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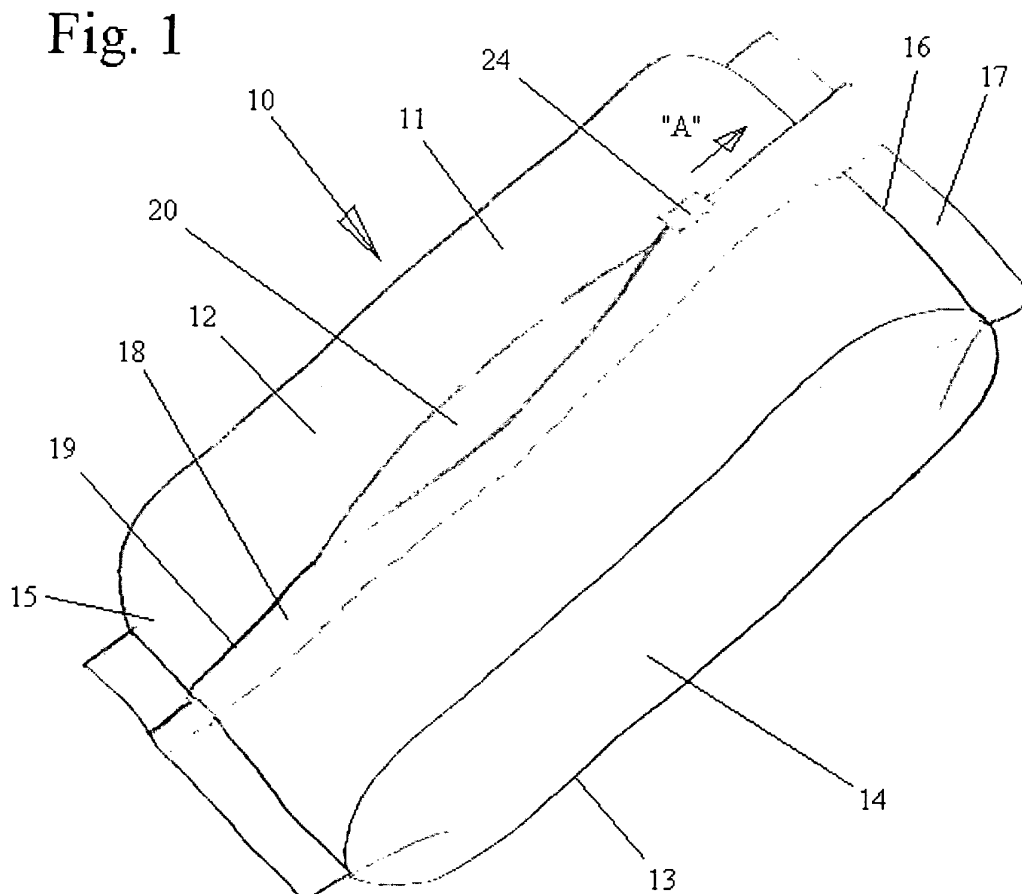
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(54) **Highly hermetically sealed packaging favorably for moisturized tissues**

(57) An extremely airtight package (10) for moisturized tissues which comprises a wrapping (11), consisting of synthetic multiplayer film, bordered by transverse

seals (16) and a partial longitudinal seal (19) of the free edges (18) of the film, such as to form a slit (20), in the central portion of one side (12) of the package (10), the slit being closable by plastic zipper means.



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Description

TECHNICAL FIELD

[0001] This invention concerns an extremely airtight package, advantageously but not exclusively for moisturized and refreshing tissues.

[0002] More in particular, this invention refers to a package, which can for example be used to contain refreshing and cleansing moisturized tissues used for personal hygiene as well as for cleaning household furnishings and/or floors.

[0003] This invention can be applied in particular in the industry for the packaging of hygiene consumables.

BACKGROUND ART

[0004] To date, the packaging of cleansing tissues, like any other manufactured item that can be packaged continuously, is performed by automatic machines, functioning according to well known techniques.

[0005] These packaging machines can be vertical, with gravity feed of the products, or horizontal - in this case these machines are preferably the "flow-pack" type - requiring an appropriate conveyer for the transfer of the products.

[0006] In view of the limited weight of the product, the moisturized tissues are usually packaged by horizontal machines which comprise:

- a support frame which includes a protective guard for a packaging unit,
- a movement device designed to transfer the products within the frame,
- a conveyer unit designed to transfer the products from the movement device to the packaging unit,
- an extractor unit for the pick-up of the packaged products.

