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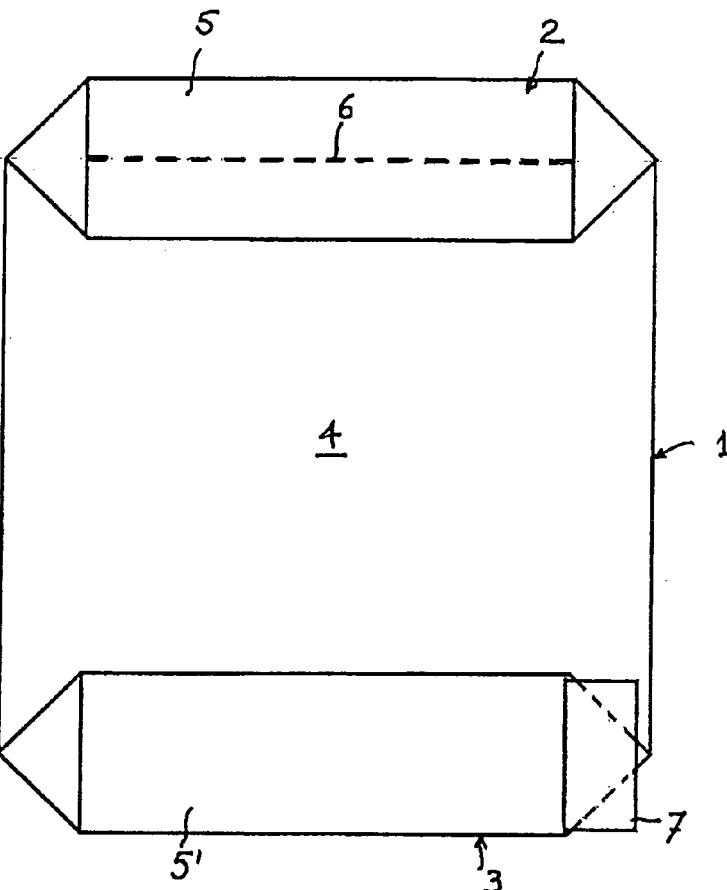
(57) **ABSTRACT**

The disclosure relates to a paper bag for packaging of bulk material, having a standing bottom (2) and a valve bottom (3), a front wall (4) and a rear wall, the front wall and the rear wall being glued to each other in overlapping relationship, the paper bag further comprising cover sheets (5, 5') for closing the standing bottom (2) and the valve bottom (3), wherein the cover sheet (5) of the standing bottom (2) and/or of the valve bottom (3) is provided with a tear-open strip (6) which extends across the entire length of the bottom. A foil (9) is placed below the standing bottom cover sheet (5) and/or below the valve bottom cover sheet (5') and is removably glued to the paper bag (1) in such a manner that after tearing open of the standing bottom cover sheet (5) and/or of the valve bottom cover sheet (5') the foil (9) still closes the paper bag (1) completely and sets the product free only after peeling off said foil.

