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Remarks:

A request for re-establishment of rights in respect of the twelve-month period from the date of filing of the first application is pending (Art. 87(1) and Art. 122 EPC).

(54) **Handle for carrying multipacks wrapped in heat-shrink film and consisting of groups of full containers having upper portions projecting upwards and having at least one upper reinforcing and flattening insert to allow stacking of similar multipacks**

(57) The invention relates to a handle for carrying multipacks wrapped in a heat-shrink film (A) and consisting of ordered groups of full containers (S) which have upper portions projecting upwards and which have at least one upper reinforcing and flattening insert (B) for stackability of similar multipacks. According to the innovation, in any suitable position or positions in the upper wall (B1) of said at least one insert (B) there is formed at

least one weakened (1) or open (101) window so that by pressing in the portion of wrapping film lying over this window and if relevant also the window itself, if formed of weakened parts, the user can insert one or more fingers of at least one hand into said window or windows and can grasp, together, portions of said reinforcing insert (B) and the overlying film (A) which are located at said window, to use them as a strong handle for carrying the multipack.

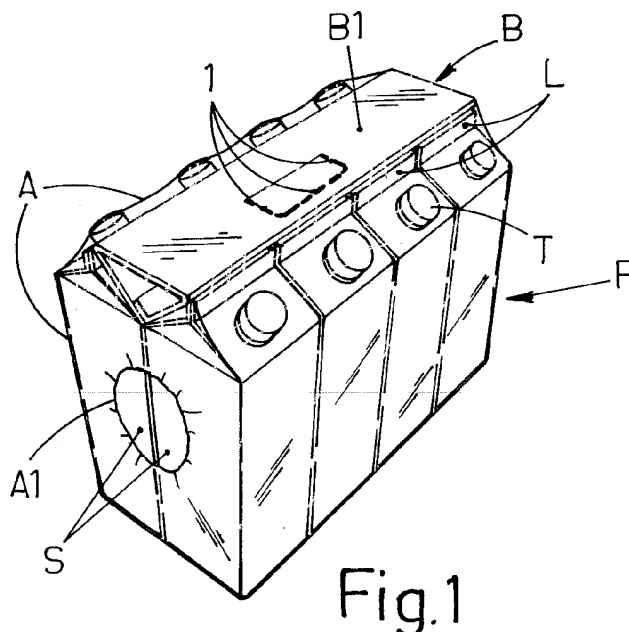


Fig.1

Description

[0001] The invention relates to packages in heat-shrink film of groups of containers in general which have upwardly projecting parts at the top, especially carton-like containers of the so-called "gable top" type as made by Tetrapak® or other makers, which have upper strips bent upwards to produce an upside-down Y shape and which in certain cases have, on one of the oblique surfaces of the peak, a reclosable stopper for pouring out the product contained in these cartons. At the present time this product is usually milk, fruit juices, wine or other liquid products for food use. Said rigid full cartons are normally grouped and ordered into two or more rows side by side in such a way as to form packs in which the vertical portions of the upper strips of the cartons are lined up in parallel rows, and at least one prismatic reinforcing insert is then inserted between them in such a way as to occupy the full length of the pack. This insert is a prism with a rectangular base and a triangular cross section and is usually made from corrugated board or other suitable fluted material. This reinforcing insert rests with one vertex of the triangular shape on the adjacent upper corners of the vertical walls of said rows of cartons. The other two vertices and one of the corresponding flat faces are placed at the top of the vertical portions of the upper strips of said cartons. The pack of cartons with said upper reinforcing insert, which may optionally include, integral with and continuing on from the lower vertex, a vertical panel which fits between the adjacent vertical walls of the rows of cartons (see below), is finally wrapped in a sheet of heat-shrink film that is closed on itself into a loop and which when thermoformed gives rise to a firmly and rigidly closed package. At the top of the package is the flat surface of one or more of said prismatic reinforcing elements which, due to its interaction with the rigid vertical walls of the full and packaged cartons is loadbearing, flat and therefore useful for stacking two or more multipacks of the present kind one on top of the other in a stable and safe manner.

