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(54) **PACKAGING BAG**

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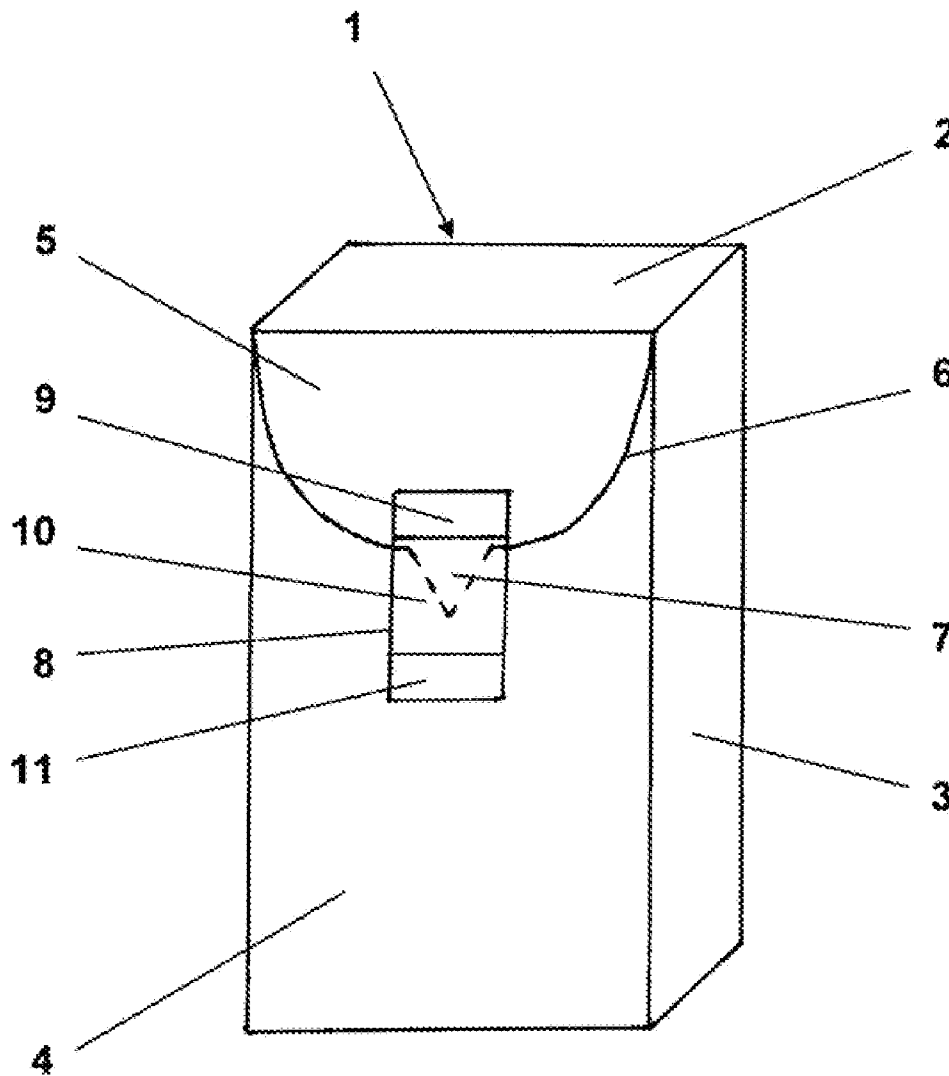
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(57) **ABSTRACT**

The invention illustrates and describes a packaging bag, particularly a foil packaging for hygiene products, comprising a packaging body (1, 1', 1'), in which a tab (5, 5', 5') is defined by a perforation (6, 6', 6'), and an adhesive strip (8, 8', 8'), which is fixed to the tab (5, 5', 5') and a region of the packaging body (1, 1', 1') adjoining thereon and extends across the perforation (6, 6', 6') such that the tab (5, 5', 5') can be separated from the region of the packaging body (1, 1', 1') adjoining the tab (5, 5', 5') by pulling off the adhesive strip (8, 8', 8') in order to form a removal opening, wherein the tab (5, 5', 5') at the edge region thereof provided with the adhesive strip (8, 8', 8') has a tearing aid (7, 7', 7') protruding into the adjoining region of the packaging body (1, 1', 1'), said aid being located substantially beneath the adhesive strip (8, 8', 8').



