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R. L. IGNELL

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DISPENSING MEANS IN A PACKAGE

Filed Aug. 9, 1962

2 Sheets-Sheet 1

Fig.1

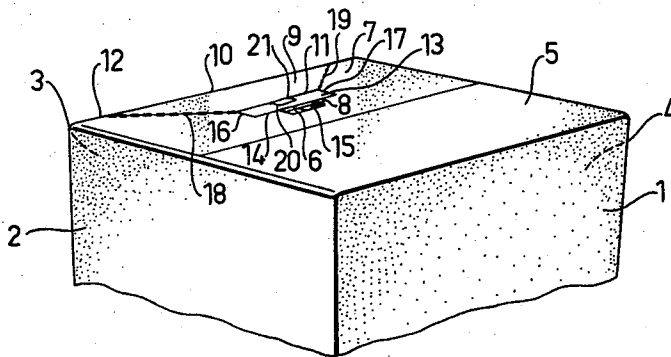
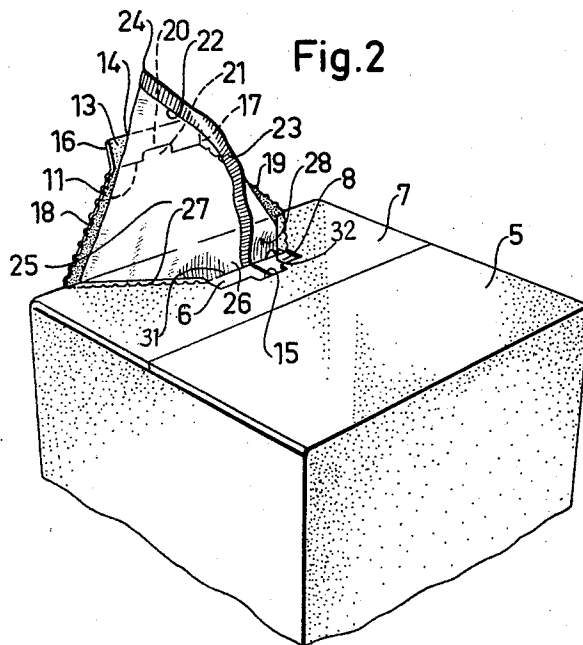


Fig.2



INVENTOR

Rolf Lennart Ignell

By *Pierre Scheffler & Parker*
Attorneys

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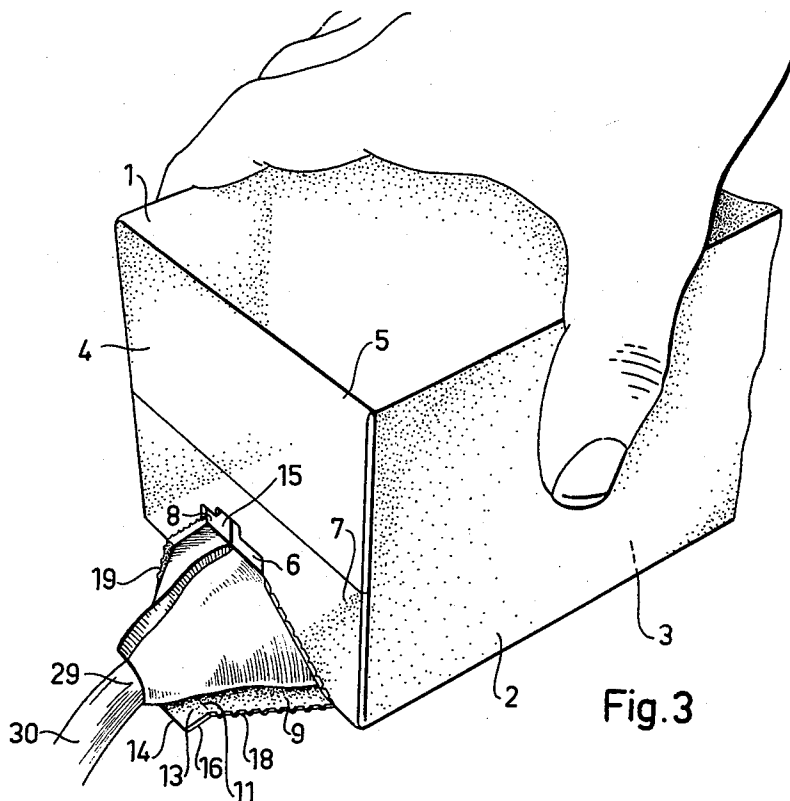


