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(71) Applicant *(for all designated States except US)*: **IMPRESS GROUP B.V.** [NL/NL]; Zutphenseweg 51051, NL-7418 AH Deventer (NL).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: **JOUILLAT, Jean-François** [FR/FR]; 6, rue de la Corderie, F-49150 Bauge (FR).

(74) Agent: **PRINS, Hendrik, Willem**; Arnold & Siedsma, Sweelinckplein 1, NL-2517 GK The Hague (NL).

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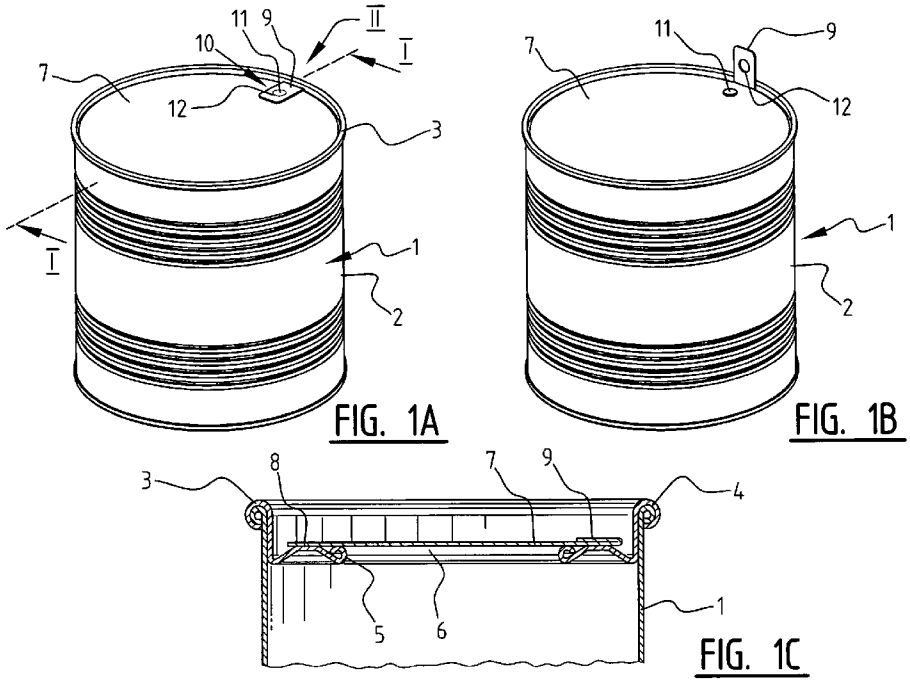
(54) **Title:** CONTAINER AND MEMBRANE THEREFORE




(57) **Abstract:** The invention relates to a container (1), comprising a container opening edge (5), and a membrane (7) comprising a membrane tab (9), which membrane (7) closes the opening (6) and is adhered to the opening edge (5), wherein the tab (9) is at least adhered to the membrane (7) via temper proof means (10).

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# CONTAINER AND A MEMBRANE THEREFORE

The present invention relates to a container and to a membrane therefore.

The containers according to the invention have a container opening defined by an opening edge. This opening is closed by a membrane adhered to the opening edge. An example is a so called easy opening container.

Suppliers and users of such containers would like to know and would like to be shown whether the content of the container has been accessed by in particular third parties. That is, the supplier and user would like to know whether the membrane has been removed from the opening edge by using the tab for getting access to the content.

Accordingly, there is a need for providing such container with means which would show whether third parties have had access to the container content even if the membrane is re-adhered to the opening edge and give the impression when opened by the user that the content is still genuine.

However, from a supplier point of view it is relevant that such an improved container should not suffer from changes in the structure thereby inferring with the production of such containers and the filling thereof.

The present invention has for its object to provide a container which complies with the above described need and avoid the above described drawbacks. Accordingly, the present invention provides a container, comprising a container opening edge, and a membrane comprising at least one membrane tab, which membrane

closes the opening and is adhered to the opening edge, wherein the tab is at least adhered to the membrane via temper proof means.

The tab of the container according to the invention is at least adhered to the membrane via the temper proof means. Accordingly, when the tab is used for releasing the membrane from the opening edge, then the temper proof means will be destructed or deteriorated thereby giving proof that the tab has been activated and possibly the membrane released or was released from the opening edge and therefore access has been available to the content of the container.