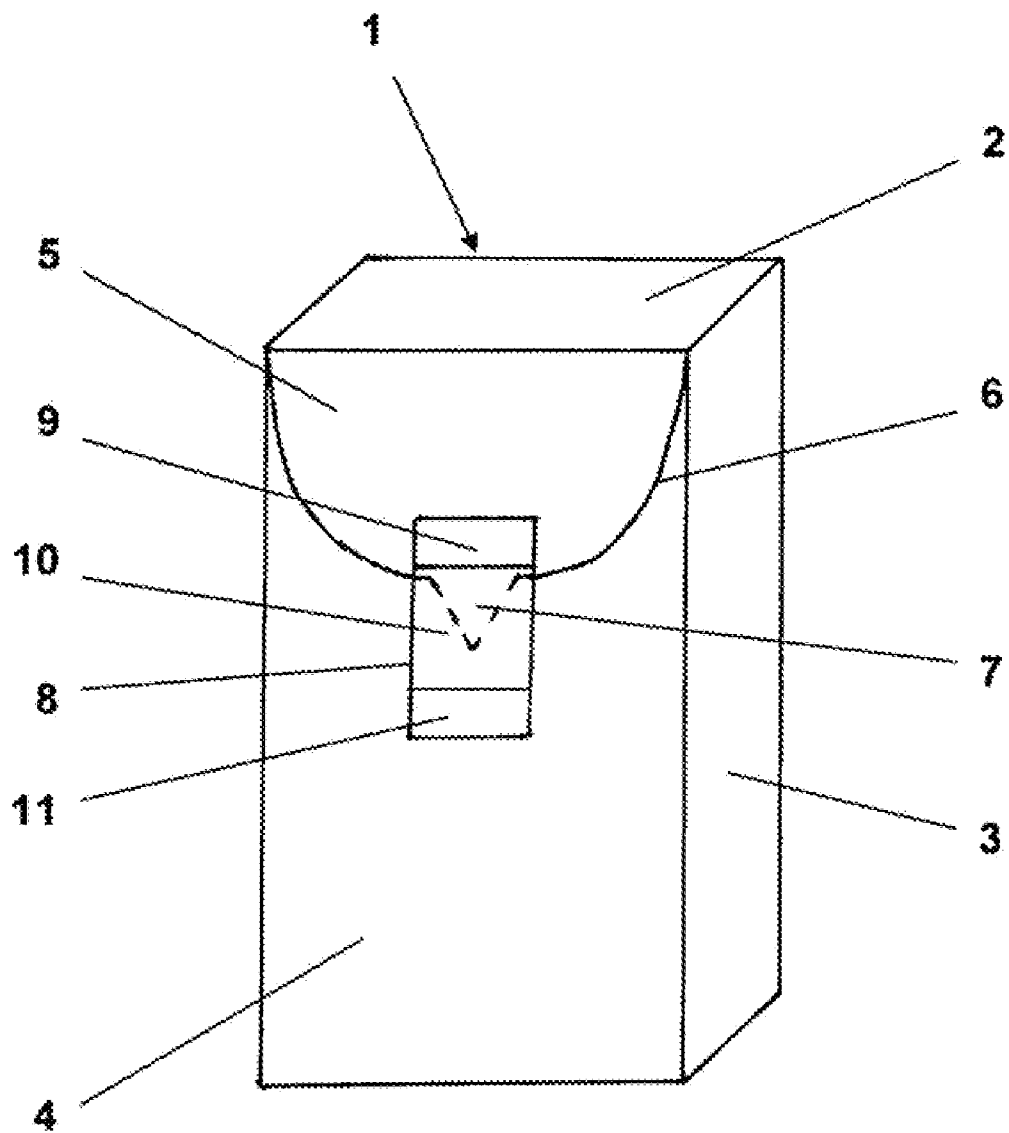


Fig. 1

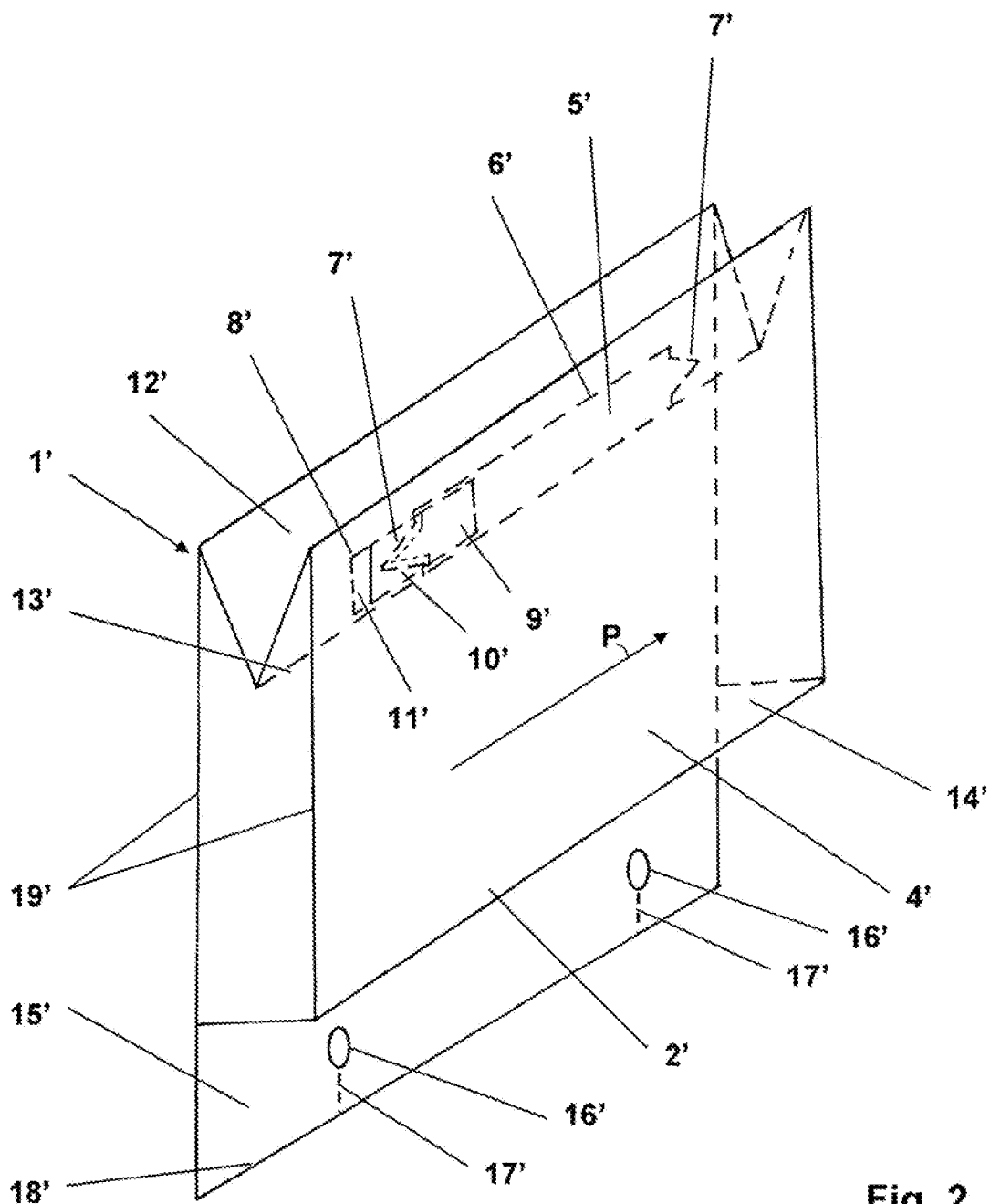


Fig. 2

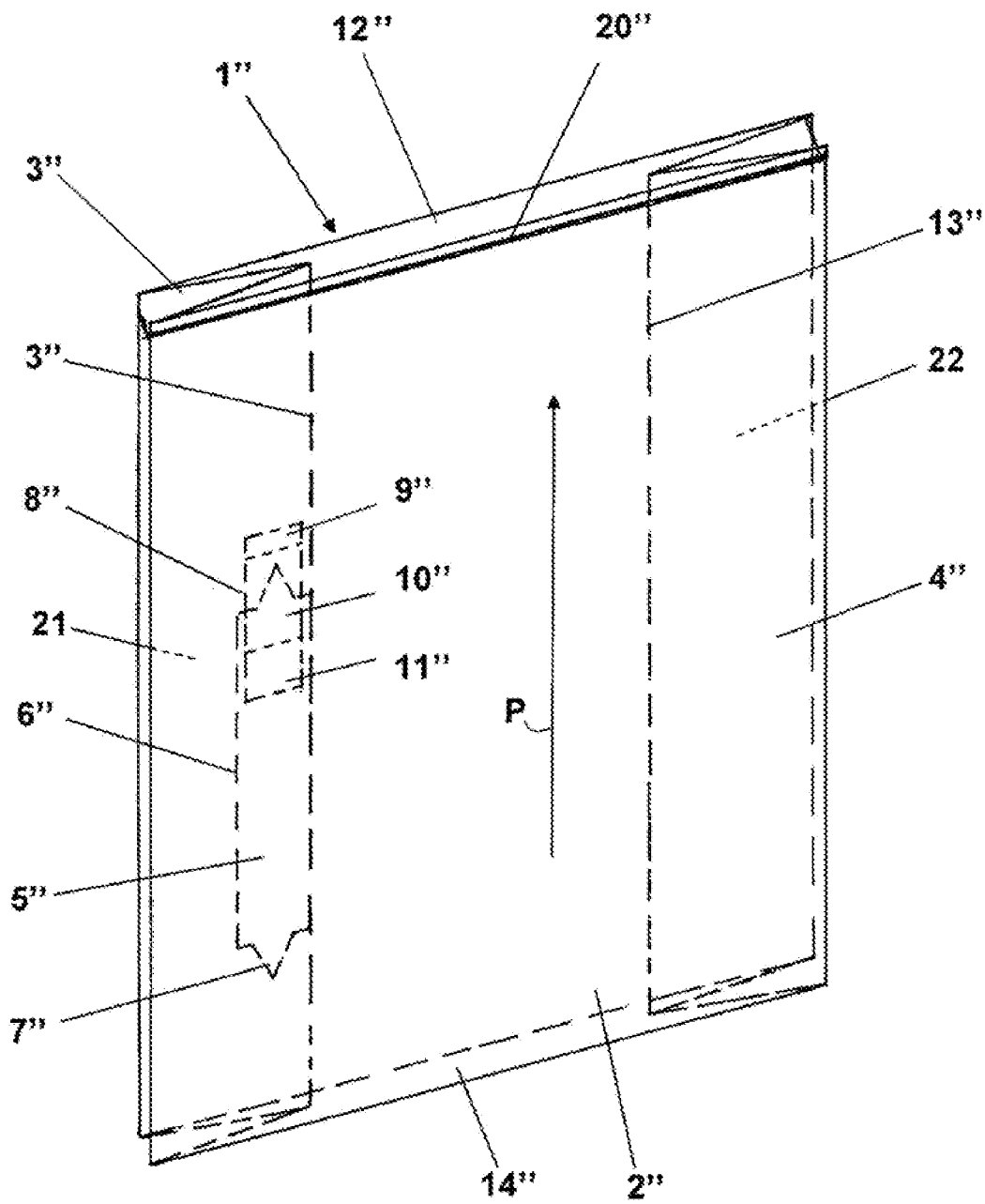


Fig. 3

PACKAGING BAG

[0001] The invention relates to a packaging bag, in particular, a flexible plastic package for hygiene products, comprising a packaging body in which a tab is defined by a perforation, and an adhesive strip that is secured to the tab and to a region of the packaging body adjoining the tab and extends across the perforation such that the tab can be separated from the region of the packaging bag adjoining the tab by pulling off the adhesive strip in order to form a removal opening.

