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(54) Title: TEAR TAPE FOR PRODUCT WRAPPER

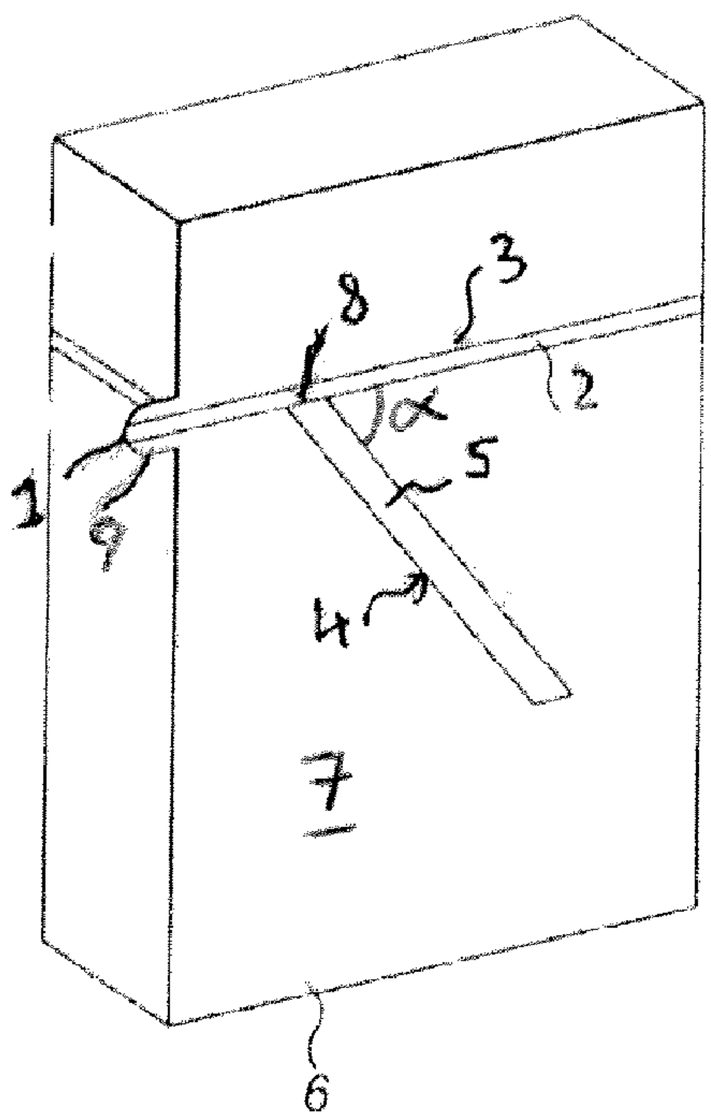

FIG. 1

(57) Abrégé/Abstract:
A tear-tape (1) for opening a product wrapper (6), said tear-tape (1) comprising at least one band (2) to be provided on a surface of the product wrapper (6), wherein the tear-tape comprises at least two intersecting branches (3, 4) and wherein the intersection (8) between said branches is located between distal ends of a first branch such that, in use, opening of said product wrapper (6) follows a first opening stage along said first branch (3), from a first end thereof, followed by a second stage along the two intersecting branches (3, 4), from said intersection (8) until at least one of a second end of the first branch (3) and an end of the second branch (4).

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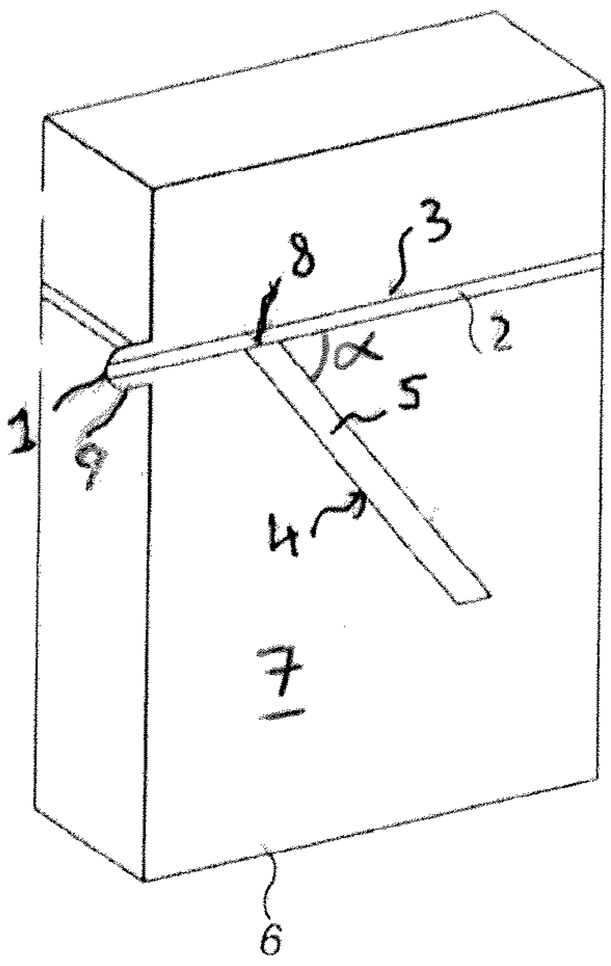

