(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 269 938**
A2

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: 87116875.3

(51) Int. Cl.4: **B65D 5/22**

(22) Date of filing: 16.11.87

(30) Priority: 24.11.86 IT 2378086 U
24.11.86 IT 2378186 U
10.12.86 IT 2397686 U

(43) Date of publication of application:
08.06.88 Bulletin 88/23

(84) Designated Contracting States:
DE ES FR GB GR IT NL

(71) Applicant: Corali, Bruno
Via Roma 77
I-24060 Gorlago Province of Bergamo(IT)

(72) Inventor: Corali, Bruno
Via Roma 77
I-24060 Gorlago Province of Bergamo(IT)

(74) Representative: Modiano, Guido et al
MODIANO, JOSIF, PISANTY & STAUB
Modiano & Associati Via Meravigli, 16
I-20123 Milan(IT)

(54) **Container particularly for smallsize food products.**

(57) The present invention relates to a container particularly for small-size food products, comprising a single wooden sheet (2) with preset cutting lines (28, 29, 30, 31) and folding lines (3, 4, 5, 6) which define a substantially rectangular base portion (7) and at least four polygonally shaped lateral portions (8, 9, 10, 11), each having one side coinciding with a side of the base portion (7). Two counterposed lateral portions (9, 11) are provided proximate to their ends next to the remaining lateral portions (8, 10) with foldable tabs (12, 13, 14, 15), which are superimposable and rigidly associable with the outer face of the contiguous lateral portion (8, 10), with the lateral portions (8, 9, 10, 11) folded above the base portion (7). Reinforcement means (32) are furthermore provided in the container at those folding lines (4, 6) which extend substantially parallel to the fibers of the wood which constitutes said sheet (2).

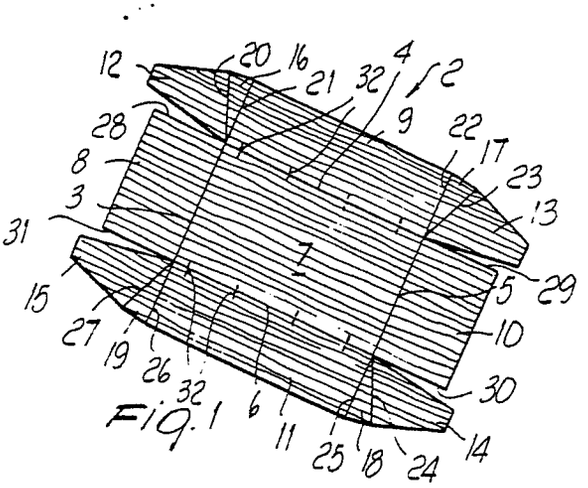

Fig. 1

EP 0 269 938 A2

CONTAINER PARTICULARLY FOR SMALL-SIZE FOOD PRODUCTS

The present invention relates to a container, particularly for small-size food products, for example for fruit such as strawberries, raspberries, or the like.

Containers in low-thickness synthetic material are currently used for the transport of small-size fruit and, by virtue of the material employed and of the fact that they are produced in a fully automatic manner and with very high production rates, have considerably low costs.

Such known types of containers, indeed due to their convenience, have had such a diffusion as to create severe problems as to their disposal after use. These containers, in fact, are not practically biodegradable and therefore determine a series of problems in terms of environmental pollution. On the other hand, the container employed before the diffusion of containers in synthetic material had a structure which is too complicated to be produced in a fully automatic manner with high production rates, and therefore they had a much higher cost with respect to containers in synthetic material.

The aim of the present invention is to eliminate the above described problems by providing a container in fully biodegradable material and having suc a structure as to allow its manufacture with costs which are comparable with those of containers in synthetic material.

Within this aim, an object of the invention is to provide a container having a resistance adequate to withstand the weight and the possible humidity of the products it is to contain.

Another object of the invention is to provide a container having such a structure as to allow its assembly at high speed in fully automatic production lines.

Another object of the invention is to provide a container which, when empty, can be stacked in reduced storage volumes.

Not least object of the invention is to provide a container which can optimally exploit the space available in packages for its transport.