Fig. 3

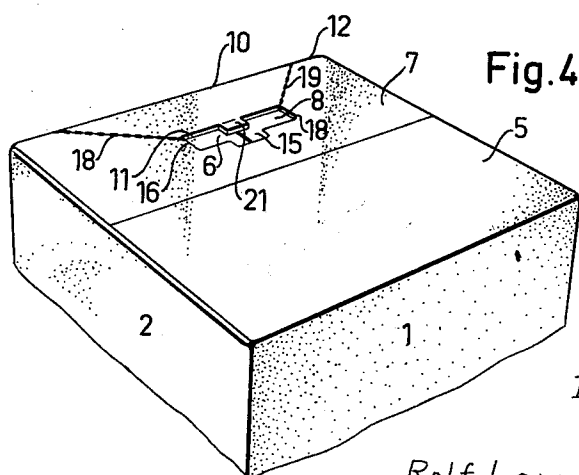


Fig. 4

INVENTOR

Rolf Lennart Ignell

By
Pierce, Scheffler & Parker
Attorneys

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DISPENSING MEANS IN A PACKAGE

Rolf Lennart Ignell, Lund, Sweden, assignor to A.B. Vapor, Lund, Sweden, a company of Sweden
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1 Claim. (Cl. 229—17)

The present invention relates to a dispensing means in packages of the kind comprising, on one hand, a planar end closure wall established by folding in, from each of at least two opposite side wall panels of a rectangular or square cross-section sleeve body of a relatively stiff sheet material, e.g. cardboard, end closure flaps at least jointly covering the sleeve cross-section area and by fixing said flaps relative to each other in their folded-in position, and, on the other hand, a liner constituted of a thin-walled flexible tube length extending longitudinally of the sleeve axis, which liner at its end adjacent to the end closure wall is closed along a sealing fin produced through flat-pressing the liner in a zone transverse to the liner axis and having its inner boundary line contained in a plane through the sleeve axis substantially perpendicular to a sleeve side wall panel associated with an outer—as folded-in—end closure flap, and adjacent to one end of said sealing fin is secured to the inside face of said outer end closure flap at least in the vicinity of one liner generatrix extending through such sealing fin end, thereby to cause a double-walled triangular liner ear communicating with the liner interior and having its outer apex angle substantially bisected by the adjacent portion of the inner boundary line of the sealing fin to fold inwardly together with said end closure flap when folding-in same into the end closure wall position.

For facilitating dispensing from the package type in question it has been previously suggested to utilize the double-walled triangular liner ear as a dispensing spout after having folded-out from its end closure wall position the outer end closure flap to which said ear adheres and having perforated the liner ear at the outer apex thereof, e.g. through cutting. This prior solution was based on the assumption that the entire end closure flap in question be folded-out, and hence a substantial portion of the end closure wall be spoiled detrimental to the package stability.

In accordance with the invention there is provided a dispensing means which, besides eliminating the above discussed disadvantages hitherto inherent with the package type in question, offers several advantages increasing the versatility of the package. Thus, the dispensing means is substantially characterized therein that said liner ear adheres to said outer end closure flap along a relatively small section thereof, said flap section extending to the circumference of said end closure flap only along the fold line common to the end closure flap and the associated sleeve side wall panel, and that the inner end closure flap or flaps, if any, together with the sleeve wall define an aperture in position and shape substantially corresponding to said outer end closure flap section and covered thereby, said outer end closure flap having lines at least weakening the sheet material thereof, e.g. cut and/or perforation lines, which lines together with said joint fold line defines at least said outer end closure section, in order that the same together with the liner ear secured thereto may be folded-out from the end closure wall about said joint fold line, and subsequently

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the filling material contents of said liner may easily be dispensed through a dispensing opening established at the outer liner ear apex while utilizing the liner ear as a spout.

In the following the invention will be described in greater detail reference being made to the attached drawings.

FIG. 1 is a partial perspective view of an intact package provided with the dispensing means according to the invention.

FIG. 2 is a view corresponding to FIG. 1, the end closure wall being opened, while the liner still is intact.

FIG. 3 is a partial perspective view of the package illustrated in FIGS. 1 and 2 when dispensing the filling material from same.

FIG. 4 is a partial perspective view of the package as reclosed.

