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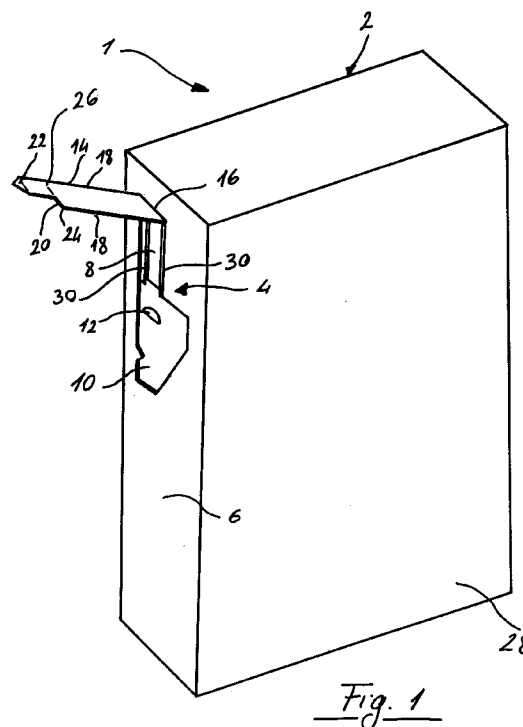
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(54) **Carton with delivery device of loose products.**

(57) Carton with delivery device of loose products comprising : a container (2) ; a delivery device (4) of loose products with an opening (8) made on one of the narrow lateral sides (6) of the container (2), containing an area (10) facilitating raising of the tongue positioned on the inferior part of the opening, within which the container has a depression, a closing lap (14) of the opening with an upper edge (16) integral with the container (2), lateral edges (18) separable from the container and a lower edge (20) positioned on the area of insertion through which the lap is moveable from a lower position where the lap closes the delivery opening and an upper position where the opening is open.



This invention is a carton with a delivery device of loose products comprising: a container made with a die-cut cardboard blank; and a delivery device of loose products with an opening made on one of the faces of the containers. Presently, the containers are widespread in a parallelepiped form which are obtained by folding a die-cut cardboard blank in a certain manner.

Said containers are usually filled with loose products which are, mainly, in granular or powder form. These can be food products such as rice, flour, salt or, perhaps, powdered detergents. On one of the sides of the parallelepiped of the container there is a delivery device which serves to release the correct amount of the loose product. Said delivery devices are essentially comprised of a closing lap or little door of generally rectangular shape which covers an opening. The lap has one of the two vertical sides connected to the container while the two horizontal sides are connected to the container but separable from this through suitable lines of perforation. The second vertical side is, instead, free in such a way that the user grasping it, is in a position to detach the two horizontal sides along the lines of perforation. In this way, rotating the lap around the first vertical side, it is possible to open and close the opening. In addition, the free side is equipped with a tongue which allows to close the container again after use, inserting the tongue in the opening.

This type of delivery device has some disadvantages.

First of all, after having closed the lap again, inserting the tongue in the opening, it opens again with ease. This occurs, for example, if the box is held, as it often is, pressing the upper surface of the parallelepiped with the hand. In this way, one causes the inward deformation of the walls of the container and the consequent deformation of the contour which defines the opening, with the consequent exit of the tongue from the opening whereby the lap is no longer maintained in a closed position.

There is also another serious inconvenience which occurs with the opening of a container which has never been opened in the past. In this case, the user finds difficulty in attempting to raise the free side to be able to open the lap, pulling it along the lines of perforation. This difficulty is due to the fact that the free side of the lap is flush with the surface adjacent to the wall of the container on which this is found. Thus, numerous attempts are made before the user is able to open the box. In certain cases, these attempts cause lacerations within the cardboard of the lap and tongue, rendering impossible the opening of the container so that the user is compelled to use a tool, for example a knife, to raise the tongue.

Thus, it is to be noted that the opening is a weak point of the structure of the container. In fact, when a package formed from said containers is found at the

base of a stack of packages of similar containers or of other wares, the weight of these places the container under a high load of compression. This load, beyond deforming the container, causes the premature laceration of the horizontal lines of perforation between the lap and the container, causing a partial opening of the delivery mouth.

