



⑪ Publication number : **0 500 258 A2**

(12) **EUROPEAN PATENT APPLICATION**

②① Application number : 92301157.1

⑤ Int. Cl.⁵: **B65D 5/20**, B65D 5/22

②② Date of filing : 12.02.92

③① Priority : 19.02.91 GB 9103388

④3 Date of publication of application :
26.08.92 Bulletin 92/35

(84) Designated Contracting States :
AT BE CH DE DK ES FR GB IT LI NL SE

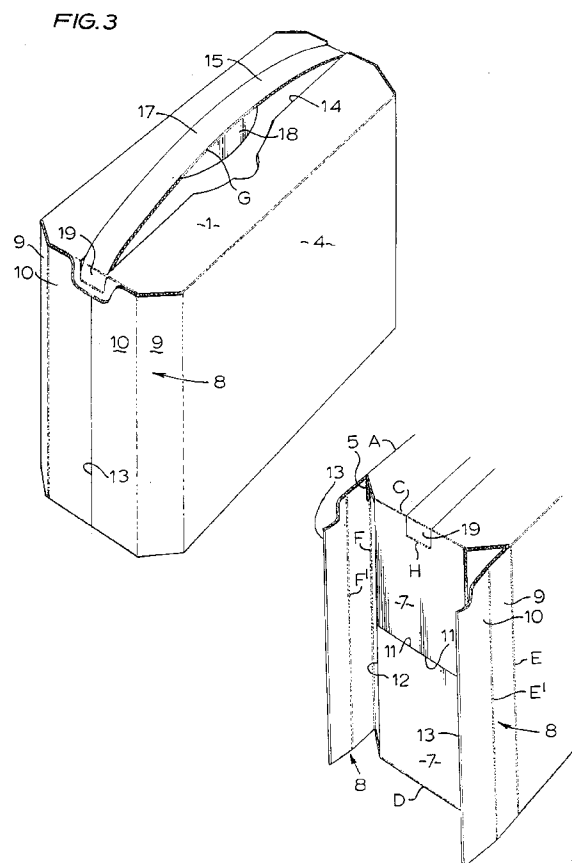
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⑤④ Take away pack.

(57) A pack or pack blank erected by folding from opposed sides of a four sided sleeve a first pair of end portions of less width than the finished overall width of the pack, then folding from the other two sides of the sleeve a second pair of end portions, double scored to form inner and distal sections, the distal sections of the second pair being located by the edges of the already folded first pair so that the double scoring gives rise to chamfered corners.



FIELD OF INVENTION

The invention relates generally to takeaway multi-packs or sleeves for products in containers, particularly beer in cans or bottles.

GENERAL DISCUSSION

Takeaway packs convenient and attractive at point of sale are a widespread requirement for retail outlets. They need to be strong in use and inexpensive and convenient in manufacture. In particular a requirement has arisen for packs of a standard design which can take various multiples of beer cans or bottles or other products without the need for different package design and especially without need for different packaging machine design for the different sizes.

Moreover compatibility with both high speed machines packing with continuous movement or relatively low speed machines where movement is intermittent is desirable. The machines fill the product to be packed from one end or both simultaneously of a pack supplied to the machine, either as a pre-formed sleeve, or erected and formed into a sleeve in the machine from a flat blank, the ends being closed once the product has been filled into the pack.

A second aspect of pack design is convenience in the display of the goods, providing for clear areas for printing product identifications and for such identifications to be correctly oriented to the customer in the natural way of lie of the package. Cut outs for display of the goods may also be desirable, without undue loss of strength.

A third aspect, often a user's requirement, is safe and easily used carry away features in the design, that not only are, but are readily appreciated to be, robust enough to be used with confidence.

We have aimed to meet such requirements in a packaging system which allows pack manufacturing companies to offer their large customers an overall design capability and pack supply without requirement for specialised machinery tying them to one design or supplier.