[0007] According to a well-known technique, the packaging unit comprises at least one roller, positioned in the lower part of the machine, which holds a reel of synthetic plastic film, for example polyethylene or a bond of several layers of synthetic material, unwound by an appropriate unwinding device and wound around a forming tunnel on which it is continuously sealed.

[0008] The forming tunnel is fed with products to be packaged while the sealed film is pulled around the exterior of the tunnel thus taking on the same shape.

[0009] At the tunnel exit is a sealing and cutting device which seals the flaps that form the base of the package and separates it from the remaining film wound around the tunnel.

[0010] Advantageously the sealing of the bottom of one package normally coincides with the upper closure of the previous package and is carried out with great precision and reliability.

[0011] The synthetic film generally presents an open-

ing, on the opposite side of the package to the longitudinally sealed side, for the extraction of the tissues. During use, this opening is closed by an adhesive sticker or by a plastic strip cover.

[0012] One drawback is represented by the fact that these devices for the closure of the opening do not guarantee an airtight closure, and this causes the gradual loss of moisture of the tissues with their consequent degradation and loss of functionality.

[0013] In fact, after the package has been opened and closed a few times the adhesive sticker loses its adhesive property also as a result, if this should be the case, of relatively high temperatures.

[0014] Nor does the plastic strip cover close the opening properly since the plastic material differs greatly in terms of hardness and deformability from the synthetic material forming the actual package.

[0015] Another drawback is represented by the fact that both the longitudinal seal and the closing means of the opening take up space that cannot be used for text and/or graphics relative to the marketing of the product and designed to attract the attention of potential purchasers.

DESCRIPTION OF THE INVENTION

[0016] This invention proposes to provide an extremely airtight package for moisturized tissues which is able to eliminate or significantly reduce the drawbacks mentioned above.

[0017] This invention also proposes to provide an extremely airtight package for moisturized tissues which is easy to manufacture by means of currently available normal packaging machines.

[0018] This is achieved by means of an extremely airtight package for moisturized tissues with the features described in the main claim.

[0019] The dependent claims describe advantageous embodiments of the invention.

[0020] The extremely airtight package for moisturized tissues according to this invention comprises a wrapping, consisting of a multiplayer film, bordered by transverse seals and with partial longitudinal seals, along the free edges of the film, such as to leave an appropriate opening in the central portion of one side of the package and which can be closed by means of plastic zipper means.

[0021] In accordance with the invention, the plastic zipper means consist of a pair of strips, each integral with a respective edge of the opening, equipped with dovetail coupling means and surmounted by a cursor or zipper designed to press these coupling means together and cause their interpenetration with consequent airtight closing.

[0022] The cursor surfaces, which during use press against the strips, are wedge-shaped so that when the cursor is moved in one direction it causes the opening of the slit while when moved in the other direction it closes.

es the slit.

[0023] The edges of the synthetic multiplayer film, integral with the plastic strips, can extend as far as the edges of the cursor and even, when the package has not been opened the first time, cover the cursor.

[0024] The package wrapping, having the shape of a parallelepiped, can have the slit on any of its sides, either longitudinal or transverse.

[0025] Furthermore, the film is of the peelable type so that the opening of the package by tearing does not cause laceration of the fibres of the film.

DESCRIPTION OF THE DRAWINGS

[0026] Other features and advantages of the invention will become evident on reading the following description of one form of embodiment of the invention, given as a non-restricting example, with the help of the accompanying drawings, in which:

- figure 1 shows a prospective view, slightly from above, of an opened package according to the invention;
- figure 2 shows an enlarged elevated front view of elastic zipper means;
- figure 3 is a similar view to that in figure 1 but with the package closed; and
- figures 4 and 5 are similar views to that in figure 2 according to different forms of embodiment.

DESCRIPTION OF ONE EMBODIMENT

[0027] In the figures, the reference number 10 indicates in general a package for moisturized tissues, in the case in question an extremely airtight package 10.

[0028] The package 10 consists of a wrapping 11, made from synthetic multiplayer film, substantially parallelepiped in shape, with a larger upper side 12, a larger lower side 13 opposite the previous side, two smaller lateral sides 14 and two transverse sides 15.

[0029] Each transverse side 15 presents a closing seal 16 and a protruding tab 17 as a result of the processing to produce the package 10.

[0030] The larger upper surface 12 presents free edges 18 of the film, joined close to the transverse sides 15, by means of closing seals 19 leaving the central portion of the upper side 12 open by a slit 20.

