US 20050139209A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0139209 A1**

Deng (43) **Pub. Date: Jun. 30, 2005**

(54) **INSULATED FIREPLACE**

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(21) Appl. No.: **10/747,545**

(22) Filed: **Dec. 26, 2003**

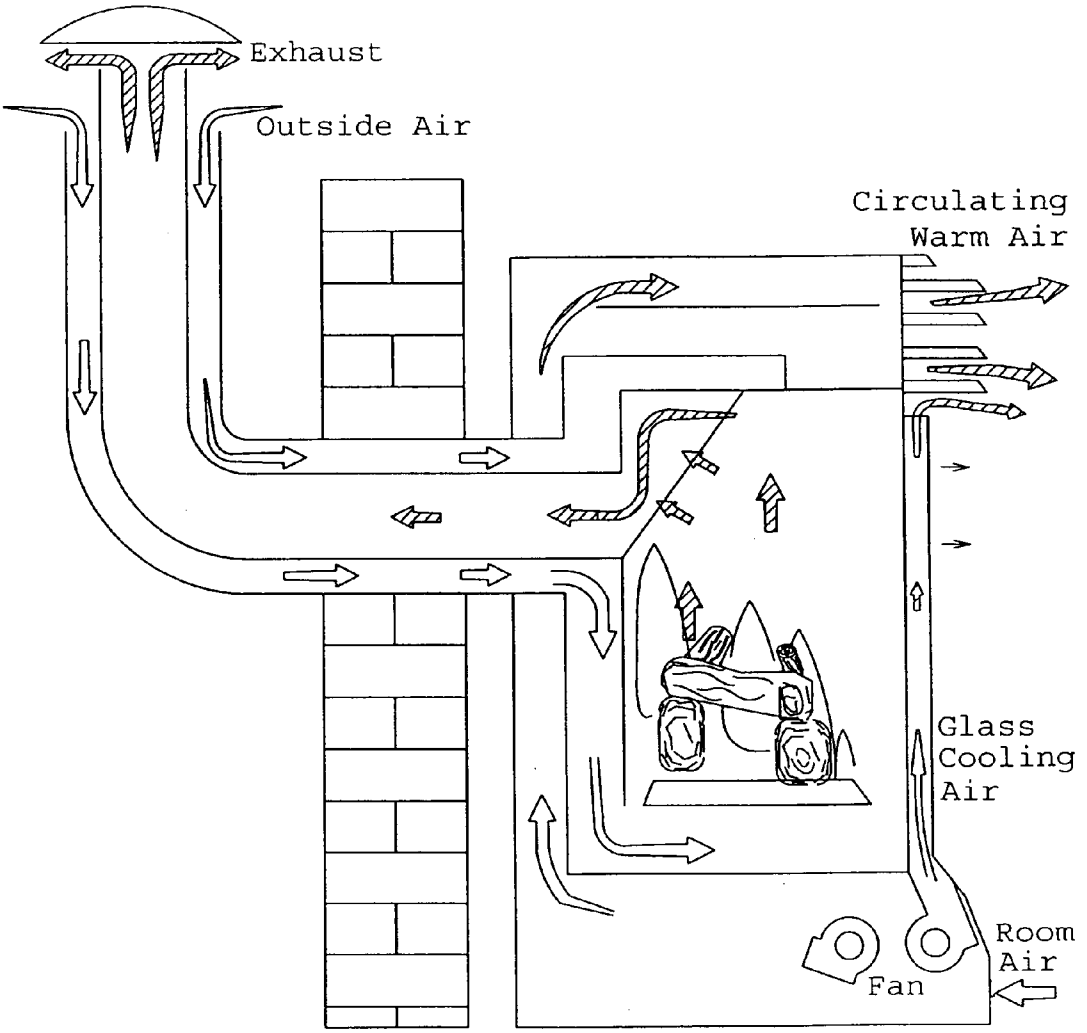
Publication Classification

(51) **Int. Cl.**[7] **F24C 5/00**; F24C 3/00

(52) **U.S. Cl.** ..... **126/512**; 126/85 B; 126/198

(57) **ABSTRACT**

An insulated glass design for a fireplace comprising two layers of glasses separated by a thin layer of air space with free flowing air through the air space to cool the glasses. In the preferred embodiment, a fan is placed under the two layers of glasses to force cooler air through the air space to remove the heat from the two layers of glasses quickly and more effectively. The insulated glass design will effectively and greatly reduce the surface temperature of the glass such that skin burns due to contact with the glass is minimized or eliminated.



