



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 374 746 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
02.01.2004 Bulletin 2004/01

(51) Int Cl.7: **A47G 19/26**

(21) Application number: **03076835.2**

(22) Date of filing: **12.06.2003**

(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

(71) Applicant: **De Jong Participatie Bakkum B.V.
1901 JM Castricum (NL)**

(72) Inventor: **De Jong, Jeroen Alexander
1901 JM Castricum (NL)**

(30) Priority: **21.06.2002 NL 1020917**

(54) **Butter-dish**

(57) The invention relates to a butter-dish, comprising a dish-part (2) into which the butter (3) can be placed and a cover-part (1) that can be placed over the butter

(3). In the cover-part (1), a plate-shaped heating element (4) is placed. The heating element (4) can be connected to a current source. In this way, a top layer of the butter (3) can be brought into a spreadable condition.

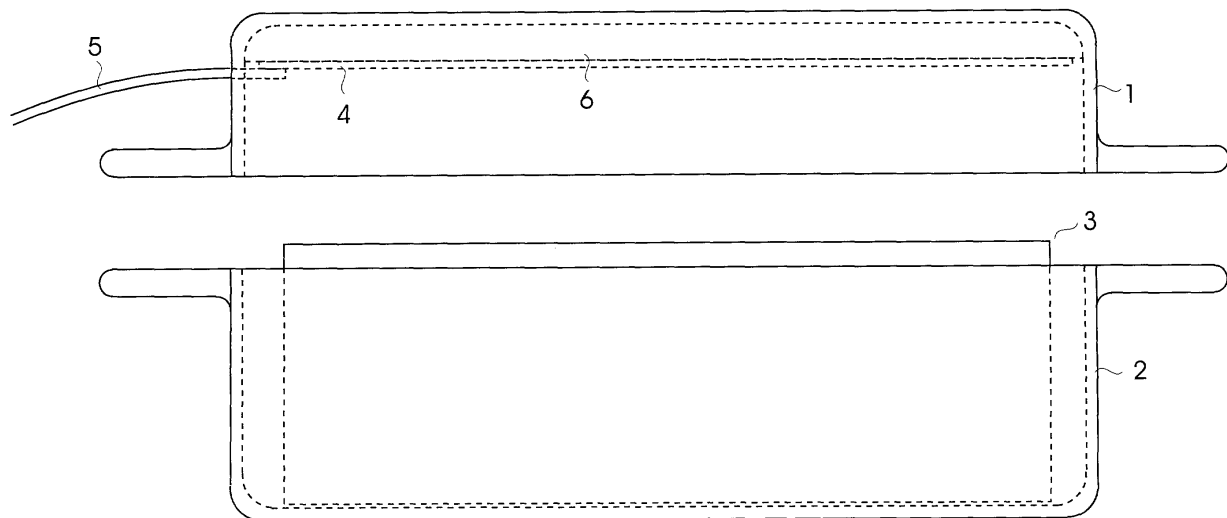


Fig. 1

EP 1 374 746 A1

Description

[0001] The invention relates to a butter-dish, comprising a dish-part, arranged for accepting a quantity of butter or a comparable spread and a cover-part that can be placed on top of the dish-part, over the butter.

[0002] Butter-dishes are well known. They are used for making the handling of butter easier. Moreover, they are intended for keeping the butter clean and fresh. In order to keep the butter well, one usually stores the butter-dish in a refrigerator or another cool place after having used it. This has as a disadvantage that when the butter is used a next time, it will be hardly or even not spreadable. The present invention substantially obviates this disadvantage and is characterised in that the butter-dish is provided with heating means, for bringing at least part of the butter in a spreadable condition.

[0003] A favourable embodiment of the inventive butter-dish is characterised in that the heating means are mounted inside the cover-part. The heat, generated by the heating means, is absorbed then at least substantially in the surface layer of the butter, which can subsequently be removed in a simple manner, for example by a knife for further use. An additional advantage is that a low temperature is maintained in that part of the butter that will not immediately be used, which adds to the freshness of the butter.

[0004] A further very favourable embodiment is characterised in that the heating means are plate-shaped and operationally cover at least substantially an upper surface of the butter. This results in a surface layer becoming soft in a uniform manner across the entire surface area, which can subsequently be removed with a knife and used.

[0005] A further favourable embodiment which prevents the material the butter-dish is made of from absorbing heat and which limits the energy consumed by the butter-dish to a minimum is characterised in that between the plate-shaped heating means and the cover-part a layer of a thermal insulation material is placed.