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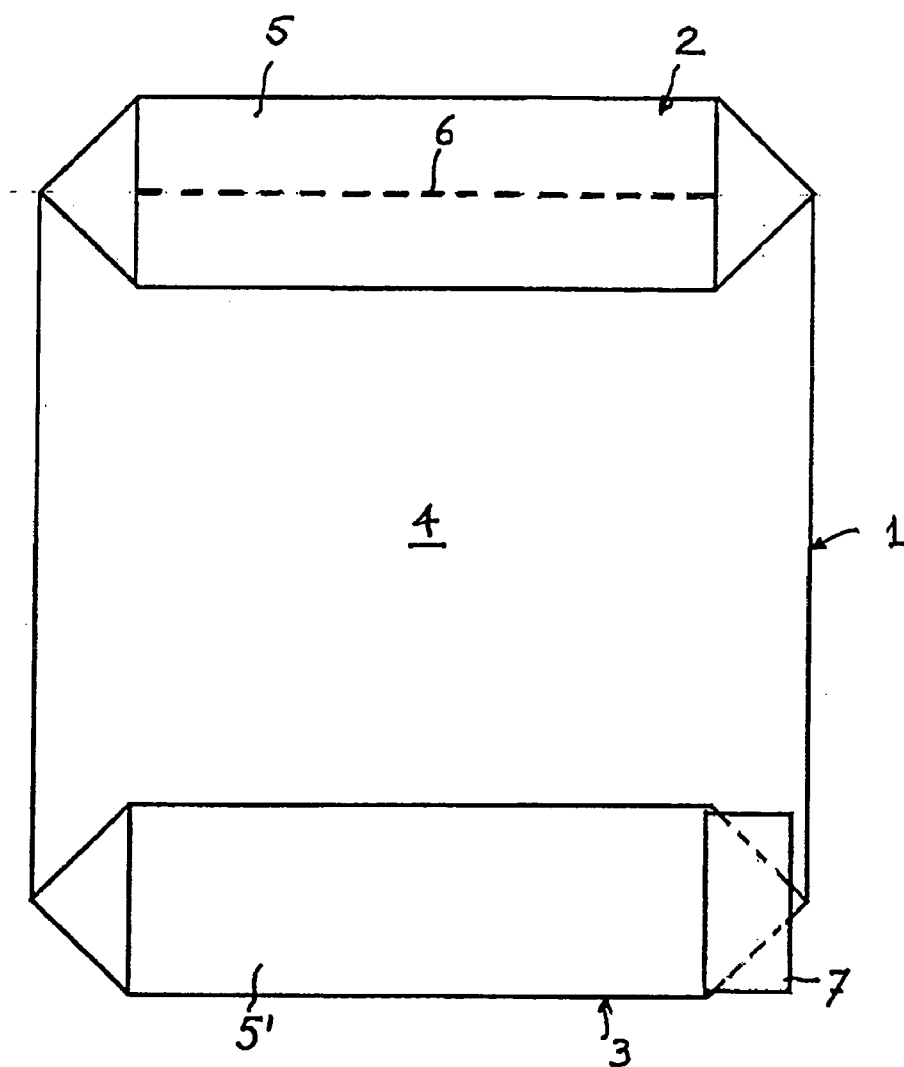


