



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 647 497 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
19.04.2006 Bulletin 2006/16

(51) Int Cl.:
B65D 81/26 (2006.01)

(21) Application number: **05254729.6**

(22) Date of filing: **28.07.2005**

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

(71) Applicant: **Sharp Interpack Limited**
Bridgwater
Somerset TA6 5YS (GB)

(72) Inventor: **Ludkin, Alan**
Aylesham CT3 3EF--Kent (GB)

(30) Priority: **28.07.2004 GB 0416836**

(74) Representative: **Lord, Hilton David**
Marks & Clerk
90 Long Acre
London WC2E 9RA (GB)

(54) **Container with liquid holding recesses**

(57) The present invention relates to a container for

food, particularly to a container for raw fish and meat
such as poultry.

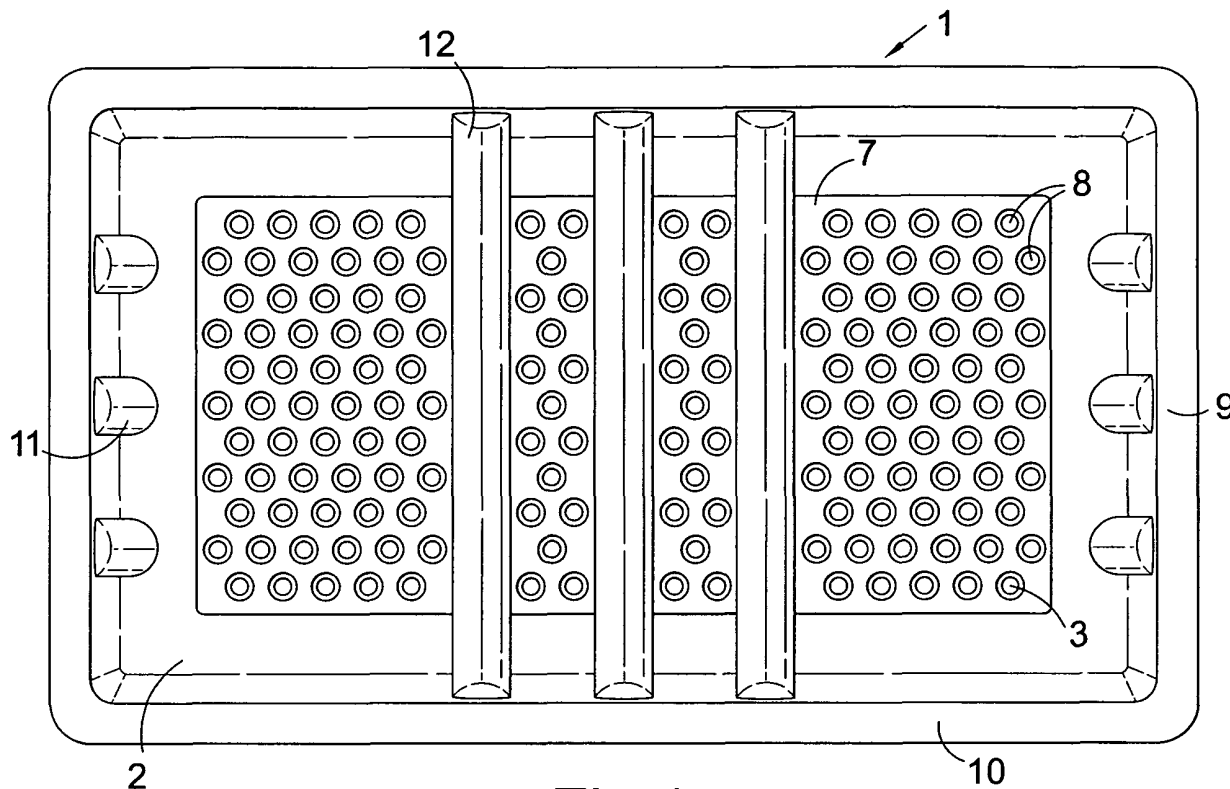


Fig.1

EP 1 647 497 A1

Description

[0001] The invention relates to a container for food, particularly to a container for fish and raw meat such as poultry.

[0002] Raw meat and fish releases fluid. It is known to include an absorbent pad in containers for raw meat in order to absorb this fluid. However, these absorbent pads can become saturated, and do not keep the fluid away from the raw meat.

[0003] It is an object of this invention to seek to mitigate these disadvantages.

[0004] Accordingly, the present invention provides a container for food comprising a base provided with a plurality of recesses for receiving fluid from the food.