[0006] A further favourable embodiment which can be realised at minimum manufacturing costs is characterised in that the plate-shaped heating means comprise a synthetic layer, provided with a pattern of electrical conductors, and connecting means for connecting to an electric circuit. Heating means of this type have a small heat capacity, thanks to which the temperature will be high even at low current levels and the heat will be delivered substantially as radiant heat.

[0007] A further favourable embodiment is characterised in that the electric circuit comprises at least one current source, operating means and control means. In this embodiment, the operating means must be operated for heating up the butter, while the control means are arranged for heating up a layer of butter of a predetermined thickness. A favourable embodiment is characterised in that the control means are arranged for letting pass an electric current during a previously determined

time.

[0008] The invention also relates to a system, comprising a butter-dish as described. The inventive system is characterised in that it also comprises a tray onto which the butter-dish can be placed, which tray is provided with an electric circuit. The electric circuit may be arranged for directly supplying a current to the heating means, but the electric circuit may also be arranged for charging batteries, located inside the butter-dish.

[0009] The invention will now be further explained with a reference to the following figures, in which:

Fig. 1 shows a possible embodiment of a butter-dish according to the invention in side view;

Fig. 2 shows a possible embodiment of an inside of the cover-part of the butter-dish;

Fig. 3 shows a possible embodiment of a butter-dish on top of a current source in side view;

Fig. 4 shows a possible embodiment of a butter-dish with an integrated current source in side view;

Fig. 5 shows this embodiment in top view;

Fig. 6 shows an alternative embodiment of a butter-dish on top of a current source in side view.

[0010] Fig. 1 shows a possible embodiment of a butter-dish according to the invention in side view, consisting of a cover-part 1 and a dish-part 2, inside of which the butter 3 can be placed. Cover-part 1 and dish-part 2 are made for example of plastic and together they can substantially completely enclose the space in which the butter 3 is situated, in order to keep the butter fresh. According to the invention, a heating 4 is placed inside cover-part 1, which can be connected to a current source, not shown here with the aid of connecting wires 5. The heat, which is generated in this way, will make especially a top layer of the butter 3 soft and spreadable, while the butter below this top layer will hardly heat up. In order to prevent the heat from leaking away to the top, a layer of an insulation material 6, for example heat resistant polyurethane foam, is placed between cover-part 1 and heating 4.

[0011] Fig. 2 shows a possible embodiment of an inside of the cover-part 1 of the butter-dish, in which a heating 4 is placed consisting of a layer 7 made of a heat resistant synthetic material, provided with a pattern of electric conductors 8, that can be connected to a current source via connecting wires 5. A heating of this type is well known in the art and is frequently used for local heating but also for floor heating for example. Synthetic layer 7 is fixed onto a layer of insulation material 6, which prevents the heat from leaking away to the top side of cover-part 1. Because heating 4 is placed in the top of cover-part 1 and because it is moreover well insulated, substantially all heat that is produced will be released in the form of infrared radiation. For that reason, the temperature of electric conductors 8 can rise to a relatively high level. The infrared radiation heats up the top layer of the butter, as a result of which the top layer will be-

come well spreadable.

[0012] Fig. 3 shows in side view a possible embodiment of a butter-dish on top of a current source, consisting of a tray 9 onto which the butter-dish can be placed and from which a current is delivered from a transformer 10, accommodated inside tray 9, via two contacts 11a, 11b, of which in the figure only contact 11a is visible, to contact plates 12a, 12b, of which in the figure only contact plate 12a is visible, which are in turn connected to the connecting wires 5, shown in Fig. 2. It is possible now to take the butter-dish out of a refrigerator and to place it on top of tray 9, as a result of which the top layer of the butter will be well spreadable within a few minutes, while the remaining butter will remain cool. Preferably, transformer 10 is provided with a timer switch, well known in the art, which will switch off the current after a time which can be adjusted with a control element 13, well known in the art. It is also possible to provide cover-part 1 with a thermostatic switch, well known in the art, which switches off the current in case cover-part 1 reaches a predetermined temperature, for example when the user has left the butter-dish too long on top of the tray.

[0013] Fig. 4 shows in side view a possible embodiment of a butter-dish with an integrated current source, accommodated in an extension 14 of cover-part 1. Extension 14 comprises for example four batteries 15a, ..., 15d that can be charged periodically via a connector 16, for example when a fresh piece of butter is placed onto the butter-dish. Moreover, extension 14 comprises control means 17, which are connected, to operating means 18. Control means 17 are arranged for example in such a way that when operating means 18 are operated once, a current delivered by batteries 15a, ..., 15d will flow during two minutes to heating 4. Control means of this kind are well known to the skilled man and can for example be realised with the aid of a few electronic components. Heating 4 is dimensioned such that during this time a layer having a thickness of for example three millimetres will soften. If more butter is to be used, one may operate operating means 18 more often.