FIG. 1

(57) Abstract: A tear-tape (1) for opening a product wrapper (6), said tear-tape (1) comprising at least one band (2) to be provided on a surface of the product wrapper (6), wherein the tear-tape comprises at least two intersecting branches (3, 4) and wherein the intersection (8) between said branches is located between distal ends of a first branch such that, in use, opening of said product wrapper (6) follows a first opening stage along said first branch (3), from a first end thereof, followed by a second stage along the two intersecting branches (3, 4), from said intersection (8) until at least one of a second end of the first branch (3) and an end of the second branch (4).

WO 2013/189944 A1

Tear Tape for Product Wrapper

The present invention relates to a tear tape for a product wrapper.

For reasons of hygiene, freshness and safety, many consumer products are provided in a package which is overwrapped with a sealed wrapper. Such a wrapper may be provided by cellophane, metal foil, or similar product.

Whilst such wrappers can prevent contamination of a product within an internal package by preventing air or any other fluid from passing through the wrapper, and provide a good indication to an end consumer of the authenticity of the contents of a product, such wrappers can be difficult to remove. In order to assist in the removal of the wrapper it has been common to provide a tear tape in the wrapper, the tear tape often being positioned within the wrapper such that it has an exposed tab which can be lifted and pulled by an end user to tear the wrapper and assist in its removal. Such a tear tape normally divides the wrapper in two so an upper half can be removed by an end user to access the inner packaging and the contents thereof.

Such a construction works well for conventional packaging, in that the user does not necessarily have to remove all of the outer wrapper to gain access to the contents of the inner packaging. However, packaging for many consumer products has become more complex, with recess and/or mobile parts in the middle or sides of packaging, meaning that even a simple tear tape configuration of the well known type does not provide sufficient ease of removal for a consumer.

By way of example, the configuration of certain types of cigarette packaging has changed from a traditional hinge lid pack to packaging which opens from the side or front. In these cases, it can be difficult for a consumer to access the contents of the packaging if an external wrapper is provided unless all of the wrapper is removed, and removing the wrapper effectively with a traditional tear strip can be difficult. The present invention seems to overcome this and other problems.

According to the present invention there is provided a tear-tape for opening a product wrapper, said tear-tape comprising at least one band to be provided on a surface of the product wrapper, wherein the tear-tape comprises at least two intersecting branches and wherein the intersection between said branches is located between distal ends of a first branch such that, in use, opening of said product wrapper follows a first opening stage along said first branch, from a first end thereof, followed by a second stage along the two intersecting branches, from said intersection until at least one of a second end of the first branch and an end of the second branch.

The tear-tape of the present invention advantageously ensures that the external wrapper of a cigarette packaging can be torn away from the packaging at once in a single movement. Tearing of the tear tape may be a two-stage process; tearing may be initiated in a first stage along a single, preferably linear, direction from a first end of the first branch of the tear-tape to create a clear cut in the wrapper and then in a second stage along the two branches after the intersection of the branches, which ensures that a large piece or band of wrapper is cut and torn to unwrap the packaging in a single opening movement. The wrapper can thus be entirely removed from the packaging in one move such that a user does not have to separately remove two parts of the wrapper as is the case with tear-tapes known from the prior art.

In some examples, the at least two intersecting branches of the tear-tape may be made of a single unitary band.

In other examples, the at least two intersecting branches of the tear-tape may be made of at least two separate adhesive bands intersecting each other.

Preferably, the angle α between the at least two intersecting branches may be between 1° and 80°, preferably between 50° and 75°, and more preferably between 35° and 55°.

Preferably, the at least two branches may intersect to provide a Y- shaped junction located between said distal ends of the first of the two intersecting branches.

Preferably, at least one of the two branches may be linear or comprises at least one linear segment starting from an end of the tear-tape.

According to the present invention, there is also provided a product wrapper formed from a sheet of tearable material comprising a tear-tape as described above.

According to the present invention, there is also provided a method for producing a product wrapper formed from a sheet of tearable material comprising a tear-tape as described above, the method comprising the steps of:

positioning the tear-tape on a surface of the sheet such that at least a first branch extends between two opposite sides of the sheet; and

providing the tear-tape to the surface of the sheet.

In some examples, wherein the tear-tape of the present invention is made of at least two separate adhesive bands intersecting each other, the method of the present invention may further comprise the steps of:

positioning a first band of the tear-tape on a surface of the sheet and adhering it to said sheet to form the second branch of the tear-tape,

positioning a second band on the same surface of the sheet to form the first branch of the tear-tape such that its distal ends extend between two opposite sides of the sheet and the second band intersects the first band on at least one of its ends to form a Y-shaped junction between the two bands in between said distal ends of the first branch, and

adhering said second band to said sheet and said first band.