In the drawings, the invention is illustrated as applied to a lined parallelepipedon package of square cross-section shape. The package body comprises a sleeve of a relatively stiff sheet material, e.g. cardboard. At least the upper end of the sleeve body, as seen in the drawings, is closed by end closure flaps 5, 6, 7 and 8 folded-in over the end opening from each an individual one of the sleeve side wall panels 1, 2, 3 and 4, respectively, into a position co-planar with the end opening and fixed to each other in such folded-in position. It has been assumed that the end closure flaps 5, 6, 7 and 8 establishing the package end closure wall in question be folded-in in a pair by pair or individual succession such as to make the end closure flaps 5 and 7 folded-in from the two opposite sleeve side wall panels 1 and 3 the outermost ones in the end closure wall.

In the intact package, one outer end closure flap 7 has a parallel trapezoid section 9 symmetric about a plane through the sleeve axis perpendicular to the sleeve side wall panels 1 and 3. The longer side 10 of the two parallel sides 10 and 11 of the trapezoid flap section 9 coincides with the fold line 12 common to the end closure flap 5 and the sleeve side wall panel 1 but is shorter than such fold line. The shorter one of the two parallel sides 10 and 11 of the trapezoid flap section 9 comprises a score or crease line along which a relatively smaller rectangular section 13 connects to the trapezoid flap section 9, this rectangular section 13 serving as a pull tag for opening up the trapezoidal shaped tear wall section 9, and also serving as a tuck-in lip when reclosing the carton by folding down the tear section 9.

Centrally along that side 14 of the rectangular section 13 parallel to the crease line 11 the end closure flap 7 is provided with a "nail grip" slot 15, the adjacent portion of the just mentioned rectangle flap section side 14 defining one boundary thereof. The remaining portion of said rectangle flap section side 14 together with the rectangle flap section sides 16 and 17 perpendicular thereto as well as the non-parallel trapezoid sides 18 and 19 connecting to the latter are defined by lines at least weakening the sheet material, e.g. perforation lines.

Centrally along the shorter one of the two parallel sides 10 and 11 of the parallel trapezoid flap section 9 rectangular extension flap section 13 has a relatively smaller rectangular section 21 defined by a U-shaped through-punch line 20 symmetric about a plane through the sleeve axis perpendicular to the sleeve side wall panels 1 and 3, said minor rectangular flap section 21 being connected non-foldably to the parallel trapezoid flap sec-

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tion 9 along the side 11 common thereto and to said major rectangular flap section 13.

In accordance with the invention the liner comprises a thin-walled flexible tube length extending longitudinally in the direction of the sleeve axis. Preferably, it consists of a heat-sealable plastic material. At its end adjacent the package end closure wall under consideration it is closed along a sealing fin 23 established by flat-pressing the liner wall in a zone transverse to the liner axis, said sealing fin having its inner boundary line 22 contained in a plane through the sleeve axis substantially perpendicular to the sleeve side wall panel 3 associated with the outer end closure flap 7. Adjacent to one end 24 of the sealing fin 23 the liner is secured to the inner face of the parallel trapezoid section 9 of said outer end closure flap 7 at least in the vicinity of the liner generatrix extending through said sealing fin end 24 so that a double-walled triangular liner ear 25 communicating with the interior of the liner and having its outer apex angle substantially bisected by the adjacent portion of the inner boundary line 22 of the sealing fin 23 may be folded inwardly together with the end closure flap 7 when folding-in same into the end closure wall position.

The end closure flaps 6 and 8 which in the end closure position are the innermost ones are each provided with a recess 31, 32 respectively along its side adjacent to the sleeve side wall panel 3, said recesses in the end closure wall position of the end closure flaps together with the sleeve side wall panel 3 defining a parallel trapezoid aperture, the position and shape of which substantially equal those of the parallel trapezoid section 9 of the outer end closure flap 7, the shorter edge 26 of the two parallel aperture edges being substantially aligned with the side 11 of the section 9 overlying trapezoid flap section 9, while the two inwardly converging aperture edges 27 and 28 in the drawings for sake of clearness having been shown inwardly offset in relation to the adjacent sides 18 and 19, respectively, of the flap section 9.

Said aperture defined by the end opening edge 12 and the edges 27, 26 and 28 permits the liner ear 25 to be swung out of the package together with the parallel trapezoid flap section 9 to which it adheres.

In accordance with the invention when folding out the flap section 9 from its end closure wall position, a grip is applied on the underside of the connecting flap section 13 by means of a finger nail or a suitable tool inserted in the slot 15, thereby to break its sealing relationship, if any, to the underlying end closure flaps. After having turned out the connecting flap section 13 from its end closure wall position about the joint fold line 11 thereof and of the parallel trapezoid flap section 9, the latter, by applying a grip thereto, may be separated from the end closure flap 7 and, about its base 10, be folded upwards-outwards thereby turning the liner ear 25 upwards-outwards from its folded-in position.