[0002] To carry these multipacks a person currently has to use both hands, placing them underneath each multipack or inserting them into the openings at either end of the loop-closed sheet of packaging film, at the risk however, of tearing this packaging, with all the associated resulting problems.

[0003] It is an object of the innovation to improve on this sort of multipack to enable it to be carried safely, easily and even by one hand. This technical problem is solved by the solution set out in the accompanying Claim 1 and subsequent dependent claims, which involves making one or more open or weakened windows in a preferably intermediate part of the upper wall of said reinforcing prismatic insert, in such a way that by pressing in the portion of wrapping film overlying said window, optionally preweakened with small holes or incisions, the user can insert one or more fingers of at least one hand into said window and can grasp the whole of the reinforcing

insert and of the overlying film and so use them as a strong handle for carrying the multipack easily and safely. A possible industrialized embodiment of the reinforcing insert designed for the above purpose is also disclosed.

[0004] Other features of the innovation, and the advantages which flow therefrom, will become clearer in the course of the following description of certain possible embodiments thereof, illustrated in the figures of the two appended sheets of drawings, in which:

- Fig. 1 is a perspective view of an improved multipack according to the innovation;
- Figs. 2, 3, 4 and 5 are perspective views, partial and complete, of a multipack as in Figure 1, each showing a variant of the carrying handle and with the packaging film partly torn away so that the underlying parts can be seen more clearly;
- Fig. 6 shows details of the multipack seen in Figure 5, in cross section on VI-VI; and
- Fig. 7 shows the net or development of the prismatic reinforcing insert used in the multipack of Figures 5 and 6, as it arrives from the blank maker.

[0005] Figure 1 shows a multipack F of the type considered here, with the cartons or containers S grouped and ordered into two adjacent rows. Their upper strips are bent upwards and end in vertical flaps L lined up in parallel rows and may have on one of the inclined surfaces reclosable stoppers T facing outwards as in the present example or oriented inwards (see later). The cavity between the tapering tops of the two rows of cartons S is occupied along its full length by a reinforcing and stacking insert B of prismatic shape, with a triangular cross section, its lower vertex resting on the adjacent vertical walls of the two rows of cartons and its flat upper face B1 lying horizontally slightly above the upper vertical flaps L of said cartons. The insert B can be produced by blanking, hinging and folding a sheet of corrugated board or other suitable, preferably fluted, material and some of its strips can be superimposed and attached to each other by using metal fasteners, glue or by mutual engagement or other suitable means (see later). As illustrated in detail in Figure 6, the reinforcing insert B may include, joined integrally to the lower vertex, a vertical panel B2 for insertion between the adjacent vertical walls of the two rows of cartons S. Its length will be approximately the same as that of the walls or shorter, and its purpose is to distribute onto these walls the weight of stacked multipacks and prevent undesirable shifting of the insert B during the application and packaging of the multipack F. If the insert B is made of corrugated board or fluted material, the longitudinal axis of the flutes will be oriented in the direction of the height of the vertical panel B2.

[0006] Figure 7 shows an insert B comprising equal strips B3, B3' hinged to the wall B1, with said panel B2 hinged to the strip B3', and with the strip B3 - and its hinged extension B4 - folded onto the inside of the strip B3' and fixed to it by folding flaps D on B3' into corre-

sponding windows C in B4, the flaps B being wider than said windows C so as to remain anchored in them.

[0007] If the stoppers T of the cartons S are oriented towards the insert B, the latter is given openings (not shown because known) to accommodate these stoppers T inside them.

