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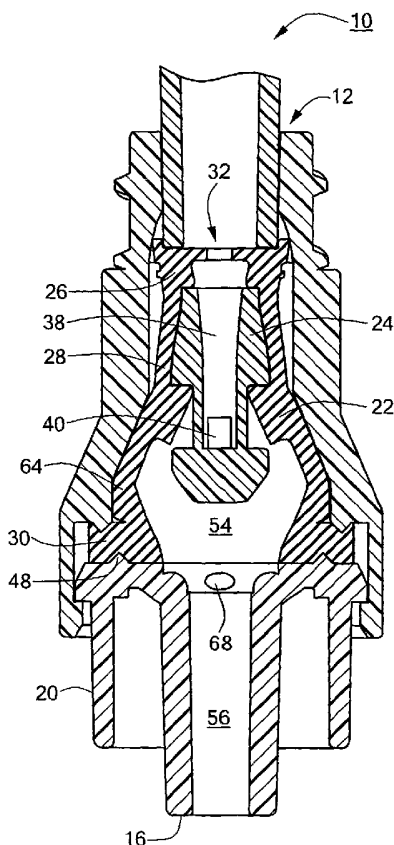
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(54) Title: MEDICAL VALVE WITH EXPANDABLE SEAL MEMBER



(57) Abstract: A medical valve has a resilient member (22) that is forcibly expanded to an expanded volume from a normal volume. Specifically, the valve operates in a closed mode that prevents fluid flow, and an open mode that permits fluid flow. To these ends, the valve has a housing having an inlet and an outlet, and the noted resilient member (22) within the housing. The resilient member and housing form a fluid channel between the inlet and the outlet. The fluid channel at least in part extends through the resilient member (22). The fluid channel at least in part extends through the resilient member. The fluid channel has a given portion formed by a variable volume portion (54) of the resilient member. The variable volume portion (54) has a normal volume when in the closed mode, and an expanded volume when in the open mode. The expanded volume is greater than the normal volume.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/26443

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M39/26 A61M39/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 22178 A (NYPRO INC ;COTE ANDREW L SR (US)) 28 May 1998 (1998-05-28) abstract; figures 4-29	1-9
X	US 6 245 048 B1 (FANGROW JR THOMAS F ET AL) 12 June 2001 (2001-06-12) column 1, line 32 -column 2, line 63; figures 22-25,30,31,51,52	1-9
X	WO 98 26835 A (ICU MEDICAL INC) 25 June 1998 (1998-06-25) figures 18A-D	1-9
A	WO 01 20218 A (HISHIKAWA YOSHINORI ;TERUMO CORP (JP)) 22 March 2001 (2001-03-22) figures 11-14	1-9

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

14 February 2003

Date of mailing of the international search report

06/03/2003

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/26443

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 10-30
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 10-30

In view of the plurality of independent claims in the same category, which effectively refer to the same subject-matter and overlap in scope, it is difficult, if not impossible, to determine the matter for which protection is sought. Thus, the present application fails to comply with the clarity and conciseness requirements of Article 6 PCT (see also Rule 6.1(a) PCT) to such an extent that a meaningful search is impossible. Consequently, the search has been carried out for those parts of the application which do appear to be clear (and concise), namely claims 1-9.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

 Inte al Application No
 PCT/US 02/26443

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