[0031] As can be seen in figure 2, the free edges 18 are integral, for example sealed, with plastic strips 21 equipped with dovetail coupling means.

[0032] These coupling means can consist of a longitudinal cavity 22 in one strip 21 corresponding with a respective protrusion 23 in the other strip 21.

[0033] The two strips 21, together with the respective edges 18, can be closed, forming plastic zipper means, by a cursor or zipper 24 designed to press the strips 21 together causing the penetration of the protrusion 23 into the cavity 22 with consequent airtight closure.

[0034] The cursor 24 has surfaces, pressing against the strips, which are wedge-shaped (not shown in the drawings) so that when the cursor is moved in one direction (arrow "A") the slit 20 is opened while, with reference to figure 3, when moved in the opposite direction (arrow "B") the slit is closed. The cursor 24 can also be equipped with a puller 25 to make it easier to move.

[0035] The edges 18 of the film, integral with the plastic strips 21, can extend as far as the base of the strips 21 (figure 4) or as far as the edges of the cursor 24 (figure 2).

[0036] According to the form of embodiment shown in figure 5, when the package 10 has not yet been opened for the first time, the edges 18 can be sealed together covering the cursor 24 to protect the cursor.

[0037] With reference to figure 4, when the package 10 has not yet been opened for the first time, the edges 18 in any case present an inner seal 26 acting as a protection which can be easily opened by the user without tearing other parts of the wrapping 11, since at least the inner layer of the film forming the package is made from peelable type plastic material.

[0038] The wrapping 11 of the package 10 can present the slit 20 on any of its sides, the longitudinal sides 12 or 13 or the transverse sides 15.

[0039] The elastic zipper means, consisting of the cursor 24 which slides on the strips 21, ensure an excellent airtight closure of the package 10 preventing the tissues contained inside from drying out.

[0040] By making use of the edges 18 of the film, normally sealed together in background art packages, to form the slit 20, plenty of space remains both on the upper side 12 and on the lower side 13 for text and/or graphics which help to make the product visible.

[0041] The invention is described above with reference to a preferred form of embodiment.

[0042] It is, however, clear that the invention is susceptible to numerous variations within the framework of technical equivalents.

Claims

1. An extremely airtight package (10) for moisturized tissues which comprises a wrapping (11), made from synthetic multiplayer film, bordered by transverse seals (16), **characterised in that** it comprises a partial longitudinal seal (19), of the free edges (18) of said film, such as to form a slit (20), in the central portion of one side (12) of the package (10), the slit being closable by plastic zipper means.
2. A package (10) according to claim 1, **characterised in that** the plastic zipper means consist of a pair of strips (21), each integral with a respective edge (18) of the slit (20), equipped with dovetail coupling means and surmounted by a cursor or zipper (24) designed to press the coupling means together