[0008] The whole of the group of cartons S and the insert B is enclosed in an annular package of heat-shrink film A, which after the heat-shrink phase clings tightly to the whole package to form a multipack F which is mechanically locked and strong and which has said prismatic insert B at its top, enabling two or more multipacks of the type according to the innovation to be stacked on top of each other in a stable and safe manner. A1 indicates the openings which the wrapping A usually forms at either end of the multipack F.

[0009] According to the invention, the insert B is provided in any suitable intermediate position on its upper wall B1, centrally or non-centrally, symmetrically or asymmetrically, with one or more windows 1 weakened by perforations as in the example shown in Figures 1, 3, 5, 6 and 7, or already opened as shown at 101 in Figures 2 and 4. Said windows 1 or 101 may be of any suitable size and shape so that the user can press in the portion of film lying above said one or more windows 1, 101 and insert the fingers of at least one hand into these windows and thus use part of the upper wall B1 of the insert B and part of the overlying film A as a strong handle for carrying the multipack F easily and safely. The parts of the multipack which are gripped by the hand distribute the force through the reinforcing insert B to the entire film A and thence to a large surface of the multipack, thus preventing tearing of said film A. If said window or windows are of the weakened type, as shown at 1 in Figures 1, 3 and 5, 6, 7, the group can make use of a large transverse portion of the upper wall B1 of the insert B, which is further strengthened by folding this weakened portion of material under the upper wall B1, thus giving rise to said window or windows 1.

[0010] To make it easier to press in the wrapping film A over the window or windows 1 or 101, said film may be provided with small perforations (not illustrated) which can be produced by simple means fitted to the packaging machine, or by the user using a small pointed tool which can be made available to the user on the display shelving or pallet of the multipacks in question.

[0011] Figures 3, 4 and 5 show that there may be more than one of said windows 1 or 101 and that they may be positioned opposite each other or in some different arrangement on the upper wall B1 of the insert B, including side by side in the transverse direction or in the longitudinal direction.

[0012] If the multipack F is made up of more than two rows of cartons S, with multiple reinforcing inserts B between the adjacent rows, the aforesaid carrying handles may be located on a single insert or multiple inserts.

[0013] The windows 1 or 101 illustrated in the drawings are oriented with their greatest dimension along the

length of the insert B, but it should be understood that they can be oriented in different ways, transversely or obliquely, and can be situated in the intermediate part of the insert B and/or at one or both of its ends.

Claims

1. Handle for carrying multipacks (F) formed with a heat-shrink film (A) wrapped tightly around ordered groups of full containers (S) which have upper portions projecting upwards and which have upper reinforcing and flattening inserts (B) to allow stacking of similar multipacks, said inserts (B) being made in any known way, which handle is **characterized in that** in any suitable position or positions in the upper wall (B1) of said insert (B) there is formed at least one weakened (1) or open (101) window so that by pressing in the portion of wrapping film lying over this window and if relevant also the window itself, if formed of weakened parts, the user can insert the finger or fingers of the hands into said window or windows and can grasp, together, the portions of said reinforcing insert (B) and the overlying film (A) which are located at said window, to use them as a strong handle for carrying the multipack (F) easily and safely.
2. Handle according to Claim 1, in which said window or windows (1, 101) are located in the intermediate, preferably central, part of the upper wall (B1) of said reinforcing and stacking insert (B).
3. Handle according to Claim 1, in which said window or windows (1, 101) are located at one or both edges of the upper wall (B1) of said reinforcing and stacking insert (B).
4. Handle according to one or more of the preceding claims, in which said window or windows (1, 101) can be oriented such that their greatest dimension is along the length or across the width of the upper wall (B1) of said reinforcing and stacking insert (B), that is in a longitudinal or transverse orientation, or in an oblique orientation.
5. Handle according to one or more of the preceding claims, in which said window or windows (1, 101) may be located centrally or non-centrally with respect to the longitudinal centre axis of the upper part (B1) of the reinforcing and stacking insert in which they are formed.
6. Handle according to one or more of the preceding claims, **characterized in that** it comprises two of said windows (1, 101) side by side or opposite each other in the direction of the width or in the direction of the length of the upper wall (B1) of the reinforcing

and stacking insert (B).

