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Remarks:

Amended claims in accordance with Rule 86 (2) EPC.

(54) **A system for removably covering the front opening of the burning compartment of a closed fireplace**

(57) The present invention relates to closed fireplaces. In particular, the present invention relates to systems used to cover the front opening of the burning compart-

ment of such closed fireplaces. More specifically, the present invention provides a closing system that is safer and more user-friendly.

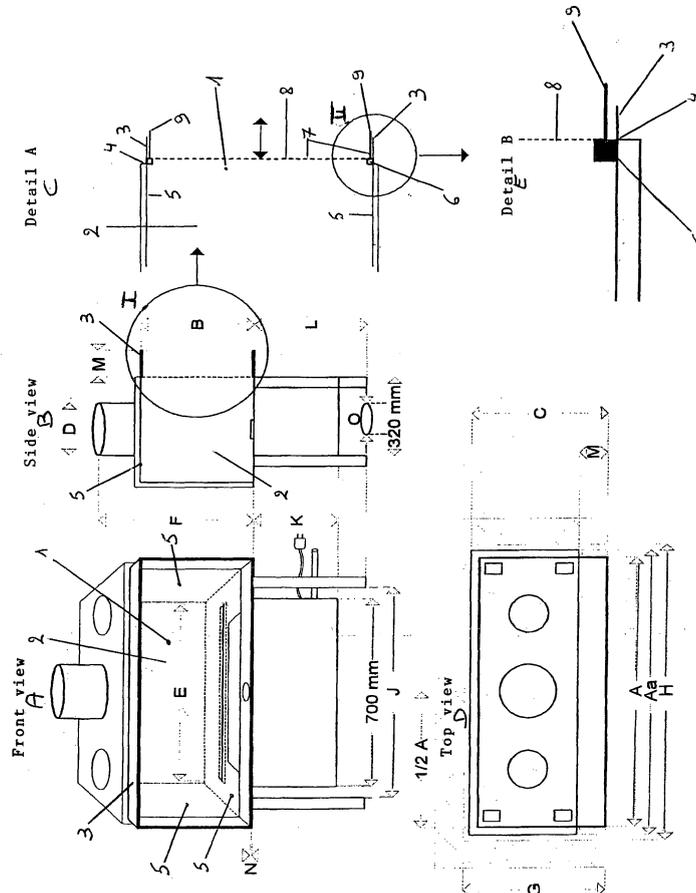


Fig. 1

Description

Field of the Invention

[0001] The present invention relates to closed fireplaces. In particular, the present invention relates to systems used to cover the front opening of the burning compartment of such closed fireplaces. More specifically, the present invention relates to closing systems that are safer and more user-friendly.

Background to the Invention

[0002] In closed fireplaces, the actual place where burning of material (e.g. gas or wood) occurs, is separated from the surrounding environment by walls, thereby creating a distinct burning compartment. Most closed fireplaces however comprise a substantially open side that permits visual observation and access to the burning compartment.

[0003] In recent years, closed fireplaces became a popular component of the interior furnishings of buildings such as homes or offices. Especially desired are closed fireplaces which can be largely incorporated within a wall, so that the open side of the burning compartment faces the surrounding environment, thus allowing for visual observation of the burning compartment, while most other parts of the closed fireplace remain hidden to the sight.

[0004] The widespread use of closed fireplaces in e.g. households increased the requirements for the safety of these appliances. One potential risk associated with the use of closed fireplaces is that the burning material may give off e.g. sparkles that may exit the burning compartment through its open side and consequently spread the fire to the surroundings. Another possible risk is that an unsuspecting person, such as a child, may come in close contact with the burning material inside the burning compartment through the open side of the latter, and may sustain burn injuries.

[0005] To avoid such risks, closed fireplaces are often fitted with a cover substantially covering the open side of the burning compartment. Mainly, such covers are at least partially made of a substantially transparent material, e.g. glass, which allows for the visual observation of the burning material.