THE INVENTION

In one aspect the invention provides a pack or pack blank erected by folding from opposed sides of a four sided sleeve a first pair of end portions of less width than the finished overall width of the pack, then folding from the other two sides of the sleeve a second pair of end portions, double scored to form inner and distal sections, the distal sections of the second pair being located by the edges of the already folded first pair so that the double scoring gives rise to chamfered corners.

In a further aspect the invention provides generally a pack or pack blank erectable into a sleeve the

top face of which is slit to provide a handle that can be drawn out above the plane of the face and incorporates reinforcement along its length, and the ends of which are closed by two pairs of overlapping opposed flaps the inner ones of which extend towards each other from the top and bottom faces of the sleeve and are closed first, and the outer ones of which extend from the sides of the sleeve and are closed second, lying over and secured to the inner ones.

Suitably glued or otherwise secured, such a construction provides such a strong and neat pack well adapted to take the pull of the handle in use. It is also well adapted to ready filling of different numbers of rows of product containers and different lengths of rows with changes only of the dimensions rather than the construction of the pack and readily provided for in machine design. The packs are moreover easily assembled within the machine, without complicated measures, by successive foldings of the inner and outer pairs of end flaps, which are self-locating when the product containers are present.

Particularly the inner-then-outer-flap sequence of folding the ends allows provision of packs where the corners are chamfered to enclose the usual round containers snugly, to be readily and accurately assembled. The inner flaps, of less width than the package overall, are first folded and their edges then provide location for the second of two parallel folds provided in each of the outer flaps, the first dividing the flaps from the side faces and the second allowing them to be brought into the plane of the pack ends.

In a detailed point of construction the pack face affording the handle is readily provided with opposed pushouts that enable a user to grasp and then raise the handle. Further, the handle may be provided with an expanded central portion, especially for heavy packs, that folds to give flanges protecting a user's hands from discomfort.

Another detailed feature is that the upper end flaps, where the handle runs at each end into the flap, may readily be provided with an area, separated from the main area of the end flap by cuts extending from the handle, that draws inwards when the handle is raised, without overall distortion of the pack.

METHOD OF PACKING

While the invention is described above in terms of a particular pack it also provides a method of packing in multi-packs wherein a blank is used that has fold lines transverse to the direction of movement of the blank through a packaging machine whereby either a flat blank can be erected into a sleeve around groups of product units or a pre-formed sleeve in flat form can be erected and then groups of product units slid into the sleeve, the length of the blank and spacing of the fold lines being variable without other change in the blank design to suit different numbers of product units.

SPECIFIC EMBODIMENTS

The invention is illustrated by way of example in the accompanying drawings in which:

Figure 1 shows a pack with various features of the packs of the invention but not chamfered corners, one end being fully erected and the other end open and such packs being suitable for the broad method of packing forming one aspect of the invention;

Figure 2 shows a blank for a similar pack; and

Figure 3 shows a fully erected chamfered-corner pack with (inset) one end partly erected.

Referring to figures 1 and 2 a pack consists of a top face 1, a bottom face 2 and side faces 3 and 4. A gluing tab 5 is provided for application to side face 3 at position 6. The blank is shown from what will form the inside of the final pack. Scored fold lines AA, BB divide top and bottom from the sides. Fold lines CC, DD divide top and bottom from inner end flaps 7. Fold lines EE, FF, divide the sides from outer end flaps 8. In face 4 (Fig. 2) there is shown an optional tear out flap 4a started by a thumb tab 4b, by which packs inside may be displayed at point of sale. Correspondingly, ample space is available for product labels as seen at 4c in Figure 1.

In closing of the pack from a sleeve which has been filled with product containers the internal end flaps are first folded to become opposed at their outer edges 11, being maintained in position by resting against the product containers. The end flaps 8 are then folded round with ready folding along lines EE and FF. Their outer edges 13 form a neat closure to the pack.