7. Handle according to one or more of the preceding claims, **characterized in that** that portion of the wrapping film (A) which is placed over said window or windows (1, 101) may be provided with weakening holes or incisions, making it easier to press them in during the use of the handle in question. 5
8. Handle according to one or more of the preceding claims, in which said window or windows (1, 101) may be of any shape suitable for their intended use. 10
9. Handle according to one or more of the preceding claims, in which said reinforcing and stacking insert (B) may be provided underneath, integrally, with a vertical panel (B2) which fits between the adjacent vertical walls of the two rows of containers (S) between and above which said insert (B) is located, the height of said panel (B2) being less than or equal to that of said walls of the containers (S) and, if the insert (B) is formed of corrugated board or fluted material, the longitudinal axis of the flutes is oriented in the direction of the height of said vertical panel (B2). 15 20 25
10. Handle according to one or more of the preceding claims, in which the prismatic reinforcing and stacking insert (B) may include equal strips (B3, B3') hinged to the opposite sides of the upper wall (B1) of said insert, and to one of these strips (B3) there is hinged an extension (B4) that is folded inwards onto the other strip (B3') and fixed to it by folding corresponding flaps (D) on the outer strip (B3') into windows (C) in this extension (B4), said flaps (D) being wider than said windows (C), so as to remain restrained and anchored in them. 30 35

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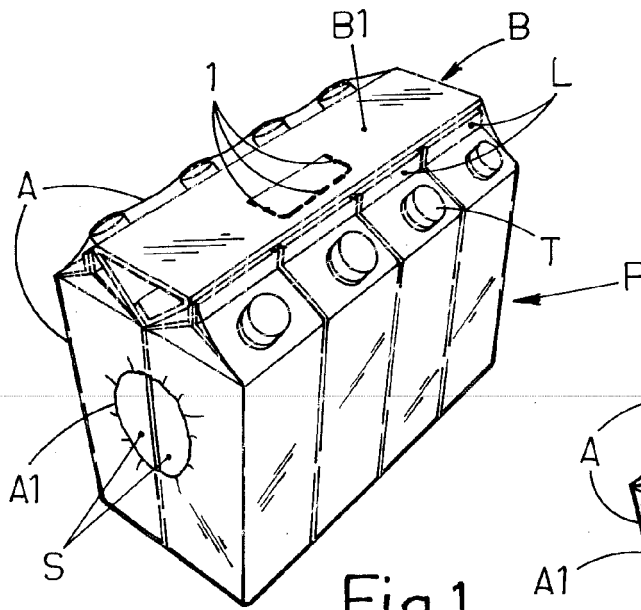