Moreover, it is known that the containers are often grouped together in a package through a plastic film wrapped tightly around the same containers. Since this plastic film is tight, it exerts a notable pressure on the external surface of the boxes. Hence, this pressure also causes a premature rupture of the lines of perforation which define the lap, whereby this type of container is no longer in a position to guarantee throughout transportation the protection of the product therein contained.

The object of this invention is that of realizing a container which is able to overcome the inconveniences of containers of the prior art.

More particularly, it is the object of the present invention to realize a container in which the closing lap remains fastened to the container in a secure manner through transport, avoiding the inadvertent opening of the container.

An additional object is to realize a container whose closing lap can be easily opened by the user.

A further object is to realize a container which, in relation to the opening, has a greater thickness of cardboard to stiffen the structure of the same container to prevent that the closing lap releases the delivery opening inadvertently.

Still a further object is to realize a container whose closing lap maintains the opening closed in a secure way once the lines of perforation have been severed.

These and other objects are attained in a container according to the characterizing part of claim 1. Further advantageous characteristics are evident from the dependent claims.

Below, with reference to the annexed drawings, follows a description of the preferred embodiment of a container with a delivery device, chosen to illustrate the invention by virtue of example.

Within the annexed drawings:

Figure 1 shows the carton with delivery device of the present invention with closing lap in a raised position;

Figure 2 shows the same carton of Figure 1, the latter differing from the former because the closing lap is shown lowered.

With reference first to Figure 1, with numeral 1 a carton was depicted which, as noted, is usually made from a die-cut cardboard blank. The die-cut cardboard blank has, essentially, the form of a band with, along its perimeter, flaps foldable along suitable scoring lines. Folding the band and the flaps in a certain way, it is possible to get container 2 illustrated in the

figure. These types of containers are used to conserve loose products in granular or powder form, such as detergents or certain food products, such as rice.

Carton 1 has a delivery device 4 which is on a narrow lateral wall or face 6 of the parallelepiped. The device has an opening 8 defined on this face and an area 10 facilitating raising of the tongue positioned on the lower part of the opening 8. In this area, the carton has a depression. Said depression can be obtained by impressing the carton, that is, exerting a strong pressure to cause within the area facilitating raising of the tongue a section with less thickness than in the adjoining parts of the container, or perhaps superimposing the two flaps which make up the ends of the strip of the die-cut cardboard in such a way that the flap found on the outside creates a wider window relative to a smaller window which defines the opening on the internal flap whereby the internal or lower flap remains exposed.

The delivery device 4 also comprises a narrow closing slot 12 positioned in the area 10 facilitating raising of the tongue and below the delivery opening 8. The function of this slot will be clarified below.

The delivery device is comprised also by a closing lap 14 with an upper edge 16 connected to the container 2, lateral edges 18 which, as illustrated in Figure 2, are separable from the container 2 along lines of perforation which, in Figure 2, coincide with the same lateral edges. The free lower edge 20 has a tongue 22 which is insertable into the slot 12.

In Figure 2, the container is shown as sold to the user. In this case, as said above, the closing lap 14 is connected to the container 2, not only through its upper edge 16 but also through its lateral edges 18. Instead, the lower edge 20 and the tongue 22 are almost fully removed from the box and leaning against the area 10 facilitating raising of the tongue. As seen from the drawing, the tongue has transversely a dimension below the length of the edge 20. In this way, the edge 20 creates a corner 24 which facilitates, as it will be seen below, the opening of the delivery device.

The function of the container with the delivery device is the following.

In reference first to Figure 2, this shows, as stated, the box as sold to the consumer, who, to be able to open the box, only has to insert the fingernail below the corner 24, or below the tongue 22. Both the tongue or the corner are shaped to ensure a firm hold by the fingernail, even for people with very short fingernails.

