



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 1 364 888 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**26.11.2003 Bulletin 2003/48**

(51) Int Cl.7: **B65D 81/03, B65D 30/00**

(21) Application number: **03009809.9**

(22) Date of filing: **12.05.2003**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HU IE IT LI LU MC NL PT RO SE SI SK TR**  
Designated Extension States:  
**AL LT LV MK SI**

(72) Inventor: **Mercadini, Andrea**  
**47020 Cesena Prov. Forli-Cesena (IT)**

(74) Representative: **Modiano, Guido, Dr.-Ing. et al**  
**Modiano & Associati SpA**  
**Via Meravigli, 16**  
**20123 Milano (IT)**

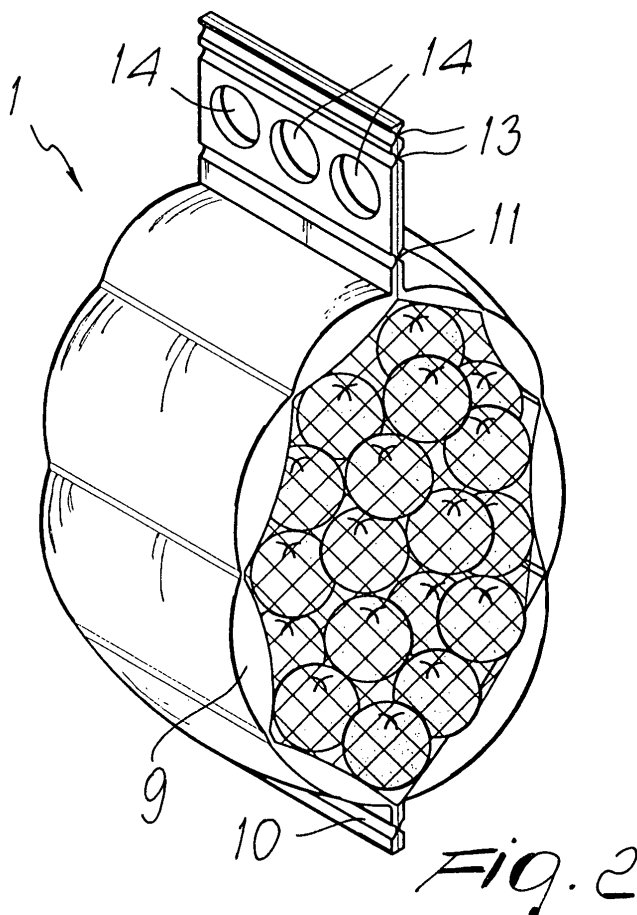
(30) Priority: **13.05.2002 IT BO20020050 U**

(71) Applicant: **Netpack S.p.A.**  
**47020 Cesena (Prov.of Forli-Cesena) (IT)**

(54) **Container for fruit and vegetables**

(57) A container for fruit and vegetables, comprising a bag (2) enclosed between two lateral reinforcement bands, said lateral bands (4) being made of a material

that is suitable to yield softly upon application of external pressure, and to distribute the pressure over large surfaces of the contained fruit and vegetables.



EP 1 364 888 A1

## Description

**[0001]** The present invention relates to a container for fruit and vegetables.

**[0002]** In this particular field, it is known to use bags made of netting to package non-delicate products, such as citrus fruits, potatoes and onions.

**[0003]** Such bag can be enclosed within two mutually opposite and connected bands made of laminated plastics, which have the dual function of constituting a reinforcement for said bag and of decorating it, providing a surface on which advertising, lettering or images can be applied.

**[0004]** Known systems have shortcomings because, as mentioned, the products that can be packaged with such system necessarily must not be delicate, since said bag provides no protection for its content against impacts with the outside environment.

**[0005]** The aim of the present invention is to obviate the cited shortcomings and to meet the cited needs, by providing a container for fruit and vegetables that is suitable to contain delicate products, such as for example apples and peaches, while ensuring their protection against impacts.