This aim, as well as these and other objects which will become apparent hereinafter, are achieved by a container particularly for small-size food products, characterized in that comprises a single wooden sheet with preset cutting lines and folding lines defining a substantially rectangular base portion and at least four polygonally shaped lateral portions, each having one side coinciding with a side of said base portion, two counterposed lateral portions being provided proximate to their ends next to the remaining lateral portions with tabs, which are foldable and rigidly associable superimposed on the outer face of the lateral portion contiguous to said lateral portions folded above said base portion, reinforcement means being furthermore provided at the folding lines which extend substantially parallel to the fibers of the wood which constitutes said sheet.

Further characteristics and advantages of the invention will become apparent from the description of two preferred, but not exclusive, embodiments of the container according to the invention, illustrated by way of non-limitative example in the accompanying drawings, wherein:

Figures 1 to 3 are views of the container according to the invention in its first embodiment, and more particularly:

Figure 1 is a view of the sheet with the folding and cutting lines for the obtainment of the container according to the invention;

Figures 2 and 3 are perspective views of the container according to the invention respectively during an intermediate assembly step and upon completion of the assembly;

Figure 4 is an enlarged detail view of a corner of the container according to another aspect of the invention;

Figures 5 to 7 are views of the container according to the invention in another embodiment, and more particularly;

Figure 5 is a view of the sheet with the folding and cutting lines for the obtainment of the container according to the invention;

Figures 6 and 7 are perspective views of the container according to the invention respectively during an intermediate assembly step and at the end of the assembly;

Figure 8 is a view of a handle which can applied to the container according to the invention; and

Figure 9 is a perspective view of the container in its first embodiment with the handle illustrated in figure 8 applied thereto.

With reference to figures 1 to 3, the container according to the first embodiment, generally indicated by the reference numeral 1, is constituted by a single low-thickness wooden sheet 2 with folding and cutting lines which are pre-formed by means of a punching operation.

More particularly, four folding lines 3, 4, 5 and 6 are provided which define a substantially rectangular base portion 7 and four rectangular lateral portions, respectively 8, 9, 10 and 11, each having equal heights and having their base sides coinciding with the sides of the base portion 7.

The two lateral portions 9 and 11 arranged opposite to one another, which are the lateral portions joined to the larger sides of the base portion,

have their sides which are perpendicular to the base side connected to foldable tabs 12, 13, 14 and 15 which are superimposed and rigidly associated with the outer face of the lateral portions 8 and 10 contiguous to the lateral portions 9 and 11 after folding the lateral portions above the base portion 7.

A substantially triangular corner region, respectively 16, 17, 18 and 19, is defined between each lateral portion 9 and 11 and the related tabs, and is delimited by two folding lines 20 and 21, 22 and 23, 24 and 25, 26 and 27, which converge in a corner of the base portion so as to obtain a container with the configuration of an inverted truncated pyramid with bevelled corners.

The lateral portions 8 and 10, instead, have their sides which are perpendicular to the related base side defined by cutting lines, respectively indicated by the numerals 28, 29, 30 and 31.

Again according to the invention, reinforcement means are provided at those folding lines which are arranged parallel to the fibers of the wood.

Advantageously, the board 2 is punched so that the larger sides of the base portion 7 are parallel to the fibers of the wood. In this manner, only the two folding lines 4 and 6 are arranged parallel to the fibers of the wood.

The reinforcement means are constituted by metallic staples 32, which are applied to the board 2 astride the folding lines 4 and 6, thereby joining the base portion to a lateral portion.

In order to rigidly associate the tabs with the lateral portions 8 and 10, staples 33, also in metallic material, are used and arranged transversely to the fibers of the wood in order to avoid accidental tearing.

Advantageously, in order to increase the resistance of the container, the tabs have such a size as to be partially superimposed on one another on the outer face of the lateral portions 8 and 10. Advantageously, furthermore, if rounded corners are required on the container, as illustrated in figure 4, it is possible to provide, between the two folding lines which delimit the corner regions, a plurality of folding lines 34 which converge at the related corner of the base portion. In this manner, during assembly, the corner regions 16, 17, 18 and 19 will assume a substantially curved configuration, connecting to one another the lateral portions 8, 9, 10 and 11.

