HU000025668T2

(19) **HU**

(11) Lajstromszám: **E 025 668** (13) **T2**

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SZÖVEGÉNEK FORDÍTÁSA

(21) Magyar ügyszám: **E 12 733592**
(22) A bejelentés napja: **2012. 06. 20.**

(96) Az európai bejelentés bejelentési száma:
EP 20120733592
(97) Az európai bejelentés közzétételi adatai:
EP 2729379 A1 **2013. 01. 10.**
(97) Az európai szabadalom megadásának meghirdetési adatai:
EP 2729379 B1 **2015. 07. 08.**

(51) Int. Cl.: ***B65D 33/25*** *(2006.01)*

(86) A nemzetközi (PCT) bejelentési szám:
PCT/EP 12/002591
(87) A nemzetközi közzétételi szám:
WO 13004348

(30) Elsőbbségi adatok:
202011102943 U **2011. 07. 05.** **DE**

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(54) **Csomagolókonténer**

EP2729379

Packaging container

The invention relates toa packaging container according to the preamble of claim 1.

Packaging containers of this kind are widespread in the form of side pleatbags or bottom pleat bags and not only provide minimal packaging expenditure with regard to space, volume and costs, but can also be manufactured, filled and closed effectively in highly developed machine passes. A rectangular block shape of the (filled) packaging that is usually desired for storage, shipping, and the display of goods canbe produced for usual conventional packagingitems only in approximation, however, because it requires complete filling, which is difficult to achieve, and because, for flowable productsto be packaged, deformations happen easily overall. When, as is conventional, the packaging items are thenbrought togetherto form a removal opening at a (top) end, at whichoptionallyalso side pleatsconverge and possibly also a central transverse bottom seam forms the closure at the other end, packaging items that are incompletely filled tend to form variable shapes. The capability of the packaging to stand upright is uncertain in this context. Moreover, packagingitems are difficult to access via a removal opening provided with a reclosure device if the removal slot is short and possibly also impaired by side pleatsin the top closure.

Packaging containers of the aforementioned kind,havingside pleatwalls that can be folded out to a substantially rectangular block shape but end in gussetsand are arranged between main walls which converge at opposite ends to form a central seam or strip, in particular a bottom seam or top strip, are disclosed, for example, in DE 10 2008 011 471 A1, US 6,481,183 B1, US 6,874,935 B1, US 7,396,163 B2, US 2006/0189467 A1, and JP 03240650 A. A packaging container havinga bottom pleat wall and a top strip formed bya reclosure device is disclosed in EP 1 266 836 A1. DE 103 16 065 A1 discloses a method for various packaging containers which each have two adjacent pleats in one wall, of whichone pleat forms an opening indicator in connection with a closure device. However, this causes the shape of the containers to have difficult and complex terminal and transitionalregions.

US 4,713,839 A discloses a packaging container made of (double-layer) film, which packaging container is open at the bottom for filling, is heat-sealed on both sides in each case by a side seam, without side pleats, and comprises a top fold, over which a reclosure

device and a handle loop made of film are placed. This configuration is difficult to adapt to the desired rectangular block shape and laborious to open for emptying.

WO 00/26101 and also EP 0 945 359 A2 disclose a rigid box-shaped packaging item having a flexible lid which is provided on a longitudinal edge with a reclosure device for filling and emptying. A packaging item of this type is complex in terms of material and production.

EP 2 277 790 A1 discloses a packing container according to the preamble of claim 1, in which the main and side walls and a bottom wall are joined to one another in a box-like manner by means of sealed seams, and the top region is extended using excess film regions to form handle strips and is fitted in a handle strip with a reclosure device which extends over the entire width thereof. This configuration of the top makes itdifficult to form a rectangular block shape following complete filling and can therefore stand upright only to a limited extent.

The object of the invention is to provide a packaging container which, in the case of a chunky or flowable product, allowsan improved filling level, approximates in this context more closely to the desired rectangular block shape, can thus also stand upright well on side walls or end walls, and allowsa removal opening that is as wide as possible and easily accessible and has areclosure device.

The object is achieved by a packaging container according to the preamble of claim 1 havingthe characterising features of claim 1.