[0005] Recesses can hold as much fluid as an absorbent pad, while keeping the fluid away from the food.

[0006] Preferably, the recesses are shaped to retain the fluid received therein by means of surface tension. This helps keep the fluid away from the food even when the container is tilted.

[0007] The cross-sectional area of each recess is preferably greatest at the open end of the recess. This maximises the surface area of any fluid in the recess, and so helps retain the fluid therein. In particular, the recesses may be provided with inclined walls such that the cross-sectional area at the openings of the recesses (in-use, the tops of the recesses) are greater than that at the (in-use) bottoms of the recesses.

[0008] Preferably, at least the upper portion of each recess is frusto-conical. This will give any fluid in the recess a high surface area:volume ratio at the open end of the recess, which will also help retain the fluid in the recess.

[0009] The recesses may have any desired cross-sectional shape, particularly in the plane of the opening of the recess. Preferable shapes include circles, ovals, closed curves, ellipses, ovoid and elongate shapes, particularly those having rounded ends. For example, a recess may have an oval cross-section in the plane of the opening. Other suitable shapes will be readily apparent to one skilled in the art, particularly shapes which will retain fluid by means of surface tension.

[0010] Different shapes may be preferred according to what the container is to hold. For example, it may be preferred to provide containers for poultry having recesses with circular cross-sections and being frusto-conically shaped, whereas containers for poultry may be provided with oval or similarly shaped recesses (for example two elongate sides joined by rounded end portions).

[0011] In addition, the recesses of the container need not all be of the same shape, and if desired the container may be provided with recesses of different shapes, e.g. recesses having a circular cross-section in the plane of the opening of the recesses, and recesses having an oval or similarly shaped cross-section in the plane of the opening of the recesses.

[0012] Preferably, each recess comprises two por-

tions, the upper portion being frusto-conical and the lower portion being cylindrical. This will increase the amount of fluid which can be held in the recess, whilst still giving any fluid in the recess a high surface area: volume ratio at the open end of the recess to help retain fluid in the recess.

[0013] Each recess preferably comprises a planar base. The planar bases will provide a stable surface to support the container.

[0014] The recesses are preferably located on a panel in the base, the panel comprising at least two recesses per square centimetre, preferably at least four recesses per square centimetre. Having a high density of small recesses increases the amount of fluid which can be retained in the recesses, while allowing the recesses to have a high surface area: volume ratio to retain the fluid in the recesses.

[0015] The container preferably comprises a plurality of ribs for supporting the food above the recesses. This helps to keep the food away from any fluid in the recesses.

[0016] The container is preferably made by pressure forming. In pressure forming, plastics material is pushed into the mould as well as being sucked into the mould by a vacuum. This results in more accurate moulding, especially in the recesses where the moulding process can result in variations in thickness in the plastics material. Accurate moulding is particularly important where the container is made from a material such as polypropylene which does not provide a high barrier to gas transmission. For such materials, it is important that the container has a constant thickness as this thickness is required in order to achieve a barrier.

[0017] Also provided according to the present invention is a container according to the present invention containing food. Preferably, it contains meat or fish, more preferably raw meat or fish.

[0018] The invention will be further apparent from the following description with reference to the accompanying drawings which describes, by way of example only, forms of containers. Of the Figures:

- Figure 1 is a plan view of a container according to the invention;
- Figure 2 is a side view of the container of Figure 1;
- Figure 3 is an end view of the container of Figure 1;
- Figure 4 is a perspective view of a recess of the container of Figure 1; and
- Figure 5 is a plan view of a second container according to the invention.

[0019] Referring to the drawings, there is shown a container 1 for raw meat (particularly for raw fish) comprising a base 2 provided with a plurality of recesses 3 for receiving fluid from the meat.

[0020] Each recess 3 is shaped to retain the fluid within the recess 3 by means of surface tension. Each recess comprises two portions 4, 5, the upper portion 4 being

frusto-conical, and the lower portion 5 being cylindrical. The cylindrical portion 5 of the recess 3 includes a planar base 6 to provide a stable support for the container 1.

[0021] The frusto-conical portion 4 of the recess 3 tapers from a maximum diameter of 5 mm at the open end of the recess 3 to a minimum diameter of 2.5 mm at the point where the frusto-conical portion 4 adjoins the cylindrical portion 5. The cylindrical portion 5 of the recess 3 has a constant diameter of 2.5 mm.

[0022] The recesses 3 are located on a panel 7 in the centre of the base 2 of the container 1. The recesses 3 are arranged in a plurality of rows 8, each row 8 being offset from the adjacent row 8 so that the recesses 3 form an hexagonal array.

