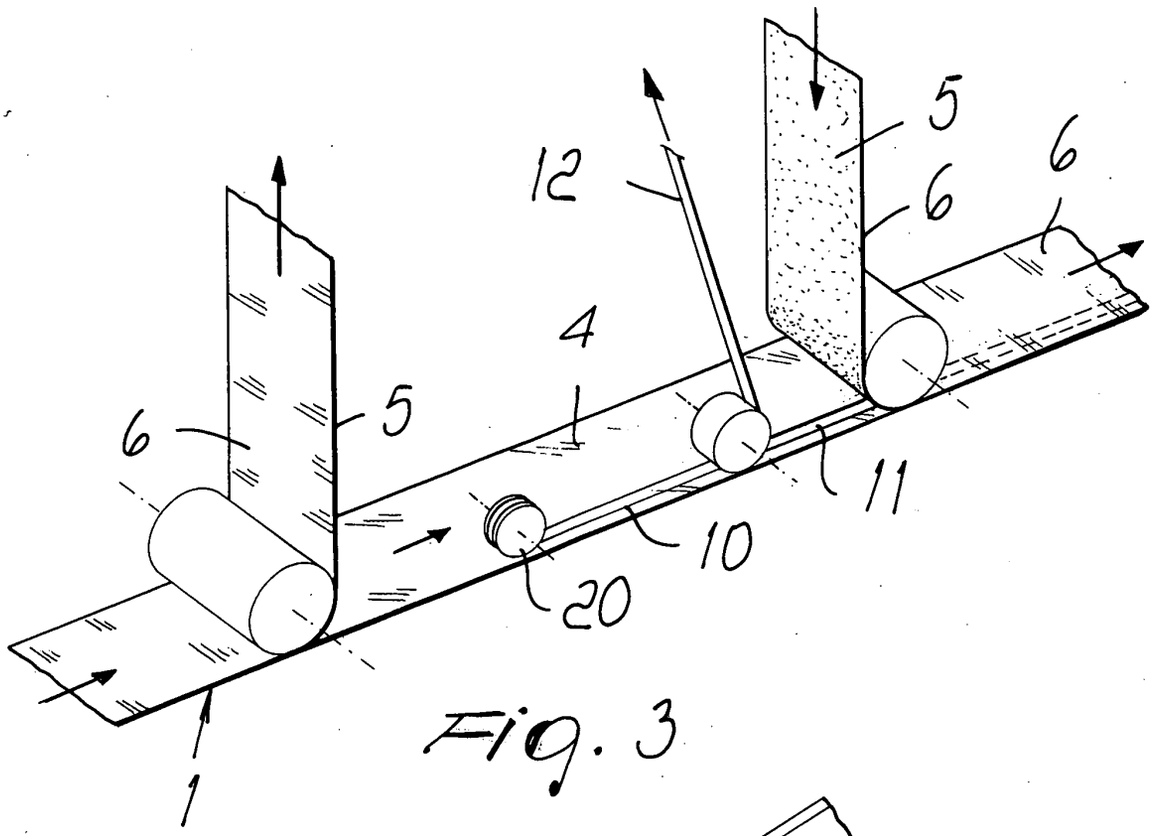
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Fig. 3

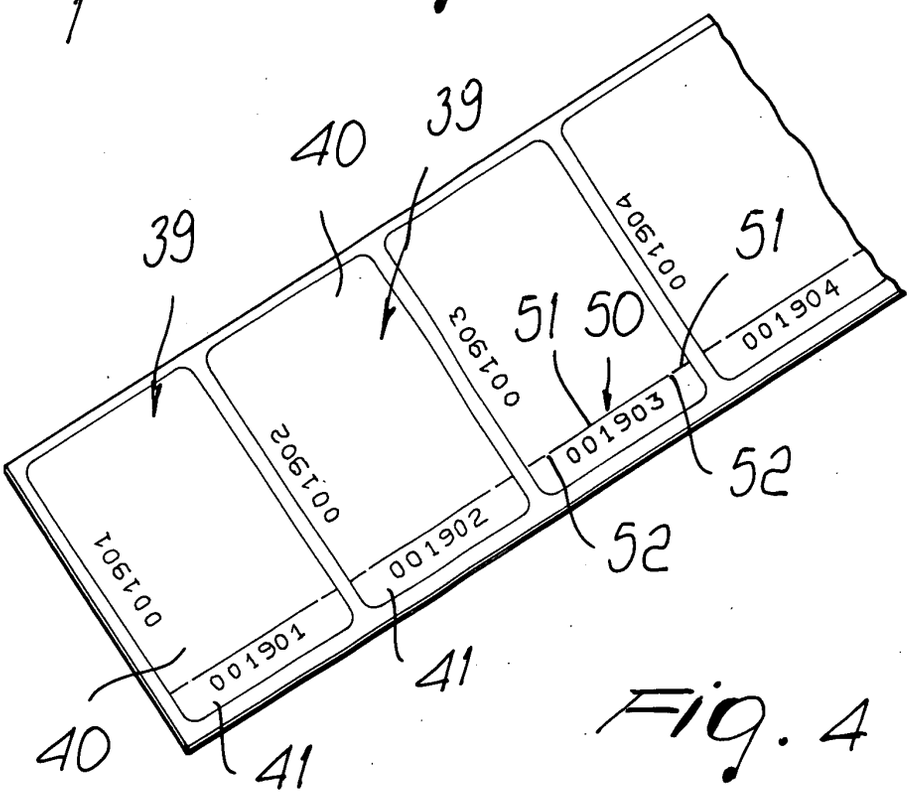
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Fig. 4

