

①⑫

EUROPEAN PATENT APPLICATION

②① Application number: **89830259.1**

⑤① Int. Cl.⁴: **F 24 C 15/36**
F 24 C 3/12

②② Date of filing: **08.06.89**

③⑩ Priority: **08.06.88 IT 2138788**

④③ Date of publication of application:
13.12.89 Bulletin 89/50

⑧④ Designated Contracting States:
BE CH DE ES FR GB LI NL

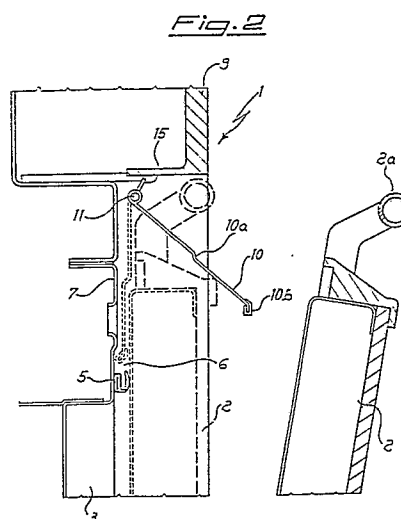
⑦① Applicant: **SMEG S.p.A.**
Via Circonvallazione Nord, 36
Guastalla (Reggio Emilia) (IT)

⑦② Inventor: **Bertazzoni, Roberto**
Via Maldotti, 2
I-Guastalla (Reggio Emilia) (IT)

⑦④ Representative: **Adorno, Silvano et al**
c/o SOCIETA' ITALIANA BREVETTI S.p.A. Via Carducci, 8
I-20123 Milano (IT)

⑤④ **Baffle for an automatic heat protection of the controls on the front panel of a household cooking oven.**

⑤⑦ A baffle for protecting against heat the controls on the front panel (9) of a household oven appliance (1) is formed as a flat, rigid element (10) hinged along an axis (11) underlying and parallel to the front panel (9) to be usually housed, when the oven door (2) is closed, between a front wall (7) of the oven and an inner surface of the door. Springs (13) are provided around said axis (11) for rotating said baffle (10) to the outside when door is opened until the baffle protrudes with respect to the front panel while crossing the closure path of the door (2).



Description

BAFFLE FOR AN AUTOMATIC HEAT-PROTECTION OF THE CONTROLS ON THE FRONT PANEL OF A HOUSEHOLD COOKING OVEN

The present invention relates to a baffle for protecting the controls on a front panel of a household oven, in particular of the recessed type, against heat and vapours being liberated from the oven itself upon opening of the door.

It is known that the push-buttons and the control knobs, as well as the various displays relating to a household oven are mounted on the front panel of the appliance, immediately above the oven mouth and therefore upon opening of the door, which always occurs upwardly as it is hinged at the lower side, they are directly interested by the heat and vapours being released from the oven. This involves possible inconveniences to the controls due to the temperature increase and above all dirtying caused by the fatty vapours and smoke of the food cooked in the oven, which may give rise to deposits on the knobs and push-buttons, sometimes with the final consequence of damaging the operation thereof, in addition to impair their appearance.

A solution of this technical problem is the object of the European Patent Application No. 89830154.4 relating to a device with a flat, rigid element having a width at least corresponding to the width of the oven hearth and projecting outwardly, upon opening of the oven door, so as to act as a baffle for heat and vapours being conveyed far from the controls above. Such a baffle is usually kept retracted within a chamber comprised between the controls on the front panel and the actual oven hearth by the action exerted by closing the door, while it is pushed to the it outside upon opening of the door due to the action of springs the force of which is lower than that of the springs for closing the door.

However such a solution requires the provision of the above-mentioned chamber between the front panel and the insulating muffle of the oven, as well as some structural difficulties being due to the requirement of a correct sliding of the baffle on guides which are subjected to presence of expansions as a consequence of the existing temperatures. Also the pushing action exerted by the springs may be not completely well balanced and give rise to jamming in the forward stroke of the baffle.

Therefore it is the object of the present invention to provide still simpler baffle means which does not require its own chamber within the oven appliance and, as it performs a rotation instead of a rectilinear movement, it undergoes less friction, and thus less likely causes of jamming, being in addition subject at a lower degree to possible unbalances conditions as to the force of the operating springs.

The device according to the invention, comprising a flat, rigid baffle element, having a width which is at least equal to that of the oven hearth, is characterized in that it is hinged along an axis parallel and underlying the front panel to be protected, retracted with respect to the latter in the zone comprised between the front wall of the oven and the upper portion of the door with handle, said element usually

extending, with closed door, in the hollow space between the front wall of the oven and the door itself, the seal of which is provided by a gasket, along such a length as to have no interference with the gasket, about said hinge axis there being provided springs adapted to cause said baffle to rotate outwardly, with open door, the force of said springs for pushing outward being less than the force exerted by the springs closing the door, stop means being also provided for stopping the baffle rotation, when opening the door, in a position projecting from the front panel to be protected and such as to cross the closing path of the oven door.