[0002] Packages of this type are in wide use and are employed, for example, for packaging hygiene articles such as facial tissues, diapers, sanitary napkins, etc. A flexible plastic package for facial tissues is described by way of example in DD 295 329 [U.S. Pat. No. 5,121,879]. It has a square body whose front panel has a perforated tab. An adhesive strip is secured to the tab and extends beyond the perforation to a region of the front panel adjoining the perforation. To open the package, the tab is torn open along the perforation, thereby uncovering the removal opening. To do this, the adhesive strip is pulled off of the packaging body from its end located at a distance from the tab. The adhesive force of the adhesive strip is selected here such that the adhesive strip can be readily detached from the packaging body while nevertheless adhering tightly to the tab. To this end, the adhesive strip generally has regions of different adhesive force. The removal opening can be resealed after a facial tissue is removed by folding the tab back into its original position and pressing the adhesive strip back into its original position onto the packaging body so that it is thus secured in place.

[0003] The disadvantage of these packages is that the tearing off of the perforation can fail and the adhesive strip is pulled completely off the package including the tab without uncovering the removal opening. The perforation must be opened manually in order to be able to remove the contents. This is quite difficult, however, since the tab without the adhesive strip generally cannot be grasped.

[0004] With this in mind, the object to be attained by the invention is to provide a package that can be opened especially easily.

[0005] This object is achieved according to the invention by an approach wherein along its edge region provided with the adhesive strip the tab has a tongue in the form of a tearout assist extending into the adjoining region of the packaging body, which tongue or tearout assist lies generally, and in particular, completely underneath the adhesive strip.

[0006] The invention is thus based on the idea that the tearing of the perforation is facilitated by the fact that, when the adhesive strip is pulled off the packaging body, a force is exerted initially only onto the region of the perforation that is defined by the tongue of the tab. Since this region is small, the effective pulling force is big enough to ensure that the perforation is separated or torn through. Once the perforation has been torn at this location, only weak forces are required to continue tearing off the perforation, thereby enabling the perforation to be reliably separated even beyond the end of the tongue located on the tab. As a result, the removal opening is opened reliably and the possibility of unintentionally pulling off the adhesive strip is generally excluded. The removal opening can be resealed by pressing the adhesive strip onto the region of the packaging body surrounding the tab, with the result that the contents of the package continue to be protected and are kept clean and dry.

[0007] In one embodiment of the invention, provision is made whereby the tearout assist tapers toward its end facing away from the tab. What this achieves is that, irrespective of the width of the tearout assist, the forces occurring when the adhesive strip is torn off are concentrated on a small region of the tearout assist and the perforation is easily separated at that point.

[0008] At their end facing away from the tab, the tearout assist or tongue can taper down producing an especially high concentration of forces when the perforation is separated. If furthermore the tongue has a generally triangular shape, the perforation can be separated uniformly along the entire length of the tongue. It has been found advantageous for the sides of the triangle to extend at an angle of 30° to 60°, preferably 45°, from the edge of the tongue held on the tab. As a result, the initial concentration of force is high when the perforation is separated and the initial opening is quickly enlarged.

[0009] The tongue can also transition continuously into the tab, that is gradually or along a large radius. This facilitates separating the perforation at the tab since the exertion of the force proceeds continuously along the perforation. A strong long exertion of force on one discontinuous transition could result in damage to the tab or package. In addition, no further separation of the perforation would be possible in this case since no force can act thereon.

[0010] In principle, the adhesive strip can have an approximately uniform adhesive force over its length. In this case, this force must be such that the adhesive strip can be easily detached from the packaging body and can also be sufficiently high that the perforation is reliably separated without the adhesive strip's detaching from the tab. In a preferred approach, the adhesive strip has regions of varying adhesive force, where the adhesive force in a first region that is completely secured to the adhesive strip is stronger than in the remaining regions, that is, the adhesive strip is nondetachably attached to the tab. This embodiment takes into account the fact that the adhesive force of the adhesive strip is weak in the region that is intended to be easily detached from the package and the adhesive strip can be easily detached from the package, while this force otherwise is sufficiently strong at the tab that any detachment of the adhesive strip from the tab is reliably precluded.

[0011] In an especially advantageous development of this embodiment, the first region of strong adhesive strength also includes the region of the tongue. The result of this is that the adhesive strip cannot be detached from the tab at the tongue as well, even if locally strong pulling forces act on the region of the tongue at the beginning when the tab is torn off.