In top face 1, cuts 14 extending into the internal end flaps 7 define a handle portion 15 reinforced by strapping, which is within the substance of the corrugated board of which the blank is made and therefore not seen. Press-outs 16 enable a user to grasp central portion 17 of handle 15 and pull it above the plane of the top face 1, simultaneously bending edges 18 of the central portion along fold lines GG so that the edges of the handle do not press into a user's hand. Fold lines HH which enable end portions 19 of the handle formed in the internal end flaps 7 to be drawn inwards and allow the central portion of the handle correspondingly to rise.

In the external end flaps 8, at the top, there are formed at each side small cut-outs 20 surrounding the end portions of the handle and ensuring the gluing of the external end flaps cannot prevent the end portion 19 from being drawn inwards when the handle is raised. Further, to ensure that the end portion does not stress the internal end flaps away from the external end flaps with possible failure of bonding, spreading cuts 21 with diverging and upwardly extending ends 22 are provided which allow free movement of the end portion 19 without requiring the parts of the

top corner 23 of the package adjacent to the handle to be stressed.

Overall in the design it can readily be seen how both the length and the height and breadth of the pack can be varied according to requirements for anything from a 2 x 4 pack up to whatever maximum size is required, even a 4 x 8 pack for example, depending on the weight a customer is likely to carry and realistically regard as being supportable by the handle of this sort of pack. In fact the handles are extremely strong as the reinforcement used is of the same nature as flat strapping and the only way the package can fail is for the entire area containing the reinforcement to tear out of the internal end flaps. This since they are themselves glued or otherwise fixed to the external end flaps is unlikely especially when the tearing stress is spread by expanding cuts such as are shown in figures 1 and 2.

In Figure 3 references correspond generally to figures 1 and 2 but the inner end flaps 7 are of less width than the pack and the outer end flaps 8 are divided into inner portions 9 adjacent to the side faces 4 and distal portions 10, fold lines E'E' and F'F' dividing the two portions. In erection the inner flaps are first folded as before, then the outer flaps. They fold along the lines EE, FF, and then along E'E' and F'F' assisted in location by the edges 12 of the inner flaps, and form strong chamfered corners as shown.

Claims

1. A pack or pack blank erected by folding from opposed sides of a four sided sleeve a first pair of end portions of less width than the finished overall width of the pack, then folding from the other two sides of the sleeve a second pair of end portions, double scored to form inner and distal sections, the distal sections of the second pair being located by the edges of the already folded first pair so that the double scoring gives rise to chamfered corners.
2. A pack or pack blank erectable into a sleeve one face of which is slit to provide a handle that can be drawn out above the plane of the face and incorporates reinforcement along its length, and the ends of which are closed by two pairs of overlapping opposed flaps the inner ones of which extend towards each other from the top (handle carrying) face and the bottom face of the sleeve and are closed first, and the outer ones of which extend from the sides of the sleeve and are closed second, lying over and secured to the inner ones.
3. A pack or pack blank according to claim 1 erectable into a four faced sleeve the top face of which

is slit to provide a handle that can be drawn out above the plane of the face incorporating reinforcement along its length and the ends of which are closed by two pairs of overlapping opposed flaps, the inner ones of which extend towards each other from the top and bottom faces of the sleeve and the outer ones of which extend from the sides of the sleeve and are closed to lie over and be secured to the inner ones, the inner flaps being of less width than the package overall and their edges providing location for the second of two parallel folds provided in each of the outer flaps, the first dividing the flaps from the side faces and the second allowing them to be brought into the plane of the pack ends, to provide chamfered corners.

4. Packs according to claim 3 wherein the upper end flaps, where the handle runs at each end into them, are provided with an area, separated from the main area of the end flap by cuts extending from the handle, that draws inwards when the handle is raised, allowing raising without overall distortion of the pack.

5. Packs according to claim 3 or 4 wherein the handle is provided with an expanded central portion, especially for heavy packs, that folds to give flanges protecting a user's hands from discomfort.

6. A method of packing in multi-packs wherein a blank is used that has fold lines transverse to the direction of movement of the blank through a packaging machine whereby either a flat blank can be erected into a sleeve around groups of product units or a pre-formed sleeve in flat form can be erected and then groups of product units slid into the sleeve, the length of the blank and spacing of the fold lines being variable without other change in the blank design to suit different numbers and arrays of product units.