The assembly of the container according to one embodiment of the invention is as follows;

After performing the punching of the sheet 2 and applying the staples 32 astride the folding lines 4 and 6, one proceeds by folding the lateral portions 8, 9, 10 and 11 and the corner portions 16, 17, 18 and 19 along the related folding lines and by superimposing the tabs 12, 13, 14 and 15 on the outer face of the lateral portions 8 and 10.

At this point the assembly is completed by applying the staples 33 which rigidly associate the tabs with the lateral portions 8 and 10.

With particular reference to figures 5 to 7, the container in another embodiment, generally indicated by the reference numeral 1a, is also constituted by a single low-thickness wooden sheet 2a with folding and cutting lines which are pre-formed by means of a punching operation. More particularly, four folding lines 3a, 4a, 5a and 6a are provided which define a substantially rectangular base portion 7a and four lateral portions each having the shape of an isosceles trapezium, respectively 8a, 9a, 10a and 11a, of identical height and with the smaller bases coinciding with the sides of the base portion 7a.

The oblique sides of the lateral portions 9a and 10a, which have their smaller base coinciding with the larger sides of the base portion 7a, are constituted by folding lines, respectively 12a, 13a, 14a and 15a, which divide said lateral portions from tabs 16a, 17a, 18a and 19a which are foldable along said folding lines to be superimposed on the outer face of the lateral portions 8a and 11a contiguous to the lateral portions 9a and 10a. The oblique sides of the lateral portions 8a and 11a are instead defined by cutting lines 20a, 21a, 22a and 23a. Also in this second embodiment, reincorcement means are provided at the folding lines 4a, 5a, which are arranged substantially parallel to the fibers of the wood, so as to oppose any breakage. As already described in the first embodiment, said reinforcement means are constituted by staples 24a in metallic material, which are applied to the board 2 astride the folding lines 4a and 5a.

In order to rigidly associate the tabs, partially superimposed on one another, on the outer face of the lateral portions 8a and 11a, staples 25a, also in metallic material, are used and arranged transversely with respect to the fibers of the wood in order to avoid any accidental tearing.

The assembly of the container according to the second embodiment is fully similar to the assembly of the container according to the first embodiment, already described.

The container in its second embodiment has the configuration of an inverted truncated pyramid with an open larger base.

Advantageously, a handle 40, removably associable with the container 1 or 1a, can be provided.

More particularly, the handle 40 is constituted by a strip 41 of flexible wood having longitudinal ends 41a and 41b of an increased width. Said longitudinal ends 41a and 41b are insertable, with a movement from the base of the container 1 or 1a in the direction of its open side, in seats 43 which are defined between the tabs superimposed on the

outer face of the lateral portions 4 and 5 or 8a and 11a and said lateral portions. In this manner the handle 40 can be kept separate from the container so as to not hinder its stacking and its filling with the product, and can be applied in a simple and rapid manner at product sale time.

The ends 41a and 41b can be provided monolithically with the strip 41 or be constituted by portions of a strip associated with the strip 41 by means of staples 42.

In practice it has been observed that the container according to the invention fully achieves the intended aim, since it is made of completely biodegradable material and since it has a structure which is so simple as to allow its automatic assembly with high production rates and therefore with considerably reduced costs.

Another advantage resides in the fact that it allows the natural transpiration of the products it is to contain.

The container thus conceived is susceptible to numerous modifications and variations, al of which are within the scope of the inventive concept; furthermore, all the details may be replaced with technically equivalent elements.

