Title: SOLAR POWERED DOMESTIC WATERHEATING AND VENTILATION OF ENCLOSED SPACES VIA HEATED VENTILATION DUCT

Abstract: A method of, and a system for promoting the flow of air from a lower location to an upper location, the method comprising: using heat from a heat source to provide a first heat store; and making a secondary use of heat from said heat source to power a heating device for heating an air conduit connecting said lower and upper locations; wherein said secondary use of heat from said heat source is controlled on the basis of an indicator of whether or not there is an excess of heat in the heat store.
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Date of publication of the international search report: 27 November 2008
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

INV. F24F 7/04

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)

F24F    F240

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

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

EPO-Internal, WPI Data

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>
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<tbody>
<tr>
<td>A</td>
<td>US 4 706 471 A (ALEXANDER LOUIS E [US]) 17 November 1987 (1987-11-17) claim 1; figures 1-6</td>
<td>1-9, 16, 22</td>
</tr>
<tr>
<td>A</td>
<td>US 4 040 566 A (CHIARELLI CARL) 9 August 1977 (1977-08-09) column 1, lines 41-45 - column 3, lines 26-58; figure 1</td>
<td>1-9</td>
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<tr>
<td>A</td>
<td>DE 197 30 691 A1 (SUCHY BURKHARD DIPL. ING [DE]) 21 January 1999 (1999-01-21) column 1, line 57 - line 67; claims 1-4; figure 2</td>
<td>1-9</td>
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X See patent family annex.

Date of the actual completion of the international search 27 June 2008

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Authorized officer

Decking, Oliver
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.: 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:

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).

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

see additional sheet

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 fees, this Authority did not invite payment of additional fees.

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.:

see additional sheet(s)

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.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9, 16, 22

   a method of promoting the flow of air from a lower location to an upper location,
   the system comprising:
   a) a heat source
   b) a first heat store
   c) a heating device powered by a secondary use of heat from said heat source and for heating an air conduit connecting said upper and lower locations,
   wherein said secondary use is controlled on the basis of an indicator whether there is and excess of heat in the heat store.

2. claims: 10-12

   a system for respectively a method of promoting the flow of air through a lower location into which a heated fluid is introduced via a heated fluid outlet, wherein the system includes:
   a device for heating and air conduit connecting said lower location to an upper location.

3. claims: 13, 14

   a system for respectively a method of promoting the flow of air between a first lower location and an upper location, the system including:
   a) an air conduit connecting first lower and upper location and
   b) a device for heating at least a portion of said air conduit to promote the flow of air up from the first lower location, wherein said air conduit also connects said upper location to a second lower location, and wherein said system further includes
   c) a valve between said upper location and said second lower location so as to impede the flow of air from said first lower location to said second lower location via said air conduit.

4. claims: 15, 17

   a system for respectively a method of ventilating and enclosed space containing a volume V m³ of air, the system including:
   a) an air conduit and
   b) a heating device wherein the air conduit has a cross-sectional area A m², and wherein V > 0,000015 x A.
5. claims: 18,19

A device for controlling the intake of air into an enclosed space, the device including:
a) a first path for the intake of air into said enclosed space via between the panes of a multi-glazed window and
b) a second path for the intake of air into said enclosed space other than via between said panes of multi-glazed window panel, wherein the device is configured such that the opening of either of the first and second paths automatically closes the other of the first and second paths.

6. claims: 20, 21,23

A system for respectively method of recovering heat from air rising out of an enclosed space via an air conduit, the system including:
a device for actively controlling the transfer of heat away from said air on the basis of an indicator of the flow rate of the air through said air conduit.

7. claims: 24, 25

A system for respectively a method of promoting the flow of air from a lower location to an upper location, the system including:
one or more fluid circuits for transferring heat from a heat source via a heat reservoir to air in an air conduit connecting said lower and upper locations; wherein said heat reservoir includes a tank of fluid of having a cross-sectional area larger than that of one or more fluid conduits constituting said one or more fluid circuits.

8. claims: 26,27

A system for respectively a method of promoting the air flow from a lower location to an upper location, wherein the system includes:
a heat source and the system is configured to actively control the rate of transfer of heat from the heat source to air in an air conduit connecting said lower and upper locations.

9. claims: 28,29
a method of and a system for promoting the flow of air from an lower location to an upper location, the system comprising:
one or more fluid circuits for transferring heat from a heat source via a heat reservoir to air in an ir conduit connecting said lower and upper locations, wherein said heat reservoir has a heat capacity greater than the combined heat capacity of said fluid circuits.
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<th>Publication date</th>
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<tbody>
<tr>
<td>US 4706471 A</td>
<td>17-11-1987</td>
<td>NONE</td>
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<td>US 4040566 A</td>
<td>09-08-1977</td>
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<td>D 19730691, A1</td>
<td>21-01-1999</td>
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