The firm hold, above all, is guaranteed by the presence of the area 10 facilitating raising of the tongue which, as stated, creates a depression. In fact, thanks to this area, it is easier for the fingernail to pass below the tongue 22 or the corner 24. This was not possible with the delivery devices from the prior art, either because the tongue or the corner were

flush with the wall of the container. After having raised the tongue 22 and the edge 20, it is possible to grasp them with the fingertips of two fingers and lift up the closing lap, causing the laceration of the defined lines of perforation along the lateral edges 18. In this manner, it is now possible to withdraw part of the contents of the carton. To close the box after use, it is sufficient to fold the tongue 22 inward and, after having lowered the closing lap 14, insert the tongue 22 inside the slot 12. To facilitate the folding of the tongue with respect to the closing lap, there is a weakening line 26 between the tongue and the lower edge.

It is also to be noted that the box is held by compressing the two upper side flanks 28 with the hand without causing the opening of the lap 14. This result is obtained because the opening of the lap occurs vertically so that the pressure of the hand which holds the box is directed horizontally toward the inside of the box without making the closing lap open. Moreover, the tongue 22 inserted in the proper slot 12 maintains the lap in a secure lowered position. Further, the two flaps on which the delivery device is found fully superimpose themselves over each other because they have essentially the same length so that the wall 6 where the slot is, thus, has a double thickness relative, for example, to the other lateral walls of the box.

Thanks to this characteristic, the wall 6 tends to be deformed only minimally, or not at all, whether on horizontal or vertical loads. In this manner, it is highly improbable that the lines of perforation can be lacerated from the loads, determining an undesired opening of the closing lap.

This characteristic is particularly advantageous when a great number of packages must be stacked on top of each other, each comprising several containers. In this situation, the containers which are at the bottom of the pile of boxes will be under a pressure due to the weight of the packages above. Thus, thanks to the double thickness, the lateral wall 6 does not bend and there is, as mentioned, no premature laceration of the lines of perforation.

Finally, it is to be noted that, in reality, each line of perforation coincides essentially with one of the lateral edges 18, and is comprised of two offsetting cutting lines in transversal direction in relation to the container. One of the cutting lines is on top of the face of the die-cut cardboard blank, which becomes the internal surface of the container, while the other cutting line is on the opposite face, which becomes the external surface of the container. Since the die-cut cardboard blank is formed, in reality, from two cardboard layers are glued to one another, when the closure lap is opened, not only laceration of the cutting lines, but also the separation of the two cardboard layers occur. In this way, around the opening there is a protective edge 30 formed from the internal cardboard layer. When the lap 14 is in the lower closed position, the

internal surface of the lap leans against said edge, guaranteeing, thus, a more effective closure of the container.

Claims

1. Carton with delivery device of loose products comprising: a container (2) made from a die-cut cardboard blank; a delivery device (4) of loose products with a delivery opening (8) defined in one of the narrow lateral walls (6) of the container (2) and comprising a closing lap (14) of the opening with an upper end (16) connected to the container (2) and lateral edges (18) separable from said container (2) along proper lines of perforation, characterized in that the device (4) has an area (10) facilitating raising of the tongue positioned on the lower part of the delivery opening (8), within said area (10) said container (2) has a depression in its thickness and comprising a lower edge (20) of said closing lap positioned on the area (10) facilitating raising of the tongue at a reduced thickness so that said closing lap (14) is moveable through laceration of the lines of perforation from a lower position, which closes the delivery opening, to an upper position, when the opening is open.
2. Carton according to claim 1, characterized in that the narrow lateral wall (6) where there is the delivery opening (8) has a greater thickness with respect to the other walls of the container (2),
3. Carton according to claim 1, characterized in that said area (10) of depression is attained superimposing the two flaps which make up the ends of the strip of the die-cut cardboard in such a way that the flap found on the outside creates a wider window relative to a smaller window which defines the delivery opening (8) on the internal flap whereby the internal or lower flap remains exposed at said depression area (10).
4. Carton according to claim 1, characterized in that it has a closing slot (12) positioned in the area (10) facilitating raising of the tongue, a tongue (22) provided on the lower edge (20), being insertable in the slot (12).

