

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: **88830039.9**

(51) Int. Cl.4: **A 21 B 3/02**

(22) Date of filing: **03.02.88**

(30) Priority: **04.02.87 IT 1925387**

(43) Date of publication of application:
10.08.88 Bulletin 88/32

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR LI LU NL SE

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(54) **A baking oven for food baking.**

(57) A baking oven for food baking has a door (3) which includes two, respectively inner and outer, transparent sheets (6,7) supported by a frame (5), an interspace (9) defined between the sheets (6,7) and in communication with the oven outside through apertures (10,11) formed in the proximities of opposed, lower (5a) and upper (5b) sides of the frame (5) to induce an airflow through the interspace (9) effective to prevent the outer transparent sheet (7) from becoming excessively hot.

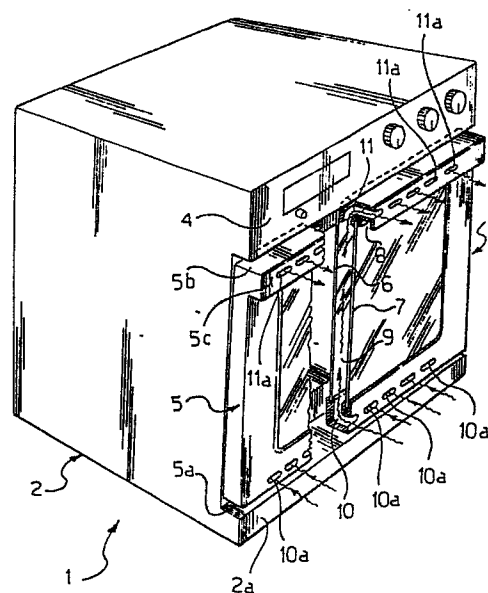


Fig-1

Description

This invention relates to a baking oven for food baking of a type which comprises an oven body and a door hinged thereto, said door including a frame, a pair of respectively inner and outer transparent sheets supported on the frame in mutually spaced apart relationship, and an interspace defined between said sheets.

As is known, with baking ovens the need is felt in particular to check visually how baking progresses on the food items placed inside the oven, and to this end, oven doors are fitted with two parallel-extending sheets, usually made of glass or some other clear material unaffected by the oven operating temperatures. Between the door transparent sheets, moreover, a sealed interspace is created to enhance the door thermally insulative properties.

While being on the whole satisfactory, conventional baking ovens of the type outlined above have the serious drawback that, with the oven in operation, the outer transparent sheet of the oven door is apt to grow excessively hot and reach fairly high temperatures. In fact, with an oven inside temperature in the 200°C range, the outer glass sheets of conventional oven doors would usually reach temperatures upward of 100°C in several sheet areas. Understandably, this reflects in quite hazardous a situation for any user who may inadvertently touch the outer transparent sheet of the oven door.

The problem underlying this invention is to provide a baking oven of the type specified above, which has such constructional and operational features as to prevent the outer transparent sheet of the oven door from becoming overly hot.

According to the invention, the solutive idea of the above-noted problem resides in generating an airflow between the transparent sheets which would sweep across the outer transparent sheet and extract heat from it by a "chimney effect" of sort.

This problem is solved, in accordance with this invention, by a baking oven as indicated being characterized in that said interspace is in communication with the oven outside via at least two apertures formed at different elevations in the oven door.

Advantageously according to the invention, said at least two apertures are formed in the proximities of opposed, lower and upper sides of said oven door frame.

Further features and the advantages of a baking oven according to this invention will be more clearly understood from the following detailed description of a preferred embodiment thereof, to be taken by way of example and not of limitation in conjunction with the accompanying drawings.

In the drawings:

Figure 1 is a part-sectional prespective view showing schematically a baking oven according to the invention; and

Figure 2 is a part-sectional perspective view showing schematically a second embodiment of the inventive oven.

With reference to Figure 1, the numeral 1 comprehensively designates a baking oven for food baking. The oven 1 comprises an oven body 2 of parallelepipedal shape, and a door 3 hinged to the oven body 2 in a manner known per se across a front wall portion 2a of the body 2 also mounting a control panel 4.

The door 3 comprises a frame 5 substantially in the form of a quadrilateral setting frame with opposed, lower 5a and upper 5b, major sides, and a pair of respectively inner 6 and outer 7 transparent glass sheets which extend in parallel at a mutual distance apart and are supported on the frame 5.