Preferably, the method of the present invention further comprises a step of cutting the sheet of tearable material next to an end of the first branch of the tear-tape extending between two opposite sides of the sheet to provide a tearing tab in the wrapper, and cutting the sheet of material and wrapping an individual

cut portion of the sheet material around a pack such that the distal ends of the first branch are located adjacent to a first face of the pack and the intersection between the two branches overlies a face adjacent to the first face of said pack.

Preferably, the method of the present as described above is intended for wrapping a cigarette pack.

According to the present invention, there is also provided an apparatus for performing the method as described above.

An example of the present invention will now be described with reference to the accompanying drawings in which:

Figure 1 is a schematic perspective view of a tear tape according to the present invention in a closed position;

Figure 2 is a schematic perspective view of a tear tape according to the present invention during opening;

Figure 3 is a plan view of a wrapper according to the present invention comprising a tear tape according to the present invention; and

Figure 4 shows an exemplary apparatus for performing a method to make a tear-tape according to the invention.

Referring to figure 3, a tear tape 1 is provided on a product wrapper 6. The tear tape 1 comprises an adhesive band 2 which, in use, is adhered to the surface 7 of the product wrapper 6. The adhesive band 2 is configured to comprise first and second branches 3, 4 which meet at an intersection 8 on the tear tape 1. Band 2 can be formed as a unitary adhesive component with the separate branches 3, 4 prior to application onto the surface 7 of the wrapper 6. It can also be formed from two or more separate adhesive bands 2, 5 forming the separate branches 3, 4. In this example the angle α between the two branches 3, 4 is approximately 45° but it can be anywhere between 1° and 80°, or preferably

between 5° and 75°, and even more preferably between 35° and 55°. Preferably, the angle α between each branches 3, 4 of the adhesive band 2 can be chosen and adjusted in the previously defined range depending on the shape and/or size of the product to be wrapped in wrapper 6 to ensure efficient and complete tearing of the wrapper 6 in a single opening action by an end user.

Figure 4 shows an exemplary apparatus for performing a method to make a tear tape 1 according to the present invention. The apparatus provides two separate adhesive bands 2, 5 forming branches 3, 4 of the tear tape 1.

Referring to figure 4, a bobbin 33 provides a sheet of film 6 which is passed over a number of rollers and ultimately cut by a film cutting rotary knife 35 and wrapped using a wrapping wheel over packs 11 to form over wrapped packs 11 and 6 on a conveyor 37. As the film 6 is passed over the rollers a spool of tear tape 31 is provided via a rolling cutting knife component 32 onto the surface of the film 6. The spool 31 and knife component 32 are inclined at an angle to the direction of movement of the film 6 such that individual cut tear tape components 5 are applied at an angle to the direction of movement of the film 6 that is selected at a desired angle in the range described above with reference to the end wrapping product. The individual band 5 may be adhered to the surface of the film 6 by traditional adhesive or other forms as will be appreciated by a person skilled in the art.

The combination of the band 5 and film 6 is then passed onward from where the bands 5 are applied to the film 6 at location A to a location B where a bobbin 34 of band2 is also applied to the film 6 at a location at which it forms an intersection with a respective band 5. Again, the band 2 may be applied on the surface 7 using adhesive or other known techniques. Following application of the band1 to the surface of the film 6, the film 6 is passed through a cutting knife 35 and individual sections of film, together with the adhered bands 2, 5 forming a tear-tape according to the present invention, are wrapped using the wrapping wheel 36 over individual packs 11.

Inclined band 5 is provided by cut strips from spool 31 of adhesive band material. The cut strips are positioned at regular intervals and maintained with a vacuum belt on the product wrapper film 6 which is unwound in a continuous manner in a product packaging line. The spool 31 from which the inclined bands 5 are made and orientated at an angle to the unwinding direction of the wrapper film 6 corresponding to the desired angle between the two branches 3, 4 of the tear tape 1 of the invention. Once attached to the film 6 the cut strips forming bands 5 join the main horizontal adhesive band 2 of the tear-tape 1 dispensed from a bobbin 34 during the unwinding process. Thereby, a product wrapper film 6 with inclined and horizontal adhesive bands 2, 5 forming a unitary tear tape 1 is produced and can be wrapped inline wrapped around packs 11 to be wrapped.

In use the product wrapper 6 can be provided as an overwrap over packaging 11 such as a cigarette pack as shown in figures 1 and 2. A tab 9 is provided on the product wrapper 6 such that an end portion of the band 2 is within the tab 9, thereby forming the starting or grasping end of the tear-tape 1. In use a user of the product within the packaging 11 can grasp the tab 9 to remove the tear-tape 1 from the wrapper 6. Pulling on the tab 9 initiates a first stage of the opening of the wrapper 6, wherein the band 2 breaks the wrapper 6, along a first linear direction, in a clean linear cut at a first angle relative to the packaging 11 until the intersection 8 of the branches 3, 4 is reached, the intersection 8 being located over a main face of the packaging 11. At this point, a second stage of the opening is engaged whereby further pulling on the tear tape 1 breaks the wrapper 6 in two directions, along bands 2, 5, removing a portion of the wrapper 6 with it, as shown in figure 2. This allows a user to remove the wrapper 6 with a single action, contrary to the prior art, and therefore allows the user to gain access to the inner packaging 11 more easily in a single motion, two-stage opening action.

