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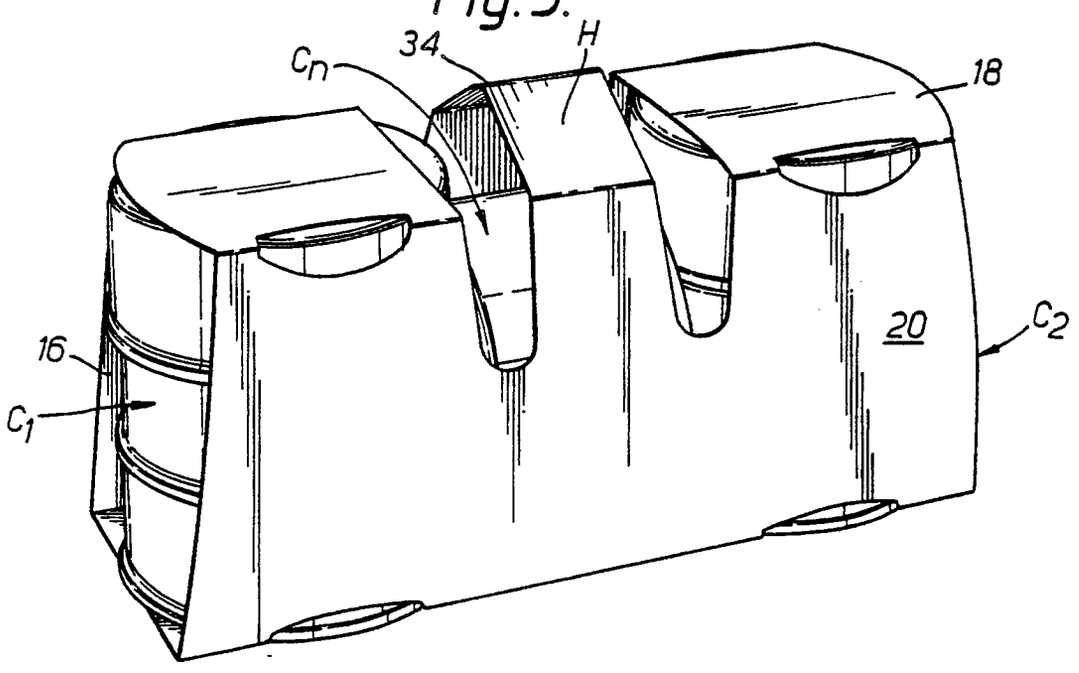
(54) Multi-pack with end stacks of containers.

(57) A package comprises a paperboard wrapper 10 wrapped about and retaining a group of containers (C). The containers are arranged to provide a pair of end stacks (C1, C2) one at each end of the package in which each end stack comprises a set of containers stacked coaxially and one or more central containers (Cn) disposed between the end stacks, each central container having its axis perpendicular to those in the end stacks.

Fig. 3.



EP 0 392 809 A1

MULTI-PACK WITH END STACKS OF CONTAINERS

This invention relates to a multiple-unit package in which a group of containers are held together by a carton blank and one or more centrally disposed containers within the package are retained by a stack of containers held in place by the carton blank at each end of the package.

Multiple unit packages for accommodating, for example, a plurality of cans are well known. The present invention is particularly concerned with the packaging of relatively "flat" cans, i.e. those whose diameter exceeds their height. In order to provide a carrying handle for the package a central can is disposed on its side between a pair of end stacks of cans in an arrangement where space exists between the uppermost wall portion of the central can and the carrying handle to facilitate grasping the handle.

One aspect of the invention provides a package comprising a group of containers each having a top, a base, and a side wall, said containers being held together by a carton blank which comprises a top wall and a base spaced apart by a pair of side walls thereby forming a tubular structure, characterized in that said group of containers comprises end containers positioned at the opposed ends of the package so as to provide a space therebetween, and at least one further container being positioned in the space between said end containers and oriented such that the top and base of said further container is disposed adjacent the side walls of said end containers.

