SYSTEM AND METHOD FOR PROVIDING A TEMPERED FLUID

The present invention is directed to methods and apparatus for tempering the temperature of a liquid in a fluid conducting system. More particularly, the invention relates to tempering the temperature of water supplied to a fixture from a water heater in a fluid conducting system.
Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
26 April 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

**IPC:**

A61H 33/00 (2006.01)

**USPC:** 004/620

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)

U.S.: 004/620

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 practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 2001/00502981 A1 (DEAVILA) 20 December 2001 (20.12.2001), See Figs. 1 and 13</td>
<td>1.3-5,7-9,13-14,18,52-54,56-57,61-63</td>
</tr>
<tr>
<td>Y</td>
<td>US 5.647.531 A (KLING et al) 15 July 1997 (15.07.1997), See the abstract.</td>
<td>2.6.10-12,19-21,55,58</td>
</tr>
<tr>
<td>Y</td>
<td>US 4,084,270 A (KERSTEN, Jr.) 18 August 1978 (18.08.1978), See col. 2, line 20.</td>
<td>2</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,381,567 A (TANNER et al) 17 January 1995 (17.01.1995), See elements 94 and 95</td>
<td>10-12,19,60</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

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 application or patent 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
- "I" 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, with 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: 31 January 2007 (31.01.2007)

Date of mailing of the international search report: 08 MAR 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US Commission for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Charles E. Phillips

Telephone No. 571-272-4893

Form PCT/ISA/210 (second sheet) (April 2005)
INTERNATIONAL SEARCH REPORT

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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:

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:</td>
</tr>
<tr>
<td>2.</td>
<td>Claims Nos.: 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:</td>
</tr>
<tr>
<td>3.</td>
<td>Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).</td>
</tr>
</tbody>
</table>

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid. The groups and reasons for lack of unity are set forth on the 206 of 30 August 2006.

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>1.</td>
<td>As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.</td>
</tr>
<tr>
<td>2.</td>
<td>As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.</td>
</tr>
<tr>
<td>3.</td>
<td>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.:</td>
</tr>
<tr>
<td>4.</td>
<td>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.: 1-21 and 51-63</td>
</tr>
</tbody>
</table>

Remark on Protest

- The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet(2)) (April 2005)