[0023] Each recess 3 is spaced from each of the six surrounding recesses 3 by approximately 1 mm.

[0024] The container 1 has two short sides 9 and two long sides 10. The two short sides 9 each include three ribs 11, a short portion of each of which extends into the base 2 of the container 1. The two long sides 10 also each include three ribs 12 which extend across the base 2 of the container 1.

[0025] The container 1 is made from polypropylene, but it may be made from any suitable material.

[0026] The container 1 is made by pressure forming, but it may be made by any suitable method.

[0027] In use, a portion of raw meat such as poultry is placed on the panel 7 of the container 1. Fluid which seeps from the raw meat enters the recesses 3, and is held therein by means of surface tension. The ribs 11, 12 support the raw meat, and raise it away from the recesses 3, thereby ensuring that the meat does not come into contact with the fluid retained in the recesses 3.

[0028] In a second embodiment, a container 1 formed from polypropylene by pressure forming is provided for raw meat (particularly for raw poultry) comprising a base 2 provided with a plurality of recesses 3' for receiving fluid from the meat.

[0029] Each recess 3' is shaped to retain the fluid within the recess by means of surface tension. Each recess is provided with an inner wall which is inwardly inclined along the vertical axis so as to have a greater cross-sectional area at the top (the open end) of the recess than at the bottom of the recess.

[0030] Each recess 3' has (as viewed from the top) an oval shape with first and second generally parallel sides joined by rounded ends, and is about 4 mm in length and 2 mm in width. Recess 3' has a planar base 6 to provide a stable support for the container 1.

[0031] The recesses 3' are arranged in the same manner as the recesses 3 of the first embodiment.

[0032] The general shape and arrangement of container 1 of the second embodiment is as for the container 1 of the first embodiment.

[0033] It will be appreciated that it is not intended to limit the present invention to the above specific embodiments, alternative embodiments falling within the scope of the appended claims being readily apparent to a per-

son skilled in the art.

Claims

1. A container for food, comprising a base provided with a plurality of recesses for receiving fluid from the food.
2. A container according to claim 1, wherein the recesses are shaped to retain the fluid received therein by means of surface tension.
3. A container according to claim 1 or claim 2, wherein the cross-sectional area of each recess is greatest at the open end of the recess.
4. A container according to any preceding claim, wherein at least the upper portion of each recess is frusto-conical.
5. A container according to claim 4, wherein each recess comprises two portions, the upper portion being frusto-conical and the lower portion being cylindrical.
6. A container according to any preceding claim, wherein each recess comprises a planar base.
7. A container according to any preceding claim, wherein the recesses are provided on a panel in the base, the panel comprising at least two recesses per square centimetre.
8. A container according to claim 7, the panel comprising at least four recesses per square centimetre.
9. A container according to any preceding claim, comprising a plurality of ribs for supporting the food above the recesses.
10. A container according to any preceding claim, the container being made by pressure forming.
11. A container according to any preceding claim, containing food.