Claims

1. Container particularly for small-size food products, characterized in that it comprises a single wooden sheet (2; 2a) with preset cutting lines (28, 29, 30, 31; 20a, 21a, 22a, 23a) and folding lines (3, 4, 5, 6; 3a, 4a, 5a, 6a) defining a substantially rectangular base portion (7; 7a) and at least four polygonally shaped lateral portions (8, 9, 10, 11; 8a, 9a, 10a, 11a), each having one side coinciding with a side of said base portion (7; 7a), two counterposed lateral portions (9, 11; 9a, 10a) being provided proximate to their ends next to the remaining lateral portions (8, 10; 8a, 11a) with tabs (12, 13, 14, 15; 16a, 17a, 18a, 19a), which are foldable and rigidly associable superimposed on the outer face of the lateral portion (8, 10; 8a, 11a) contiguous to said lateral portions (8, 9, 10, 11; 8a, 9a, 10a, 11a) folded above said base portion (7; 7a), reinforcement means (32; 34a) being furthermore provided at the folding lines (4, 6; 4a, 5a) which extend substantially parallel to the fibers of the wood which constitutes said sheet (2; 2a).

2. Container, according to claim 1, characterized in that said reinforcement means (32; 24a) are constituted by staples extending astride said folding lines (4, 6; 4a, 5a) and associating said base portion (7; 7a) with one of said lateral portions (9, 11; 9a, 10a).

3. Container, according to claims 1 and 2, characterized in that said staples are made of metallic material.

4. Container, according to claim 1, characterized in that the larger sides of said base portion (7; 7a) extend parallel to the fibers of the wood.

5. Container, according to claim 1, characterized in that said tabs (12, 13, 14, 15; 16a, 17a, 18a, 19a) are rigidly associated with the related contiguous lateral portion (8, 10; 8a, 11a) by means of staples (33; 25a) extending transversely with respect to the fibers of the wood.

6. Container, according to claims 1 and 5, characterized in that said tabs (12, 13, 14, 15; 16a, 17a, 18a, 19a) superimposed on the outer face of a same lateral portion (8, 10; 8a, 11a) partially overlap each other.

7. Container, according to claim 1, characterized in that said lateral portions (8, 9, 10, 11) have a substantially rectangular configuration of equal heights and base sides coinciding with the sides of said base portion (7), and in that said tabs (12, 13, 14, 15) extend from the lateral portions (9, 11) having larger base sides and are superimposable on the outer face of the lateral portions (8, 10) having smaller base sides.

8. Container, according to claims 1 and 7, characterized in that between each of said lateral portions (9, 11) and each of the related tabs (12, 13, 14, 15) there is defined, by means of folding lines (20, 21, 22, 23, 24, 25, 26, 27) which converge in a corner of said base portion (7), a substantially triangular corner region (16, 17, 18, 19) for the obtainment of a container (1) in the shape of a truncated pyramid with bevelled corners.

9. Container, according to claim 8, characterized in that between said two folding lines (20, 21, 22, 23, 24, 25, 26, 27) delimiting said corner region (16, 17, 18, 19) there is provided a plurality of folding lines (34) converging in a corner of said base portion (7) for rounding said bevelled corners.

10. Container, according to claim 1, characterized in that said lateral portions (8a, 9a, 10a, 11a) are in the shape of an isosceles trapezium with mutually equal heights and with the smaller base coinciding with a side of said base portion (7a), said tabs (16a, 17a, 18a, 19a) extending at the inclined sides of the two lateral portions (9a, 10a) joined to the large sides of said base portion (7a).

11. Container, according to claim 1, characterized in that it comprises a handle (40) having ends removably insertable into seats (43) defined on two counterposed lateral portions (8, 10; 8a, 11a) of the container.

12. Container, according to claims 6 and 11, characterized in that said handle (40) is constituted by a flexible wood strip (41) with ends (41a, 41b) having increased width and insertable in said seats,

each defined between said tabs (12, 13, 14, 15; 16a, 17a, 18a, 19a) superimposed on the outer face of a same lateral portion (8, 10; 8a, 11a) and said lateral portion (8, 10; 8a, 11a).