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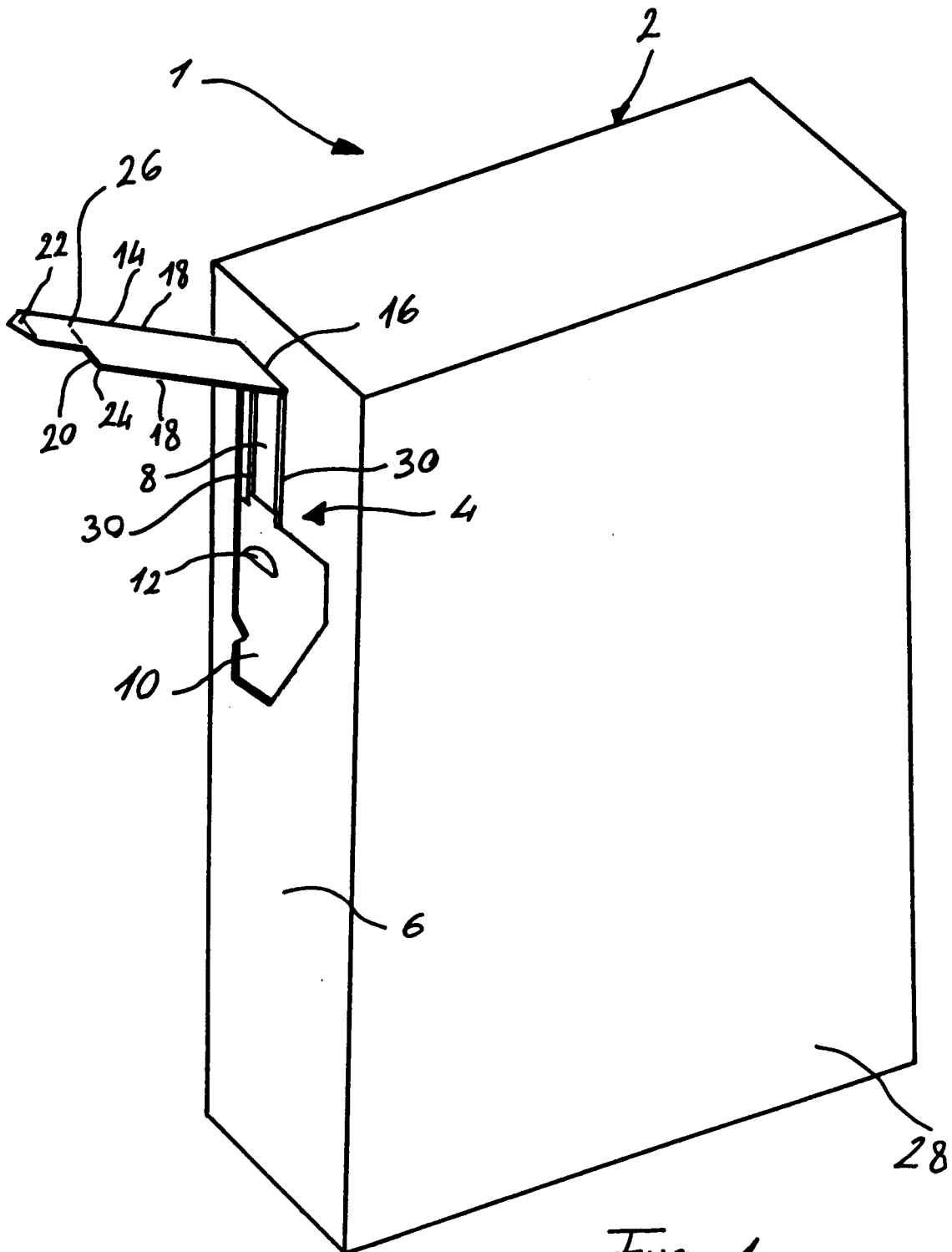