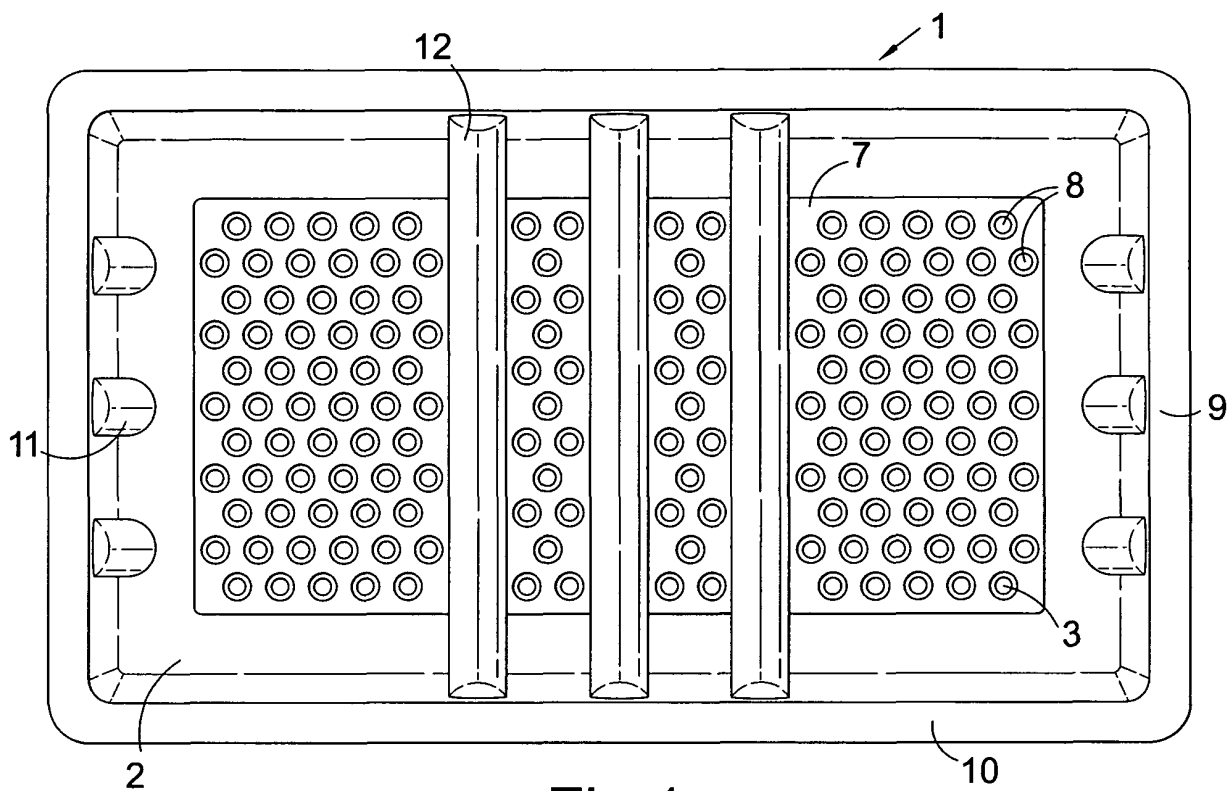


Fig.1

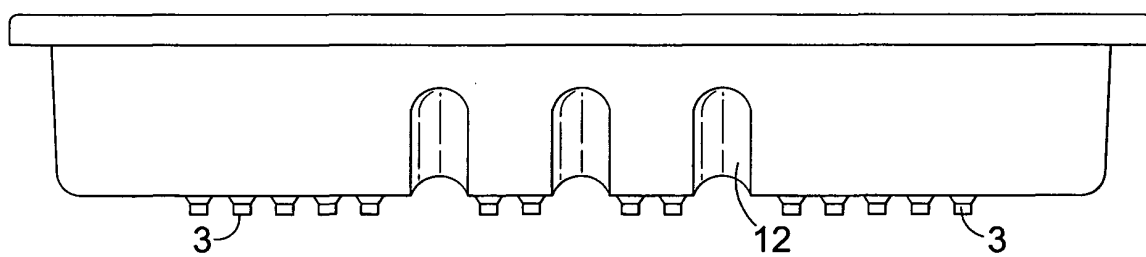


Fig.2

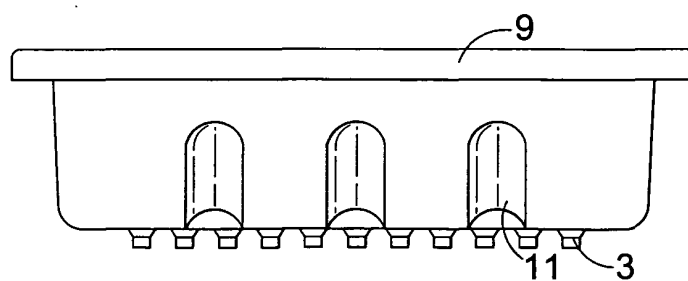


Fig.3

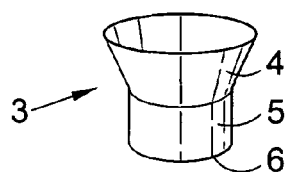


Fig. 4

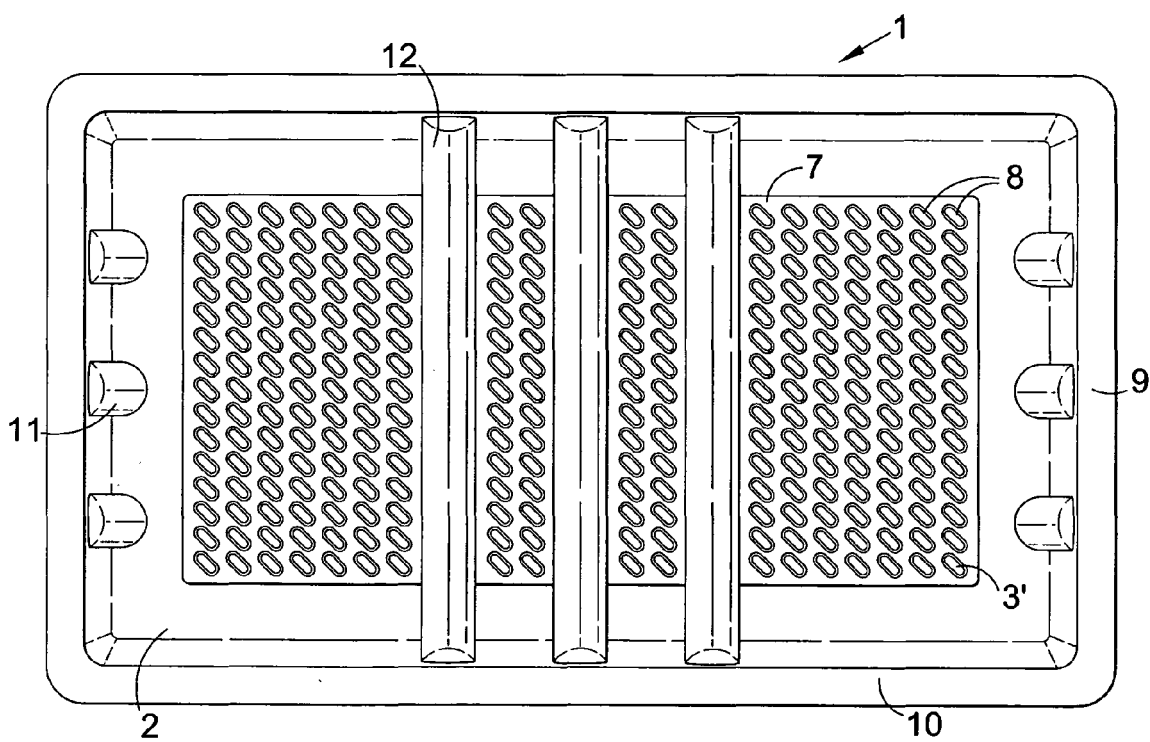


Fig. 5



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 25 4729

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 533 585 A (HOLDEN ET AL) 6 August 1985 (1985-08-06) * column 2, line 34 - line 63 * * column 3, line 34 - line 63 * * column 4, line 13 - line 19 * * figures 1-7a *	1-4,6-11	B65D81/26
X	WO 81/01825 A (JOELNER J) 9 July 1981 (1981-07-09) * page 2, line 26 - page 3, line 23 * * claim 3 * * figures 1-3 *	1-4,6-8, 10,11	
X	US 3 040 947 A (WELLS ROGER ET AL) 26 June 1962 (1962-06-26) * column 2, line 44 - column 3, line 2 * * column 3, line 49 - line 68 * * figures 9-12 *	1,2,6-8, 10,11	
X	US 3 346 400 A (ROESNER DONALD B) 10 October 1967 (1967-10-10) * column 2, line 13 - line 35 * * figures 1,2,4 *	1,2,7,8, 11	TECHNICAL FIELDS SEARCHED (IPC) B65D