According to the invention, an important step for achieving this objectconsistsin the fact that the removal opening extends along one of the longitudinal edges. In this context, the removal opening that is conventionallyarranged,in terms of manufacture,inthe top closure of apackaging container is moved to one of the longitudinal edges which, due simply to theedge length thereof, allowsa largeror longer fill opening/removal opening which, accordingly, can also be opened wider and more easily. Yet thisregionof the packaging container can also be readily kept free from incorporation or termination of side pleatwalls of the conventional type and, in this respect,can be easily accessed without impairment. In particular, moving the removal opening to the lateral edge and moving an arrangement away from acentral regionof the container walls has the result that the neighbouring walls of the container are bent open so as to be substantially flat when opened and are accordingly

lessbulky. This applies even when the packaging container havinga rectangular block shape andhavingedge lengths that are not very different is intended to be a somewhat closer approximation of a cube shape. The more liberal design optionof an end wall in the previoustopregion,owingto movement of the removal opening to a lateral edge, also allows improved filling of the packaging container,whichis advantageous for a more exact rectangular block shape and upright positioning on a side wall or end wall.

The removal opening which extends "along" a longitudinal edge doesnot need, for this purpose, to be positioned exactly symmetrically on the longitudinal edge, but instead the design of the reclosure device can lead to said opening being positioned directly adjacently in one or the other (main or side) wall.

Preferably, the reclosure device is formed having two reclosure strips which have a connection that is irreversibly separated upon first opening. In sales, this has the advantage of the"guaranteed new" feature widely offered in distribution of packaging and also in connection with conventional reclosure devices, and delivery in an intact condition. Moreover, reclosure strips can be additionally protected in this way against breaking open upon extreme loading of the packaging container during shipping and distribution. Reclosure devices, for example having two reclosure strips that are to be closed or opened usinginterlocking profile strips, optionally also using a slider that is longitudinally movable, can be secured and sealed by a separable connection between the reclosure strips. Up to the point of first opening, it is also possible for reclosure strips to be interconnected by a peelable (peel-off) film web which allows tool-freefirst opening.

The empty, and thus still to be filled, packaging bag can expediently be provided with a wide fill opening which is closed after filling, according to the invention, this fill opening notbeingconventionallypositioned directly adjacently to the removal opening and adjoining the reclosure device but instead preferably extendingalong one of the other longitudinal edges or into one of the transverse edges. In this way, the fill opening which is to be closed only afterfilling, for example by means of a sealed seam, can be formed, independently of the removal opening and thereclosure device thereof, to be wide and easily accessible. This allows not only comfortable filling but also a high filling level which can be improved to a residual volume of significantly below 5% instead of the conventional 10% to 15%. Depending on the conditions of the machine-based filling process, it may be advantageous to form the fill opening initially havinga projecting fill socket which, after filling, can be closed

and cut off easily usinga separating sealed seam. Such a fill socket can be formed, for example, by projecting film portions of the adjoining walls which are pulled out as strips contacting each other and are interconnected at the edges to form a tubeshape.

In particular,if packaging containers of the typeconsidered here surpass a "manageable" sizeowing to their large volume, they can expediently be provided with at least one handlewhich is advantageously collapsible together with the packaging container to form a flat shape. Such a handle is advantageous not only forthe buyer for handling a filled packaging container during transport to his home, but also during opening in order to pull open, by means of the handle, one side of the removal opening. The handle can be a strip that is made of film and is attached to one of the walls so as to rest flat thereon. In order to be pulled open, said strip can be arranged on one of the walls at a predetermined distance from the reclosure device.

In order to avoid the shaping caused by central transverse seals or transverse seams at the top and optionally also at the bottom,which shaping is conventionally easily produced but is particularly disadvantageous for the filled state, the bottomcan be provided with a strictly geometric shape in which the sealed seams as a whole extend only along the edges between the walls. This provides an inherent predetermined rectangular block shape that isnot only achieved by means of appropriate and complete filling. In this context, preferably a tubeshape is produced, for example by means of a tube-like extruded blown film, more generally, however,even a tubeshape froma flat film which forms a tube by means of a longitudinal seam, and theopen end-cross-sections thereof are positioned with mutual spacing in accordance with the rectangular block shape and are closed by end walls by means of edge seams on all sides.

In this context, the longitudinal seam for the tube can be advantageously positioned inthe edge. The tube shape can also be achieved, however, in that the individual walls, for example the main and side walls, are sealed together by four lateral seams forming the longitudinal edges, the longitudinal seams contributingin a stiffening mannerto the edge formation for the rectangular block shape.

The described packaging containers exhibit their special advantages in the case of larger packaging sizes in which the improved filling level and the more exact rectangular block shape are particularly advantageous. These packaging sizes can be produced with reduced

material expenditure with respectto the packaging volume, can be transported and stored with a very low-loss space requirement, and primarily, in case of a sales display, can be presented effectively on the sales shelf by presentingamain surface to the buyer when stood up on a side wall ("transverse format") or on an end wall ("upright format"). The presentation space that is available, for example the depth of the sales shelves, can be utilised by positioning the packaging items behind oneother.