Fig. 1

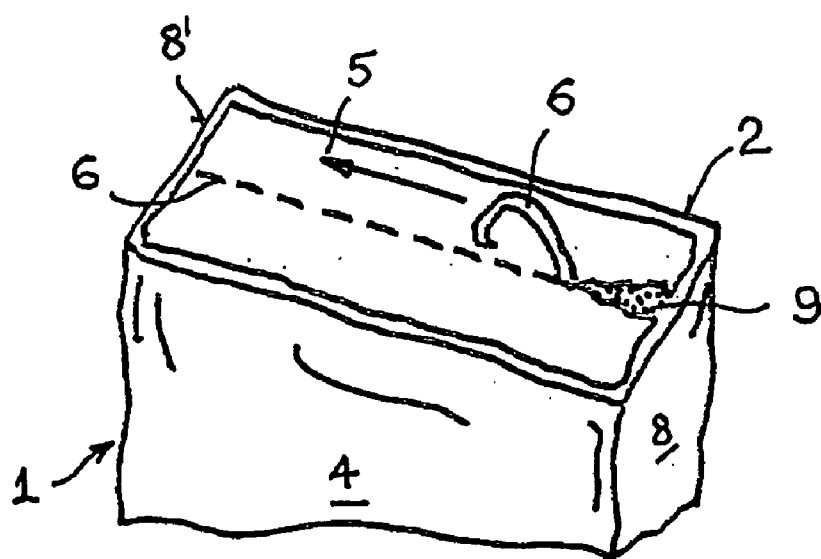


Fig. 2

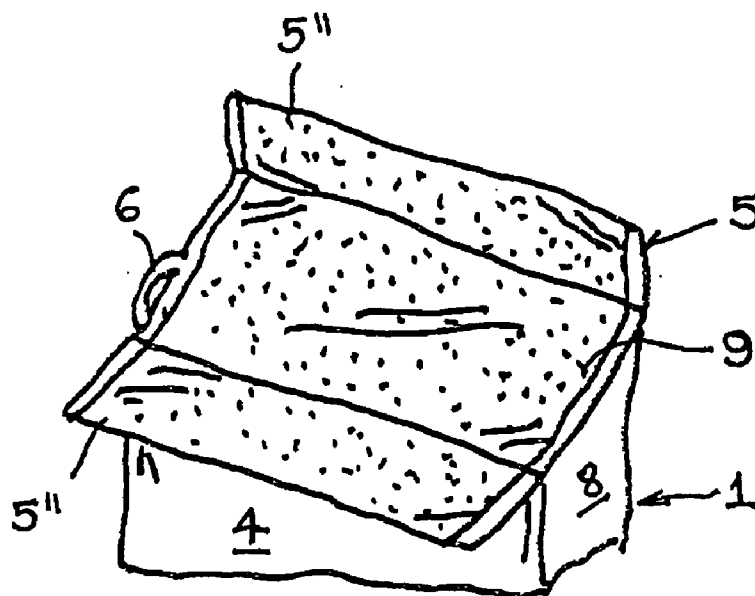


Fig. 3

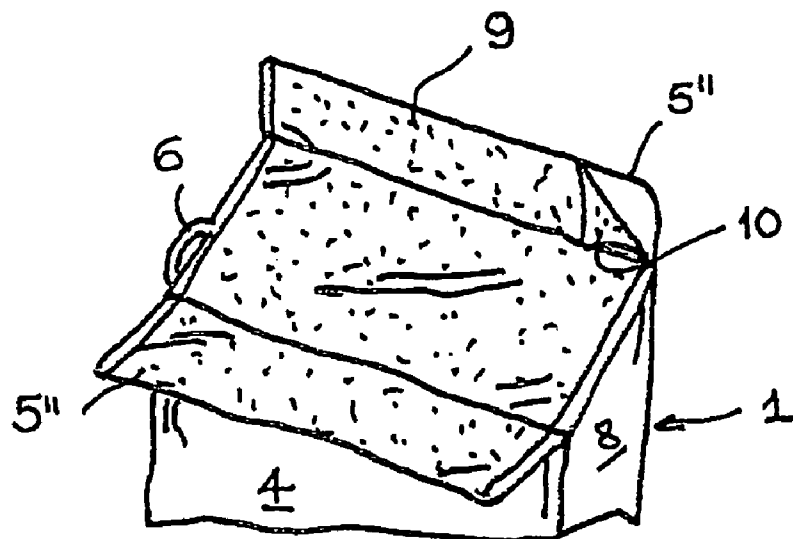


Fig. 4

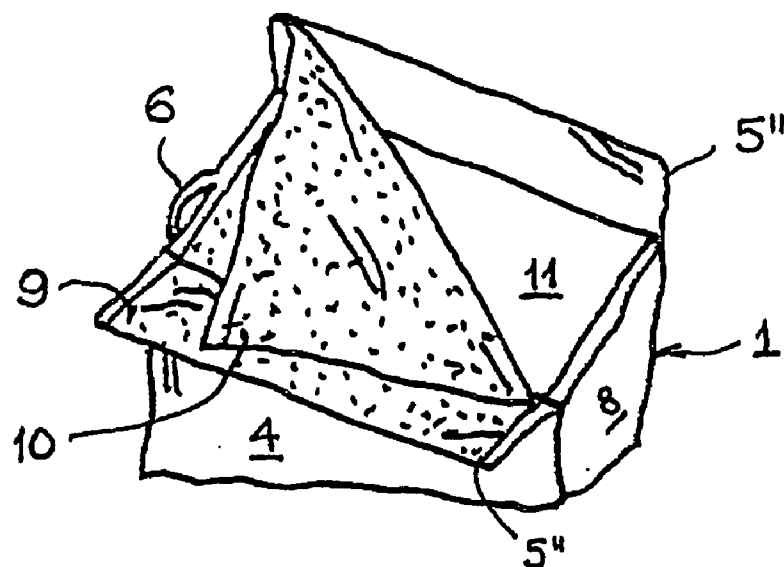


Fig. 5

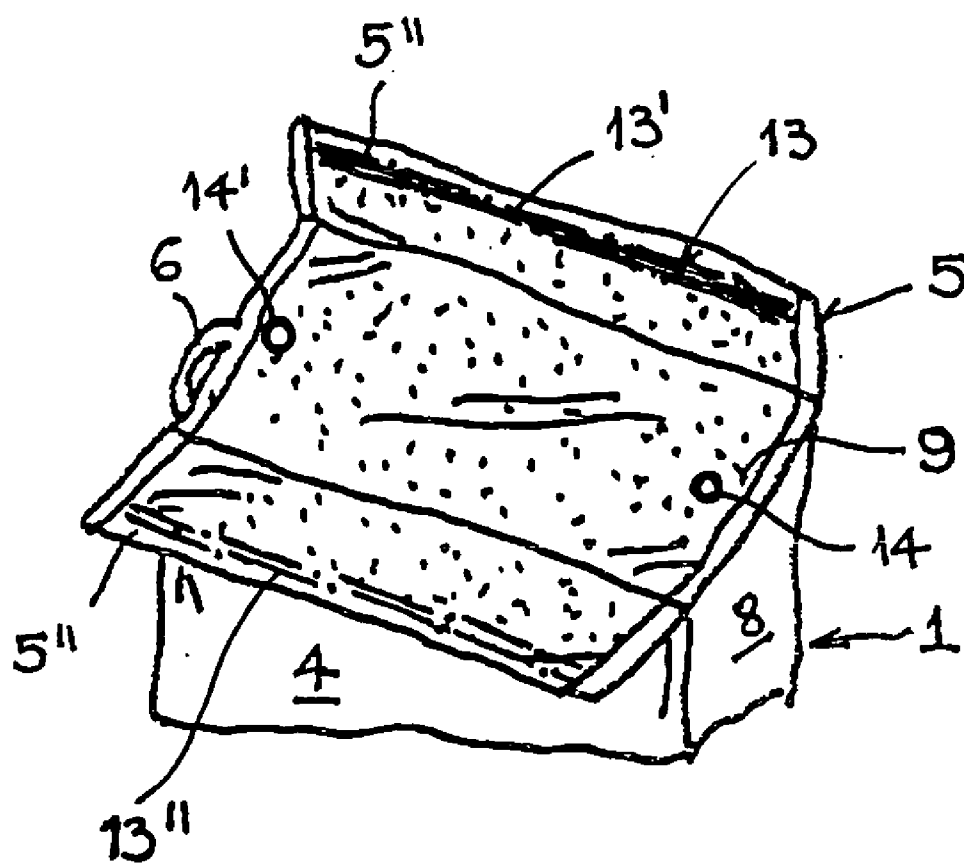


Fig. 6

PAPER BAG

[0001] The invention relates to a paper bag according to the preamble of claim 1.

[0002] Paper bags are usually provided as valve bottom bags or block bottom bags for storing bulk material, having a standing bottom, a valve bottom, a front wall, a rear wall and a valve tube inserted in the valve bottom to be mounted onto the filling nozzle of a filling device, wherein said valve tube may be closed by turning it over or in case of thermo-material to be heat sealed. Such a valve bottom bag is for example known from the German Utility Patent DE-20 2005 004 750 U1.

[0003] Valve bottom bags are principally equipped with cover sheets in order to protect the folded and glued bottoms, i.e. the standing bottom and the valve bottom, from coming undone accidentally. A cover sheet is a paper strip or slip which is glued to the bottoms of the paper bag. Most cover sheets are smaller than the bottom and normally glued not only to the bottom, but also to the valve tube protruding laterally from the bottom. However, it is already known as well to extend the cover sheets over the edges of the standing bottom and the valve bottom up to the region of the front wall and the rear wall of the paper bag.

[0004] In order to open the paper bag filled with bulk material, the cover sheet has been traditionally torn off the standing bottom, the disadvantage being, however, that paper fibres could fall into the product—a fact that is not tolerated in every case. In this context, it is also already known to provide the cover sheet with a tear-open strip as to the German Patent Publication 1 761 750 for an easier tear-off.