It should be appreciated that the location of the intersection 8 between the distal ends of the main band 2 of the tear-tape 1 is preferably located at a distance from the distal ends of the main band 2. For example, the intersection 8 may be located mid-way along the component of main band 2 that extends over a main

face of the packaging 11. A particular advantage of this arrangement is that it ensures that, when the wrapper 6 is placed over packaging 11, the ends of the band 2, forming the first branch 3 of the tear-tape 1, are located adjacent to a first face of the packaging 11, preferably a side face of a cigarette packaging 11 as shown in the figures. Meanwhile, the intersection 8 overlies a main face 7 of said packaging 11 which is adjacent to the first face. This configuration ensures proper initiation of the wrapper opening process during the first stage and complete removal of said wrapper 6 starting from the intersection 8 during the second stage of the opening.

In addition, it is important that only one band 2 of the tear-tape 1 extends over a corner or folded edge of the packaging 11 in order to avoid wrinkling of the wrapper 6 at the corners or folded edges when the wrapper is heat-shrunk in a usual manner.

As will be appreciated from the above, the present invention provides a tear tape and associated outer wrap for a product which is simple and cost effective to manufacture, yet which is also beneficial to an end consumer in terms of improved removal of the wrapper and access to the contents of internal packaging.

CLAIMS

1. A tear-tape (1) for opening a product wrapper (6), said tear-tape comprising at least one band (2) to be provided on a surface (7) of the product wrapper (6), wherein the tear-tape comprises at least two intersecting branches (3, 4) and wherein the intersection (8) between said branches is located between distal ends of a first branch such that, in use, opening of said product wrapper follows a first opening stage along said first branch, from a first end thereof, followed by a second stage along the two intersecting branches, from said intersection until at least one of a second end of the first branch and an end of the second branch.

2. A tear-tape (1) according to claim 1, wherein the at least two intersecting branches (3, 4) are made of a single unitary band (2).

3. A tear-tape (1) according to claim 1, wherein the at least two intersecting branches are made of at least two separate adhesive bands (2, 5) intersecting each other.

4. A tear-tape (1) according to any of claims 1 to 3, wherein the angle α between the at least two intersecting branches (3, 4) is between 1° and 80°, preferably between 5° and 75°, and more preferably between 35° and 55°.

5. A tear-tape (1) according to any of claims 1 to 4, wherein the at least two branches intersect to provide a Y- shaped junction (8) located between said distal ends of the first of the two intersecting branches.

6. A tear-tape (1) according to any of claims 1 to 5, wherein at least one of the two branches (3, 4) is linear or comprises at least one linear segment starting from an end of the tear-tape.

7. A product wrapper (6) formed from a sheet of tearable material comprising a tear-tape (1) according to any of claims 1 to 6.

8. A method for producing a product wrapper (6) according to any of claims 1 to 7, the method comprising the steps of:

positioning the tear-tape on a surface of the sheet such that at least a first branch extends between two opposite sides of the sheet; and

providing the tear-tape to the surface of the sheet.

9. A method according to claim 8, wherein said tear-tape is made of at least two separate adhesive bands intersecting each other, the method further comprising the steps of:

positioning a first band of the tear-tape on a surface of the sheet and adhering it to said sheet to form the second branch of the tear-tape, and

positioning a second band on the same surface of the sheet to form the first branch of the tear-tape such that its distal ends extend between two opposite sides of the sheet and the second band intersects the first band on at least one of its ends to form a Y-shaped junction between the two bands in between said distal ends of the first branch; and

adhering said second band to said sheet and said first band.

10. A method according to claim 8 or 9, further comprising a step of cutting the sheet of tearable material next to an end of the first branch of the tear-tape extending between two opposite sides of the sheet to provide a tearing tab in the wrapper, and cutting the sheet of material and wrapping an individual cut portion of the sheet material around a pack such that the distal ends of the first branch are located adjacent to a first face of the pack and the intersection between the two branches overlies a face adjacent to the first face of said pack.