According to a feature of this aspect of the invention, said end containers may comprise a plurality of like containers arranged in stacked coaxial relationship. In constructions where such end stacks are provided, said end containers may comprise a plurality of cylindrical containers having substantially flat tops and bases and in which the diameter of each such container exceeds its height. Preferably, the vertical dimension of said further container is equal to or less than that of said end containers. It is also preferable that a pair of spaced elongate slots extend across said top wall and partially into each side wall thereby to define between them a handle panel. Where a handle panel is provided it may extend over at least one said further container, and the top of the package is spaced therefrom.

Another aspect of the present invention provides a method of forming a package accommodating a group of containers each having a top, a base and a side wall, which method comprises the steps of forming a group of said containers to include first and second containers arranged so as to provide a space therebetween, and at least one further container positioned in the space between said first and second container and oriented such that the top and base of said further container is disposed adjacent the side walls of said first and second containers, and wrapping said group of containers with a wrapper and securing said wrapper to hold said group of containers together.

According to a feature of this aspect of the invention, said first and second containers may be formed from a plurality of like containers arranged in a stacked coaxial relationship.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

FIGURE 1 is a plan view of a blank for forming a carton according to the invention;

FIGURE 2 is a perspective view of a group of cans arranged to be wrapped by a blank shown in Figure 1; and

FIGURE 3 is a perspective view of the completed carton.

Referring to the drawings, an elongate blank 10 formed from paperboard or similar foldable sheet material for providing a wrapper comprises, in series, an end strip 12, a first base panel 14, a first side wall panel 16, a top wall panel 18, a second side wall panel 20, and a second base panel 22 hinged one to the next along transverse fold lines 26-32. The transverse fold line 24 is interrupted by a series of three spaced shallow V-shaped slots S1-S3 each of which is adapted to receive a respective one of a series of locking tabs t1-t3 which are hinged to the free edge of the opposite base panel 22 along fold lines f1-f3.

When the locking tabs are inserted into the locking slots the base panels are secured together in overlapping relationship and the blank is maintained in a sleeve like form. Such locking tabs and slots are described more fully in our European patent application EP-A-0 150 117.

Retaining apertures A1 and A2 are formed along transverse fold line 26 at spaced locations and like retaining apertures A3, A4 are formed along the transverse fold line 32 at spaced locations so as to be aligned with the retaining apertures A1 and A2. Similarly, a pair of spaced retaining apertures A5 and A6 are formed at spaced locations along transverse fold line 28 and a further pair of retaining apertures A7, A8 are struck from the blank at spaced locations along transverse fold line 30.

A pair of elongate spaced slots S1 and S2 are struck from the blank so that they extend across the top wall panel 18 and partially into each of the side walls 16 and 20 thereby to define between

them a handle panel H which includes a central fold line 34 so that it can bend.

The blank is adapted to be applied to a group of containers C arranged in the manner shown in Figure 2. The group of containers C illustrated comprise two spaced end stacks C1 and C2 of flat cylindrical cans in which each stack comprises three cans arranged coaxially one above the next.

The space between the two stacks of cans is occupied by a further like flat cylindrical can Cn which is disposed with its axis at right angles to the axis of each of the end stacks as shown. It is envisaged that possibly more than one such central can may be disposed between the end stacks so that the central cans are either disposed coaxially or one on top of the other with their axis parallel.

Figure 3 of the drawings shows the completed package in which the blank 10 has been applied to the group of containers arranged as shown in Figure 2. As can be seen the top panel 18 overlies the tops of the containers in each of the end stacks C1 and C2, the side walls of the blank pass down alongside the can stacks and the bottom wall panels are secured beneath the bases of the lowermost cans in each of the end stacks.

The stacks of cans are retained in the wrapper by means of the retaining slots A1-A8 in known manner.

The handle H extends above the central can Cn of the group and as shown comprises a strip of the top wall panel together with portions of each of the side wall panels of the blank, there being sufficient space between the uppermost wall portion of the central can Cn and the handle H to allow the handle to be grasped.