[0005] The object of the invention is to further modify a paper bag with tear-open strip, so that no paper fibres can get into the product when torn open.

[0006] As a solution to this object, a foil is placed below the standing bottom cover sheet and/or below the valve bottom cover sheet of a paper bag as mentioned above which is removably glued to the paper bag in such a manner that after tearing open of the standing bottom cover sheet or of the valve bottom cover sheet the foil still closes the paper bag completely and sets the product free only after peeling off said foil.

[0007] Both bottom parts may thus be unfolded after tearing open of the standing bottom with the bag still remaining closed for the time being due to the foil. Thus, no paper fibres can fall into the product. The bag is opened only when the foil is grabbed at one edge and torn off the paper and the product can now be accessed freely.

[0008] The foil may be a plastic foil, a metal foil, a coated or uncoated paper foil, a fibre glass foil, a woven foil or a spunbonded foil made of woven fibres. In addition, the foil material should be biodegradable, compostable or recyclable if necessary.

[0009] The invention is hereinafter further illustrated by means of a drawing, wherein:

[0010] FIG. 1 shows a top view of a paper bag having a standing bottom, a valve bottom and valve tube;

[0011] FIG. 2 shows a schematic illustration of the standing bottom when being torn open;

[0012] FIG. 3 shows the torn open and unfolded standing bottom as to FIG. 2 which is still closed by a foil;

[0013] FIG. 4 shows the initial stage of peeling off the foil, wherein the standing bottom is unfolded as to FIG. 3;

[0014] FIG. 5 shows the already partially opened paper bag as to FIG. 4;

[0015] FIG. 6 shows the paper bag of FIG. 3 with further features.