[0014] Fig. 5 shows this embodiment in top view, with cover-part 1, extension 14, batteries 15a, ..., 15d, connector 16 for connecting to a charger, control means 17 and operating means 18.

[0015] Fig. 6 shows in side view an alternative embodiment of a butter-dish on top of a current source, consisting of a tray 9 onto which the butter-dish can be placed in a condition of rest and from which a current is delivered from a transformer 10, accommodated inside tray 9, via two contacts 11a, 11b, of which in the figure only contact 11a is visible, to contact plates 12a, 12b, of which in the figure only contact plate 12a is visible, which are in turn connected to a battery 15 which is embedded in a heat insulating foam layer 6. Battery 15 has a limited capacity and can therefore be small and cheap. Transformer 10 must keep battery 15 always in a loaded condition and can also be small and cheap. This embodi-

ment one could use for example in the following way. As soon as the butter-dish is lifted off tray 9, the current supplied via the contacts 11a, 11b is interrupted, which can be sensed in an obvious way by control means 19. In response, control means 19 connect battery 15 in a manner obvious to the skilled man to heating element 4 during a previously determined time span, so as to make the top layer of the butter well spreadable while the remaining part of the butter remains cool. In this embodiment, the time span can be adjusted with the aid of operating means 20, for example a turning knob.

[0016] It is possible of course to integrate tray 9 completely in a refrigerator, so that a heating cycle will start automatically as soon as the butter-dish is taken out of the refrigerator.

Claims

1. Butter-dish, comprising a dish-part, arranged for accepting a quantity of butter or a comparable spread and a cover-part that can be placed on top of the dish-part, over the butter, **characterised in that** the butter-dish is provided with heating means.
2. Butter-dish according to claim 1, **characterised in that** the heating means are mounted inside the cover-part.
3. Butter-dish according to claim 2, **characterised in that** the heating means are plate-shaped and operationally cover at least substantially an upper surface of the butter.
4. Butter-dish according to claim 3, **characterised in that** between the plate-shaped heating means and the cover-part a layer of a thermal insulation material is placed.
5. Butter-dish according to claim 3, **characterised in that** the plate-shaped heating means comprise a synthetic layer, provided with a pattern of electrical conductors, and connecting means for connecting to an electric circuit.
6. Butter-dish according to claim 5, **characterised in that** the electric circuit comprises at least one current source, operating means and control means.
7. Butter-dish according to claim 6, **characterised in that** the control means are arranged for letting pass an electric current during a previously determined time.
8. System, comprising a butter-dish according to one of the previous claims, **characterised in that** the system also comprises a tray onto which the butter-dish can be placed, which tray is provided with an

electric circuit.

9. System according to claim 8, **characterised in that** the electric circuit is arranged for providing current to the plate-shaped heating means.

5

10. System according to claim 8, **characterised in that** the electric circuit is arranged for charging batteries, located inside the butter-dish.