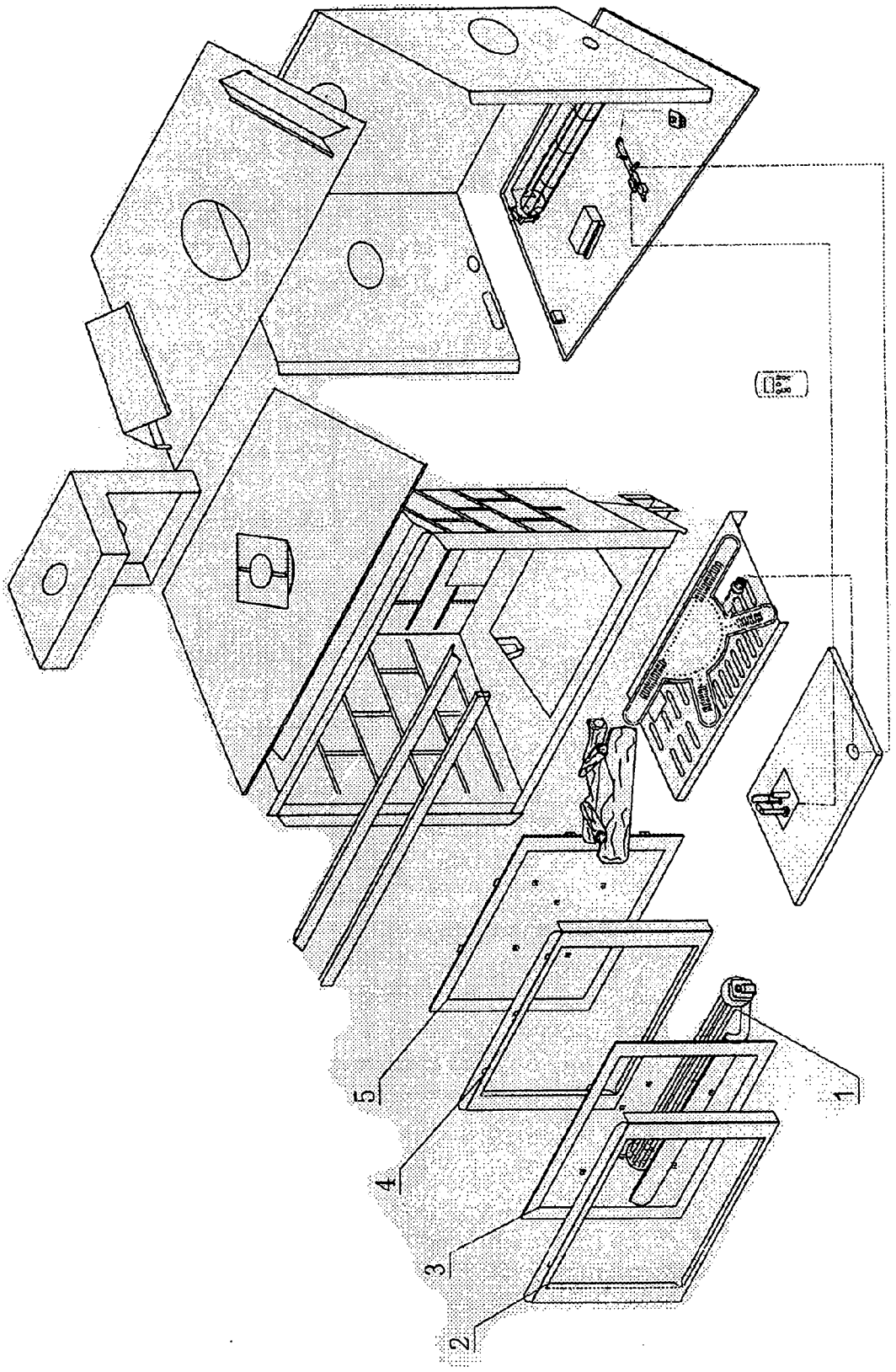


Figure 1

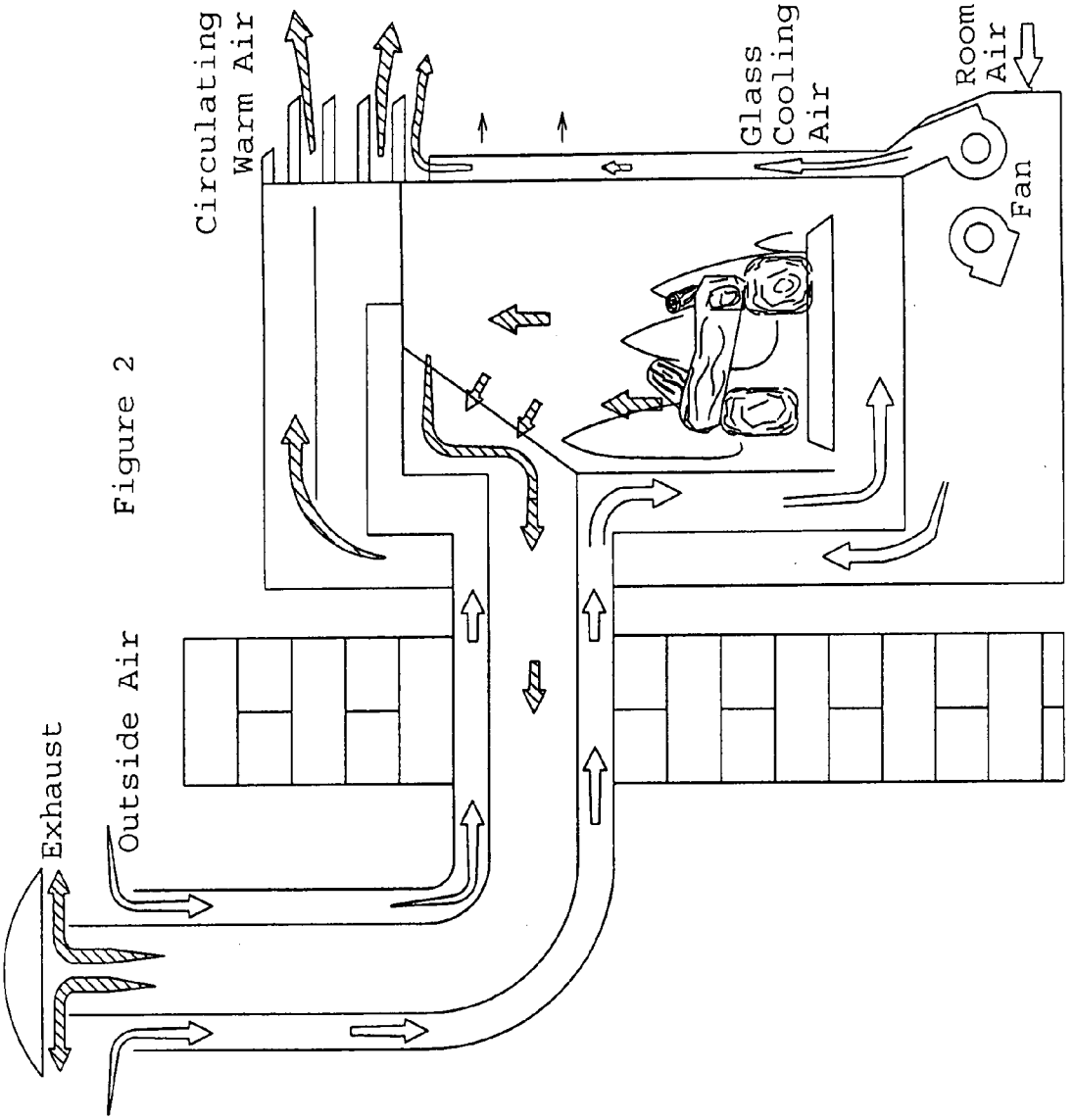

Circulating Warm Air
Glass Cooling Air
Room Air
Fan
Outside Air
Exhaust

Figure 2

INSULATED FIREPLACE

BACKGROUND FIELD OF INVENTION

[0001] The present invention relates generally to an enclosed fireplace. More specifically, the present invention relates to an insulated glass design for a fireplace.

BACKGROUND-DESCRIPTION OF RELATED ART

[0002] Fireplaces are often used to heat a home. Fireplaces are also an aesthetic addition to the decor in the home. The fireplace may use real wood logs or natural gas with artificial simulated fire logs to generate heat. The fire that is burning in the fireplace is at a very high temperature. Generally, a shield such as clear high temperature glass is used to shield the flame from the inside of the home and to prevent accidental contact with the flame. However, the high temperature glass itself is heated to such a high temperature that mere contact with the glass will result in burns to the skin. This poses dangers to people around the fireplace, particularly when curious children are playing around the fireplace. Furthermore, the high temperature glass is very expensive compare to other types of glass.

SUMMARY OF THE INVENTION

[0003] The present invention is an insulated glass design for a fireplace. The insulated glass design comprises of two layers of glasses separated by a thin layer of air space with free flowing air through the air space to cool the glasses. In the preferred embodiment, a fan is placed under the two layers of glasses to force cooler air from inside the room through the air space and back out into the room to remove the heat from the two layers of glasses quickly and more effectively. The insulated glass design will effectively and greatly reduce the surface temperature of the glass such that skin burns due to contact with the glass is minimized or eliminated.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] **FIG. 1** shows the exploded view of the insulated fireplace with the two layers of glasses and a fan.