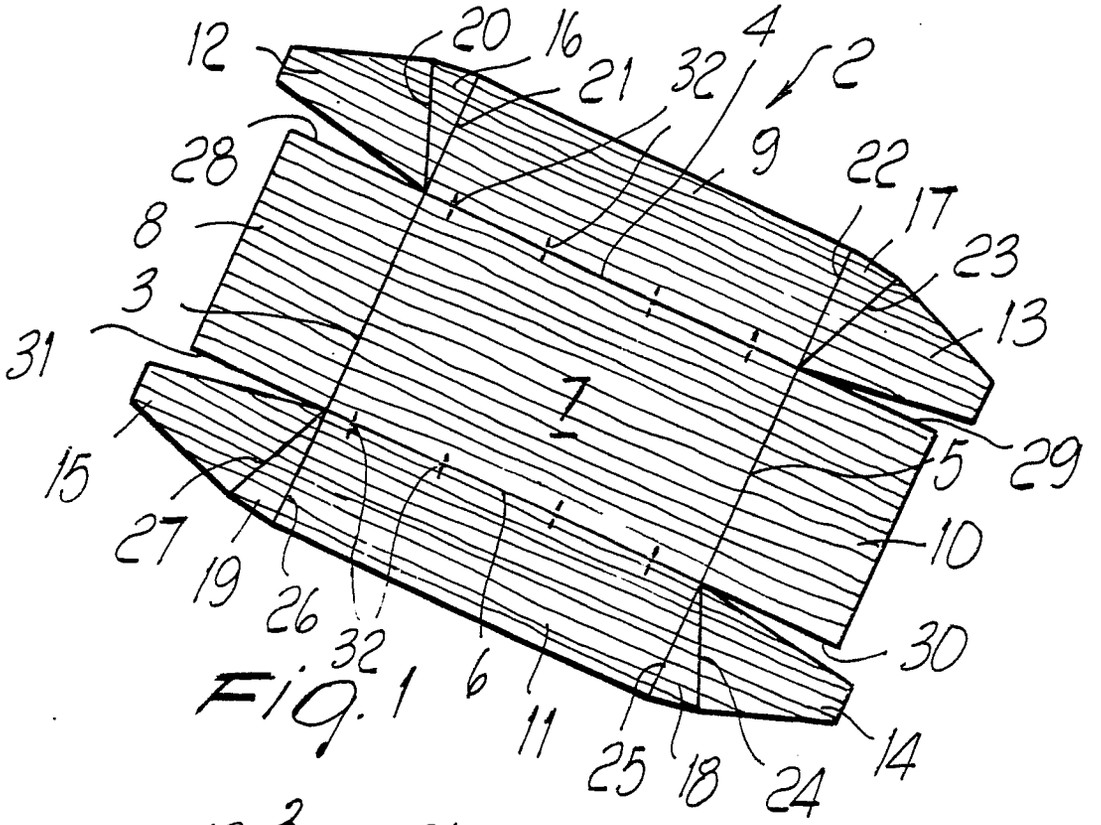

FIG. 1

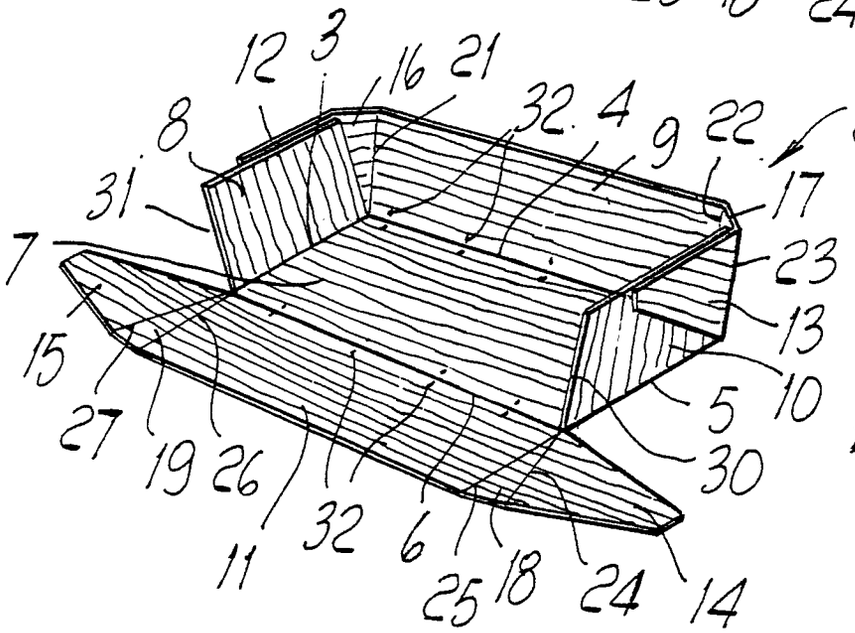

FIG. 2