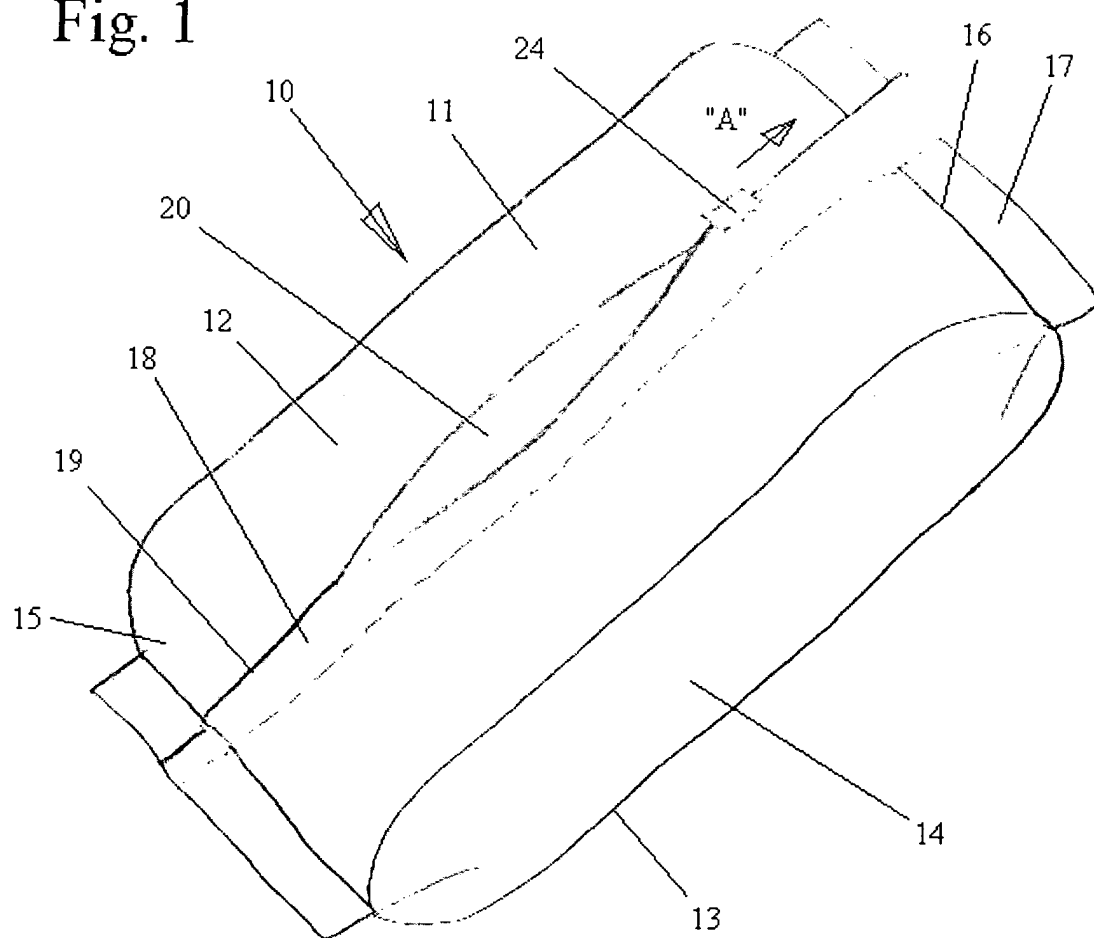
causing their interpenetration and consequent air-tight closure.

3. A package (10) according to claim 1 and 2, **characterised in that** the edges (18) of film extend as far as the edges of the cursor (24), covering said strips (21). 5
4. A package (10) according to claim 1 and 2, **characterised in that**, when the package (10) has not yet been opened for the first time, the edges (18) of the film extend to completely cover said cursor (24). 10
5. A package (10) according to any of the previous claims **characterised in that** the cursor (24) has wedge-shaped surfaces which in use press against said strips (21). 15
6. A package (10) according to claim 2, **characterised in that** the dovetail coupling means consist of a longitudinal cavity (22) in one strip (21) corresponding to a respective protrusion (23) in the other strip (21). 20
7. A package (10) according to any of the previous claims **characterised in that** the slit (20) may be on any of its sides, the longitudinal sides (12, 13) or the transverse sides (15). 25
8. A package (10) according to any of the previous claims **characterised in that** the inner layer of the film forming the package is made from peelable plastic material. 30
9. A package (10) according to claim 9, **characterised in that** it comprises a continuous longitudinal seal, positioned below the plastic zipper, this longitudinal seal being opened the first time the package is opened, and thus closed again by the movement of the plastic zipper. 35
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10. A package (10) according to any of the previous claims **characterised in that** one larger side of the package is completely free of deals or zippers to allow its total use for graphics of various kinds. 45