Four embodiments of the subject matter of the invention are illustrated in the drawings and will be explained in the following in more detail. In the drawings:

Fig. 1 is an oblique view of a packaging container according to the invention in the filled state;

Fig. 2 is a rear view of thepackaging container according to Fig. 1, filled and opened at a removal opening;

Fig. 3 shows a packaging container in a second embodiment in the folded state;

Fig. 4 is an oblique view of the packaging container according to Fig. 3 in the unfolded state ready for filling;

Fig. 5 is an oblique view of another packaging container in the folded state;

Fig. 6 is an oblique view of the packaging container according to Fig. 5 in the unfolded state ready for filling.

A packaging container,denoted as a whole by 1 in Fig. 1, has, according to the drawing (and in practice also in approximation), a rectangular block shape havingthree pairs of mutually opposed rectangular block sides which are typically differently sized from pair to pair. The packaging container is manufactured from a film material which is sealable at least on the inner side, that is to say it has a sealable plastics material at least on the inner side. As a whole, the film material can be monolithic but can also comprise layers of plastics or metal materials in order to fulfilvariousdemands on the packaging with regard to moisture stability, vapour permeability, aroma tightness, tear resistance, etc.

The walls joined together to form the rectangular block shape will be referred to, depending on their size, as main walls 2, 3, side walls 4, and end walls 5. The main walls 2, 3 and the side walls 4 are to be separatedfrom each other by longitudinal edges 6, 7, 8, 9 in each case. They are also consistently the longest edges of the rectangular block. The other edges that surround the end walls 5 are all transverse edges, denotedin the drawings by 10, 11, 12, 13, 14, 15, 16, even when they can be divided into two different lengths.

In Fig. 1, dash-dot lines 17 are alsomarkedin the side walls 4 and the end walls 5, which lines extend in part parallel to the main surfaces 2, 3 and in partobliquely inwardly from the corners relative to the surface, and merely indicate fold lines or fold edges when the packaging container 1 is folded flat, ready for shipping,havingV-shaped inwardly folded side walls and end walls, and main wallsstacked on top of one another. The central lines which extend parallel to the main surfaces 2, 3 mark the actual fold line. The obliquelyextending lines indicate that the V-fold in the corner regioncan only be carried outfrom one side as far asthe edge while the fold from the other side is then to be adjusted by triangular backward folding.

However, as a whole, the packaging container 1 shown has no central seam asis usually present due to the manufacturing process in conventional side pleator bottom pleat bags, which seam, however, then also causes unfavourable transitions when the main and side surfaces are joined to form a single seam for the rectangular block shape. Here, the film pieces that form the rectangular walls are interconnected by means of sealed seams which extend along all the longitudinal and transverse edges.

Although it is understood that the rectangular block shape can also be formed for examplehavinga film piece which forms, as a single piece, the main and side walls 2, 3, 4 and which is then joined, only along a single longitudinal edge, e.g. the longitudinal edge 6, to form a tube shape in order to subsequently close the open tube ends with the end walls 5. The seams along the longitudinal edges that can be optionally dispensed with during manufacturingare also advantageous, however, in the more complex embodiment shown,in thatthe longitudinal edges are marked and stiffened and in that the rectangular block shape is more easily formed in this way.

The longitudinal edge 6 can be completely, or at least substantially, opened by a reclosure device 18, the sealed-in connection of which,between the main wall 3 and the side wall

4,thus replaces the sealed seam between the walls. The arrangement along a longitudinal edge, here longitudinal edge 6, has the general advantage that it allows a large opening, that the neighbouring walls can be moved away from oneother across a large surface areaduring removal and that, during an emptying process through the removal opening, sliding surfaces are formed bythe inner sides of the neighbouring walls.

Moreover, a handle 19 is arranged approximately centrally on the side wall 4, which allowshandlingof large-volume packaging containersin particular. The arrangement on the side wall 4 (instead of on one of the main walls) leads to a carrying position that does not protrudeas muchlaterally. The handle 19 can be designed in a conventional manner, for example according to one of the embodiments disclosed in WO 2005 012 122, it beingformedin the present arrangement on one of the fold lines at the centre so as to be not only flat but also foldable in the longitudinal direction. This designcomprises a flat handle band 20 which can be gripped centrally from below and is sealed at the ends onto a carrier plate 21 which, in turn, is attached to a seal film 22 in order to transmit the load onto the thinner film of the side wall 4.However, the handle serves not only for transporting the (filled) packaging but also as a handlingdevice during opening, as is illustrated in Fig. 2. The lateral surface 4 can be pulled open by means of the handle in order to reach the filling of the packaging which is accessible when the reclosure device 18 is open. In particular, however, in the case of packaging fillings that should not be contacted by hand, opening by means of the handle 19 and removal usinga tool (spoon) 23 can be provided.