[0012] In an approach that is known per se, the adhesive strip can have a region without adhesive force at its end opposite the tab. This region functions to lift the adhesive strip from the packaging body so that the strip can be easily grasped to tear off the perforation.

[0013] In another development of the invention, a plurality of tongues and adhesive strips can be provided along the adhesive strip. Thus, a wide tab can ensure that the perforation is easy to separate. Separation at various points furthermore provides a safeguard in the event the separation fails at one tongue. In addition, the adhesive strips can be linked in such a way that they can be pulled off together from the packaging body. The perforation is thus separated at multiple points due to the fact that the linked adhesive strips are pulled off in one operation.

[0014] In addition, the tab can be perforated in a wrap-around fashion, where one adhesive strip and one tongue each can be provided at opposite sides of the tab. This enables the tab to be opened equally by left-handers and right-handers without either of these groups having to make a special effort. Whenever a difference in manipulation results for right-handers or left-handers due to the geometry of the package, if only one adhesive strip is attached the package is usually designed to be opened by right-handers. The package must be held in reverse fashion by a left-hander in order to be opened, which aspect is felt as being awkward. The configuration according to the invention enables the tab to be opened in the same way from both sides.

[0015] If the tab is always opened from one side, the perforation can remain intact on the opposite side such that the tab is retained on the packaging body and closing the removal opening is possible in the usual manner. However, as soon as the tab has been opened at least once from both sides, the perforation is separated all around its perimeter. In this case, the tab is secured in position over the removal opening exclusively by the adhesive strip.

[0016] The tab can in principle have any desired shape, although this shape is preferably regular—for example, oval, square, or rectangular. In this last case, one adhesive strip and one tongue each are appropriately provided on opposite ends of the tab. The perforation can thus be separated easily and in a controlled fashion from one end of the tab up to the opposite end without separating the perforation over its full extent. The tab thus remains attached to the package and can be easily turned over to uncover the removal opening.

[0017] In another development of the invention, the package can be a side-gusset bag. In this case, the tab is preferably provided at the fold of the side-gusset bag. Packages of this type can be flattened, stacked and/or block-stacked to save space before filling, thereby enabling them to be transported, for example, from a production location to a filling location. The fold can continue across the tab such that the foldability of the package is not restricted. The presence of the fold itself also does not constitute any functional restriction to opening the removal opening since tearing the perforation can be effected across this fold and the fold is opened up when the side-gusset bag is in the filled state.

[0018] It is also possible to arrange the tab such that the fold is subdivided centrally so as to form a symmetrical configuration. This creates a removal opening that due to its central position facilitates removal of the contents. In this case, an adhesive strip and a tongue can be provided on each part of the tab. Locating the adhesive strip exactly at the fold is not advantageous since the resulting added application of material to the fold would reinforce this edge and would impede collapsing the bag. Due to the configuration of the adhesive strip according to the invention, this problem is precluded, while the tab is able to be opened and resealed equally well from both sides.

[0019] With regard to further development of the invention, reference is made to the subordinate claims and to the following description of an illustrated embodiment and to the attached figures. In the drawing:

[0020] FIG. 1 is a perspective view showing a first embodiment of a package according to the invention;

[0021] FIG. 2 is a perspective view showing a bottom-gusset bag according to a second embodiment of this invention; and

[0022] FIG. 3 illustrates a side-gusset bag according to a third embodiment of the invention.

[0023] FIG. 1 illustrates a package based on a first embodiment of this invention. The package is a flexible plastic package that functions to hold a number of facial tissues. It accordingly has a generally parallelepipedal body 1 having a top panel 2, an unillustrated bottom panel, two opposite side panels 3, a front panel 4, and an also unillustrated rear panel.

[0024] On the front of the packaging body 1, a perforation 6 defines a tab [5] that extends from the top edge of the front panel 4, where it extends generally the full width of the package, in approximately semicircular fashion toward the bottom of the body 1. The lower edge region of the tab has a tongue or tearout assist 7 that extends into the region of the body 1 immediately adjacent the tab 5. The tongue 7 is shaped as an isosceles triangle whose base points toward the top panel [2] of the package.