Claims

1. A package comprising a group of containers each having a top, a base, and a side wall, said containers being held together by a carton blank which comprises a top wall (18) and a base (14, 22) spaced apart by a pair of side walls (16, 20) thereby forming a tubular structure, characterized in that said group of containers comprises end containers (C1, C2) positioned at the opposed ends of the package so as to provide a space therebetween, and at least one further container (Cn) being positioned in the space between said end containers and oriented such that the top and base of said further container is disposed adjacent the side walls of said end containers.

2. A package according to claim 1, wherein said end containers comprise a plurality of like containers arranged in stacked coaxial relationship.

3. A package according to claim 2, wherein said end containers comprise a plurality of cylindrical containers having substantially flat tops and bases and in which the diameter of each such container exceeds its height.

4. A package according to claim 3, wherein the vertical dimension of said further container is equal to or less than that of said end containers.

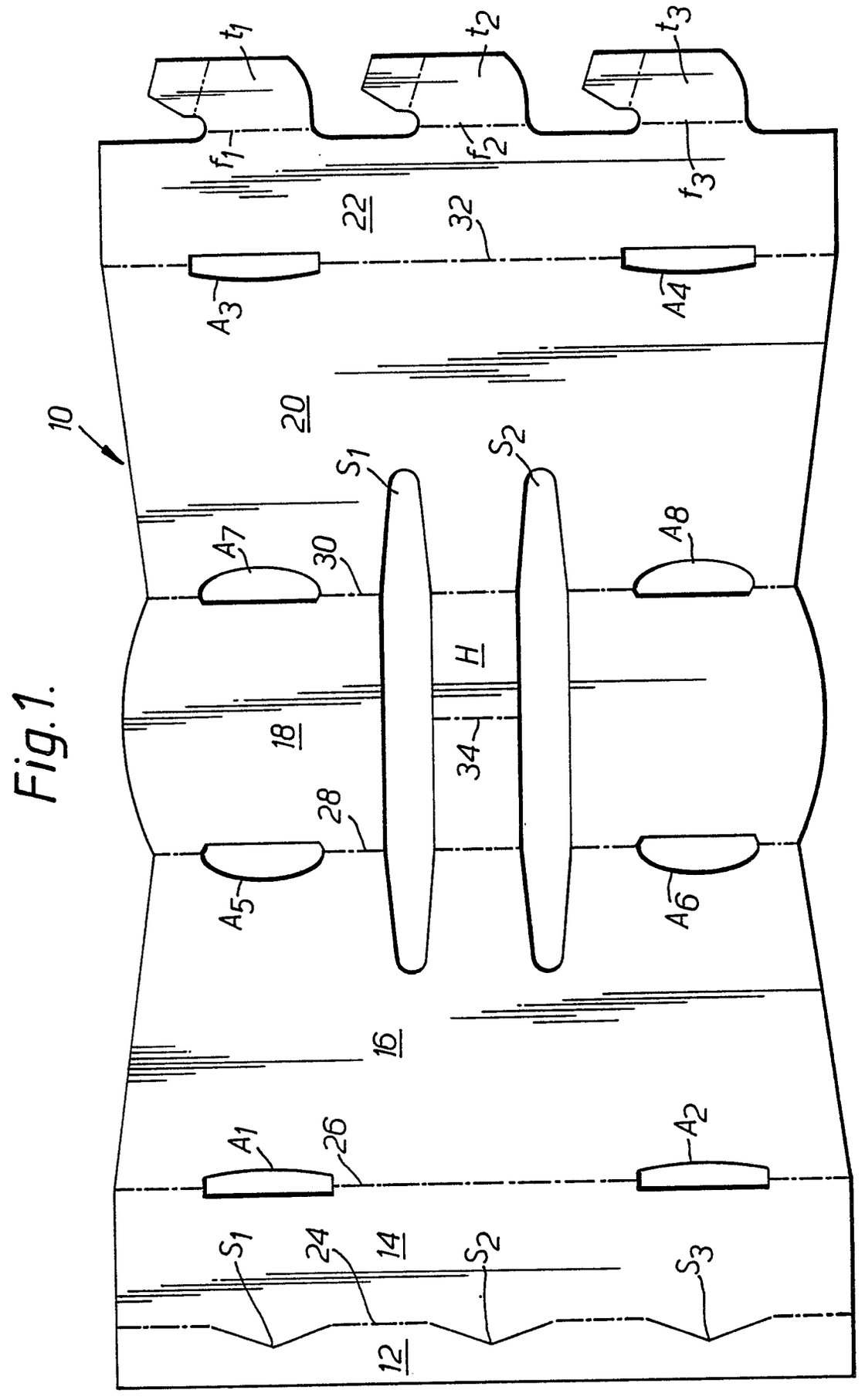
5. A package according to claim 4, wherein a pair of spaced elongate slots (S1, S2) extend across said top wall and partially into each side wall thereby to define between them a handle panel (H).