The reclosure device 18 in the present case is a "slider" closure as is conventional in film packaging, i.e. a pre-manufactured closure having two profile strips which,according to the length thereof, can be interlocked with each other, interlocking being additionally facilitated by a slider 18a. In a known manner, the profile strips are provided with connecting tabsof plastics material (not illustrated) by means of which said profile stripscan be sealed into a film packaging item, asin this case, and which are also interconnected. Accordingly, the reclosure device is closed, independently of a possible sliding of the slider 18a, and secures the impermeability of the packaging container 1, even, for example, relative to loads on the packaging container in the filled state during transport.

As is conventional, the connection of the connecting tabs is to be torn or cut open so that a first opening of the packaging container canthen also be identified. An alternative solution

according to the invention for separating the reclosure strips or connecting tabs consistsin formingthe connection as a pull-open ("peelable") strip so that a tool is not required here.

Owingto the particularlyprecise rectangular block shape, the packaging container 1is advantageous with regard to the most extensive useof transport space, storage space, and presentation space. For example, said container can be set upright on a sales shelfin the position shown in Fig. 1, havingthe handle at the top and havinga main surface(having the desired packaging design) that can be directly viewedand, for utilisation of the shelf depth, can also cover further packagingitems of the same kind that are positioned in parallel therebehind.

For the exact rectangular block shape, a high degree of filling is advantageous, andat the same time, however, also ensuresminimised packaging for a predetermined product quantity to be packaged. For filling, advantageous filling openings are to be provided that must be large enough for rapidmachine-based filling and which have access to all corners of the packaging container.

In Fig. 3, a further packaging container 24 in the folded state is shown,which has a main wall 25 havinga longitudinal edge 26 and a reclosure device 27 on saidlongitudinal edge. A fill opening 28 is formed at the top havinga socket 29 and projectingpast the actual main wall 25. The design of the packaging container 24 in the unfolded state is shownin Fig. 4,a side wall 30 and an end wall 31 having been unfolded adjacently to the main wall 25. The socket which projects upwardly past the actual main wall 25 and past the end wall 31 is formed by a projection of the film material of the main wall, on the one hand, and a projection of the film material of the end wall 31, on the other hand, both of which aresealed together along an extension of the longitudinal edges and thus provide a fill opening 28 which extends across the entire width of the main wall 25. In this way, comfortable and complete filling of the packaging container 24, for example with a flowable material, is easily possible, it also being possible to obliquely position the packaging container 24 to be filled, such that the end wall 31 also slopesobliquely away from the socket 29 and complete filling underneath it is possible during the filling process. After filling, the socket portion 29can be cut off, for example by means of a separating sealed seam, the fill opening 28 then also being closed off.

Fig. 5 and 6 show a packaging container 32,which is slightly modified compared with the packaging container 24, in the folded form (Fig. 5) and unfolded form (Fig. 6) respectively, havinga front-side main wall 33 and an end wall 34 as well as a fill opening 35 on a socket 36. Here, as in the packaging container 24, a reclosure device 37 is arranged on a longitudinal edge while the fill opening 35 is not, for example,provideddirectly at the reclosure device, as is frequently the case in conventional side pleatbags having areclosure device, but instead at another surface or edge. While the fill opening 28 in the packaging container 24 is positioned in a transverse edge, the fill opening 35 together with the fill socket 36 is positioned inthe centre of the end wall 34 in the embodiment of the packaging container 32 according toFig. 5 and 6. Here, too, the fill socket is produced by projecting film material of the neighbouring wall, i.e. the end wall 34 here, the end wall consisting of two halves between which the projecting film converges and is then sealed at the edge. In particular in machine-based filling which does not provideoblique positioning of the packaging container, the central arrangement of the socket serves toimprove filling of the upper corner regions.

713680/DO

CSOMAGOLÓKONTÉNER

SZABADALMI IGÉNYPONTOK

1. Csomagolókonténer (1, 24, 32, 38) darabos vagy ömleszthető termékek számára, amely csomagoló konténer legalább az egyik oldalán hegeszthető fóliaanyagból van, és amely konténer egy, az egymással szemben lévő, és egymással hosszanti élekkel (6, 7, 8, 9), illetve keresztirányú élekkel (10, 11, 12, 13, 14, 15, 16) váltakozva határos, téglalap alakú főfalakkal (2, 3, 25, 33, 40, 41), oldalfalakkal (4), valamint homlokfalakkal (5, 31, 34) rendelkező téglatest alakká tölthető ki, és üres állapotban V alakban behajtott oldal- és homlokfalakkal laposra összehajtogatható, és egy, visszazáró eszközzel (18, 27, 37, 39) ellátott rés alakú elvételi nyílása, valamint egy, a töltés után lehegesztendő töltőnyílása (28, 35) van, azzal jellemezve, hogy a fő-, az oldal- és a homlokfalak (2, 3, 4, 5) egymással páronként szemben lévő felületekként állnak, amelyek a szél felé eső oldalon kizárólag az éleken hegesztési varratokkal vannak összkötve, és hogy az elvételi nyílás az egyik hosszanti él (6, 7, 8, 9) mentén terjed ki.