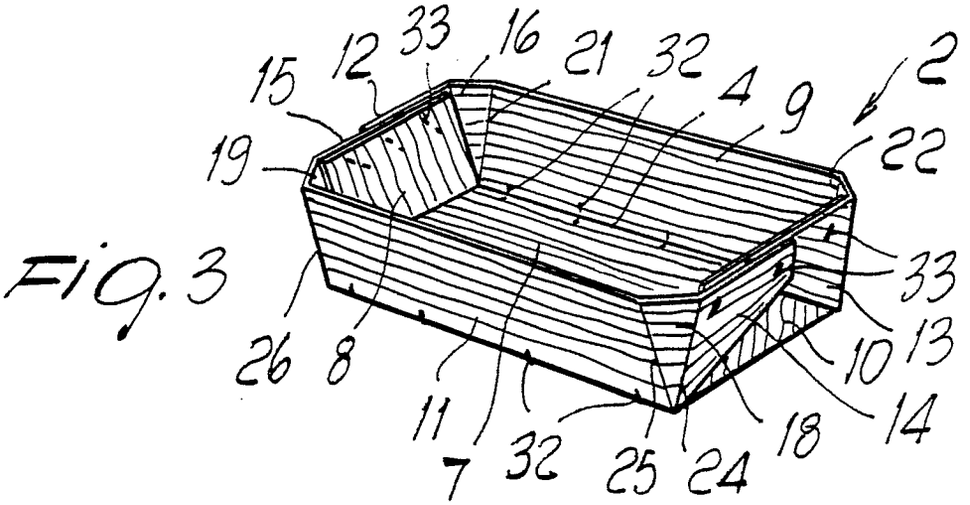

FIG. 3

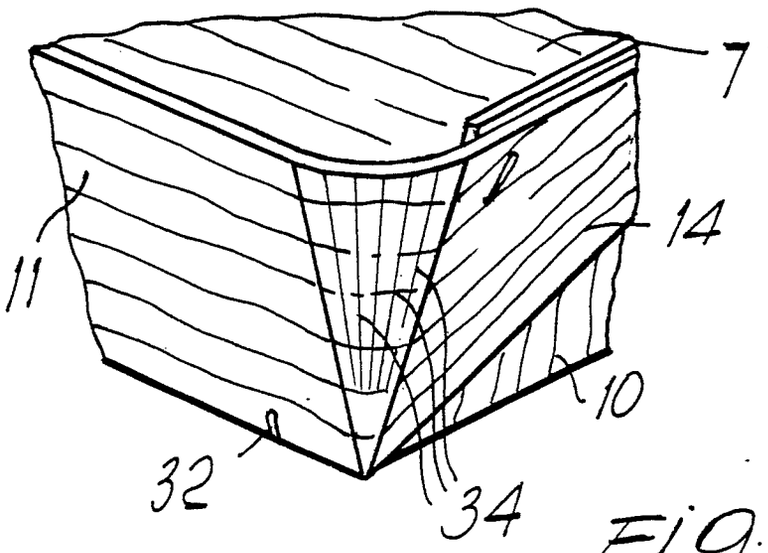

FIG. 4

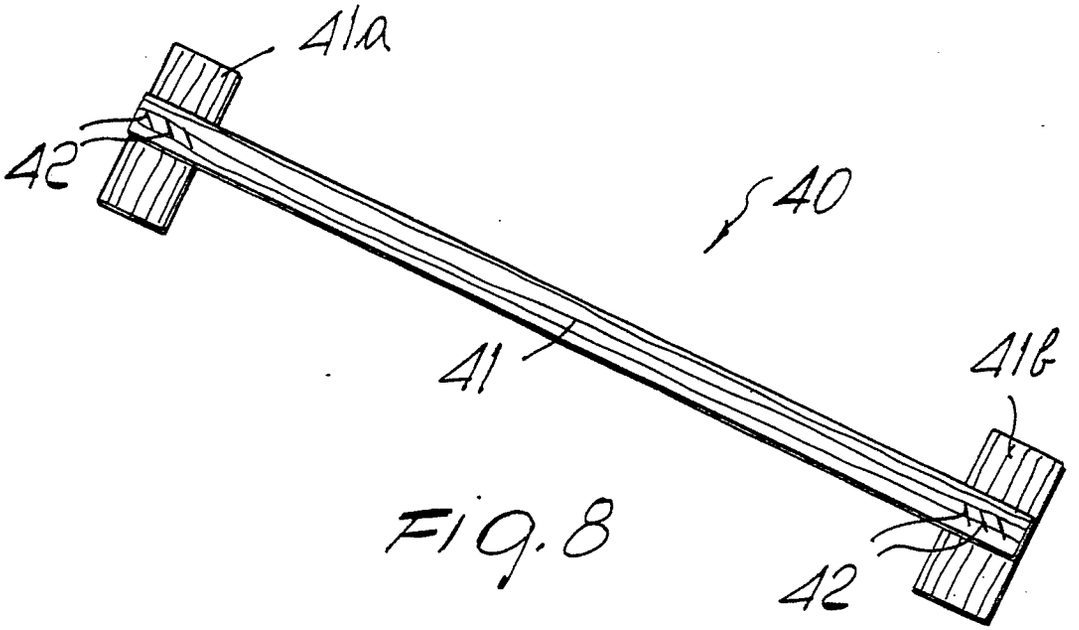