6. A package according to claim 5, wherein the handle panel extends over at least one said further container, and at the top of the package is spaced therefrom.

7. A method of forming a package accommodating a group of containers each having a top, a base and a side wall, which method comprises the steps of forming a group of said containers to include first and second containers arranged so as to provide a space therebetween, and at least one further container positioned in the space between said first and second container and oriented such that the top and base of said further container is disposed adjacent the side walls of said first and second containers, and wrapping said group of containers with a wrapper and securing said wrapper to hold said group of containers together.

8. A method according to claim 7, whereby said first and second container is formed from a plurality of like containers arranged in a stacked coaxial relationship.

Fig. 1.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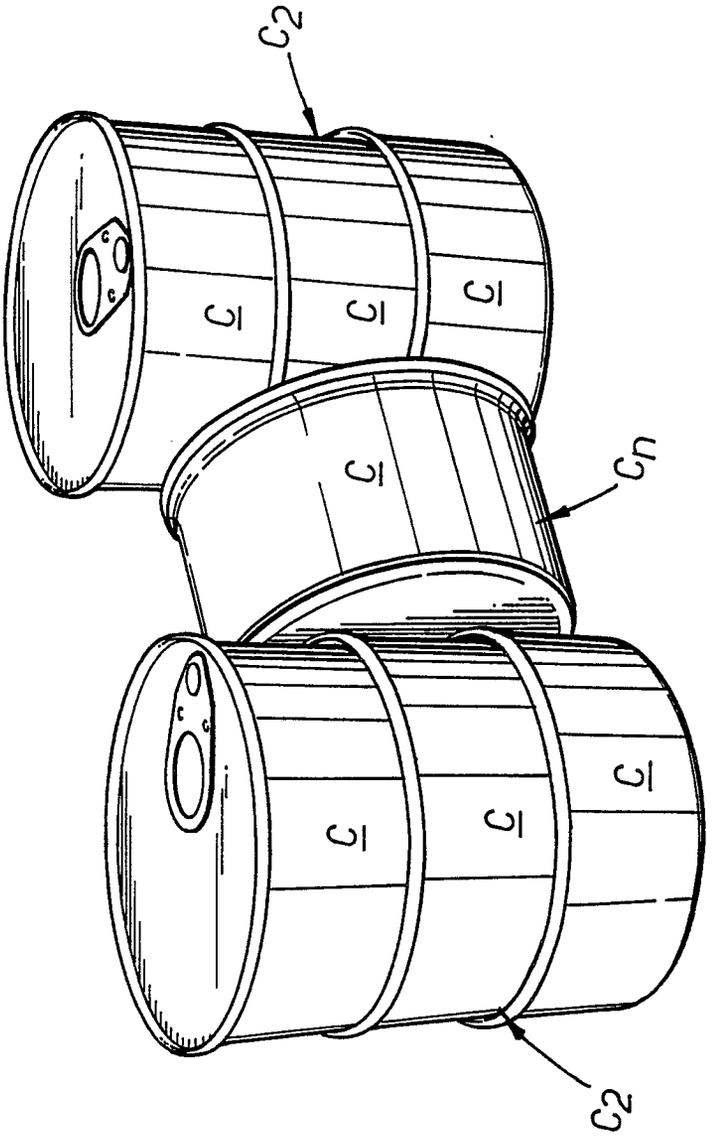

Fig.2.