The container according to the invention may be used for comprising any type of content such as food and non-food. Furthermore, the container may be pressure-less or have an internal negative or positive pressure.

The container may be made of plastic, of metal or a combination of both.

The membrane may be a conventional membrane made of plastic, metal or combinations thereof such as laminates of metal and plastic, such as a thermoplast.

Furthermore, the opening edge may be formed by an edge of the container, in particular of the container body or have the form of a separate container ring provided with the opening edge. Obviously, this ring may be made of plastic or metal or combinations of both.

According to a first embodiment the temper proof means comprise at least one temper proof element formed by a weakened part of the tab and/or of the membrane.

By using a weakened temper proof element the gripping and opening of the container via the tab will be substantially not influenced by the presence of the temper proof means. Furthermore, it might be possible to adhere other parts of the tab to the membrane and that it

is the weakened temper proof part that will be destructed or deteriorated when activating the tab.

If desired, the temper proof means comprise at least one temper proof element formed by a score in the tab.

The temper proof element is formed by a score in the tab, so that when activating the tab, this temper proof element will be scored out of the tab and remains visible on the membrane. If desired, the temper proof means comprise at least one temper proof element formed by a score in the membrane. Accordingly, when activating the tab the temper proof element will be scored out of the membrane and remains adhered to the tab. Thereby making visible in the membrane and on the tab the destruction or deterioration of the temper proof means. Finally, it is possible that the temper proof means comprise at least one temper proof element formed by a score in the tab and in the membrane. Accordingly, temper proof elements could be at both the tab and the membrane or super imposed onto one another. In this respect it is noted that when the temper proof means are provided in the membrane and covered by the tab, the user and third parties will not have appreciated the presence of the temper proof means until activation of the tab. This may provide a surprising effect.

The scoring of the tab and/or the membrane may take any form such that after activation of the tab a deterioration or destruction of the temper proof means would be visible for the user. According to one embodiment the scoring is following an open score line having the form of a triangular part or the form of a partial moon space such as provided in the side edges of the tab or at the side edge of the membrane. Preferred however, is a temper proof element formed within a closed

score line. Accordingly, after activation of the tab and destruction or deterioration of the temper proof means, there will be visible a form such as a circle, oval, square and/or rectangle. Obviously, a combination of open and closed score line defined temper proof elements is feasible. According to another embodiment the temper proof element is connected via a weakened tab part or tab zone to a tab body. In this embodiment the tab is provided with an additional tab part which is connected to the tab via a weakened tab part or tab zone. Accordingly, when activating the tab, this weakened tab part or tab zone will be destructed or deteriorated leaving the temper proof element on the membrane. A connection in between the temper proof element and the remaining tab body is subsequently not feasible and/or at least noticeable. This weakened tab part or tab zone may be formed by a reduced thickness and/or reduced width of the connection in between the temper proof element and the tab body.

As indicated before, the tab at least via the temper proof means may be adhered to the membrane by seaming, gluing and the like. When the tab is adhered to the membrane not only by the temper proof means but also by other tab parts, then it is important that the adherence of the temper proof means to the membrane is of a higher strength than the adherence of other parts of the tab.

It is noted that temper proof means could be located at any position in the membrane and/or tab or tabs provided that the membrane could be removed using the tab while destroying and/or deteriorating the temper proof means. For example in the middle part or in the tab part proximal to the membrane.

Another aspect of the present invention relates to a membrane defined here and before which is provided with temper proof means and may be adhered to an opening edge of a container.

Mentioned and other features of the container and membrane of the present invention will be further illustrated by making reference to several embodiments which are given for illustrative purposes only and are not intended to limit the invention to any extent. Therefore reference will be made to the annex drawings wherein:

figures 1A and 1B respective views of a container according to the invention provided with temper proof means;

figure 1C a cross-sectional view according to the line I-I from figure 1A;

figure 2A and 2A at a larger scale a respective view according to detail II from figure 1A; and

figure 3 alternative temper proof means according to a detail III of figure 2B.

Figure 1A discloses a container I according to the invention provided with a container body 2 and a ring 3 curled onto the container body 2 via a curl 4.

The ring 3 comprises a container opening edge 5 defining an opening 6 of the container 1. This opening 6 is closed off by a membrane 7 which is sealed to the opening edge 5 at a horizontal part 8.