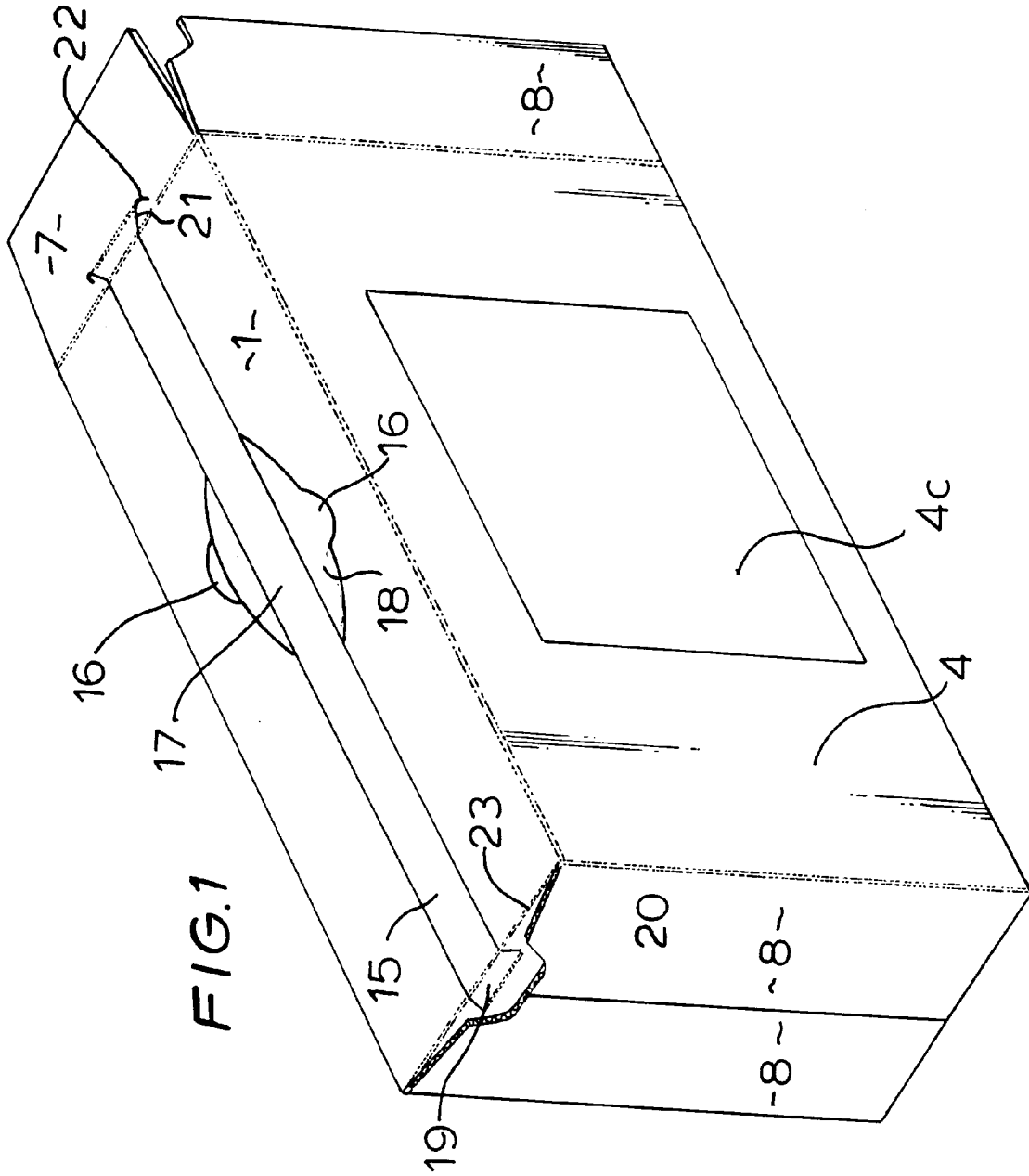


FIG. 2