[0006] Such covers may be non-removable, i.e. they cannot be easily displaced from and placed back onto the open side of the burning chamber by the user. Alternatively, such covers may be removable, i.e. they can be rather easily displaced from and placed back onto the open side of the burning chamber by the user. However, currently existing embodiments of each of the above arrangements of the covers has distinct disadvantages.

[0007] For example, the non-removable covers do not permit the user to access the interior of the burning chamber. Therefore, fireplaces furnished with non-removable covers cannot be used to burn material, which needs to be regularly added into the burning chamber by the user,

or the burning of which produces ashes and leftovers remaining in the burning chamber that need to be regularly removed by the user. For example, wood — an otherwise highly desirable material for using in closed fireplaces — belongs to such materials.

[0008] The currently existing embodiments of the removable covers usually comprise a door suspended on hinges located on one border of the exposed surface of the closed fireplace. Such door may also contain a handle that facilitates opening and fastening of the door. Although such door allows the user to easily access the burning chamber, it does not satisfactorily solve the issue of safety. For example, an unsuspecting person, such as a child, may still accidentally use the handle to open the door and consequently come in close contact with the burning material inside the burning compartment, thus perhaps sustaining burn injuries. Another problem associated with the use of such doors is that the additional elements - e.g. hinges or handles - tend to wear out with prolonged use and may consequently block or hinder the opening of the door, or may also produce unpleasant sounds, e.g. squeaking sounds, when the door is used.

[0009] Consequently, the goal of the present invention is to provide a system to cover the open side of the burning compartment of closed fireplaces, the system comprising a cover that can be easily detached from and attached back to the open side of the burning chamber by an informed user, but that cannot be opened by an unformed and unsuspecting individual, such as a child. An additional advantage of the system provided by the present invention is that it does not comprise any potentially malfunctioning elements, such as handles or hinges.

Summary of the Invention

[0010] The present invention provides a novel, improved system for removably covering the front opening (1) of a burning compartment (2) of a closed fireplace (see Figure 1A-E). The closed fireplace as understood in the context of the present invention comprises a substantially open side permitting access through said front opening to the interior of the burning compartment. Consequently, the system provided by the present invention aims to removably cover this substantially open side of said closed fireplace.

[0011] The system provided by the present invention comprises an outer frame (3) attached to the front edges (4) the walls of the burning compartment (2). The walls may include any or all of the lateral walls and the upper and lower walls (5) of the burning compartment. In this context, the term "front edges" denotes the edges of the walls of the burning compartment closest to the front opening of the burning compartment.

[0012] The system provided by the present invention further comprises a cover (7) for covering the front opening of the burning compartment. Said cover comprises at least two parts: a substantially flat member (8) and a

frame (9) that encloses the edges, i.e. any or all of the lateral edges and the upper and lower edges, of the substantially flat member. Within the present invention, a useful form and size of the flat member is substantially similar to, but smaller than the front opening outlined by the outer frame attached to the burning compartment. In comparing the dimensions (i.e. the width and breadth) of said substantially flat member of the cover with the dimensions of said front opening outlined by the outer frame attached to the burning compartment, the possible increases in the width and/or breadth of the substantially flat member of the cover contributed by the frame enclosing its edges, should be taken into consideration. Preferably, the dimensions (i.e. the width and breadth) of the substantially flat member extended with the frame enclosing its edges should be substantially similar to but smaller than the corresponding dimensions of the front opening outlined by the outer frame attached to the burning compartment, so that the entire cover is capable of being fitted inside of said front opening.

[0013] The system provided by the present invention further comprises at least one backing member (6), that may be attached to the inner surface of the lateral walls and/or the upper and lower walls of the burning compartment or to the inner surface of the outer frame attached to the burning compartment.

[0014] In the present invention, the cover may be easily slid into the front opening outlined by the outer frame attached to the burning compartment and the sliding of the cover can proceed until one or more parts of the cover come to press against the backing member(s), upon which the movement will stop. In a reverse motion, the cover may easily slid out of the front opening outlined by the outer frame attached to the burning compartment.