Fig.1

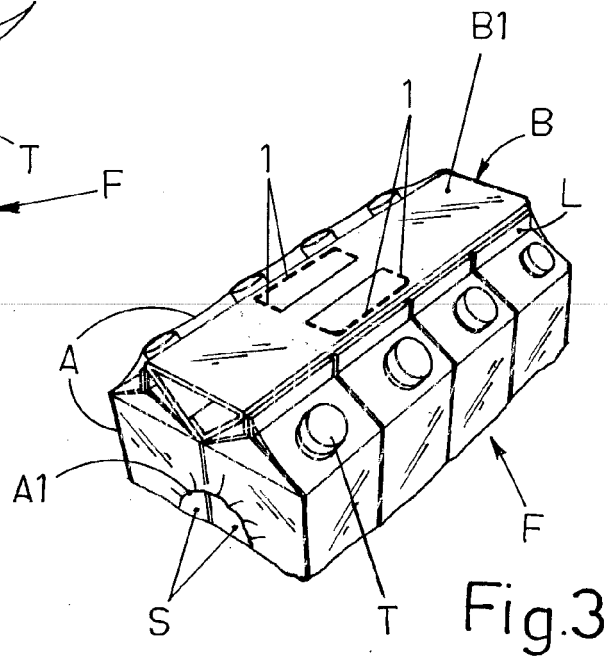


Fig.3

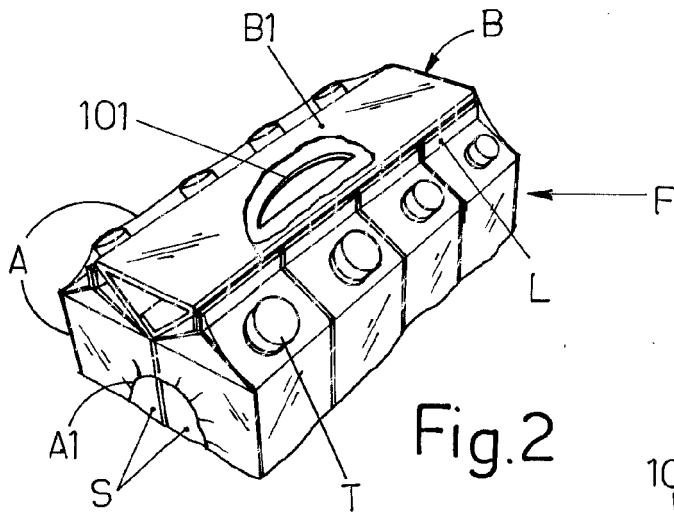


Fig.2

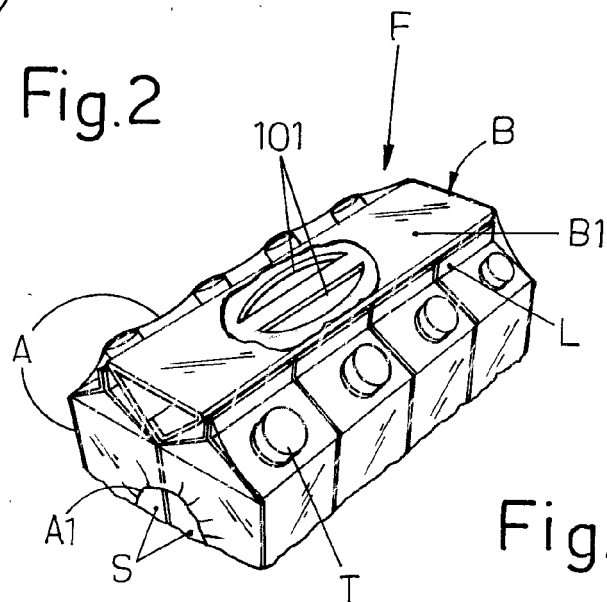


Fig.4