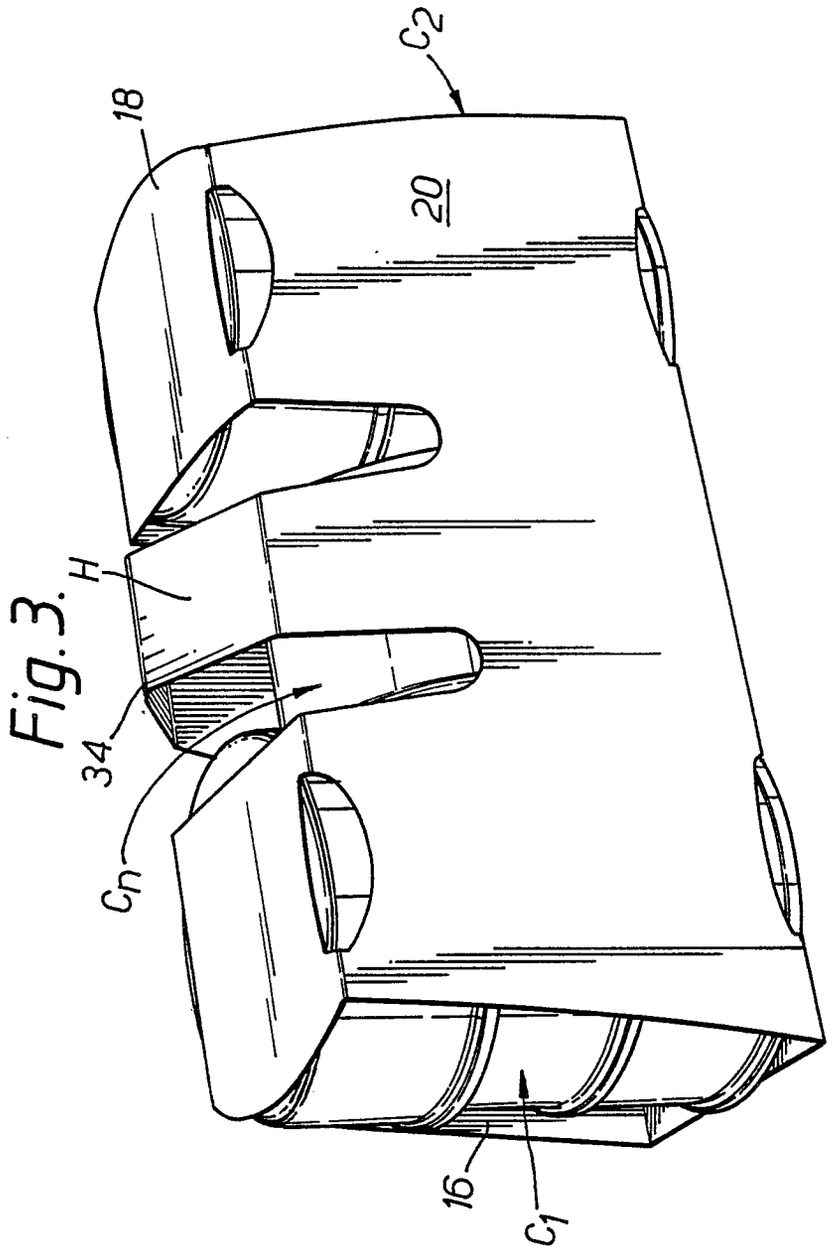

Fig. 3.

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EUROPEAN SEARCH REPORT

Application Number

EP 90 30 3865

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	EP-A-0 260 813 (St. REGIS PACKAGING LTD) * Abstract; figures 4,5 *	1,5,7	B 65 D 71/00
A	GB-A-1 240 549 (METAL BOX CO.) * Figures 1,2 *	1,5,7	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

B 65 D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	29-06-1990	ZANGHI A.

CATEGORY OF CITED DOCUMENTS

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

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

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