Fig. 1

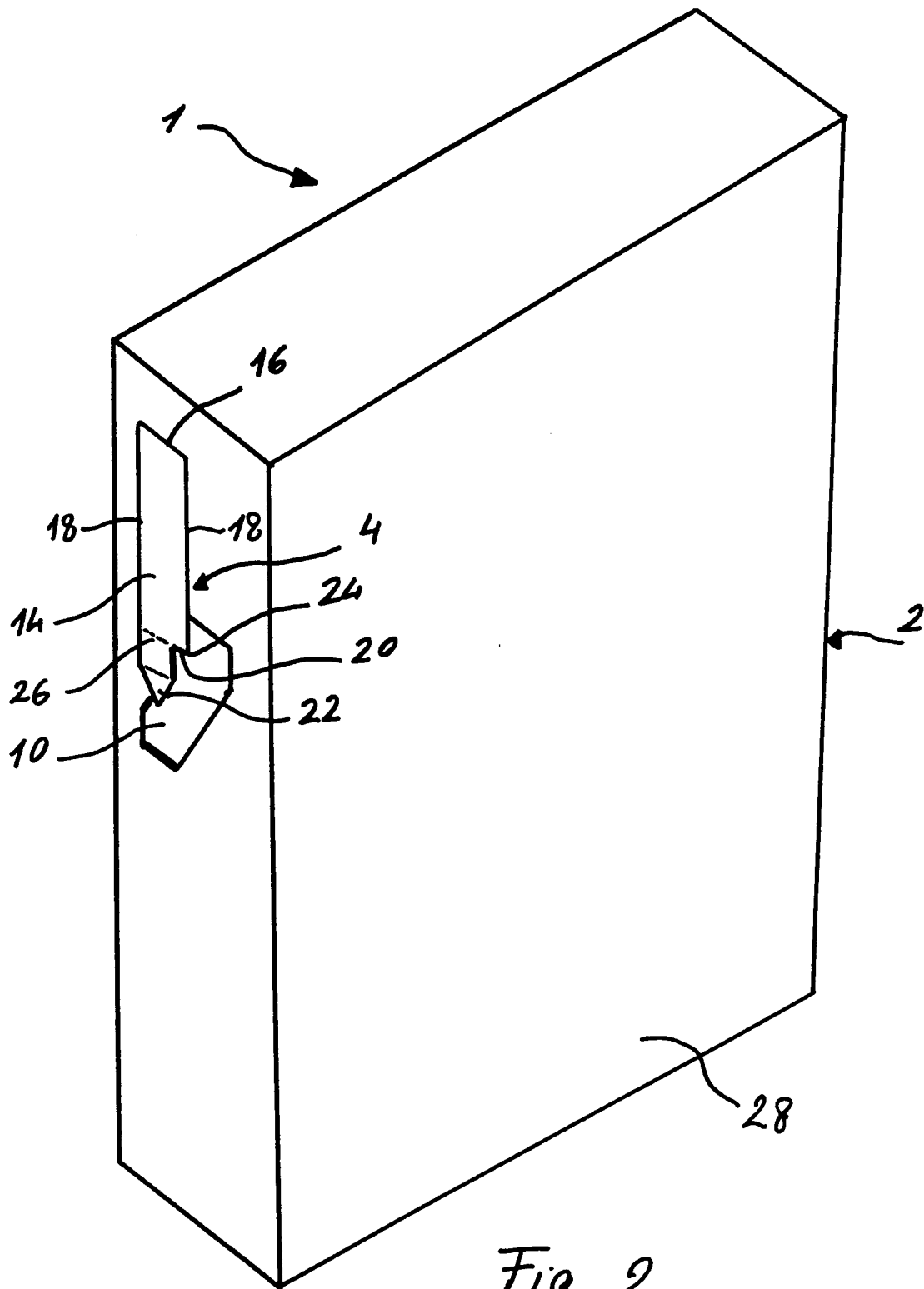


Fig. 2



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 94 20 0906

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	US-A-5 114 013 (BROWN) 19 May 1992 * column 4, line 62 - column 6, line 6; figures 1-5 *	1-4	B65D5/70
X	DE-A-29 12 717 (HENKEL KGAA) 2 October 1980 * page 8, line 8 - page 9, line 24; figures 1-3 *	1,4	
X	GB-A-925 975 (ALBERT E REED & COMP.) 15 May 1963 * page 2, line 50 - line 78; figures 1-5 *	1,4	
X	EP-A-0 098 314 (LICHT DRUCK AG.) 18 January 1984 abstract * figures 1-5 *	1,4	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 6 July 1994	Examiner Vollering, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document			

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