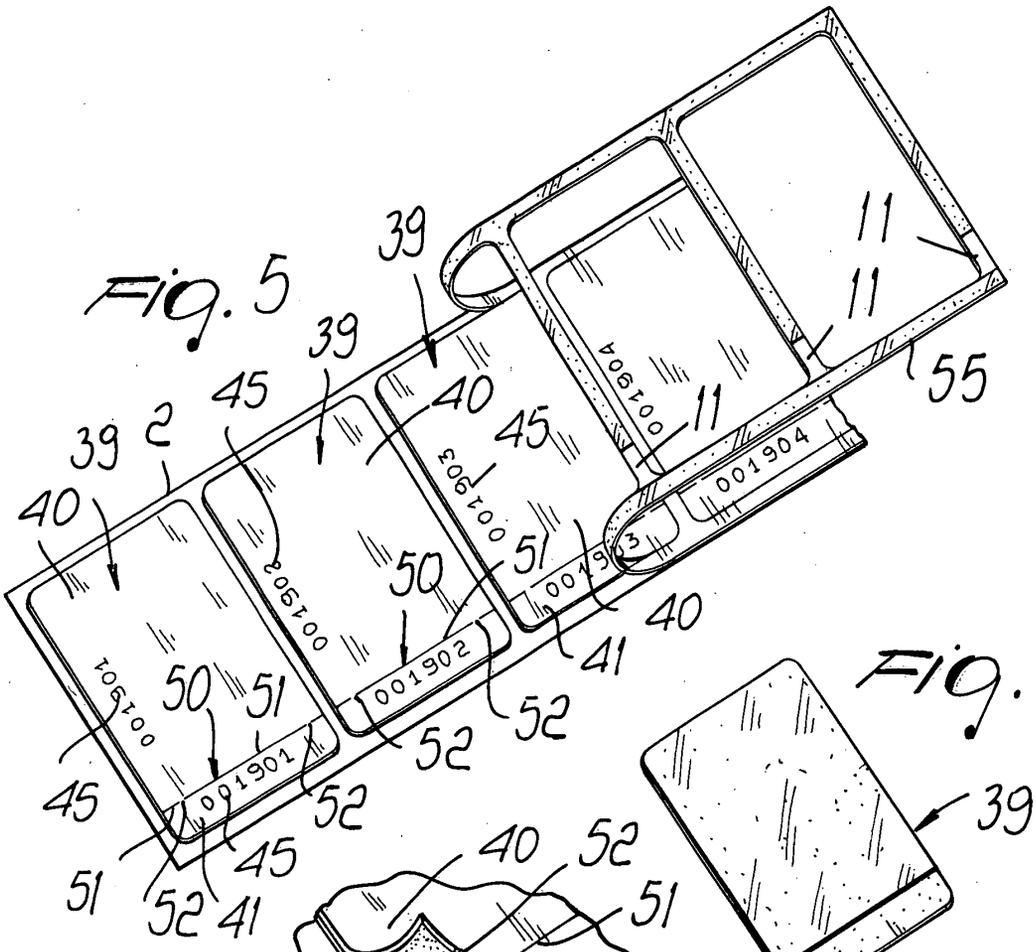

Fig. 5

Fig. 7

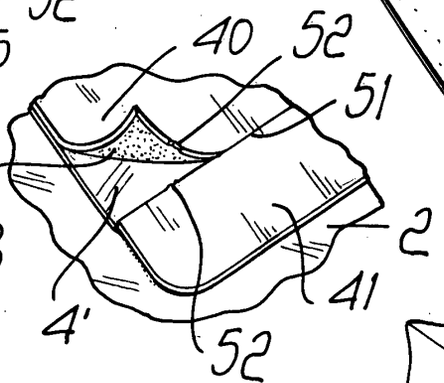

Fig. 8

