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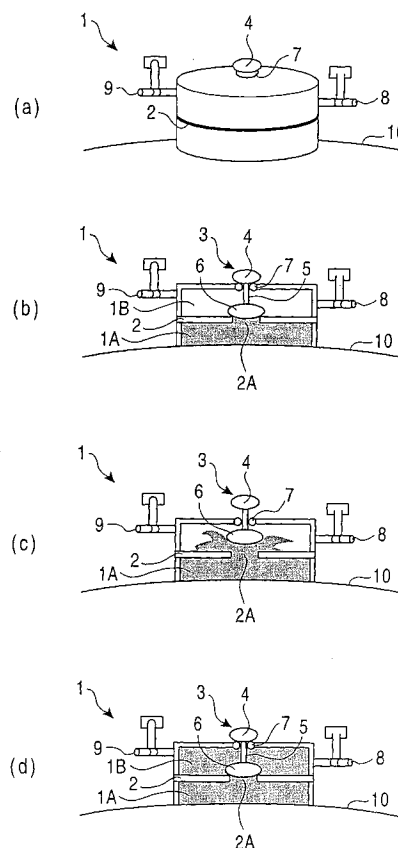
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(54) **Skin permeable gas collector and skin permeable gas measuring apparatus**

(57) An apparatus for measuring skin permeable gas is provided, wherein such an apparatus can be used to obtain clinical information by noninvasive and bloodless operations and are useful for in-home medical care and health management.

A device for collecting skin permeable gas includes a container (1) for storing skin permeable gas; a partition (2), disposed at a lower section inside the container (1), having an opening (2A) at the center thereof; and an operating member (3) for opening and closing the opening (2A) of the partition (2).

FIG. 1





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 02 1707

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 2 567 926 A (DUNKELBERGER MILTON S) 18 September 1951 (1951-09-18) * columns 1-3; figure 5 *	1	INV. A61B5/00
X	US 4 907 594 A (MUZ EDWIN [DE]) 13 March 1990 (1990-03-13) * column 3, line 60 - column 5, line 43; figures 1,2 *	1	
A	US 5 339 810 A (IVERS DAVID L [US] ET AL) 23 August 1994 (1994-08-23) * column 3, line 49 - column 5, line 35; figure 5 *	1	
A	US 5 452 717 A (BRANIGAN BRENDAN [US] ET AL) 26 September 1995 (1995-09-26) * column 5, line 23 - column 6, line 46; figures 7,9 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		15 January 2007	Chopinaud, Marjorie
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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EPO FORM 1503 03.82 (P04C01)

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claim: 1

Device for collecting skin permeable gas, comprising :
a finger-stall including a coupler; and
one or more connections that are connectable with the
coupler and include a stopcock.

2. claims: 2-3

A device for collecting/measuring a skin permeable gas
comprising a container, storing means and delivery means for
delivering the skin gas stored in the container.

3. claim: 4

Apparatus for measuring skin permeable gas, comprising :
a first container, having an opening, for storing skin
permeable gas;
a blower fan for circulating the stored skin permeable gas,
and
a measuring unit including a coloring agent placed in a path
through which the gas is circulated with the blower fan.

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

EP 06 02 1707

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
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15-01-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2567926	A	18-09-1951	NONE	
US 4907594	A	13-03-1990	DE 3723881 A1	26-01-1989
US 5339810	A	23-08-1994	CA 2166793 A1	23-11-1995
			EP 0710084 A1	08-05-1996
			JP 9504461 T	06-05-1997
			WO 9531132 A1	23-11-1995
US 5452717	A	26-09-1995	US 5337744 A	16-08-1994

专利名称(译)	皮肤渗透性气体收集器和皮肤渗透性气体测量装置		
公开(公告)号	EP1746406A3	公开(公告)日	2007-05-30
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[标]申请(专利权)人(译)	独立行政法人科学技术振兴机构		
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代理机构(译)	HOARTON , LLOYD DOUGLAS CHARLES		
优先权	2000396949 2000-12-27 JP		
其他公开文献	EP1746406A2 EP1746406B1		
外部链接	Espacenet		

摘要(译)

提供了一种用于测量皮肤可渗透气体的装置，其中这种装置可用于通过非侵入性和不流血操作获得临床信息，并且可用于家庭医疗护理和健康
管理。用于收集皮肤可渗透气体的装置包括用于储存皮肤可渗透气体的容器（1）；隔板（2），设置在容器（1）内部的下部，在其中心处具有开口（2A）；以及用于打开和关闭隔板（2）的开口（2A）的操作构件（3）。