X	US 3 253 762 A (GAUNT THOMAS NORMAN) 31 May 1966 (1966-05-31) * column 1, line 24 - line 27 * * column 2, line 21 - line 56 * * figures 1-3 *	1-3,9-11	
X	DE 103 01 171 A1 (MCAIRLAID'S VLIESTOFFE GMBH & CO. KG) 31 July 2003 (2003-07-31) * paragraphs [0011], [0022], [0024] * * figures 1-3 *	1,3,4,7, 8,10,11	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 27 February 2006	Examiner Leijten, M
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			

 6
EPO FORM 1503 03.82 (P04C01)

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

EP 05 25 4729

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.

27-02-2006

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4533585	A	06-08-1985	CA 1244383 A1	08-11-1988
WO 8101825	A	09-07-1981	EP 0042375 A1	30-12-1981
			SE 436490 B	17-12-1984
			SE 7811924 A	21-05-1980
US 3040947	A	26-06-1962	NONE	
US 3346400	A	10-10-1967	GB 1085102 A	27-09-1967
			NL 6601197 A	09-08-1966
US 3253762	A	31-05-1966	BE 645683 A	16-07-1964
			DK 108329 C	13-11-1967
			GB 1015669 A	05-01-1966
			NL 6403221 A	28-09-1964
DE 10301171	A1	31-07-2003	DE 20200661 U1	28-03-2002