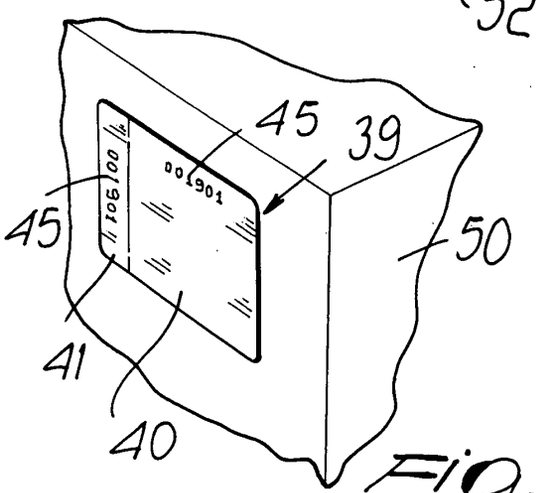

Fig. 9

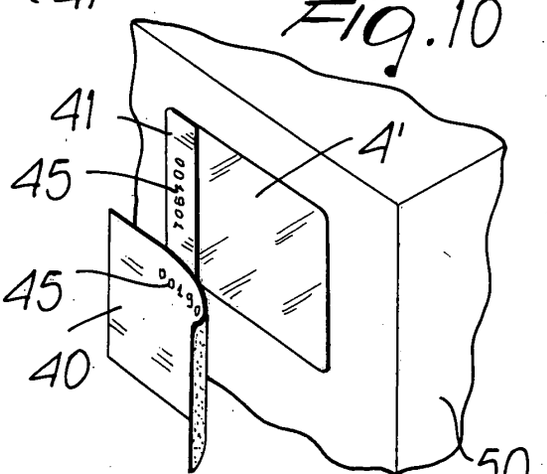

Fig. 10

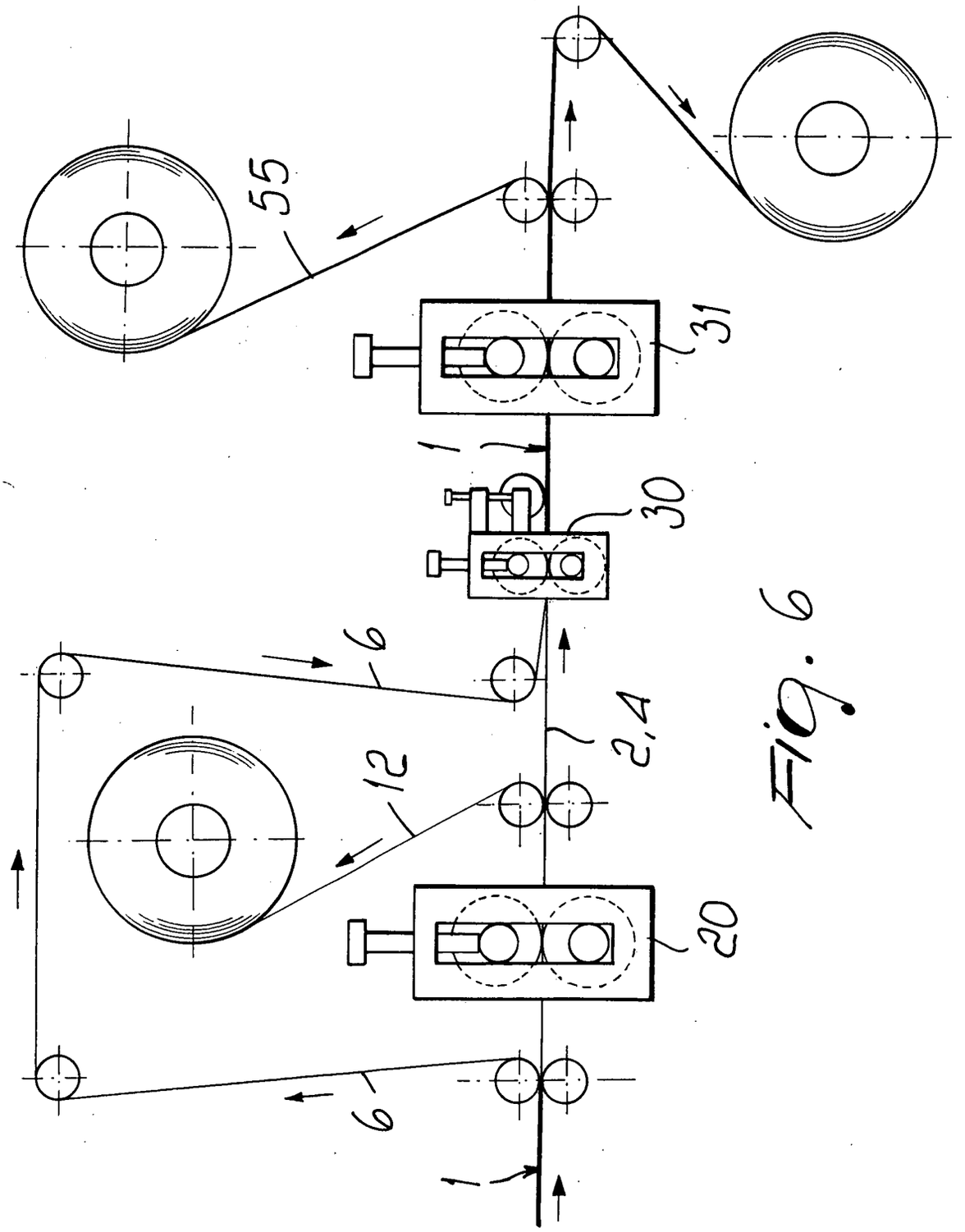

Fig. 6