[0025] A rectangular adhesive strip 8 is secured to the tab 5 together with the tongue 7 provided thereon and with a region adjoining this to the front panel 4 of the body 1, and extends here over the V-shaped perforation 6 that defines the tongue 7. The adhesive strip 8 has a first region 9 that has a strong adhesive and that is attached to the tab 5 to ensure that the adhesive strip 8 cannot detach from the tab 5. A second region 10 with a weaker adhesive is immediately adjacent the strong-adhesive region 9 and is secured to the bottom edge region of the tab 5 including the tongue 7 and to the adjacent region of the front panel 4. The selected adhesive force is sufficiently low that the adhesive strip 8 can be detached from the packaging body 1, yet is sufficiently strong that the V-shaped perforation 6 tears around the tongue 7 before the adhesive strip 8 can detach from the tongue 7. Finally, the adhesive strip 8 has at its end opposite the tab 5 a third region 11 that has no adhesive and forms a grip 11. The first nondetachable region 9 may also extend into the tearout assist 7.

[0026] A removal opening in the body 1 must be uncovered in order to remove a facial tissue from the package. To do this, the adhesive strip 8 is pulled off the body 1 from its end opposite the tab 5. In this process, the perforation 6 first tears at the tip of the tongue forming the tearout assist 7 due to the strong pulling force that is exerted at a point by the adhesive strip 8. The perforation 6 is torn uniformly from the tip of the tongue 7 toward the tab 5. The subsequent pull-off motion results in a complete tearing of the perforation 6 along the sides of the tab 5 up to the top edge of the front panel 4.

[0027] The removal opening can be uncovered by folding back the tab 5, thereby allowing the facial tissues to be removed individually. The removal opening can be completely resealed by then folding back the tab 5 and pressing the adhesive strip 8 onto the front panel 4 of the body 1. As a result, the remaining facial tissues stay protected from contamination and moisture in the package.

[0028] FIGS. 2 and 3 illustrate two additional embodiments of a package according to this invention. These packages are flexible plastic packages, for example, for sanitary napkins or diapers, that are in the form of bottom- or side-gusset bags. These bags have respective generally square packaging bodies 1', 1'', each including a respective front panel 4', 4'', a respective unillustrated rear panel, a respective top panel 2', 2'', a respective bottom panel 12', 12'', and respective side panels 3', 3''. FIGS. 2 and 3 show the packages when upside down, that is with the respective bottom panels 12', 12'' at the top.

[0029] The packages are provided with respective folds 13', 13". The fold 13' in the bottom-gusset bag 1' is shown in a partly closed state. The tab 5' is in this case of rectangular shape and extends symmetrically along the fold 13', while the adhesive strip 8' extends in mirror-reverse fashion on the opposite side of the tab 5' and over the tearout assist 7', or to express it another way, the strip [8'] is glued on the tab 5' along the tearout assist 7' and onto the bottom fold 12'. Along the wrap-around perforation 6', the bag 1' has four of the tearout assists 7', as well as two adhesive strips 8' applied on opposite sides. The symmetrical configuration of the tab 5' across the fold 13' is shown in a dashed lines simply to provide a clearer view in FIG. 2. The bottom-gusset bag 1' has an opening 14' that is closable by means of an extension 15' of the rear panel. The extension 15' has holes 16' that are usable, for example, for stacking and/or block-stacking a stack of bags. In addition, a tearing perforation [17'] extends between each of the openings 16' and an outer edge 18'. The bottom-gusset bag 1' has side weld seam 19'.

[0030] FIG. 3 shows a side-gusset bag 1" in a generally flattened condition. A bottom weld seam 20" is provided to create the side-gusset bag 1" by nondetachably bonding together side folds 21 and 22, as well as the front panel 2" and the rear panel of the side-gusset bag 1". The side-gusset bag 1" is fillable through an opening 14". The tear tab 5" is situated symmetrically over the fold 13", as already described in FIG. 2. It is of course also possible to incorporate two tearout tabs 5" on opposite side folds 21 and 22. The tab 5" corresponds to the tab 5' as described with reference to FIG. 2.