Along the upper side 5b, the frame 5 has a raised portion 5c extending all along the side 5b and being formed at the bottom with a groove 8 providing a handgrip for opening and closing the door 3.

Indicated at 9 is an interspace defined in the door 3 between the transparent sheets 6 and 7.

In accordance with this invention, the interspace 9 is in communication with the oven 1 outside via apertures 10, 11 formed at different elevations on the front of the door 3. More specifically, the apertures 10 comprise plural aligned slots 10a which are formed in the frame 5 close to the lower side 5a thereof. Likewise the apertures 11 comprise aligned slotted holes 11a formed close to the upper side 5b of the frame 5, in the raised portion 5c.

With the inventive baking oven 1 in operation, by virtue of the apertures 10 and 11 and of the temperature increase obtained with quite conventional and no further illustrated means inside the body 2 of the oven, and consequently at the inner transparent sheet 6, there is created through the interspace 9 an airflow taken in through the apertures 10 in the lower side 5a of the frame 5 and discharged through the apertures 11 in the opposed upper side 5b.

The natural upward movement of said airflow is due to a "chimney effect" of sort through the interspace 9 whereby the air present in the interspace is heated to a lower density than that of the outer ambient air; accordingly, the air will rise through the interspace 9 and leave through the apertures 11 formed at a higher level, while colder ambient air is being drawn into the interspace 9 through the apertures 10 at a lower level.

As a result, in the baking oven of this invention, the air that sweeps across the outer transparent sheet 7, within the interspace, will extract heat from that sheet, thus preventing it from becoming too hot in a surprisingly simple and effective manner.

Shown in Figure 2 is a second embodiment of the baking oven according to this invention. In this oven embodiment, generally indicated at 101, those components which are construction- or function-wise similar to the ones previously described in connection with the oven of Figure 1 will be denoted with the same reference numerals.

The oven 101 comprises an oven body 2 and a door 103 hinged thereto, in a manner known per se,

at an oven body front wall 2a.

The door 103 comprises a frame 105 composed of two side uprights 104a, 104b, accommodating hinges, not shown, for their connection to the oven body 2.

The door 103 further comprises two, inner 106 and outer 107, transparent sheets which lie substantially parallel to each other and are supported laterally in mutually spaced apart relationship with the uprights 104a and 104b of the frame 105, thereby defining an interspace 109 between the sheets.

Further, the inner transparent sheet 106 is supported at lower and upper ends thereof by two, lower 112 and upper 113, transverse elements for abutment against the front wall 2a of the oven body 2, which are in turn mounted between the uprights 104a and 104b at a lower side 105a and opposed upper side 105b of the frame 105, respectively.

It should be noted that, advantageously according to the invention, opposed, lower 107a and upper 107b, end portions of the outer transparent sheet 107 are bent outwards from the oven 101 and jut freely out of the frame 105.

Consistently with what is described in the foregoing, the interspace 109 is therefore put in communication with the oven 101 outside via two, lower 110 and upper 111 apertures formed at different elevations in the door 103 close to respective, 105a and upper 105b sides of the frame 105.

More specifically, each aperture 110, 111 is defined between a respective end portion 107a, 107b of the outer transparent sheet 107 and a respective transverse abutment element 112, 113.

Quite significantly, moreover, the upper end portion 107b advantageously provides a handgrip for opening and closing the door 103 of the oven 101.

This embodiment 101 of the baking oven according to the invention operates in quite the same manner as the embodiment 1 of this baking oven, and is no further discussed herein.

Note should be taken, however, of that by virtue of the configuration of the outer transparent sheet, with the end portions free and bent over, the amount of air admitted to flow through the interspace formed between the transparent door sheets is increased, further enhancing, therefore, the removal of heat from the outer transparent sheet.

Claims

1. A baking oven for food baking, of a type comprising an oven body (2) and a door (3,103) hinged thereto, said door (3, 103) including a frame (5,105), a pair of respectively inner and outer transparent sheets (6,7;106,107) supported on the frame (5,105) in mutually spaced apart relationship, and an interspace (9,109) defined between said sheets (6,7;106,107), characterized in that said interspace (9,109) is in communication with the oven outside via at least two apertures (10,11;110,111) formed at different elevations in the oven door (3,103).

2. A baking oven according to Claim 1, characterized in that said at least two apertures (10,11;110,111) are formed in the proximities of opposed, lower and upper sides (5a,5b;105a, 105b) of said frame (5,105).