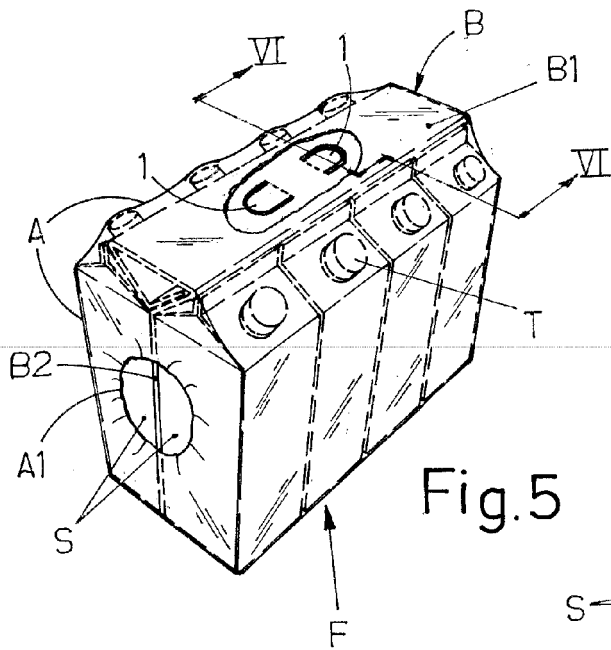


Fig. 5

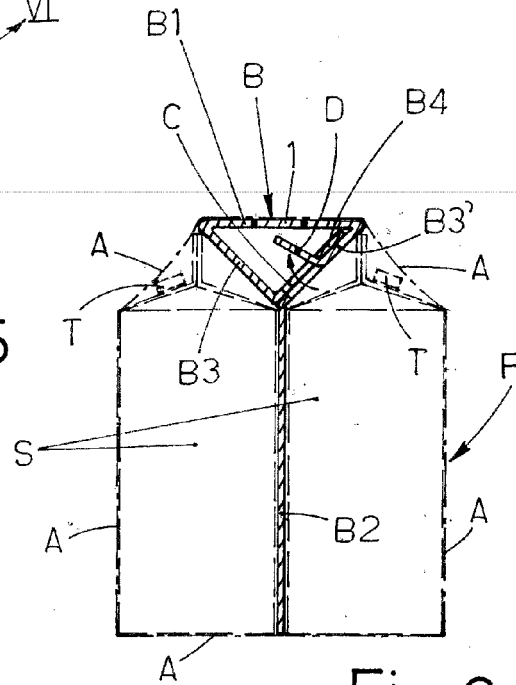


Fig. 6

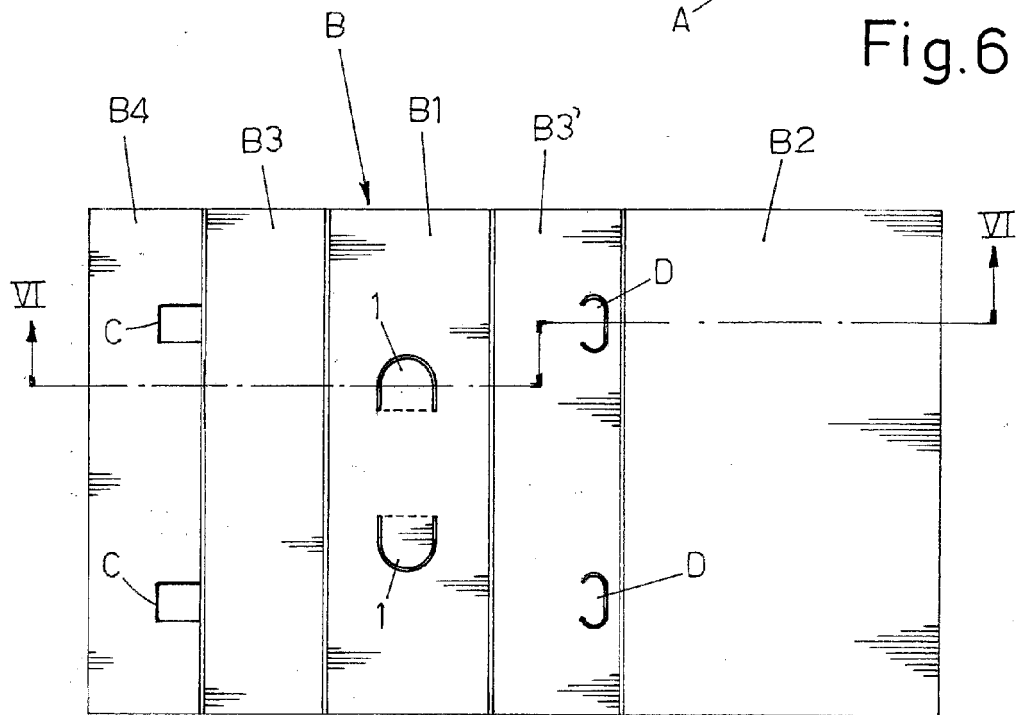


Fig. 7