[0015] Additional features and advantages of the invention and the preferred embodiments of the invention will be set forth in the detailed description which follows.

Detailed Description of the Invention

[0016] The present invention provides a system for removably covering the front opening of a burning compartment of a closed fireplace, the system being novel, safe and easy-to-use.

[0017] Accordingly, in one aspect the present invention provides a system for removably covering the front opening (1) of a burning compartment (2) of a closed fireplace, said fireplace having a substantially open side permitting access to the burning compartment (2), the system comprising:

(i) an outer frame (3) attached to the front edges (4) of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) and protruding forwards;

(ii) at least one backing member (6) attached to the inner surface of the lateral walls and/or the upper

and lower walls (5) of the burning compartment (2) or to the inner surface of the outer frame (3) attached to the burning compartment (2);

(iii) a cover (7) comprising a substantially flat member (8) and a frame (9) enclosing the lateral edges and/or the upper and lower edges of the substantially flat member (8), wherein the form and size of the flat member (8) is substantially similar to, but smaller than the front opening outlined by the outer frame (3) attached to the burning compartment (2);

wherein the cover (7) can be repeatedly slid into and out of the front opening outlined by the outer frame (3) attached to the burning compartment (2), the extent of sliding-in being limited by the backing member (6), thereby removably covering the front opening (1) of the burning compartment (2)(see Figure 1A-E).

[0018] The outer frame attached to the front edges of the lateral walls and/or the upper and lower walls of the burning compartment may protrude forwards, i.e. away from the burning compartment, in a plane substantially identical or substantially different to the plane of the respective walls of the burning compartment, but in one useful embodiment the plane in which the outer frame will protrude forwards will be substantially identical to the plane of the respective walls of the burning compartment.

[0019] Further, in another embodiment the outer frame may protrude along the entire perimeter of the front edges of said walls of the burning compartment.

[0020] The outer frame may be composed of a metal in its metallic form, a composition comprising a metal, a non-metallic material, or of any other material that can sustain the temperatures likely to be achieved when using the fireplace. The outer frame may also be composed of the same material comprising the walls of the burning compartment.

[0021] In an embodiment, the outer frame is an integral, continuous extension of the lateral walls and/or the upper and lower walls of the burning compartment.

[0022] In an embodiment, the substantially flat member of the cover is made of glass or another substantially transparent material. This allows for visual observation of the burning chamber and the fire confined within it. It is to be understood, that the glass or the other substantially transparent material might be fully transparent, partially transparent or opaque. It is further to be understood that the glass or the other substantially transparent material may be colorless or may comprise any color perceptible to the human eye. It will be apparent to a skilled person that these materials must be able to withstand the temperatures likely to be generated by using the fireplace.

[0023] The frame enclosing the lateral edges and/or the upper and lower edges of the substantially flat member may be composed of a metal in its metallic form, a composition comprising a metal, a non-metallic material, or of any other material that can sustain the temperatures

likely to be achieved when using the fireplace. The frame might also be composed of glass or any other material able to withstand the temperatures likely to be generated by using the fireplace. The frame might also be composed of the same material composing the substantially flat member.

[0024] In an embodiment, the frame enclosing the lateral edges and/or the upper and lower edges of the substantially flat member of the cover is an integral, continuous extension of the substantially flat member.

[0025] In an embodiment, the frame enclosing the lateral edges and/or the upper and lower edges of the substantially flat member of the cover protrudes above and/or below the plane of the substantially flat member. Such edges may protrude for example substantially perpendicular to the plane of the substantially flat member. Such protrusions will stabilize the cover when placed inside the front opening outlined by the outer frame attached to the burning compartment, or when placed in upright position on any substantially flat surface.

[0026] In an embodiment, the frame enclosing the lateral edges and/or the upper and lower edges of the substantially flat member of the cover protrudes above or below the plane of the substantially flat member. Such edges may protrude for example substantially perpendicular to the plane of the substantially flat member.