2. Az 1. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a visszazáró eszköznek (18, 27, 37, 39) két visszazáró pántja van, amelyek egy, az első kinyitáskor irreverzibilisen felszakadó kötésen keresztül kapcsolódnak.

3. A 2. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a visszazáró eszköznek (18, 27, 37, 39) két visszazáró pántja van, amelyek egymásba pattintva zárandó profilszalaggal rendelkeznek.

4. A 3. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a visszazáró pántok egy hosszirányban mozgatható csúszkával (18a) csatlakoztathatók, illetve választhatók szét.

5. A 2., a 3. vagy a 4. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a zárópántok hegesztésre alkalmas csatlakozó fülekkel vannak ellátva, amelyek az első kinyitásig egy darabként mennek át egymásba.

6. Az 1-5. igénypontok egyike szerinti csomagolókonténer, azzal jellemezve, hogy a beöntőnyílás (28, 35) nem az elvételi nyíláshoz hozzárendelhető hosszanti élek egyike mentén terjed ki.

7. Az 1-5. igénypontok egyike szerinti csomagolókonténer, azzal jellemezve, hogy a beöntőnyílás (28, 35) a keresztirányú élek egyikében van elhelyezve.

8. A 6. vagy a 7. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a beöntőnyílás (28, 35) egy kiálló töltőcsonkkal (29, 36) van ellátva, amely két, a szél felé eső oldalon összekötött fóliaszalagból áll, és amely töltőcsonk a konténer megtöltése és a töltőnyílás lehegesztése után leválasztható.

9. A 8. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a töltőcsonk (29) legalább egyik fóliaszalagja a határos fö-, oldal- vagy homlokfal (25) kiugró részeként van kialakítva.

10. Az 1-9. igénypontok egyike szerinti csomagolókonténer, azzal jellemezve, hogy legalább egy, a csomagolókonténerrel laposan összehajtogatható fogantyúval (19) van ellátva.

11. A 10. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a fogantyú (19) egy fóliából kialakított szalagként (20) a fö-, oldal- vagy homlokfalak egyikén laposan felfekvően van rögzítve.

12. A 10. vagy a 11. igénypont szerinti csomagolókonténer, azzal jellemezve, hogy a fogantyú (19) egy, a hosszanti élekkel (6, 7, 8, 9) párhuzamos irányban a visszazáró eszköztől (18) bizonyos távolságban van elhelyezve a fö- vagy oldalfalak (2, 3; 4) egyikén.

13. Az 1-12. igénypontok egyike szerinti csomagolókonténer, azzal jellemezve, hogy egy tömlő formájú, a fő- és oldalfalakat (2, 4) magában foglaló fóliaelemből van kialakítva, amelynek nyitott végkeresztmetszeteit szélvarratok segítségével homlokfalak (5) zárják le.

14. Az 1-13. igénypontok egyike szerinti csomagolókonténer, azzal jellemezve, hogy összehajtogatott állapotban, amikor a főfalak (2, 3) laposan egymáson fekszenek, V alakban befelé behajtott oldal- és homlokfalai (4, 5) vannak, amelyek a főfalak sarkai alatt úgy vannak egymásra hajtogatva, hogy tetszés szerint az oldal- vagy a homlokfal V alakban terjed ki a szélig, a szomszédos oldal- vagy homlokfal azonban háromszög alakban átlapolva vissza van hajtva.

(A meghatalmazott)