[0016] Identical parts in the figures are referenced with like numerals. Thus FIG. 1 shows a paper bag 1, having a standing bottom 2 and a valve bottom 3 which are folded in a manner known per se as star seal bottoms or block bottoms and which are each covered by a cover sheet 5, 5'. In the illustrated embodiment, the cover sheets 5 and 5' extend over the edges of the standing bottom 2 and the valve bottom 3 up to the region of the front wall 4 and the rear wall and are glued to the paper bag 1 in the usual way.

[0017] Further, a valve tube 7 is incorporated into the valve bottom 3 in the illustrated embodiment as it is known in the art, e. g. from the Utility Model Document DE 20 2005 004 750 U1.

[0018] In FIG. 1 the paper bag 1 is represented in such a way that the standing bottom 2 is directed upwards as this may be favourable for tearing open a paper bag 1 filled with products. A tear-open strip 6 is provided for tearing open the paper bag which extends across the entire length of the standing bottom 2 and thus from one side of the cover sheet 5 to the opposite other side.

[0019] FIG. 2 now shows the procedure of tearing open the standing bottom cover sheet 5 in a schematic illustration, wherein only the upper part of the paper bag 1 is represented with front wall 4 and one side wall. For this purpose, the tear-open strip 6 near the side wall 8 is grabbed and pulled in the direction of the arrow to the opposite side wall 8'.

[0020] FIG. 3 shows the paper bag 1 with the cover sheet 5 fully torn open and unfolded side strips 5", wherein the paper bag 1 is, however, still closed by a placed plastic foil 9 that is removably glued to the cover sheet side strips 5".

[0021] In order to open the paper bag 1, foil 9 needs to be separated from the side strips 5", which is indicated in FIG. 4, by grabbing one edge 10 of the foil 9 and peeling said edge off the cover sheet side strip 5". The product has not yet been set free at this stage, since the interior of the paper bag 1 is still closed.

[0022] Only FIG. 5 shows the foil 9 which has been further peeled off and which now sets free the interior 11 of the paper bag 1. As soon as the foil 9 has been fully peeled off the paper bag 1, the product located in the interior 11 can be accessed freely without having been contaminated by paper fibres upon opening.

[0023] FIG. 6 shows a further modification of the invention, in which the foil 9 is provided with a device for re-closure. In a first variant, the device for re-closure is embodied by the application of special glue or special paste due to which the foil 9 may be removed from the paper bag 1 and reattached as often as required. Such special glues or special pastes are known to the person skilled in the art. For this purpose, glue lines along the edge of foil 9 may be provided or else the entire foil 9 may be coated with such special glue.

[0024] In another variant, a closure 13 is provided on the inside of the side strips 5" of the paper bag 1, said closure being located in one embodiment below the foil 9 which is not bonded in that region, whereas in another embodiment the foil 9 is smaller and does not extend to the edges of the side strips 5", but spares a strip, in which both parts 13', 13" of the closure 13 are disposed. In one embodiment, the closure 13 is a snap lock with groove and tongue, in another embodiment it is a hook-and-loop fastener. Snap locks with groove and

tongue are well known from plastic bags and thus known to the person skilled in the art. The same is true for the aforementioned hook-and-loop fastener. To reclose the bag, the side strips 5" of the torn open cover sheet 5 are pressed towards each other after the foil 9 has been peeled off, thus causing the tongue 13' to engage with the groove 13" of the closure 13. A hook-and-loop fastener is closed in a similar way, namely by pressing its two parts towards each other. The once opened paper bag 1 may thus be easily re-closed.

[0025] The foil 9 of the invention may be printed or blank. Furthermore, it may be provided with safety features, such as pictures, holograms or stripes, ensuring that the foil 9 is marked as damaged once it has been peeled off or removed from paper bag 1. In addition to the mentioned safety features, the foil may also be provided with information on the content of the product or with instructions on how to handle the paper bag or the product contained therein.