FIG. 8

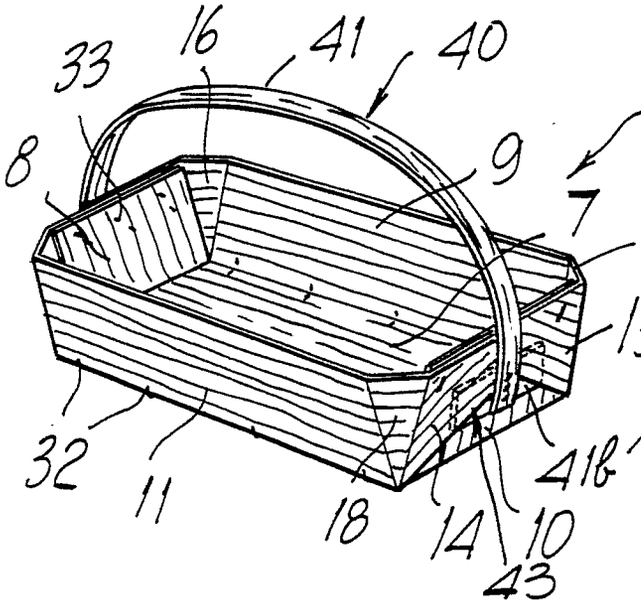

FIG. 9

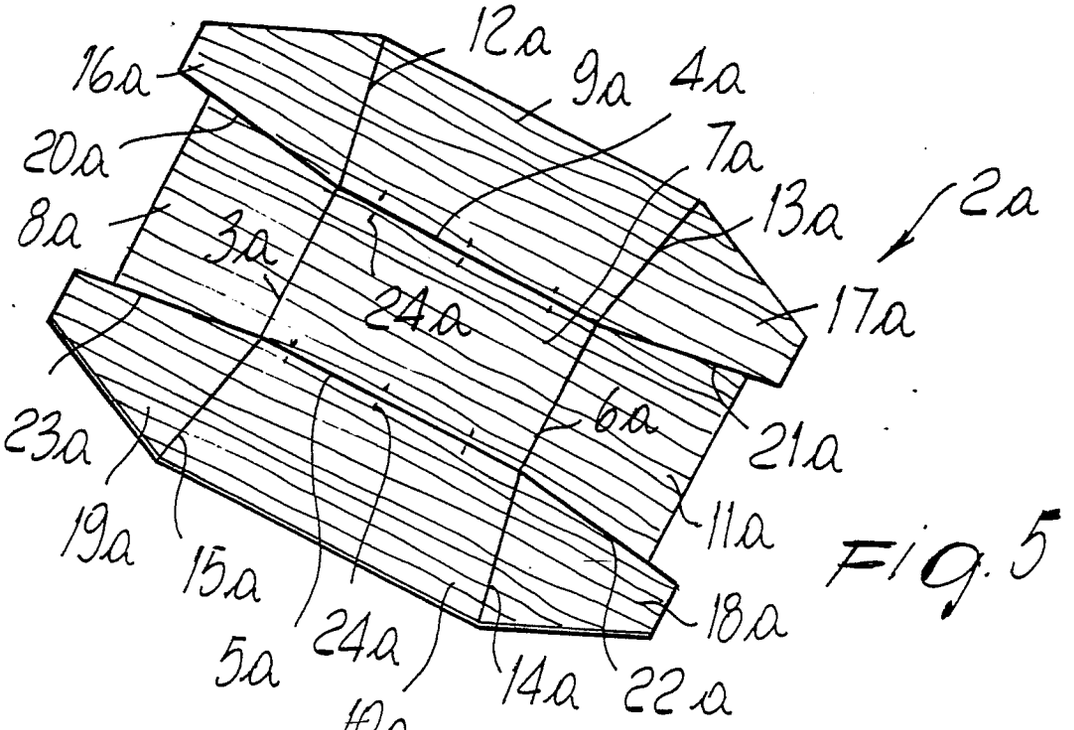