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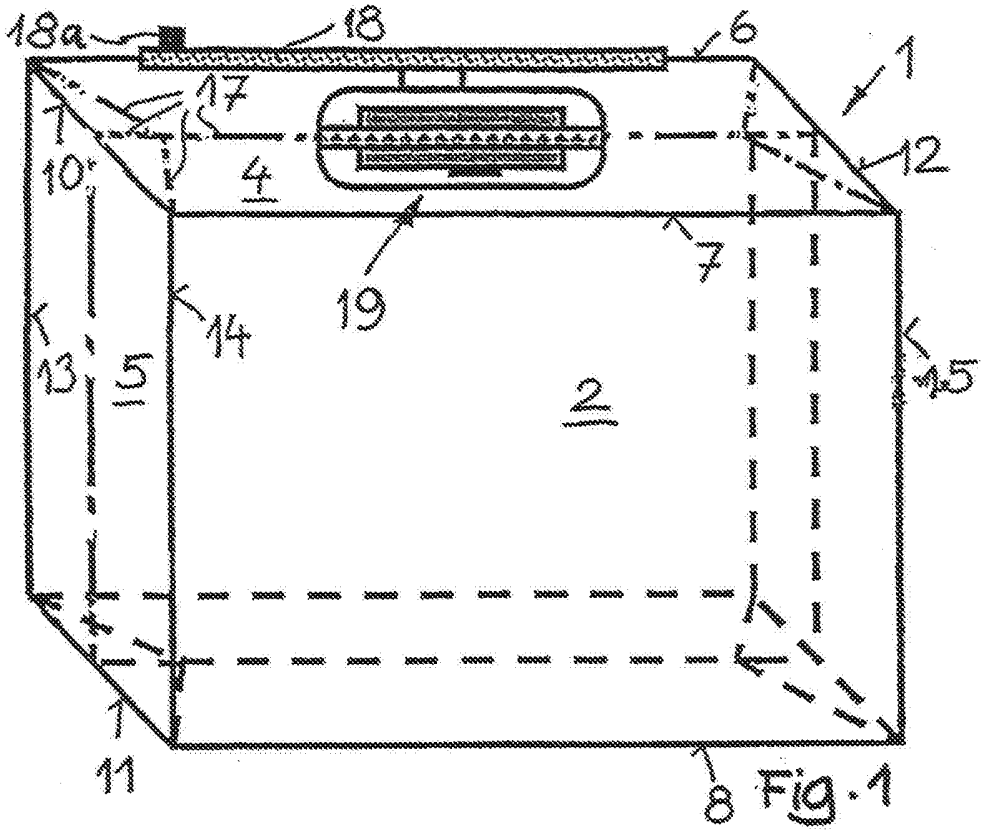
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Fig.1

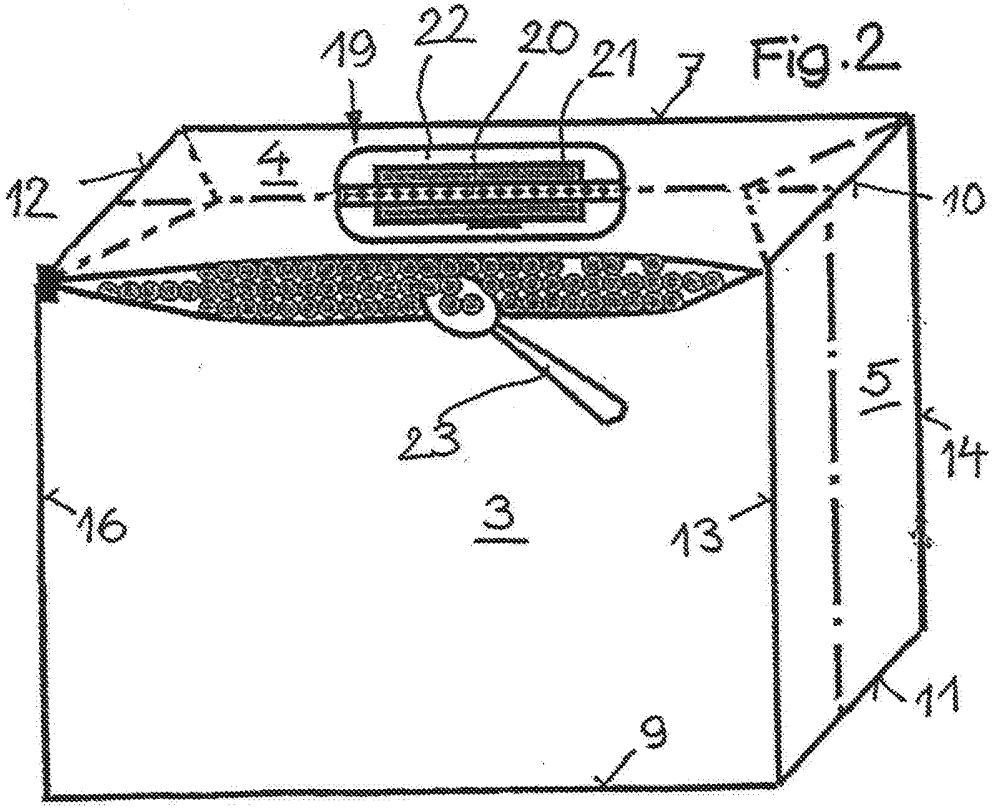
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Fig.2