[0026] In another embodiment of the invention, the foil 9 may serve to form a distribution device together with the inwards folded bottom, wherein the foil 9 is advantageously not glued to the paper bag 1 in the region and in the vicinity respectively of one of the side walls 8 or 8'. Although the foil 9 covers the interior of the paper bag 1 in this region, it may, however, be manually turned up after tearing open the tear-open strip 6, as illustrated in FIG. 2, so that the turned up part of the standing bottom 2 can be grabbed manually and pulled outwards in the direction of the side wall 8 or 8'. Moreover, when the turned up part of the standing bottom 2 is provided with incisions running for example parallel to the front wall 4 up to the side wall 8 or 8', the turned up part of the standing bottom 2 may then be manually pulled outwards, and forms together with the part of the loose foil 9 that had previously been turned up in the other direction a distribution device which is especially useful when the bottom opposing the standing bottom 2, described as valve bottom 3 in one embodiment according to FIG. 1, has a handle. A user may then grab the handle comfortably and empty the product by the distribution device which is formed by the turned up foil 9 and the pulled out standing bottom region.

[0027] The foil 9 may furthermore be provided with recesses 14, 14' near the side edges 8 or 8' in the form of holes or punchings that allow the foil 9 to be hung up alone or together with the opened paper bag 1, e. g. to a nail or to a hook. This is particularly favourable when the foil is provided with instructions for use that may assist the user in recycling the product after removing the foil from the paper bag 1.

[0028] Finally, the paper bag 1 of the present invention may be provided with a handle on the cover sheet 5 of the standing bottom 2 and/or the valve bottom 3 which runs parallel to the tear-open strip 6. In case the handle is disposed in the centre of the bottom, however, the tear-open strip (6) does not run centrically to the cover sheet (5, 5').

1. Paper bag for packaging of bulk material, said paper bag comprising:

- a bag body including a standing bottom and a valve bottom, a front wall and a rear wall,
- said front wall and said rear wall being coupled to each other in an overlapping manner,
- said front wall and said rear wall cooperatively defining a bag interior;
- said paper bag body further including cover sheets operable to close the standing bottom and the valve bottom, at least one of said cover sheets of the standing bottom and/or of the valve bottom being provided with a tear-open strip extending across an entire length of the respective bottom; and

a foil disposed underneath the standing bottom cover sheet and/or underneath the valve bottom cover sheet, said foil being removably attached to the paper bag body in such a manner that after tearing open the standing bottom cover sheet and/or the valve bottom cover sheet, the foil still closes the paper bag body completely so as to set the material free only after peeling of said foil away from the standing bottom and/or from the valve bottom to thereby expose the bag interior.

- 2. Paper bag according to claim 1, said foil comprising a plastic foil.
- 3. Paper bag according to claim 1, said foil comprising a metal foil.
- 4. Paper bag according to claim 1, said foil comprising a coated paper or a paper foil.
- 5. Paper bag according to claim 1, said foil comprising a fibre glass foil, a woven foil, or a spunbonded foil made of woven fibres.
- 6. Paper bag according to claim 1, said foil comprising a biodegradable, compostable, or recyclable material.
- 7. Paper bag according to claim 1, at least one of said cover sheets forming two side strips upon tearing open of the tear-open strip, with each side strip presenting a tear-open edge, said side strips cooperatively including a closure device disposed along the tear-open edges of the side strips.
- 8. Paper bag according to claim 7, said paper bag body further including a pair of opposite side walls, said closure device comprising a snap lock, said snap lock including a groove and a tongue each extending from one side wall to the other side wall.
- 9. Paper bag according to claim 7, said closure device comprising a hook-and-loop fastener extending from one side wall to the other side wall.
- 10. Paper bag according to claim 1, said foil being fully coated or coated within a region on a bottom side thereof with a re-adherable adhesive.
- 11. Paper bag according to claim 1, said foil defining therethrough at least one recess.
- 12. Paper bag according to claim 1, said foil being provided with safety features to evidence tampering or damage.
- 13. Paper bag according to claim 1, at least one of said cover sheets including a handle, said handle extending generally parallel to the tear-open strip, said tear-open strip being disposed away from a center of the cover sheet.
- 14. Paper bag according to claim 1, said foil being disposed underneath the cover sheet having the tear-open strip.
- 15. Paper bag according to claim 11, said recess being in the form of a hole.
- 16. Paper bag according to claim 12, said safety features comprising pictures, holograms, and/or strips operable to indicate foil damage resulting from peeling of the foil away from the paper bag.
- 17. Paper bag according to claim 1, said foil being printed with indicia.
- 18. Paper bag according to claim 17, said indicia comprising contents and/or instructions.