[0031] Arrows P in FIG. 2 and FIG. 3 correspond to the direction of production for manufacturing the bags 1', 1". This results also in a symmetrical construction of tabs 5', 5" incorporated in the film material before folding in the side folds 13', 13". A perforation is thus incorporated either in the unfolded flat two-layer film web or into the film tube, which perforation then corresponds to the respective tearout tab 5', 5". It is thus obvious that a symmetrical construction for tabs 5', 5" is achieved with perforations passing through the front panel and the rear panel. After making the perforations 6', 6", adhesive strips 8', 8", are glued on, thereby forming an easy-to-open removal perforation 6', 6" for left-handers and right-handers. The formation of removal perforation 6', 6" for left-handers and right-handers results here both from the two-way action of the tearout assists 7', 7" and the opposing application of adhesive strips 8', 8".

[0032] The adhesive strip 8, 8', 8" is subdivided into three regions 9, 9', 9", 10, 10', 10", and 11, 11' and 11". The first region 9, 9', 9" is generally attached to the tab 5, 5', 5" so as to be difficult to detach. In this regard, it is possible according to the invention to design the region 9, 9" as rectangular, that is, all the regions 9, 9", 10, 10", 11, 11" as rectangular. However, it is also conceivable to make the regions 9' and 10' such that the region 9' attached to tab 5' that is difficult to detach matches the perforation 6' of the tearout assist 7' shown in FIG. 2. In its shape, difficult-to-detach region 9' matches the shape of tearout tab 7', as a result of which of course resealable region 10' matches the pattern of tearout tab 7'.

1. A packaging bag, in particular, a flexible plastic package for hygiene products, comprising a packaging body in which a tab is defined by a perforation, and an adhesive strip that is

secured to the tab and a region of the packaging body adjoining the tab extends over the perforation such that the tab can be separated from the region of the packaging bag adjoining the tab by pulling off the adhesive strip in order to form a removal opening, characterized in that wherein along its edge region provided with the adhesive strip the tab has a tearout assist extending into the adjoining region of the packaging body, which tearout assist lies generally underneath the adhesive strip.

2. The packaging bag according to claim 1 wherein the tearout assist lies completely underneath the adhesive strip.

3. The packaging bag according to claim 1 wherein the tearout assist tapers down toward its end pointing away from the tab.

4. The packaging bag according to claim 3 wherein the tearout assist tapers down at its end pointing away from the tab.

5. The packaging bag according to claims 3 wherein the tearout assist has a generally triangular shape.

6. The packaging bag according to claim 5 wherein the sides of the triangle extend from the edge held on the tab (5, 5', 5") at an angle of between 30° and 60°.

7. The packaging bag according to claim 1 wherein the tearout assist transitions continuously into the tab.

8. The packaging bag according to claim 1 wherein the adhesive strip is designed to have regions of varying adhesive force, wherein the adhesive force in a first region that is completely secured to the tab is stronger than in the remaining regions.

9. The packaging bag according to claim 8 wherein the first region of strong adhesive force includes the region of the tearout assist.

10. The packaging bag according to one of claims 8 wherein at its end opposite the tab the adhesive strip has a region with no adhesive force.

11. The packaging bag according to claim 1 wherein a plurality of tearout assists and adhesive strips is provided along the perforation.

12. The packaging bag according to claim 11 wherein the adhesive strips are linked such that together they separate the removal opening.

13. The packaging bag according to claim 12 wherein the tab is perforated around its entire perimeter and one adhesive strip and one tearout assist each are provided at opposite ends of the tab.

14. The packaging bag according to claim 13 wherein the tab is of a generally rectangular shape, and one adhesive strip and one tearout assist each are provided at opposite ends of the tab.

15. The packaging bag according to one of the foregoing claims, characterized in that wherein the package is a side-gusset bag or a bottom-gusset bag, and the tab is provided at a fold of the bags.

16. The packaging bag according to claim 14 wherein the tab is configured such that the fold (13, 13) subdivides the tab at the center.

17. The packaging bag according to claim 16 wherein an adhesive strip and a tearout assist are provided on each part of the tab.

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