As shown in FIG. 3, in its turned-out position the liner ear may be opened through tearing or cutting off its outer apex portion to establish a dispensing opening 29 for dispensing the filling material 30.

An advantage inherent with the dispensing means according to the invention is that the dispensing opening 29 easily may be positioned so as, when dispensing, to prevent the filling material 30 from directly contacting the outer carton without requiring a dispensing opening 29 of unsuitably small dimensions. If, as in prior packages of the kind in question, the entire end closure flap had to be turned-out preparatory to dispensing from the package, the liner length has to be increased unduly in order that the liner in the teared-off state of the liner ear portion reach beyond the free end edge of the end closure flap. Moreover, since the double walled triangular ear portion 25 of the inner liner when folded flat has a base line essentially co-extensive with the adjacent carton end wall edge 10 whereas the trapezoidal end wall tear flap 9 has a base line of a length less than

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the total length of such edge, it follows that the liner ear, when pulled through the aperture in the end wall exposed by a swinging-out of the tear flap 9, will overlap, i.e. bulge over the edges of the end wall aperture and thus cause the liner ear to take on its three-dimensional configuration necessary for pouring.

As best illustrated in FIG. 4, the dispensing means according to the invention also permits the package to be reclosed after the contents packaged have been partially dispensed therefrom. When reclosing, the parallel trapezoid flap section 9—and hence also the liner ear 25 provided with a dispensing opening 29—is folded-in over the end closure wall about its base 10. At the latest just before the flap section 9 assumes its end closure wall position shown in FIG. 4, the extension section 13 is folded, about the joint fold line 11 common thereto and to the flap section 9, inwardly into a position substantially perpendicular to the parallel trapezoid flap section 9. Due to this, the extension section 13, when finally folding down the flap section 9 to lie in the same plane as the remaining portion of the end closure flap 7, may be inserted into the package interior along the inner shorter edge 26 of the aperture defined by the end closure flaps 6 and 8. When folding-in the connecting flap section 13 the minor rectangular section 21 punched out therefrom will remain in the same plane as the flap section 9. Thus, said minor rectangular section 21, when the parallel trapezoid flap section 9 with the extension section 13 turned inwardly has been folded down into its reclosing position, will, along its inside face, rest upon the end closure flaps 6 and 8 thus serving as a retaining tag preventing the parallel trapezoid flap section 9 against from being folded inwardly beyond the end closure wall plane. As, due to the position of the edge 26 and to reacting resilience in the fold along the fold line 11 between the flap sections 9 and 13, the flap section 13 in its reclosing position will be maintained in pressure engagement with the edge 26, the flap section 9 will be sufficiently fixed against upward folding about its base 10.

When dispensing filling material once again from a partially emptied reclosed package, the minor rectangular section 21 resting on top of the end closure flaps 6 and 8 will serve as a grip tab for upward folding of the flap section 9 and of the liner ear 25 adhering thereto.

I claim:

A dispensing package comprising a thin-walled flexible tube sealed closed at its opposite ends and distended into a rectangular liner structure in which the tube wall forms both an end wall of the rectangular liner structure and also opposed double walled hollow triangular liner ears each of which is folded downwardly about its base edge to lie flat against an adjacent wall of said rectangular liner structure, one of said hollow liner ears being in communication with the interior of said liner and being adapted upon rupturing an apex section of said ear to serve as a pouring spout for the contents within said liner, an outer rectangular carton snugly enclosing said rectangular liner structure and being provided with an outwardly swinging tear wall flap lying opposite to the said triangular ear which is to serve as the pouring spout and uncovering when swung outwardly an aperture in the adjacent carton end wall, and means adhesively securing only that portion of said triangular ear which lies inwardly of said rupturable apex section permanently to said outwardly swinging tear wall flap of said carton so as to enable said liner ear to be pulled outward through said carton end wall aperture to a dispensing position in which it is adequately supported by said tear wall flap as the latter is swung outwardly, and to be returned to a position within said carton when said tear wall flap is swung inwardly to reclose the carton, said triangular liner ear having a base line co-extensive with the adjacent carton end wall edge and said end wall tear flap having a base of a length less than said end wall edge whereby said triangular liner ear when flat-folded overlappingly

covers said end wall aperture and when pulled through said aperture automatically distends into a three-dimensional pouring spout shape.

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