3. A baking oven according to Claim 2, characterized in that said at least two apertures (10,11;110,111) are formed in said frame (5,105).

4. A baking oven according to Claim 2, characterized in that opposed, respectively lower and upper end portions (107a, 107b) of the outer transparent sheet (107) are bent to jut out of said frame (105), said apertures (110,111) being defined between the frame (105) and said end portions (107a,107b).

5. A baking oven according to Claim 4, characterized in that the upper end portion (107b) of the outer transparent sheet (107) provides a handgrip on said door (103).

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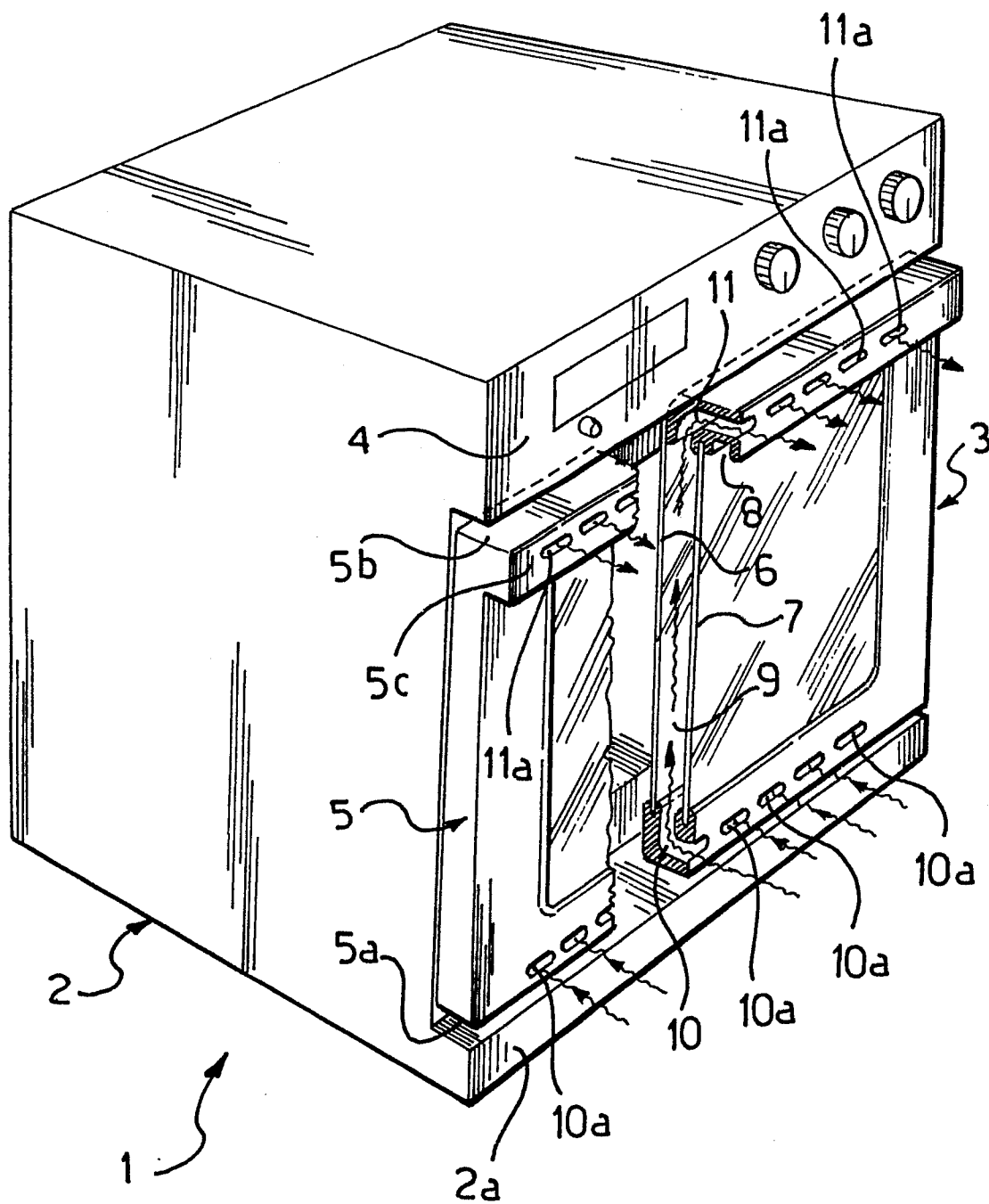


Fig-1



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