<table>
<thead>
<tr>
<th>(54)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home cooling from sub floor space</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(51)</th>
<th>International Patent Classification(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F24F 7/007 (2006.01)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(21)</th>
<th>Application No: 2007100258</th>
</tr>
</thead>
<tbody>
<tr>
<td>(22)</td>
<td>Date of Filing: 2007.03.30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(45)</th>
<th>Publication Date: 2007.05.03</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Publication Journal Date: 2007.05.03</td>
</tr>
<tr>
<td></td>
<td>Granted Journal Date: 2007.05.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(71)</th>
<th>Applicant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peter Gardener</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(72)</th>
<th>Inventor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gardener, Peter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(74)</th>
<th>Agent / Attorney</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peter Gardener, 37 Wells Rd, Mirboo North, VIC, 3871</td>
</tr>
</tbody>
</table>
ABSTRACT

HOME COOLING SYSTEM AND ROOM TO ROOM HEAT TRANSFER SYSTEM

SYNOPSIS

Many older existing houses and many of those recently built have a sub-floor cavity between floor material and ground. The sub-floor space is usually at a temperature several degrees less than the inside temperature of the house.

An electronically controlled fan pumps the cool air from the sub-floor space through a main vent or through ducts to separate rooms.

This electronically controlled fan could also be used to equalize temperature within the house, either between different rooms or over very large open spaces.

DETAIL

A 240V electric fan is used to push cool air from the sub-floor space either through a main vent or through a distribution box and standard ducting to vents in the selected rooms. The distribution box may have as many outlets as required but a fan of appropriate size would be needed to service more outlets. A standard off the shelf fan would mean that if replacement was needed in the future, it could be done with a minimum of cost and ease.

1. Manual Control

An in-line thermostat controls the temperature at which the fan begins and shuts off. Typically the thermostat would have a shut off temperature of about 2 C. lower than the turn on temperature. The control would be located in a room of the house which would allow some variation between seasons as to the turn on/off temperature.

2. Fully Automatic Control

An electronic system has been developed with sensors in both the house and the sub-floor space which would activate the fan to operate on a temperature gradient for cooling. For example in warmer weather the fan could be set to turn on when the temperature in the house exceeded that in the sub-floor space by 2 C.

A safety aspect is that the under floor sensor is built into a smoke detector so that in the event of a fire the fan is switched off, thus preventing fire from being drawn into the home.

3. A large filter could be located in the distribution box but a better system is to have smaller filters located accessible at each outlet in the rooms. The filter would need to be a particle filter to filter out dust with a coarser filter on the inlet to stop insects and other creatures having an entry point to the home. The vents at each room would be of an adjustable type to allow them to be turned off if required.

4. The fan unit could be mounted under the floor, in the home, or externally with an inlet vent to the sub-floor space and ducting to rooms.

COOLING FAN KEY FEATURES
1. Uses cool air from a 'FREE' supply.
2. Only operates when there is an advantage to be gained.
3. Can be set for fully automatic operation or manually controlled.
4. Can be used for cooling or temperature equalization.
5. Has smoke alarm incorporated in its design as a safety feature.
6. Fan speed option for noise reduction.
7. Electronic control can be attached to any fan.
8. DIY installation possible.
9. One controller unit may operate several fans.

Peter Gardener 03/07
DESCRIPTION

HOME COOLING SYSTEM AND ROOM TO ROOM HEAT TRANSFER SYSTEM

SYNOPSIS

Many older existing houses and many of those recently built have a sub-floor cavity between floor material and ground. The sub-floor space is usually at a temperature several degrees less than the inside temperature of the house.

An electronically controlled fan pumps the cool air from the sub-floor space through a main vent or through ducts to separate rooms.

This electronically controlled fan could also be used to equalize temperature within the house, either between different rooms or over very large open spaces.

DETAIL

A 240V electric fan is used to push cool air from the sub-floor space either through a main vent or through a distribution box and standard ducting to vents in the selected rooms. The distribution box may have as many outlets as required but a fan of appropriate size would be needed to service more outlets. A standard off the shelf fan would mean that if replacement was needed in the future, it could be done with a minimum of cost and ease.

1. Manual Control
An in-line thermostat controls the temperature at which the fan begins and shuts off. Typically the thermostat would have a shut off temperature of about 2 C. lower than the turn on temperature. The control would be located in a room of the house which would allow some variation between seasons as to the turn on/off temperature.

2. Fully Automatic Control
An electronic system has been developed with sensors in both the house and the sub-floor space which would activate the fan to operate on a temperature gradient for cooling. For example in warmer weather the fan could be set to turn on when the temperature in the house exceeded that in the sub-floor space by 2 C.
A safety aspect is that the under floor sensor is built into a smoke detector so that in the event of a fire the fan is switched off, thus preventing fire from being drawn into the home.

3. A large filter could be located in the distribution box but a better system is to have smaller filters located accessible at each outlet in the rooms. The filter would need to be a particle filter to filter out dust with a coarser filter on the inlet to stop insects and other creatures having an entry point to the home. The vents at each room would be of an adjustable type to allow them to be turned off if required.

4. The fan unit could be mounted under the floor, in the home, or externally with an inlet vent to the sub-floor space and ducting to rooms.
COOLING FAN KEY FEATURES

1. Uses cool air from a 'FREE' supply.
2. Only operates when there is an advantage to be gained.
3. Can be set for fully automatic operation or manually controlled.
4. Can be used for cooling or temperature equalization.
5. Has smoke alarm incorporated in its design as a safety feature.
6. Fan speed option for noise reduction.
7. Electronic control can be attached to any fan.
8. DIY installation possible.
9. One controller unit may operate several fans.

Peter Gardener 03/07
Diag. 1 Fan to pump cool air from sub-floor into home.

Peter Gardener 03/07