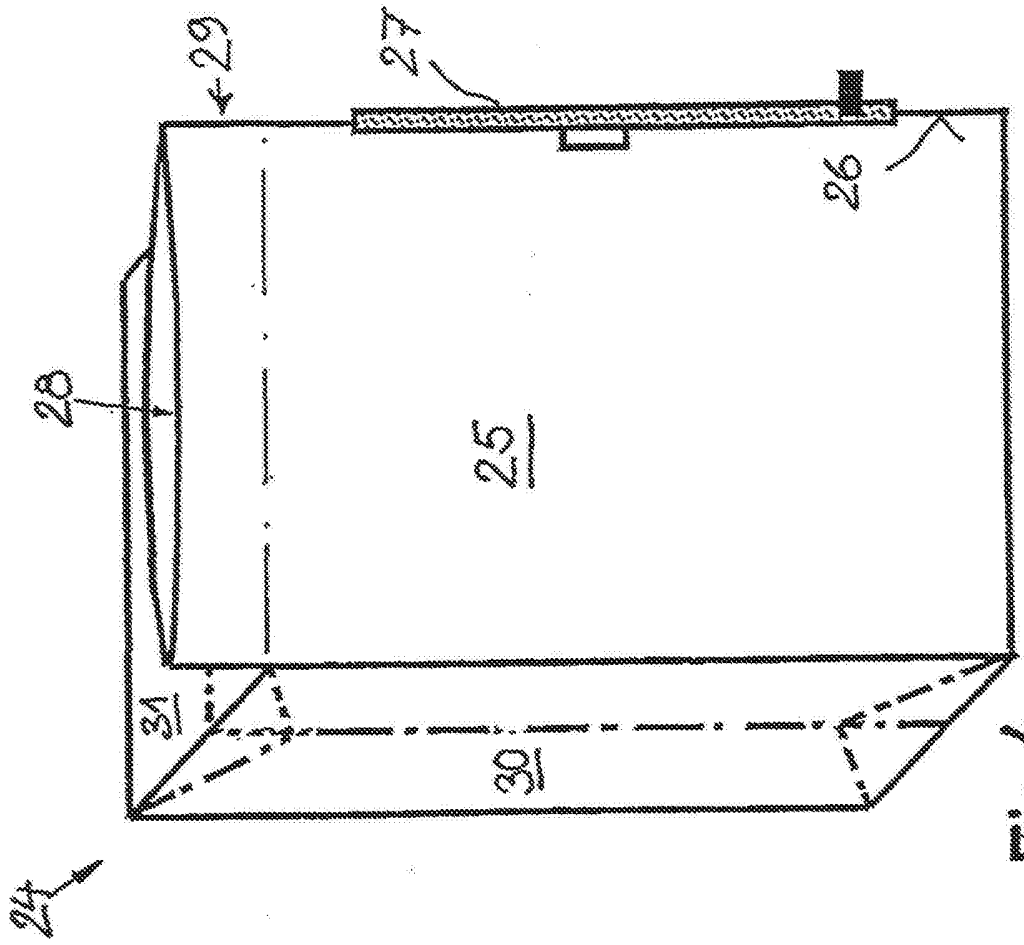

Fig.4

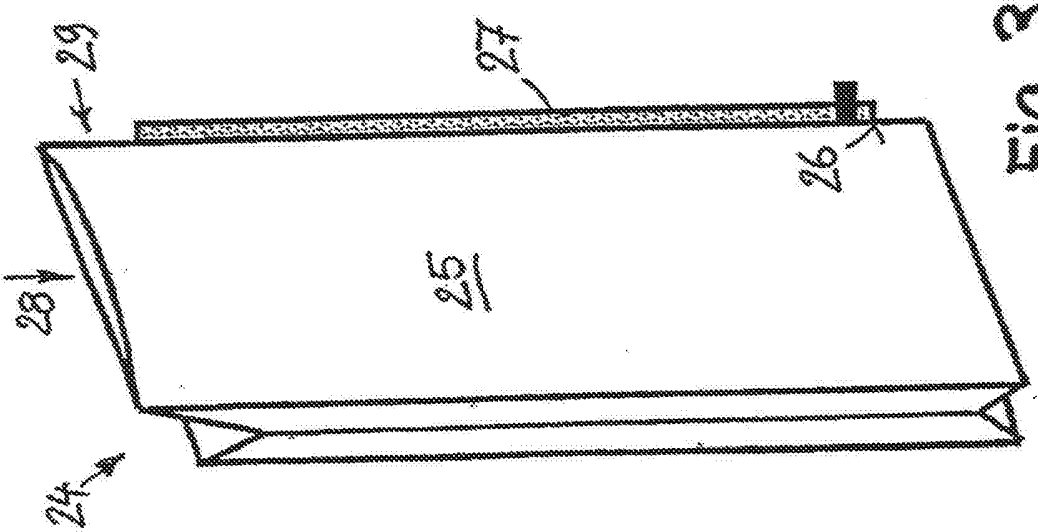

Fig.3