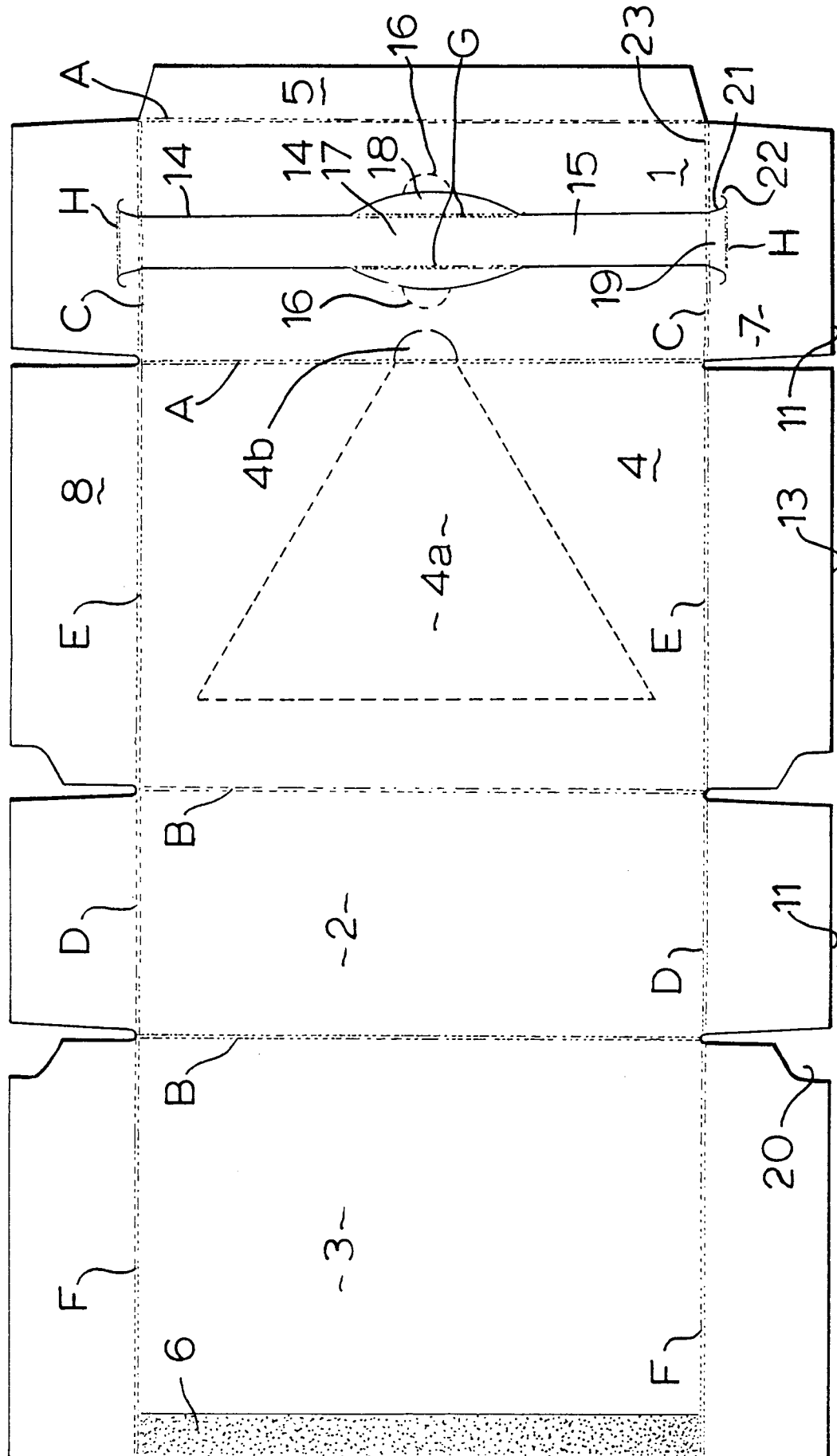


FIG. 3