10

15

20

25

30

35

40

45

50

55

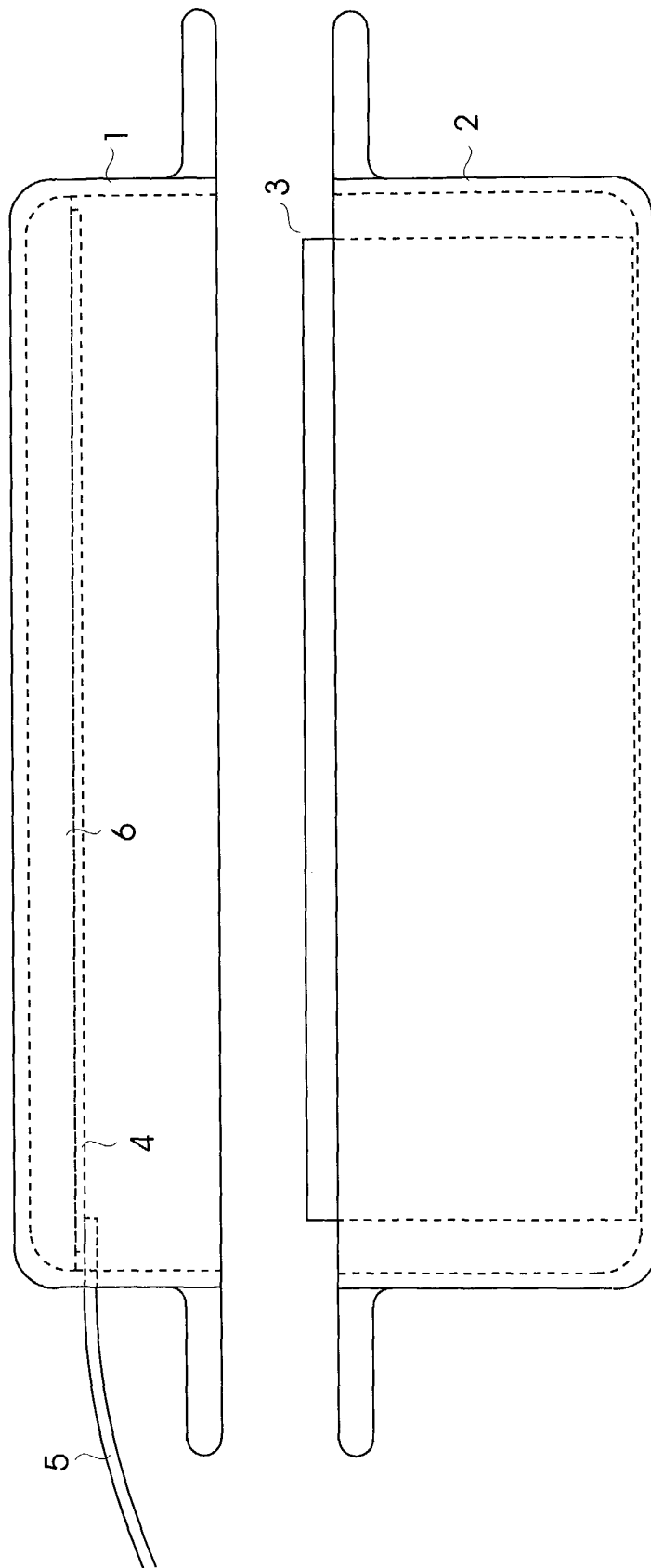


Fig. 1

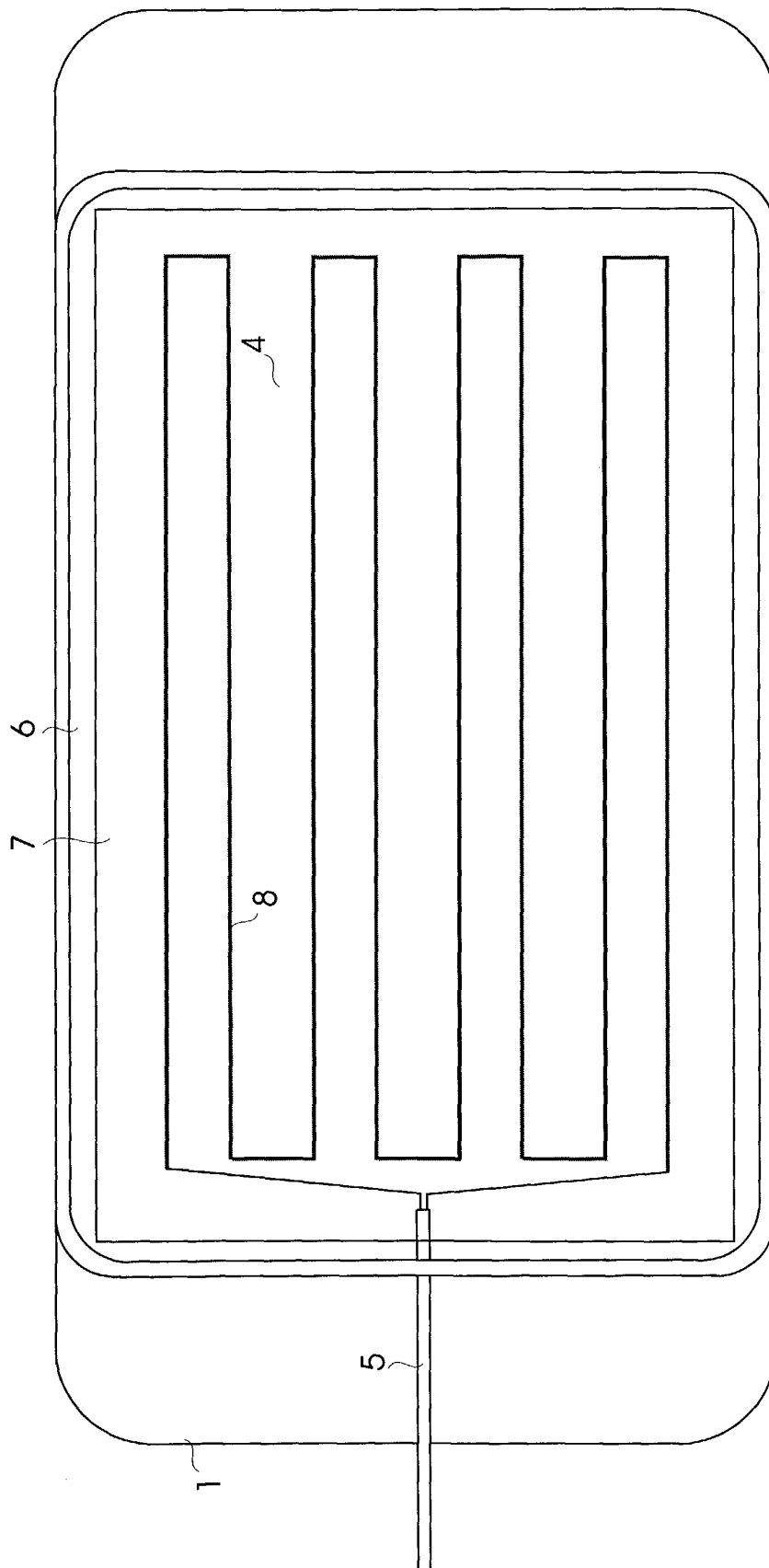


Fig. 2

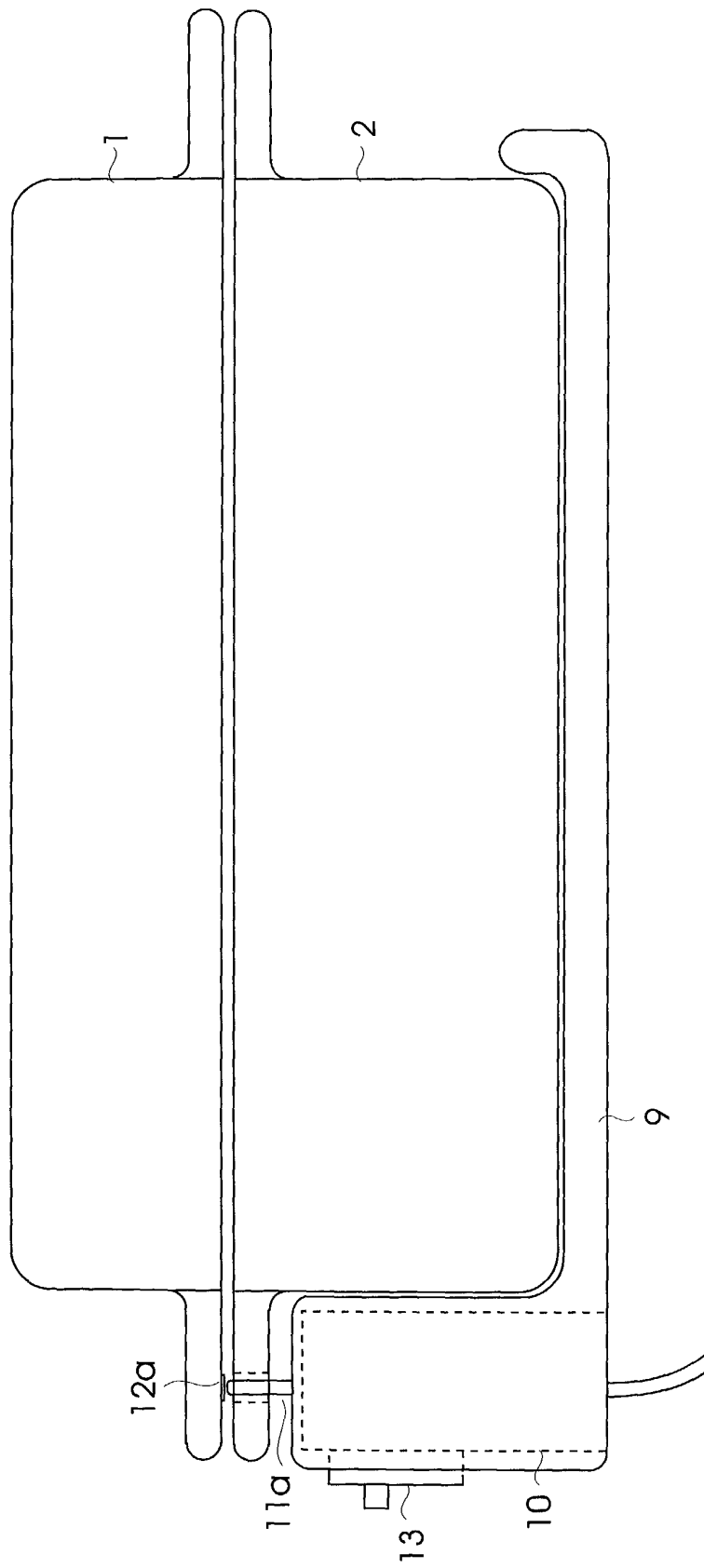


Fig. 3

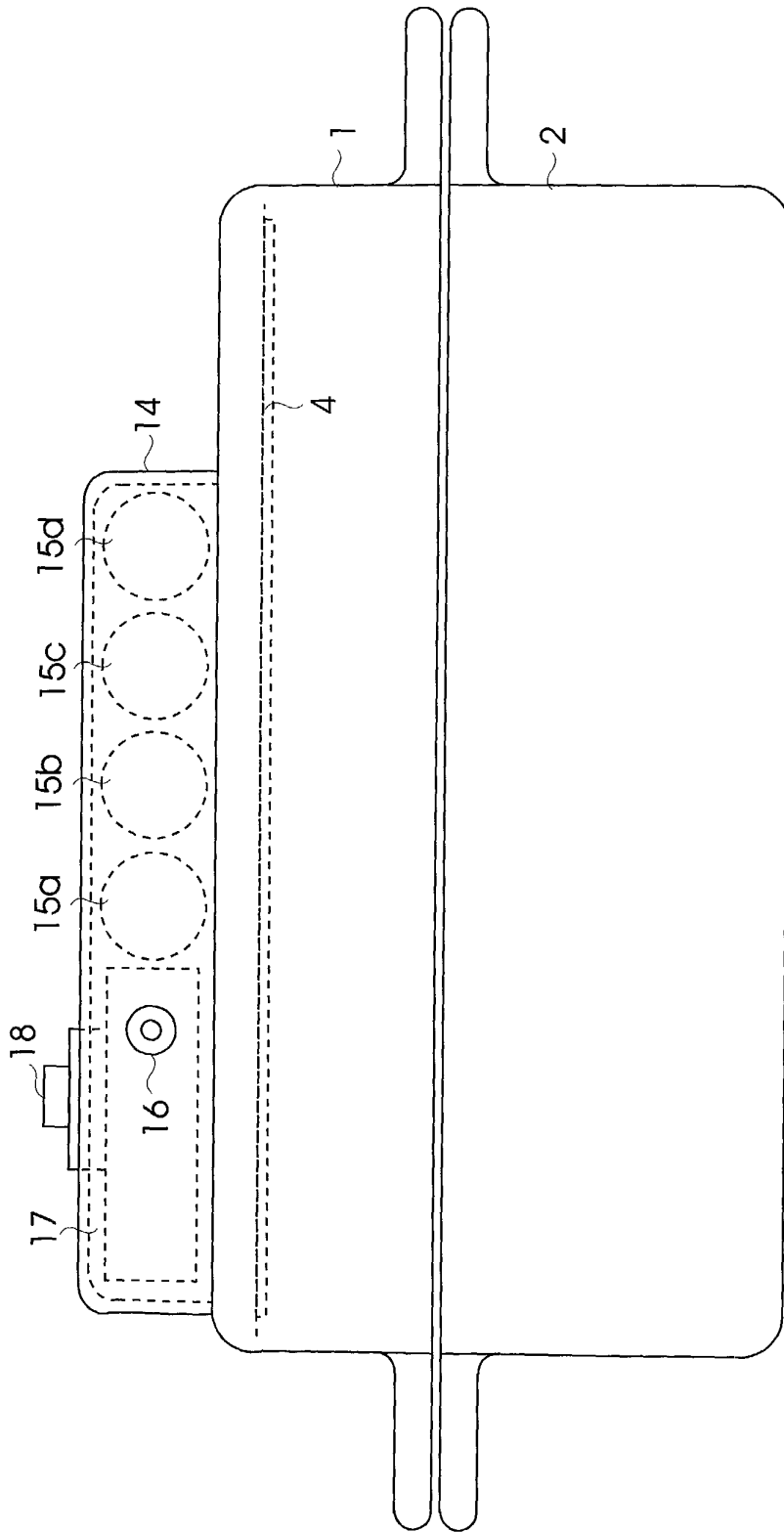


Fig. 4

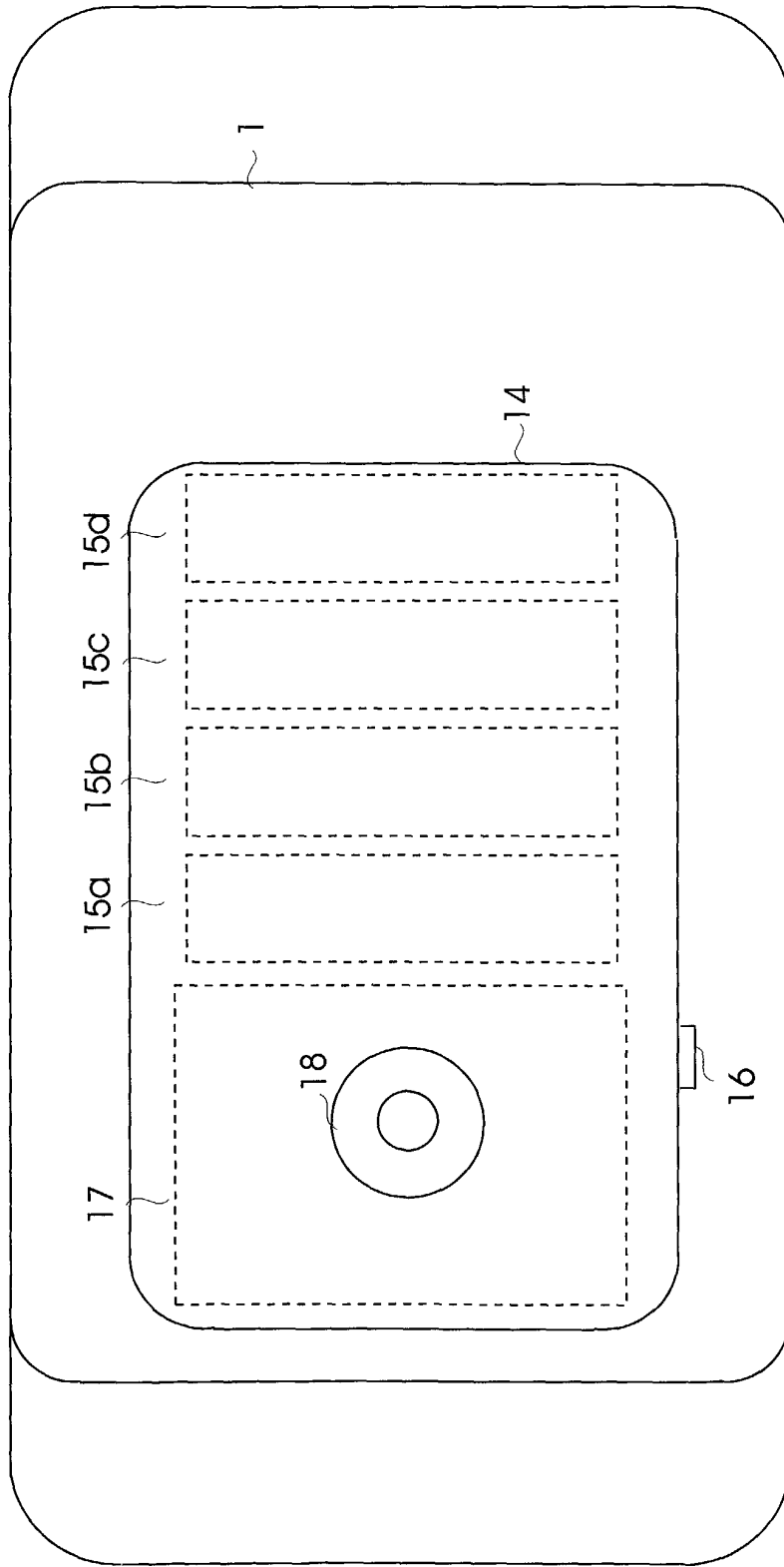


Fig. 5

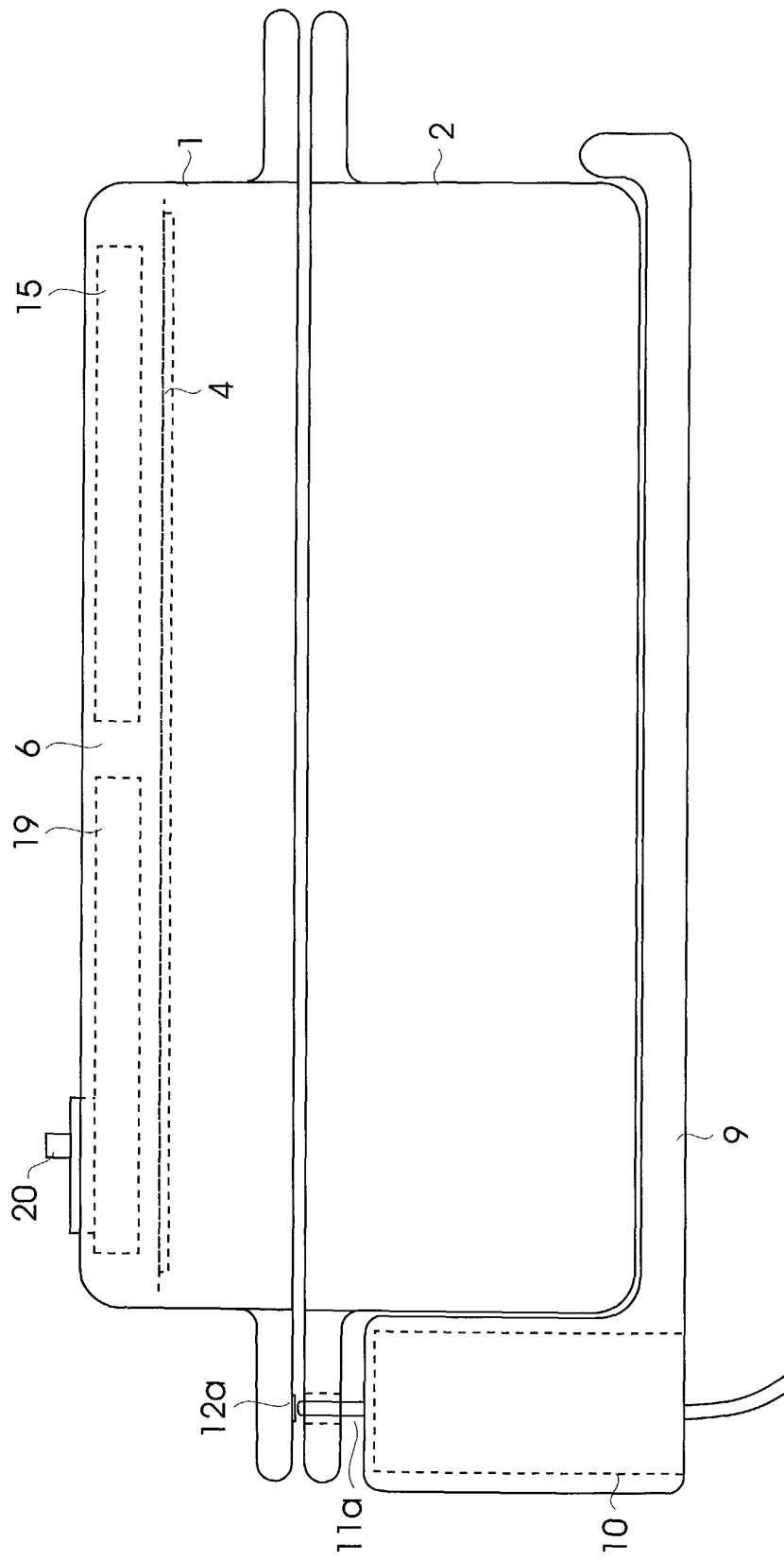


Fig. 6