**[0006]** An object of the present invention is to provide a structure that is simple, relatively easy to provide in practice, safe in use, effective in operation, and relatively low in cost.

**[0007]** This aim and this object are achieved by the container for fruit and vegetables according to the invention that has the features set forth in the claims. Such container comprises a bag enclosed between two lateral reinforcement bands, characterized in that said lateral bands are made of a material that is suitable to undergo deformation upon application of pressure and are thicker than said bag.

**[0008]** Further features and advantages of the present invention will become better apparent from the detailed description of a preferred but not exclusive embodiment of a container for fruit and vegetables according to the invention, illustrated by way of non-limitative example in the accompanying drawing, wherein:

Figure 1 is a side view of the container according to the invention;

Figure 2 is an axonometric projection view of the container according to the invention.

**[0009]** With reference to the figures, the reference numeral 1 generally designates a container for fruit and vegetables. The container comprises a bag of netting 2, suitable to contain the fruit and vegetables 3, that is surrounded by the lateral bands 4. Each one of said bands 4 is constituted by two films of plastic material, an outer one 5 and an inner one 6, which delimit a plurality of air cushions or volumes 7. The material for the film is selected with physical-chemical properties (quality, structure and thickness) such as to allow a light, soft elastic

yielding thereof when subjected to external pressure or impacts, the pressure applied being further evenly distributed over large surfaces of the products it may wrap. Each air cushion 7 is separated from the preceding one and from the following one by way of heat-sealing lines 8, which join the outer plastic film 5 and the inner plastic film 6. Said heat-sealing lines 8 delimit the air cushions 7 in an upward region and in a downward region. Said cushions 7 can be enclosed laterally by means of similar heat-seals or by providing the lateral bands starting from a tubular element made of plastic film in which, in other words, the outer surface 5 and the inner surface 6 are parts of a single tube.

**[0010]** Below the container 1, a heat-sealing line 10 couples to each other the two lateral bands 4; a similar heat-seal 11 couples the upper ends of the bands 4 and the upper end of the bag of netting 2. A band 12 lies above the heat-seal 11 and is delimited by heat-sealing lines 13; holes 14 are formed in said band and constitute the grip.

**[0011]** The advantages of the invention are evident: any fruit or vegetable 3 placed inside the bag of netting 2 is protected by the lateral bands 4 against external impacts thanks to the shock-absorbing function performed by the air cushions that fit out said bands 4.

**[0012]** The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. In particular, the bands can be constituted by soft material with elastic yielding and made of natural or synthetic fibers or by sponge-like material made of expanded polymers adapted to contain foodstuff.

**[0013]** The disclosures in Italian Utility Model Application No. B02002U000050 from which this application claims priority are incorporated herein by reference.

**[0014]** Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

## Claims

1. A container for fruit and vegetables, comprising a bag (2) enclosed between two lateral reinforcement bands, **characterized in that** said lateral bands (4) are made of a material that is selected with physical-chemical properties such as to provide soft yielding thereof upon application of external pressure, and so as to distribute said pressure over large surfaces of the contained fruit and vegetables (3).
2. The container according to claim 1, **characterized in that** said material suitable to yield softly upon application of external pressure surrounds said bag