According to a preferred embodiment this stop means is formed of at least a pair of tabs fixed to the baffle, which are capable to engage the lower surface of the front panel in association with the said position of the baffle which is rotated outwards.

Further features, as well as purposes and advantages of the baffle device according to the invention will appear more clearly from the following description of a preferred embodiment thereof, given by way of a non-limiting example with reference to the annexed drawings wherein:

Figure 1 shows a front view of an oven provided with the device according to the invention with a partially opened door; and

Figure 2 shows a partial cross-section view taken along the line II-II of Figure 1.

With reference to the drawings the household oven appliance, generally designated 1, comprises as is known a door 2 provided with a handle 2a and a window 2b, which is hinged by springs means at the lower side so as that the door is normally brought to the closed position having also a possible intermediate balance position. With closed door the oven hearth 3, where cooking occurs, is completely insulated from the outside all around its mouth by means of a sealing gasket 5, of known type, whereby a hollow space 6 is formed between an inner surface of the door 2 and the front wall 7 of the oven with respect to which the control front panel 9 juts out at the upper side.

The baffle device according to the invention is substantially formed as a rigid, flat member 10 having a width at least equal to that of the oven chamber 3, as shown in Figure 1, which is hinged at an end about an axis 11 parallel to the front panel 9 to be protected and mounted thereunder, in an aerea comprised between the upper side of the door 2 with handle 2a, and the front wall 7 of the oven, which is recessed with respect to the front panel 9. The baffle 10 will preferably have, at about its longitudinal median zone, an S-shaped area 10a radiusing each other the two half portions of the baffle 10 which thereby will extend itself along two parallel planes not only to improve its mechanical stiffness, but also in view of the purpose that will be described in the following. Furthermore at its free end there will be preferably applied rubber buffers

10b (in number of two in the drawings).

As shown in phantom in figure 2, when door 2 is closed, the baffle 10 is housed, at least with the outer half portion thereof, in the hollow space 6 and thus the fact that the two planes of baffle are staggered ensures its being vertical even if the hinged axis 11 is shifted with respect to the middle of this space, as clearly results from figure 2.

At least a pair of springs 13 provided about axis 11 and simmetrically placed along the same have the purpose of pushing the baffle 10 to the outside, whereby upon opening the door 2, as there are no longer any hindrances to the action exerted by the springs 13, the baffle 10 rotates about its axis 11 until it reaches a position such as shown with full lines in figure 2, or however such as to be protruding with respect to the front panel 9. As a consequence it will be able to act as a baffle automatically while the door 2 is opened.

A stop means to the rotation movement of the baffle 10 is provided to avoid that the latter may reach such a position not to ensure the correct return within the hollow space 6 when the door 2 is closed again. To this aim tabs 15 are for example provided, being fixed to the inner end of baffle 10 and forming a selected angle therewith, thus preventing the baffle from a further rotation, upon reaching the desired position, such as by engagement with the lower surface of the protruding front panel 9. At this position the free end of the baffle 10 can come into abutment with the door 2 along the closure path of the latter, which causes the baffle to rotate rearward until returning into the hollow space 6 against the force of springs 13. This in fact will have an elastic force which is lower than that of the springs pushing the door 2 to close, being in practice resilient hinges which are not shown.

Possible additions and/or modifications can be considered as falling within the scope of the present invention, provided that equal utility is ensured to equivalent means.

Claims

1. A baffle for automatically protecting from heat the controls on the front panel of a household oven appliance (1) with door (2) hinged at the lower side and provided with springs for pushing it towards the closed position, comprising a flat, rigid element (10) having a width at least equal to the width of the oven mouth (3), characterized in that it is hinged along an axis (11) underlying and parallel to the front panel (9) to be protected, recessed with respect to the latter in a zone comprised between a front wall (7) of the oven (1) and the upper portion of the door (2) with a handle (2a), said element (10) normally extending, with closed door, in a hollow space (6) defined by said wall (7) and an inner surface of the door (2), along such a length to have no interference with a seal gasket (5) comprised therebetween, springs (13) being provided around said axis (11) for rotating said baffle (10) to the outside

with opened door, the force of said springs (13) being lower than that exerted by the springs closing the door (2), there being provided stop means (15) for stopping the baffle rotation during opening of the door at a position which juts out of the front panel (9) and crossing the closure path of the door (2).