[0027] In an embodiment, the frame enclosing the lateral edges and/or the upper and lower edges of the substantially flat member of the cover encloses said edges along the entire perimeter of the substantially flat member.

[0028] In an embodiment, the sliding of the cover into or out of the outer frame of the burning compartment occurs manually or is aided by a dedicated mechanism or a device. Because the cover is not provided with handles, manual sliding of the cover may be achieved with tools, such as, for example, suction pads.

[0029] In an embodiment, a sliding-mechanism is provided to aid the sliding of the cover into and out of the outer frame attached to the burning compartment. Such sliding mechanism may for example comprise rails or the like.

[0030] The extent of sliding of the cover into the outer frame attached to the burning compartment is controlled by the position of at least one backing member. The person skilled in art will appreciate that a useful position for the backing member will be close to the boundary between the front edges of the lateral walls and/or the upper and lower walls of the burning compartment and the outer frame attached to the burning compartment, as provided in an embodiment of the invention.

[0031] The backing member(s) may be composed of a metal in its metallic form, a composition comprising a metal, a non-metallic material, or of any other material that can sustain the temperatures likely to be achieved when using the fireplace.

[0032] The backing member(s) may also be composed of the same material comprising the walls of the burning

compartment.

[0033] In an embodiment, the backing member(s) is an integral, continuous extension of the lateral walls and/or the upper and lower walls of the burning compartment.

[0034] The backing member(s) may also be composed of the same material comprising the substantially flat member of the cover or the frame of the cover.

[0035] In an embodiment, the present invention also provides a closed fireplace comprising the system for removably covering the front opening of a burning compartment of said closed fireplace according to the embodiments of the present. Such fireplace may be used to burn any combustible material, such as for example gas or wood or coal.

Short Description of the Figures

[0036]

Figure 1A illustrates the front view of a closed fireplace comprising a system for removably covering the front opening of a burning compartment of said closed fireplace according to the present invention.

Figure 1B illustrates the side view of a closed fireplace comprising a system for removably covering the front opening of a burning compartment of said closed fireplace according to the present invention.

Figure 1C illustrates a magnified view of the area (I) of Figure 1B.

Figure 1D illustrates the top view of a closed fireplace comprising a system for removably covering the front opening of a burning compartment of said closed fireplace according to the present invention.

Figure 1E illustrates a magnified view of the area (II) of Figure 1C.

Claims

1. A system for removably covering the front opening (1) of a burning compartment (2) of a closed fireplace, said fireplace having a substantially open side permitting access to the burning compartment (2), the system comprising:
 - (i) an outer frame (3) attached to the front edges (4) of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) and protruding forwards;
 - (ii) at least one backing member (6) attached to the inner surface of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) or to the inner surface of the outer frame (3) attached to the burning compartment (2);
 - (iii) a cover (7) comprising a substantially flat member (8) and a frame (9) enclosing the lateral

edges and/or the upper and lower edges of the substantially flat member (8), wherein the form and size of the flat member (8) is substantially similar to, but smaller than the front opening outlined by the outer frame (3) attached to the burning compartment (2);

wherein the cover (7) can be repeatedly slid into and out of the front opening outlined by the outer frame (3) attached to the burning compartment (2), the extent of sliding-in being limited by the backing member (6), thereby removably covering the front opening (1) of the burning compartment (2).

2. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to claim 1, wherein the outer frame (3) attached to the burning compartment (2) is an integral, continuous extension of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2).
3. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 2, wherein said at least one backing member is attached substantially close to the boundary between the front edges (4) of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) and the outer frame (3) attached to the burning compartment (2).
4. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 3, wherein said at least one backing member (6) is an integral, continuous extension of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) or of the outer frame (3) attached to the burning compartment (2).
5. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 4, wherein the frame (9) enclosing the lateral edges and/or the upper and lower edges of the substantially flat member (8) of the cover (7) protrudes above and/or below the plane of the substantially flat member (8).
6. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 5, wherein the frame (9) enclosing the lateral edges and/or the upper and lower edges of the substantially flat member (8) of the cover (7) is an integral, continuous extension of the substantially flat member (8).
7. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fire-

place according to any of claims 1 to 6, wherein the substantially flat member (8) of the cover (7), is made of glass or another substantially transparent material.

8. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 7, wherein a sliding-mechanism is provided to aid the sliding of the cover (7) into and out of the outer frame (3) attached to the burning compartment (2).
9. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 8, wherein the sliding of the cover (7) into or out of the outer frame (3) of the burning compartment (2) occurs manually or is aided by a dedicated mechanism or a device.
10. A closed fireplace comprising the system for removably covering the front opening (1) of a burning compartment (2) of said closed fireplace according to any of claims 1 to 9 for removably covering the front opening of the burning compartment of said closed fireplace.

Amended claims in accordance with Rule 86(2) EPC.

1. A system for removably covering the front opening (1) of a burning compartment (2) of a closed fireplace, said fireplace having a substantially open side permitting access to the burning compartment (2), and a cover (7) comprising a substantially flat member (8) and a frame (9) enclosing the lateral edges and/or the upper and lower edges of the substantially flat member (8), the system comprising:
 - (i) an outer frame (3) attached to the front edges (4) of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) and protruding forwards;
 - (ii) at least one backing member (6) attached to the inner surface of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) or to the inner surface of the outer frame (3) attached to the burning compartment (2);

wherein the form and size of the flat member (8) is substantially similar to, but smaller than the front opening outlined by the outer frame (3) attached to the burning compartment (2); and wherein the cover (7) can be repeatedly slid into and out of the front opening outlined by the outer frame (3) attached to the burning compartment (2), the extent of sliding-in being limited by the backing member (6), thereby removably covering the front opening (1) of the burn-

ing compartment (2).

2. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to claim 1, wherein the outer frame (3) attached to the burning compartment (2) is an integral, continuous extension of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2).

3. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 2, wherein said at least one backing member is attached substantially close to the boundary between the front edges (4) of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) and the outer frame (3) attached to the burning compartment (2).

4. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 3, wherein said at least one backing member (6) is an integral, continuous extension of the lateral walls and/or the upper and lower walls (5) of the burning compartment (2) or of the outer frame (3) attached to the burning compartment (2).

5. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 4, wherein the frame (9) enclosing the lateral edges and/or the upper and lower edges of the substantially flat member (8) of the cover (7) protrudes above and/or below the plane of the substantially flat member (8).

6. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 5, wherein the frame (9) enclosing the lateral edges and/or the upper and lower edges of the substantially flat member (8) of the cover (7) is an integral, continuous extension of the substantially flat member (8).

7. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 6, wherein the substantially flat member (8) of the cover (7), is made of glass or another substantially transparent material.

8. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 7, wherein a sliding-mechanism is provided to aid the sliding of the cover (7) into and out of the outer frame (3) attached to the burning compartment (2).

9. The system for removably covering the front opening (1) of the burning compartment (2) of a closed fireplace according to any of claims 1 to 8, wherein the sliding of the cover (7) into or out of the outer frame (3) of the burning compartment (2) occurs manually or is aided by a dedicated mechanism or a device.

10. A closed fireplace comprising the system for removably covering the front opening (1) of a burning compartment (2) of said closed fireplace according to any of claims 1 to 9 for removably covering the front opening of the burning compartment of said closed fireplace.