11. A method according to claim 10, wherein the pack is a cigarette pack.

12. An apparatus for performing the method of any of claims 8 to 11.

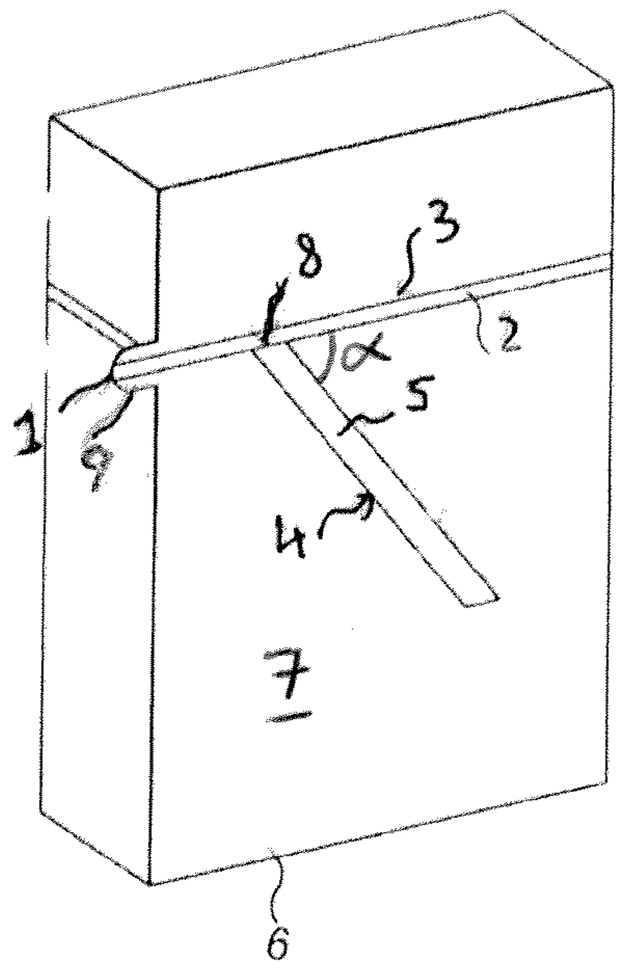

FIG. 1

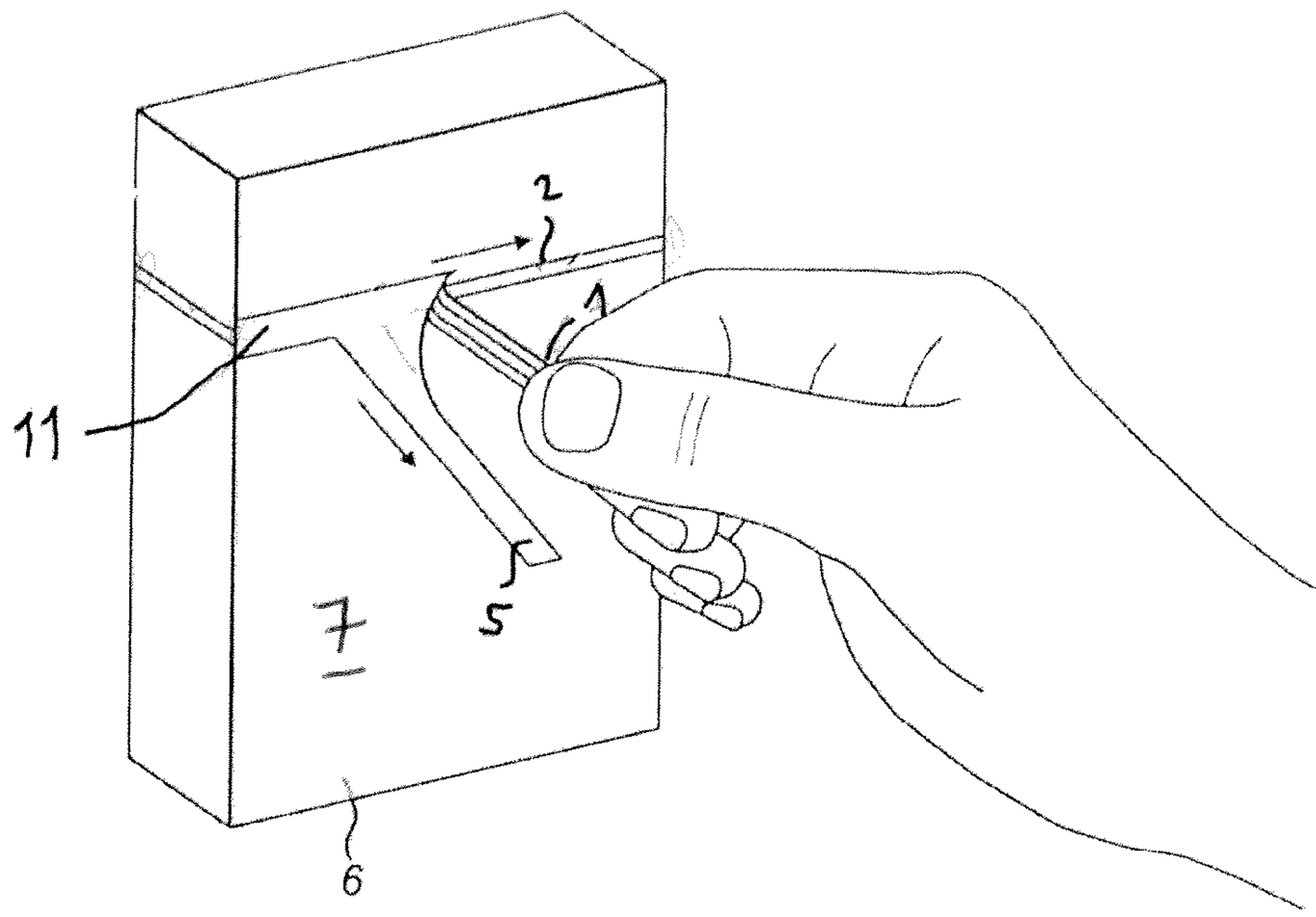