2. A baffle according to claim 1, characterized by the fact that said stop means is formed of at least a pair of tabs (15) being fixed to the baffle (10) and adapted to engage the lower surface of the front panel (9) in association with said outwardly rotated position of the baffle (10), whereby it is locked at this position.

3. A baffle according to claim 1 or 2, characterized by the fact of comprising two flat surfaces, substantially parallel, radiused to each other at a central zone of the baffle itself by an S-shaped portion (10a) parallel to said axis (11) thus helping the baffle itself to be housed in said hollow space (6), with the door (2) closed, said axis (11) being outwardly shifted with respect to the central line of said hollow space.

4. A baffle according to one or more of the preceding claims, characterized by the fact of comprising a pair of rubber buffers (10b) on the outer free edge, opposite to said axis (11).

Fig. 1

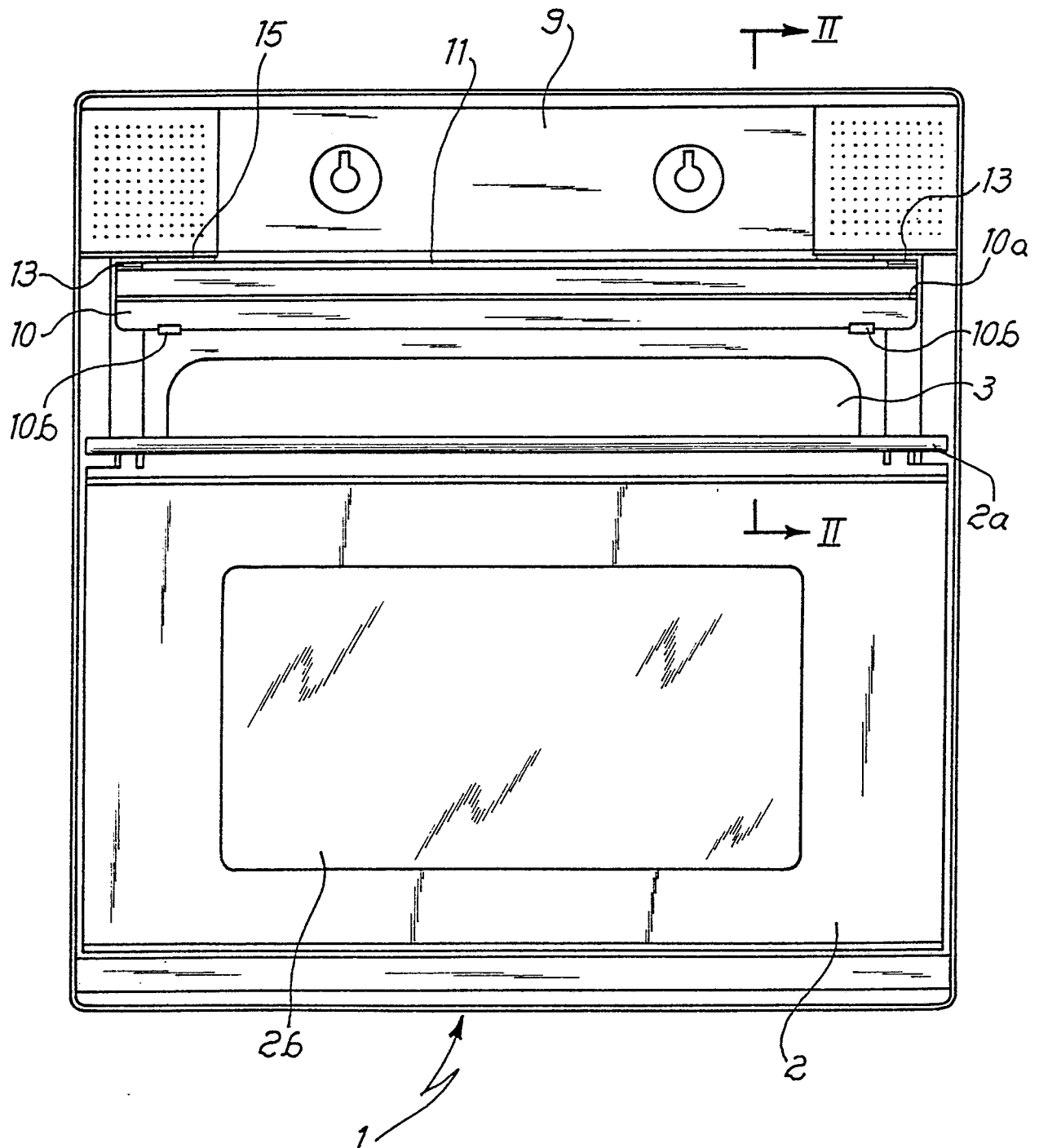


Fig. 2