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 07 6835

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)
E	EP 1 219 909 A (ELECTROLUX ZANUSSI ELETTRODOME) 3 July 2002 (2002-07-03) * the whole document *	1-9	A47G19/26
X	US 5 611 206 A (SARGENT CHARLES L) 18 March 1997 (1997-03-18) * column 2, line 24 - column 5, line 4; figures *	1,2,8,9	
Y	US 2001/004863 A1 (LE BLEVENNEC PIERRE ET AL) 28 June 2001 (2001-06-28) * abstract *	10	
X	US 4 530 344 A (GALLAGHER GAIL ET AL) 23 July 1985 (1985-07-23) * abstract * * column 1, line 4-16 * * column 2, line 4-7 * * column 3, line 63 - column 4, line 8; figures *	1-4	
X	GB 483 855 A (JOHN CHARLES SAMUEL ORLANDO HU) 27 April 1938 (1938-04-27) * the whole document *	1,2	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A47G F25D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23 September 2003	Examiner Van Bastelaere, T
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			

EPO FORM 1503 03.82 (P04C01)

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

EP 03 07 6835

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.

23-09-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1219909	A	03-07-2002	IT PN20000077 A1	28-06-2002
			EP 1219909 A2	03-07-2002

US 5611206	A	18-03-1997	NONE	

US 2001004863	A1	28-06-2001	FR 2779512 A1	10-12-1999
			CA 2333430 A1	09-12-1999
			EP 1085830 A1	28-03-2001
			WO 9962390 A1	09-12-1999
			JP 2002516686 T	11-06-2002

US 4530344	A	23-07-1985	CA 1257847 A1	25-07-1989

GB 483855	A	27-04-1938	NONE	