FIG. 2

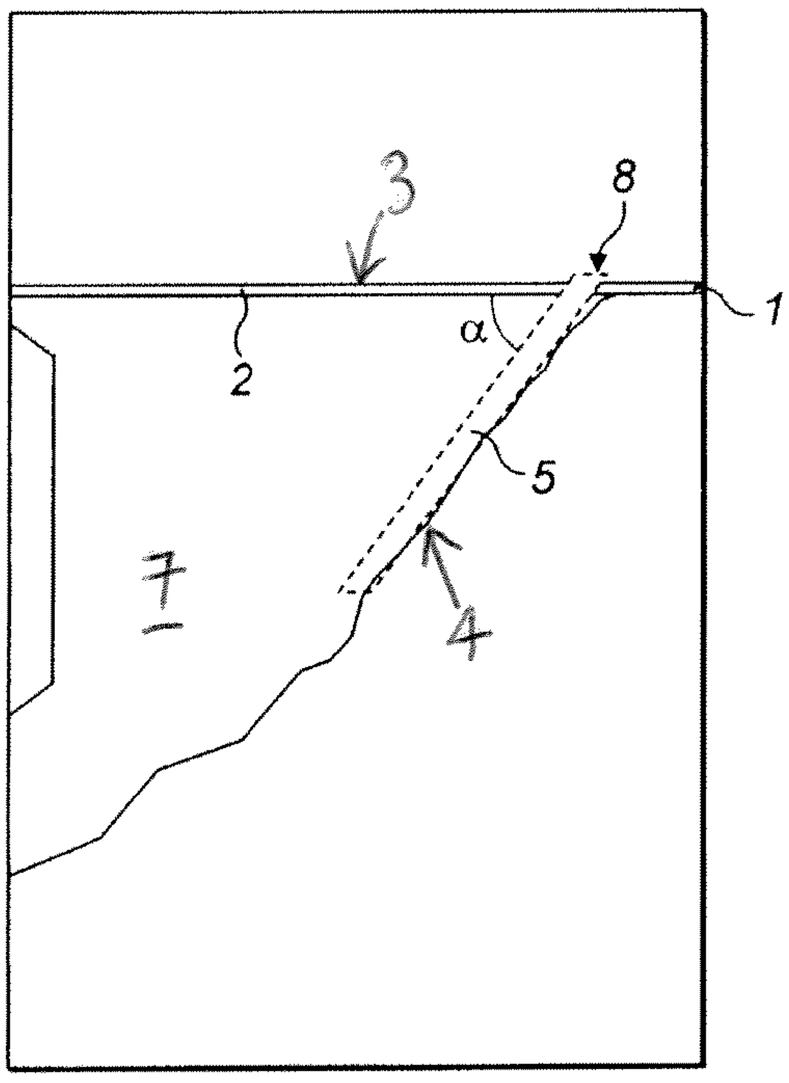

FIG. 3A

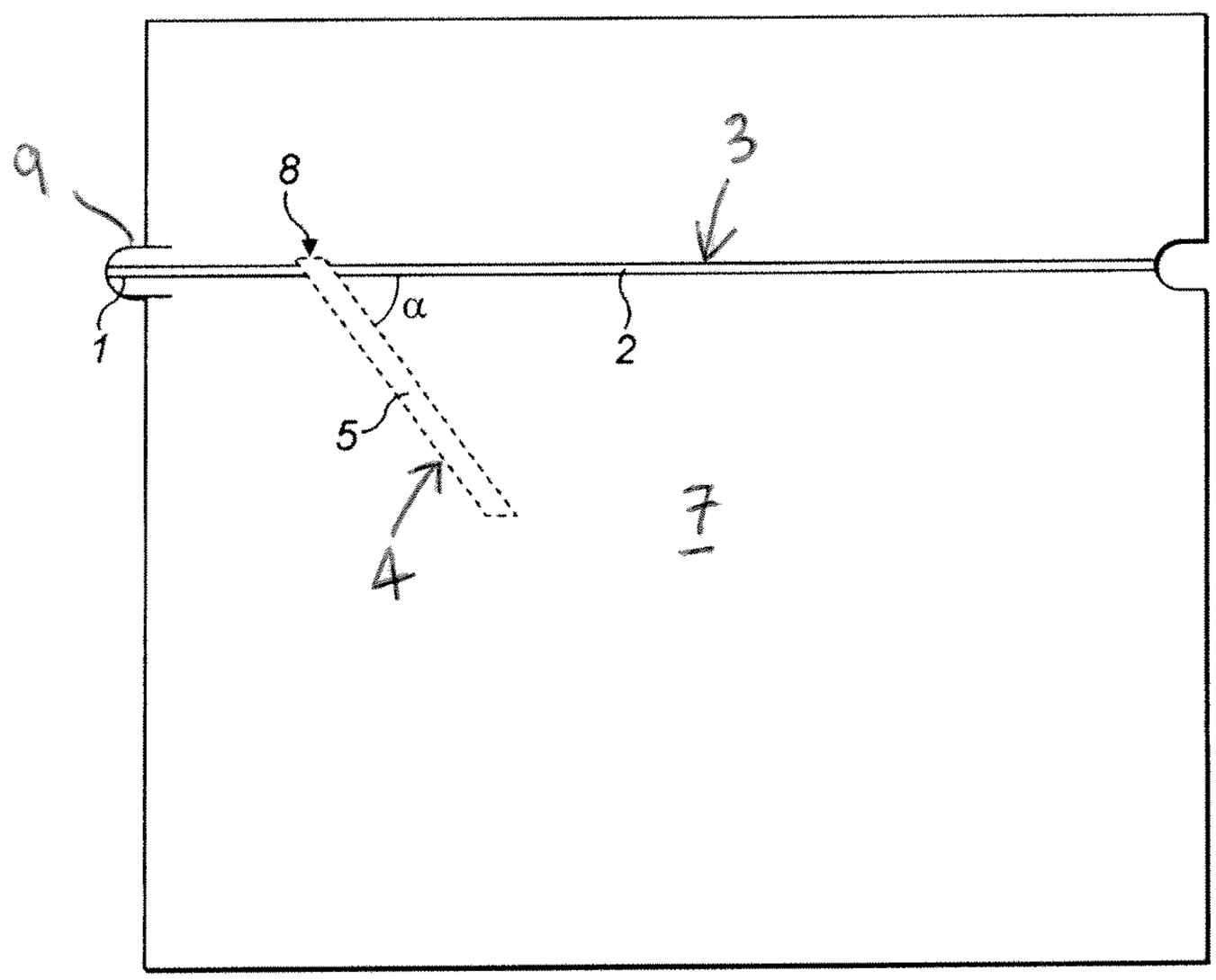