FIG. 5

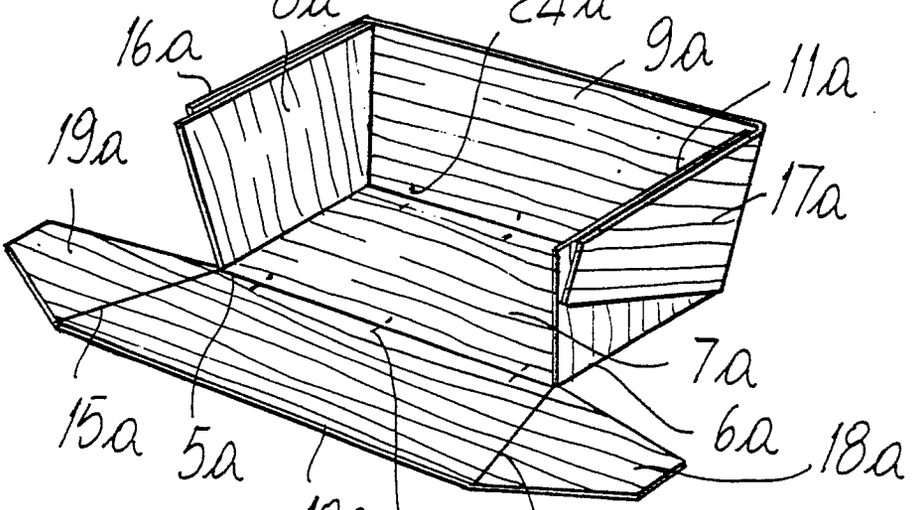

FIG. 6

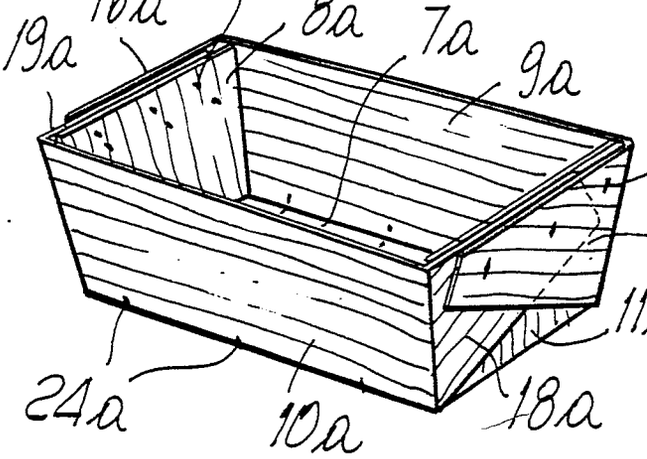

FIG. 7