The membrane 7 is provided with a tab 9 which is folded onto the membrane 7. By gripping the tab 9 the membrane 7 may be removed from the opening edge whereby the content of the container 1 will become accessible.

The tab 9 is provided with temper proof means 10. These temper proof means are formed by a circular temper

proof element 11 defined and formed by a score line 12 formed in the tab 9.

As shown in figure 1B, when the tab 9 is gripped and moved into a standing position (as shown) this temper proof element 11 will remain visible on the outer surface of the membrane 7 because via this temper proof element 11 the tab 9 was adhered to the membrane 7.

Obviously, other parts of the tab 9 might have been adhered to the membrane 7 but at a reduced adherence strength relative to the more strong adherence of the temper proof element 11 to the membrane 7.

Clearly, as shown in figure 1B, the hole 12 in the tab 9 and the circular temper proof element 11 on the membrane 7 both give proof of activation of the tab 9 for the subsequent removal of the membrane from the opening edge.

Figures 2A and 2B show temper proof elements 11 according to the invention having the form of an extension 13 of a tab 14 folded onto a membrane 15. The extension 13 may be made of the same material as the tab 14 and may have the same thickness and is adhered by gluing or seeming to the membrane 15. For opening the container 16 edges 17 may be gripped in order to bring the tab 14 in an upright position as shown in figure 2B. This will result in a destruction of a weakened tab part 18 via which the temper proof element 13 was connected to the tab 14.

As shown in figure 2B the presence of the temper proof element 13 and a part of the weakened tab part 18 and a remaining part on the tab 14 provide proof to the supplier and/or consumer that the tab 14 has been used for opening the container 16.

Finally, figure 3 shows another container 19 according to the invention provided with a membrane 20

closing an opening of the container via a container ring 21 curled to the body of the container 19. Membrane 20 is provided with a tab 22. The temper proof means are incorporated in the membrane 20 and have the form of a circular temper proof element 23. This temper proof element 23 is formed and defined by a score line 24 in the membrane 20. Figure 3 shows the tab 22 when in upright position and the temper proof element torn out of the membrane 20 and still present on the surface 25 facing the membrane 20. To this surface 25 the temper proof means were adhered to the tab and connecting the tab to the membrane 20.

Again, as shown in figure 3, the destruction of the temper proof means leaving an opening 26 in the membrane 20 and the temper proof disc formed element 23 on the tab 22 are both proof of activation of the tab for getting access to the content of the container.

**CLAIMS**

1. Container, comprising a container opening edge, and a membrane comprising at least one membrane tab, which membrane closes the opening and is adhered to the opening edge, wherein the tab is at least adhered to the membrane via temper proof means.

2. Container according to claim 1, wherein the temper proof means comprise at least a temper proof element formed by a weakened part of the tab and/or of the membrane.

3. Container according to claim 1 or 2, wherein the temper proof means comprise at lease one temper proof element formed by a score in the tab.

4. Container according to claim 1-3, wherein the temper proof means comprise at least one temper proof element formed by a score in the membrane

5. Container according to claim 1-4, wherein the temper proof means comprise at least one temper proof element formed by a score in the tab and in the membrane.

6. Container according to claim 1-5, wherein the temper proof element is formed by at least one open score line, such as having the form of a triangle or partial moon shape.

7. Container according to claim 1-6, wherein the temper proof element is formed by at least one closed score line, such as having the form of a circle, oval, square or rectangle.

8. Container according to claim 1-7, wherein the temper proof element is connected via a weakened tab part or tab zone to a tab body.