FIG. 3B

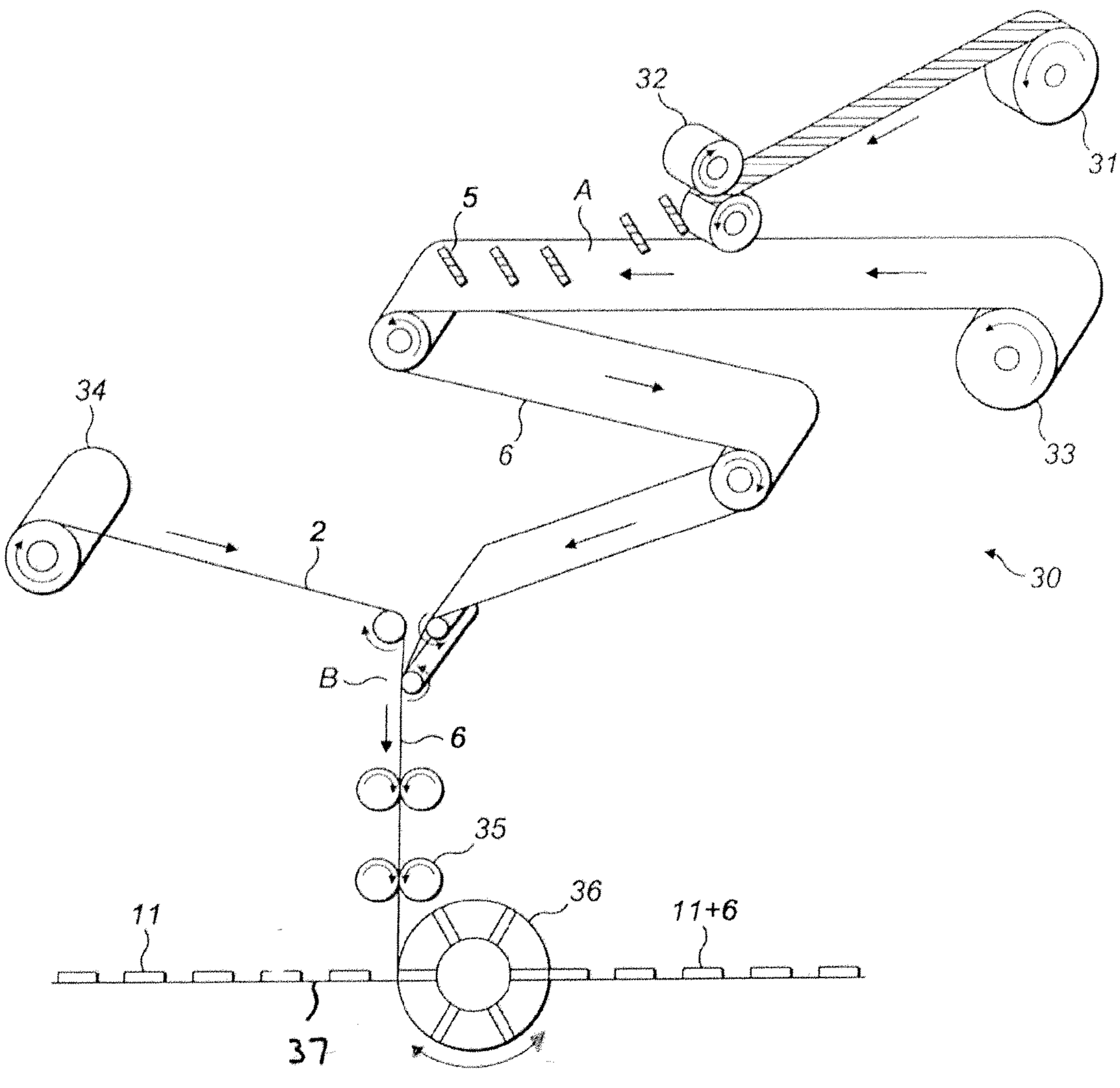

FIG. 4

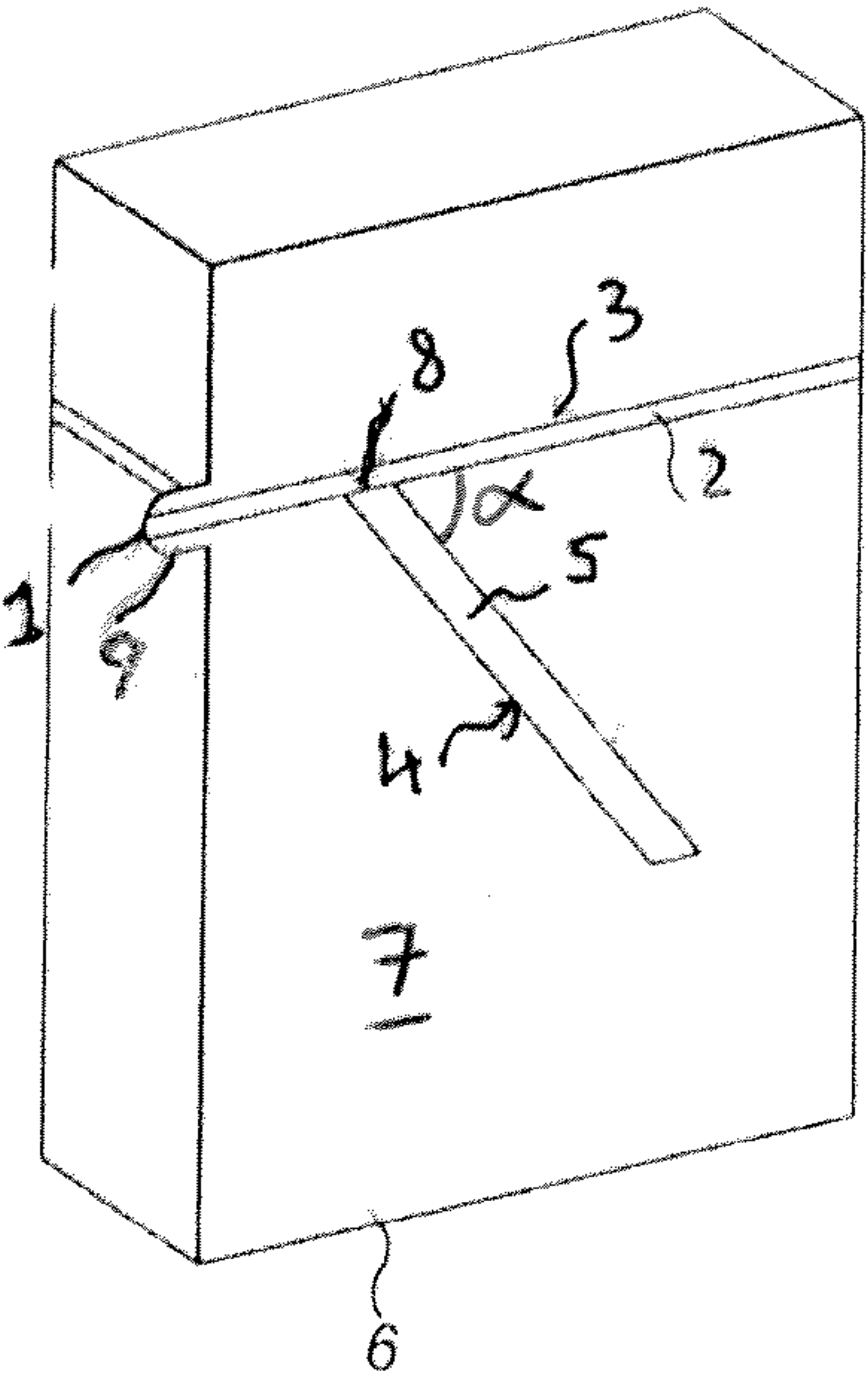

FIG. 1