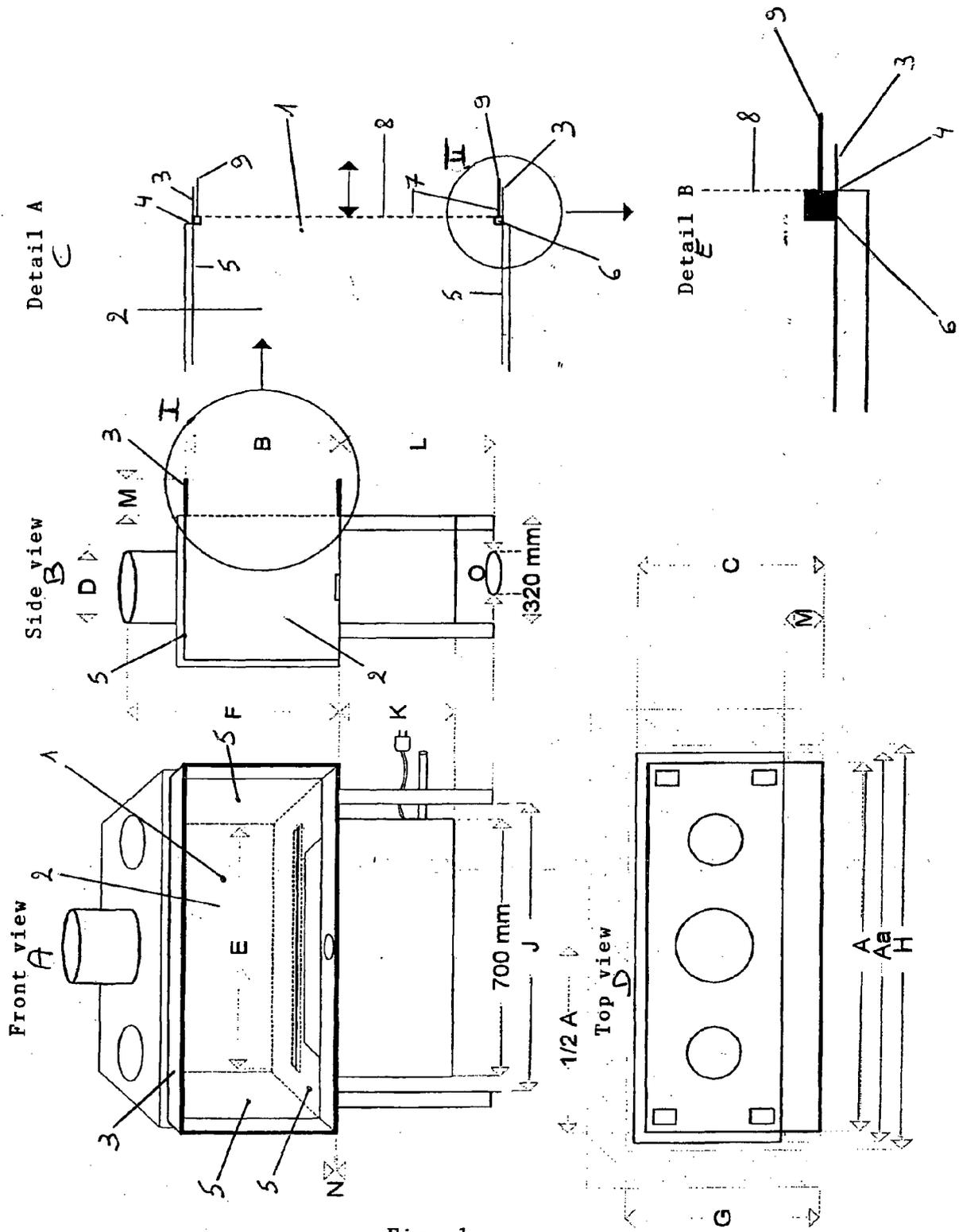


Fig. 1



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	CA 1 127 031 A1 (KIM, CHUN KON ; KIM, SIN RAN (ANGELA)) 6 July 1982 (1982-07-06) * figure 1 *	1	F24B1/192
A	FR 2 527 314 A (SALVADOR ANGELO) 25 November 1983 (1983-11-25)		
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			F24B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 7 March 2005	Examiner Van Gestel, H
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 44 7228

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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07-03-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
CA 1127031	A1	06-07-1982	NONE	

FR 2527314	A	25-11-1983	FR 2527314 A1	25-11-1983
			FR 2562990 A2	18-10-1985