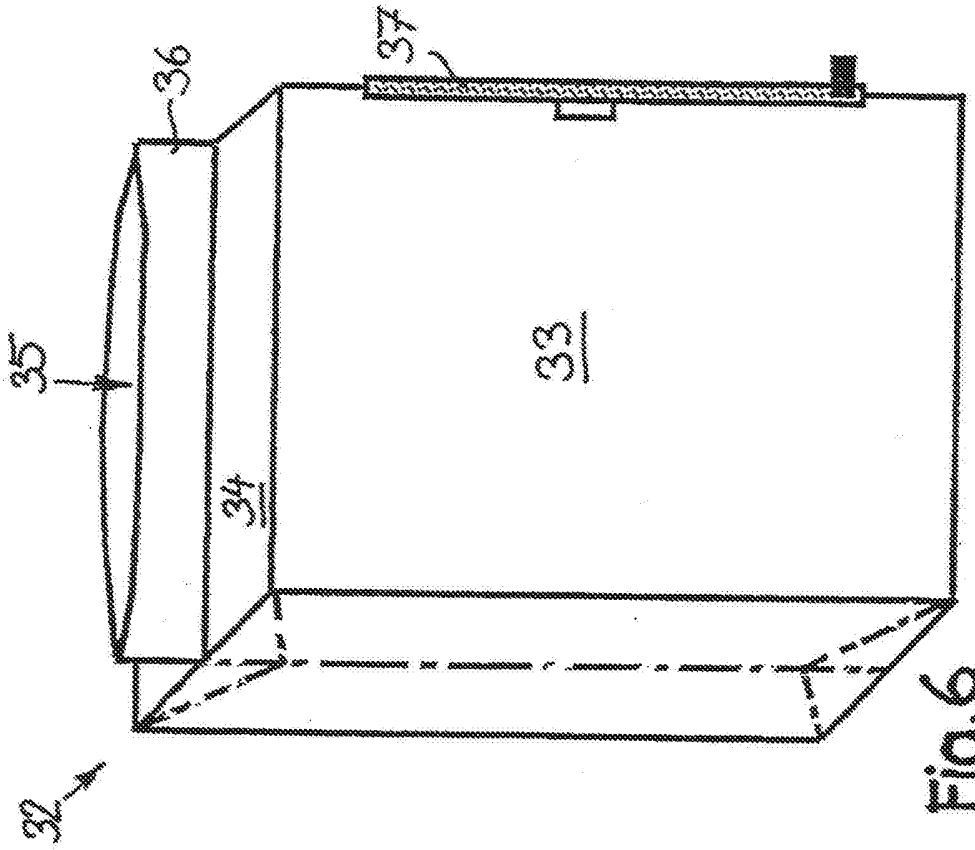

Fig. 6

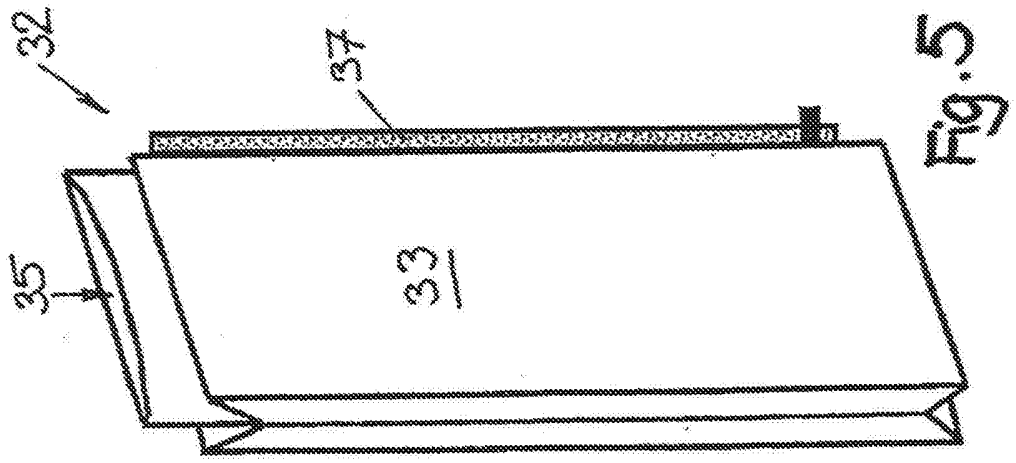

Fig. 5