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Fig. 1



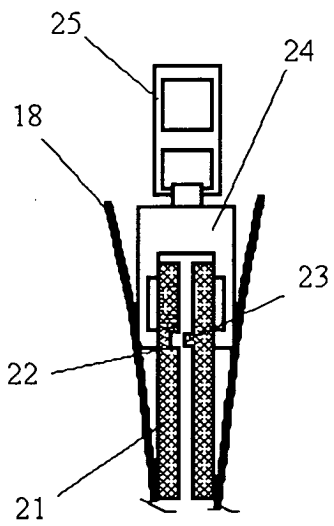


Fig. 2

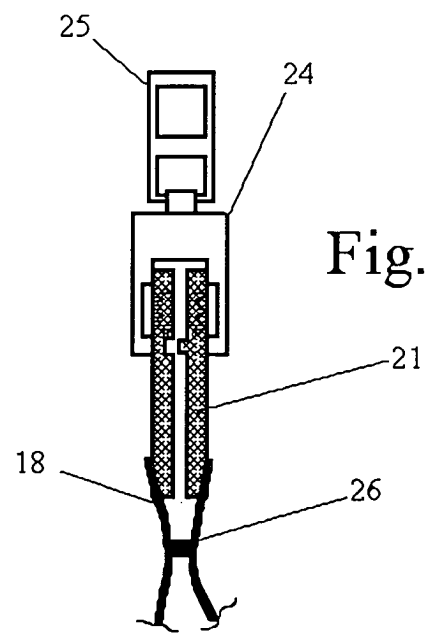


Fig. 4

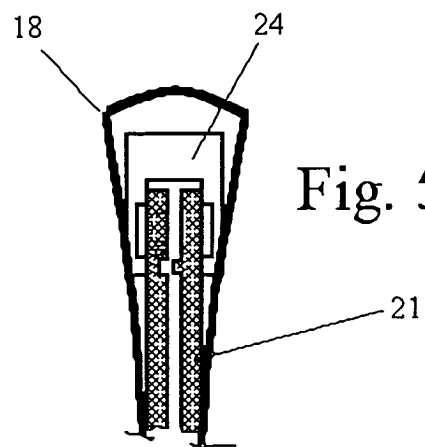
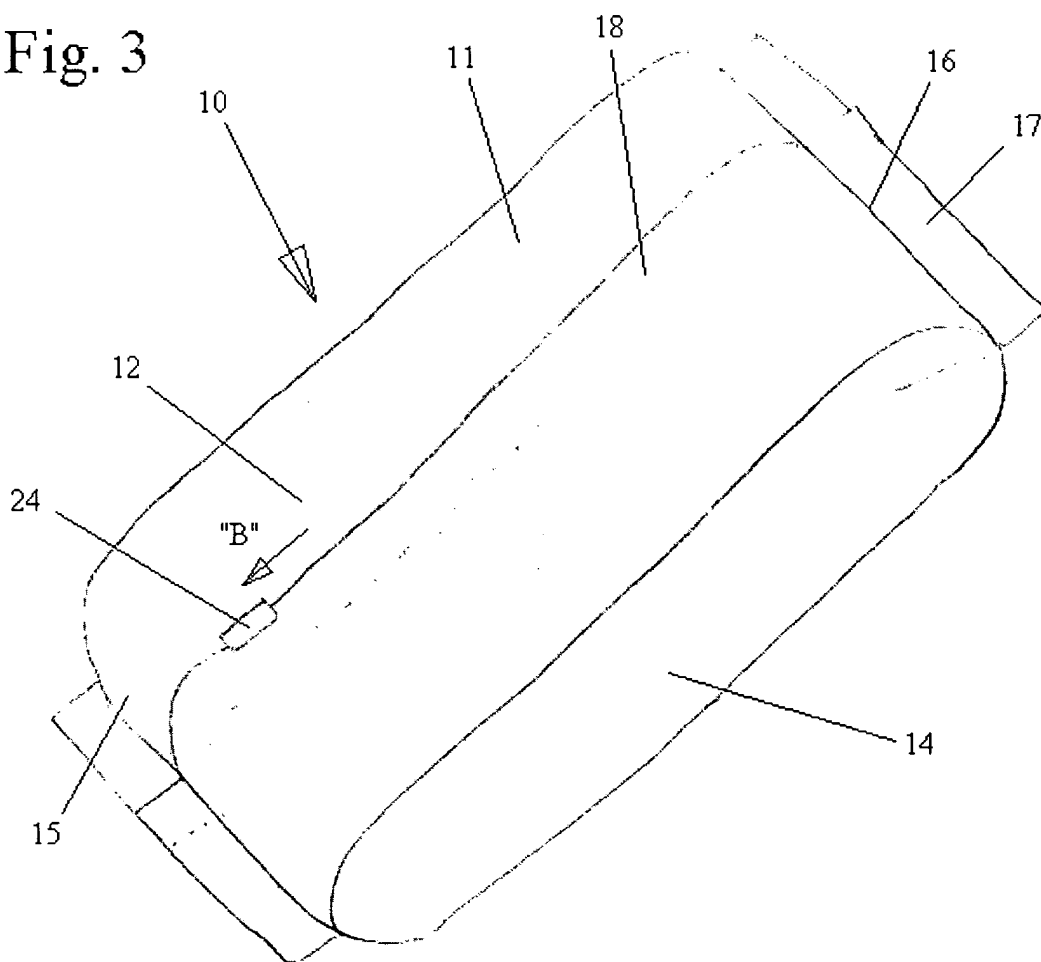


Fig. 5

Fig. 3





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 03 01 7944

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Y	* column 2, line 60 - column 3, line 13; figures *	2-6,8	B65D33/25
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 18 November 2003	Examiner Balz, O
CATEGORY OF CITED DOCUMENTS		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 L : document cited for other reasons & : member of the same patent family, corresponding document	
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			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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