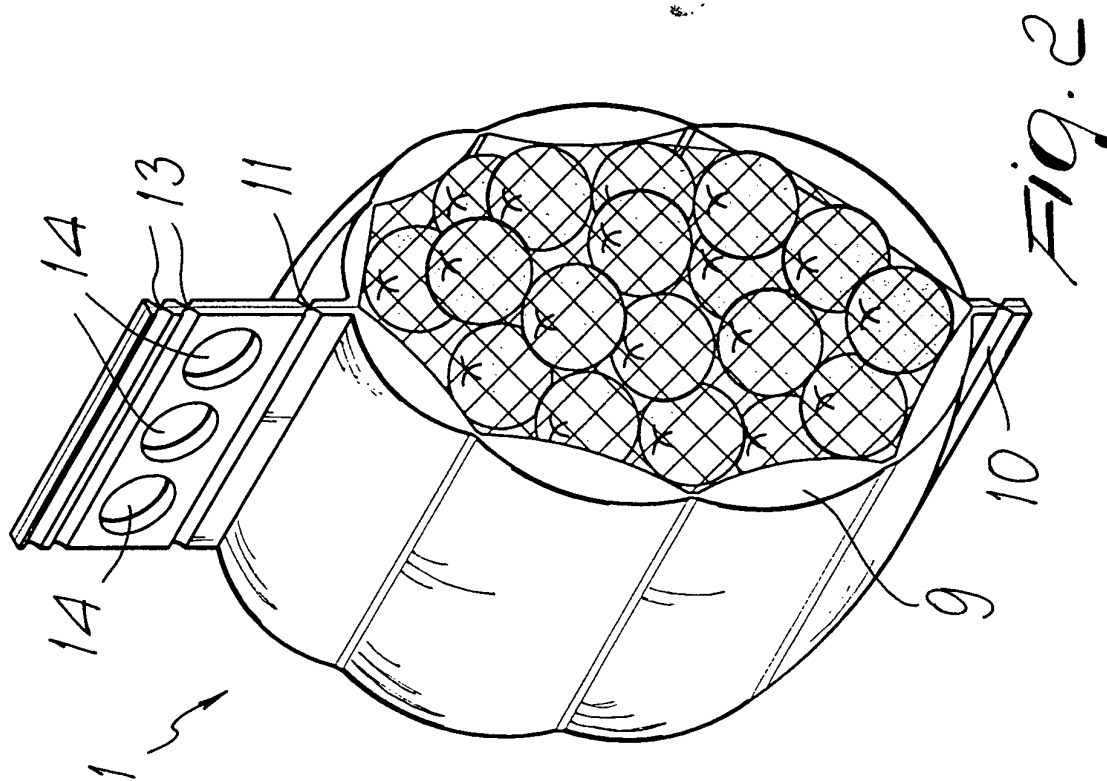
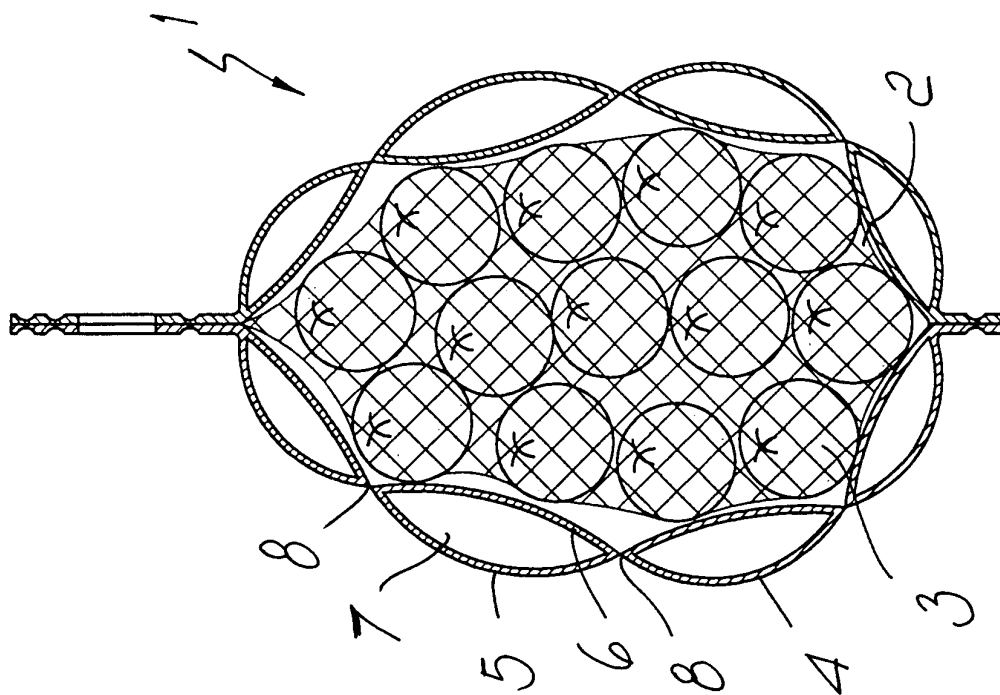
(2) completely.