9. Container according to claim 8, wherein the

weakened tab part or tab zone has a reduced thickness and/or reduced width

10. Container according to claim 1-9, wherein the tab is adhered to the membrane by seaming, gluing and the like.

11. Membrane provided with temper proof means as defined in the claims 1-10.

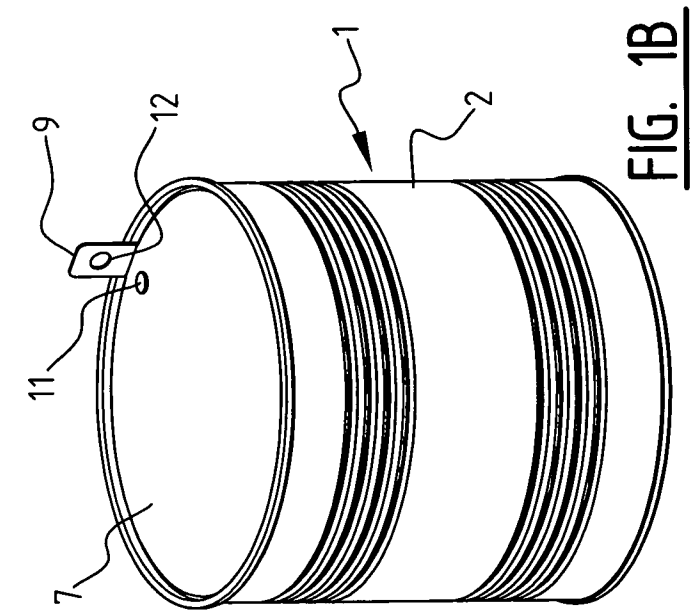


FIG. 1B

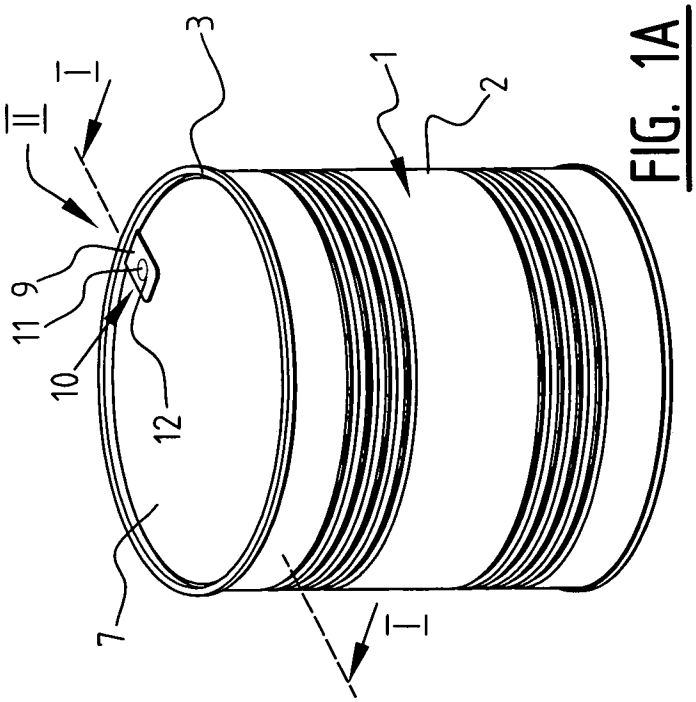


FIG. 1A

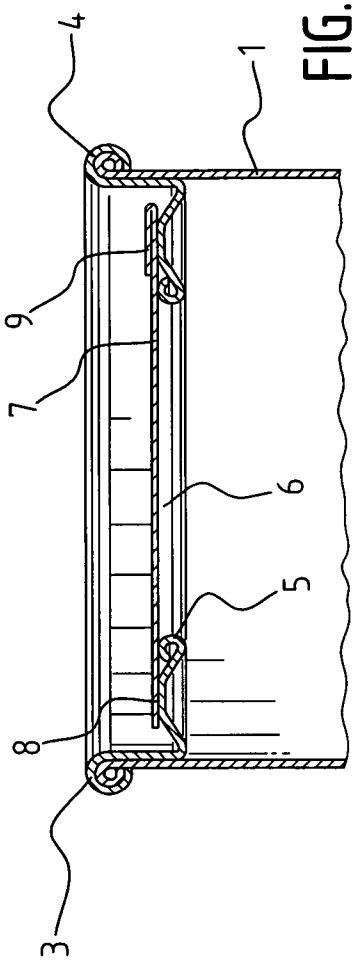


FIG. 1C

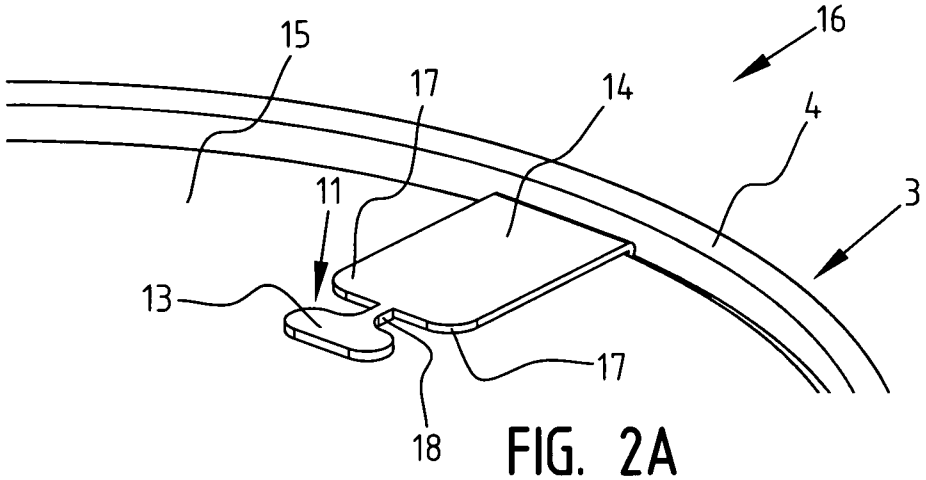


FIG. 2A

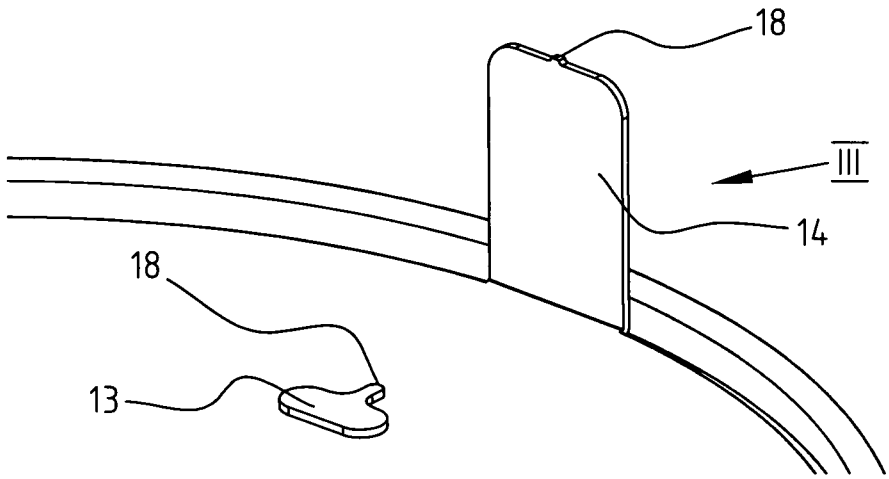


FIG. 2B

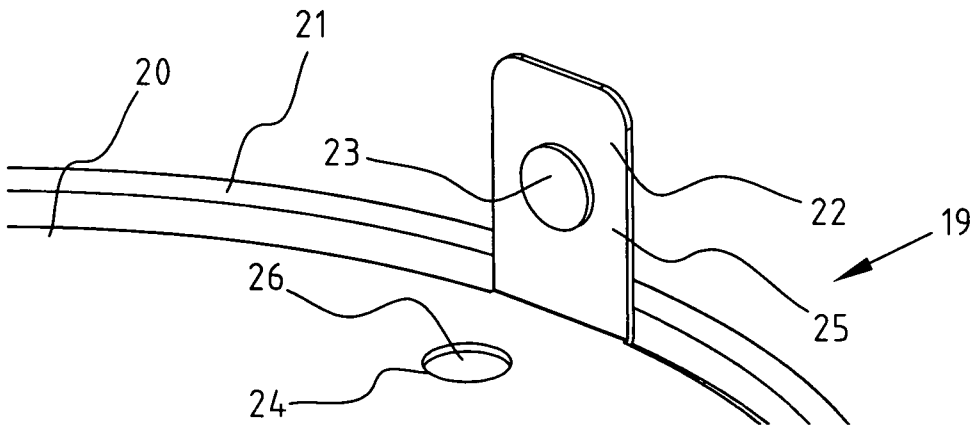


FIG. 3

# INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/009979

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D17/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
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| A | EP 1 321 376 A (IMPRESS GROUP B V [NL]) 25 June 2003 (2003-06-25) paragraphs [0004], [0030]; figures 1-3 | 1,10,11 |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 22 January 2009 | 29/01/2009 |

| Name and mailing address of the ISA/ | Authorized officer |
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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