

Culinary Heating Apparatus

This invention relates to culinary heating apparatus in which air is heated by a heating element and circulated by a fan to cook food in an associated receptacle.

5 In known apparatus air is directed onto the food from above or below and the air may not be of even temperature throughout the apparatus but may, for example, be higher in the upper area of the apparatus. Moreover oil and water exuded from the food may be scattered
10 around by the hot air flow to fall onto and adhere to the fan or the fan motor with the result that the soiled parts have to be cleaned and a rise in the temperature of the motor may take place.

According to the invention culinary heating apparatus
15 whereby hot air is supplied to a receptacle, comprises a housing, a heating element and a fan in said housing, and a motor mounted on the housing above and in driving connection with the fan, the fan being arranged to direct air heated by the element downwards from the
20 housing, the housing being hat-shaped having a brim portion and a body portion, the body portion defining a chamber in which the fan and the heating element are located and the brim portion being arranged to be located on an upper edge of the receptacle to be heated
25 so that the housing acts in the manner of a lid.

Preferably the brim portion has a peripheral lip for location around the upper edge of the receptacle.

Further features of the invention appear from the following description of an embodiment of the invention
30 given by way of example only and with reference to the drawings, in which:-

Fig. 1 is a vertical section of a housing of a culinary heating apparatus, omitting the food receptacle,

Fig. 2 is an elevation partly in section of the apparatus of Fig. 1,

5 Fig. 3 is an underneath view of the apparatus of Figs. 1 and 2, and

Fig. 4 is a side elevation of the apparatus of Figs. 1-3 mounted on a receptacle.

10 The apparatus includes a housing 1 which is hat-shaped having a body portion 2 and an outwardly extending brim portion 15 with a peripheral lip. The housing 1 is conveniently formed by a deep-drawing press from non-corrosive metal such as stainless steel.

15 The body portion 2 has a partition 3 defining an upper heat radiating chamber 9 and a lower heating chamber 7. A casing 4 for a motor 5 is mounted on top of the portion 2 of the housing 1. A shaft 6 of the motor 5 extends downwards through the chamber 9 into the chamber 7 and is drivingly connected to a Silocco fan 10 in the chamber
20 9 and a turbo fan 8 in the chamber 7.

A sheath heating element 11 in the chamber 7 surrounds the fan 8 and a thermostat 12 is provided in the chamber
25 9 to control the operation of the element 11. The chamber 7 has a downwardly-directed opening in which is located a filter element 13 through which air heated by the element 11 is blown by the fan 8.

The housing 1 is placed on an open-topped receptacle 14 (Fig. 4), in use, in the manner of a lid with the lip 16 of the brim portion 15 engaging over the upper edge

of the receptacle 14 so that as the heated air passes through the filter element 13 it enters the receptacle to heat and cook the food therein.

5 The brim portion 15 is in almost airtight engagement with the upper edge of the receptacle. As the food is heated by the hot air the food exudes water, oils and fats into the air flow in a kind of mist. On contact with the inner wall of the receptacle the mist condenses and flows down the walls.

10 The partition 3 serves to provide a heat insulating chamber 9 which prevents the heating element 11 from heating the motor 5 in the casing 4. Moreover the warmed air in the chamber 9 is exhausted by the fan 10 which further serves to keep the motor 5 cool.

15 The water, oils and fats exuded from the food may tend to adhere to the filter element 13 and the brim portion 15 but can not gain entry into the chamber 7 or chamber 9. Consequently cleaning of the housing 1 is simple and the receptacle can be cleaned in the usual manner as a
20 separable item.

The receptacle may be of the form shown in Fig. 4 but it will be appreciated that any receptacle having an upper opening of suitable dimensions can be used with the housing 1.



CLAIMS

1. Culinary heating apparatus whereby hot air is supplied to a receptacle, comprising a housing, a heating element and a fan in said housing, and a motor mounted on the housing above and in driving connection with the fan, the fan being arranged to direct air heated by the element downwards from the housing, the housing being hat-shaped having a brim portion and a body portion, the body portion defining a chamber in which the fan and the heating element are located and the brim portion being arranged to be located on an upper edge of the receptacle to be heated so that the housing acts in the manner of a lid.
 2. Apparatus according to claim 1 wherein the brim portion has a peripheral lip for location around the upper edge of the receptacle.
 3. Apparatus according to claim 1 or 2 wherein the body portion has a partition defining the chamber for the fan and the heating element and defining a further chamber above the first-mentioned chamber.
 4. Apparatus according to claim 4 wherein the upper chamber contains a further fan, driven by said motor, for cooling said upper chamber.
 5. Apparatus according to any one of the preceding claims wherein a lower part of the chamber containing the heating element is defined by a filter.
 6. Culinary heating apparatus substantially as described with reference to the drawings.
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