[0005] **FIG. 2** shows a side view of the insulated fireplace with the two layers of glasses and a fan.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0006] **FIG. 1** shows an exploded view of the preferred embodiment of the insulated fireplace. A first layer of glass **5** in affixed to the front of a conventional fireplace with a frame **4**. A second layer of glass **3** is affixed in front of the first layer of glass **5** with a second frame **2**. The first layer of glass **5** and the second layer of glass **3** is separated by a thin layer of air space that allows air to enter between the layers of glasses from the bottom and exit through the top to carry away the heat from the two layers of glasses **3, 5**. The two sides of the air space are sealed by the second frame **2**. The two layers of glasses **3, 5** are affixed to the front of a conventional fireplace. A fan **1** is affixed under the two layers of glasses **3, 5** to force air through the thin layer of air space to cool the two layers of glasses **3, 5** more quickly and effectively.

[0007] As shown in **FIG. 2**, the fan **1** will pull air from inside the room to force cooler air from inside the room through the air space from the bottom and through the top and circulate back out into the room to remove the heat from the two layers of glasses **3, 5** quickly and more effectively. The insulated glass design will effectively and greatly reduce the surface temperature of the glass such that skin burns due to contact with the glass is minimized or eliminated.

[0008] The design of two layers of glasses with an air space between them can be easily adapted to be used in 3-sides fireplaces that are in some homes. The design may also be adapted easily for use in stoves and heaters such as portable electric heaters and gas direct vent heaters. In addition, since the surface temperature of the glasses are greatly reduced, less expensive and easily molded plastic may be used in place of the second layer of glass. Naturally, since expensive high temperature glasses are no longer necessary, various other types of less expensive glasses may also be used for the glass layers.

[0009] Although the description above contains many specificities, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. Thus the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given.

What is claimed is:

1. An insulated fireplace comprising a fireplace with a first layer and a second layer of glasses separated by a thin layer of air space affixed to the front of the fireplace wherein free flowing air may move between the two layers of glasses through the air space to cool the glasses.

2. An insulated fireplace as in claim 1, wherein a fan is affixed under said two layers of glasses to force cooler air from inside the room through the air space and back out into the room to remove the heat from the two layers of glasses quickly and more effectively.

3. An insulated fireplace as in claim 1, wherein said second layer of glasses is replace with a plastic sheet which is made possible due to the cooler temperature of the second layer.

4. An insulated fireplace as in claim 1, wherein said fireplace comprises a 3-sided fireplace with two layers of glasses separated by a thin layer of air space affixed to each of the three sides of the fireplace wherein free flowing air may move between the two layers of glasses through the air space to cool the glasses.

5. An insulated fireplace as in claim 4, wherein a fan is affixed under said two layers of glasses to force cooler air from inside the room through the air space and back out into the room to remove the heat from the two layers of glasses quickly and more effectively.

6. An insulated fireplace as in claim 4, wherein said second layer of glasses is replace with a plastic sheet which is made possible due to the cooler temperature of the second layer.

7. An insulated fireplace as in claim 5, wherein said second layer of glasses is replace with a plastic sheet which is made possible due to the cooler temperature of the second layer.

8. An insulated fireplace as in claim 2, wherein said second layer of glasses is replace with a plastic sheet which is made possible due to the cooler temperature of the second layer.

9. A heater with two layers of glasses separated by a thin layer of air space affixed to the front of the heater wherein free flowing air may move between the two layers of glasses through the air space to cool the glasses.

10. A heater as in claim 9, wherein a fan is affixed under said two layers of glasses to force cooler air from inside the room through the air space and back out into the room to remove the heat from the two layers of glasses quickly and more effectively.

11. A heater as in claim 9, wherein said second layer of glasses is replaced with a plastic sheet which is made possible due to the cooler temperature of the second layer.

12. A heater as in claim 10, wherein said second layer of glasses is replaced with a plastic sheet which is made possible due to the cooler temperature of the second layer.

13. A stove with two layers of glasses separated by a thin layer of air space affixed to the front of the heater wherein free flowing air may move between the two layers of glasses through the air space to cool the glasses.

14. A stove as in claim 13, wherein a fan is affixed under said two layers of glasses to force cooler air from inside the room through the air space and back out into the room to remove the heat from the two layers of glasses quickly and more effectively.

15. A heater as in claim 13, wherein said second layer of glasses is replaced with a plastic sheet which is made possible due to the cooler temperature of the second layer.

16. A heater as in claim 14, wherein said second layer of glasses is replaced with a plastic sheet which is made possible due to the cooler temperature of the second layer.

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