3. The container according to claim 1, **characterized in that** said material is a band (4) of air cushions (7). 5
4. The container according to claim 3, **characterized in that** said band (4) of air cushions (7) is provided by using heat-sealable polymeric films.
5. The container according to claim 1, **characterized in that** said material is a band of soft material. 10
6. The container according to claim 5, **characterized in that** said band of soft material is made of natural or synthetic fibers. 15
7. The container according to claim 1, **characterized in that** said material is a band made of sponge-like material. 20
8. The container according to claim 7, **characterized in that** said band of sponge-like material is made of expanded polymers.
9. The container according to claim 1, **characterized in that** said bag (2) enclosed between the bands is a net made of plastic material. 25
10. The container according to claim 1, **characterized in that** said lateral bands (4) are joined by heat-seals (10, 11) and said bag (2) is also rigidly coupled to them internally by way of said heat-seals. 30
11. The container according to claim 1, **characterized in that** said container (1) is closed by means of two spaced heat-sealing lines (11, 13). 35
12. The container according to claim 11, **characterized in that** said heat-sealing lines form a band (12) in which through holes (14) are provided, constituting a grip. 40

45

50

55





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 03 00 9809

| 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.7) |
| X                                                                                                                                                                                                                          | FR 2 811 646 A (ARCE)<br>18 January 2002 (2002-01-18)                                           | 1-6                                                                                                                                                                                                                                                                                | B65D81/03                                    |
| Y                                                                                                                                                                                                                          | * the whole document *                                                                          | 9                                                                                                                                                                                                                                                                                  | B65D31/00                                    |
| X                                                                                                                                                                                                                          | US 5 272 856 A (PHARO DANIEL A)<br>28 December 1993 (1993-12-28)                                | 1-6                                                                                                                                                                                                                                                                                |                                              |
|                                                                                                                                                                                                                            | * the whole document *                                                                          |                                                                                                                                                                                                                                                                                    |                                              |
| X                                                                                                                                                                                                                          | PATENT ABSTRACTS OF JAPAN<br>vol. 2000, no. 26,<br>1 July 2002 (2002-07-01)                     | 1-6                                                                                                                                                                                                                                                                                |                                              |
|                                                                                                                                                                                                                            | -& JP 2001 240138 A (OUCHI TOSHIKATSU),<br>4 September 2001 (2001-09-04)                        |                                                                                                                                                                                                                                                                                    |                                              |
|                                                                                                                                                                                                                            | * abstract *                                                                                    |                                                                                                                                                                                                                                                                                    |                                              |
| X                                                                                                                                                                                                                          | US 5 454 642 A (DE LUCA NICHOLAS P)<br>3 October 1995 (1995-10-03)                              | 1-6                                                                                                                                                                                                                                                                                |                                              |
|                                                                                                                                                                                                                            | * the whole document *                                                                          |                                                                                                                                                                                                                                                                                    |                                              |
| X                                                                                                                                                                                                                          | EP 0 586 232 A (BURLINGTON CONS LTD<br>;JASZAI ZOLTAN KAZMER (JP))<br>9 March 1994 (1994-03-09) | 1,2,7,8                                                                                                                                                                                                                                                                            | TECHNICAL FIELDS<br>SEARCHED (Int.Cl.7)      |
|                                                                                                                                                                                                                            | * the whole document *                                                                          |                                                                                                                                                                                                                                                                                    | B65D                                         |
| X                                                                                                                                                                                                                          | PATENT ABSTRACTS OF JAPAN<br>vol. 2002, no. 04,<br>4 August 2002 (2002-08-04)                   | 1-6                                                                                                                                                                                                                                                                                |                                              |
|                                                                                                                                                                                                                            | -& JP 2001 335073 A (NAGASE & CO LTD;DELTA<br>TOUENTEIWAN:KK),<br>4 December 2001 (2001-12-04)  |                                                                                                                                                                                                                                                                                    |                                              |
|                                                                                                                                                                                                                            | * abstract *                                                                                    |                                                                                                                                                                                                                                                                                    |                                              |
| Y                                                                                                                                                                                                                          | EP 1 092 635 A (GIMAR SA)<br>18 April 2001 (2001-04-18)                                         | 9                                                                                                                                                                                                                                                                                  |                                              |
|                                                                                                                                                                                                                            | * the whole document *                                                                          |                                                                                                                                                                                                                                                                                    |                                              |
| The present search report has been drawn up for all claims                                                                                                                                                                 |                                                                                                 |                                                                                                                                                                                                                                                                                    |                                              |
| Place of search<br><b>THE HAGUE</b>                                                                                                                                                                                        |                                                                                                 | Date of completion of the search<br><b>8 August 2003</b>                                                                                                                                                                                                                           | Examiner<br><b>Fournier, J</b>               |
| CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                                |                                                                                                 | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or<br>after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding<br>document |                                              |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another<br>document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                 |                                                                                                                                                                                                                                                                                    |                                              |

EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 00 9809

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-08-2003

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---------------------|----------------------------|---------------------|
| FR 2811646 A                              | 18-01-2002          | FR 2811646 A1              | 18-01-2002          |
|                                           |                     | AU 1876402 A               | 21-01-2002          |
|                                           |                     | EP 1299292 A2              | 09-04-2003          |
|                                           |                     | WO 0204316 A2              | 17-01-2002          |
| US 5272856 A                              | 28-12-1993          | NONE                       |                     |
| JP 2001240138 A                           | 04-09-2001          | NONE                       |                     |
| US 5454642 A                              | 03-10-1995          | CA 2167414 A1              | 26-01-1995          |
|                                           |                     | DE 69416679 D1             | 01-04-1999          |
|                                           |                     | DE 69416679 T2             | 09-12-1999          |
|                                           |                     | EP 0708730 A1              | 01-05-1996          |
|                                           |                     | WO 9502548 A1              | 26-01-1995          |
| EP 0586232 A                              | 09-03-1994          | JP 3259861 B2              | 25-02-2002          |
|                                           |                     | JP 6239368 A               | 30-08-1994          |
|                                           |                     | EP 0586232 A2              | 09-03-1994          |
|                                           |                     | US 5402892 A               | 04-04-1995          |
| JP 2001335073 A                           | 04-12-2001          | NONE                       |                     |
| EP 1092635 A                              | 18-04-2001          | AU 5353700 A               | 14-02-2002          |
|                                           |                     | BR 0003841 A               | 26-03-2002          |
|                                           |                     | CA 2316698 A1              | 01-02-2002          |
|                                           |                     | CN 1335252 A               | 13-02-2002          |
|                                           |                     | CZ 20003059 A3             | 13-03-2002          |
|                                           |                     | EP 1092635 A1              | 18-04-2001          |
|                                           |                     | HU 0003376 A2              | 29-05-2002          |
|                                           |                     | JP 2002046751 A            | 12-02-2002          |
|                                           |                     | PL 342159 A1               | 11-02-2002          |
|                                           |                     | SK 12572000 A3             | 05-02-2002          |
|                                           |                     | TR 200002956 A2            | 21-03-2002          |