Claims

1. A grilling apparatus (10), the apparatus including:
a heat source (12), which, in use, produces radiant heat energy which travels along a heat path,
a holder (14), which, in a loaded condition, holds a food item (16),
a holder mounting (20) which, when the apparatus is in a cooking condition, removably mounts the holder in the heat path in a predetermined location;
the heat source is movable towards and away from the holder mounting between an outward position and an inward position;
the holder defines a holding space (18);
the holding space has a length (140), a width (142), and a thickness (144); the length and the width are greater than the thickness; the length and the width extend in a holding space plane (22) and the thickness extends normally to the holding space plane, and in the cooking condition, the holding space plane extends in a substantially vertical orientation;
the heat source comprises a heat production area (74), over which area the radiant heat energy is produced, and which substantially extends in a heat source plane (76); the heat source plane extends substantially parallel to the holding space plane and is spaced away from the holding space plane;
the holder comprises a pair of holder members (24); the holding space is defined between the holder members; in the loaded condition, both holder members locate against and in contact with the food item; the holder includes a holder member support (26);
characterised in that:
both holder members are slidingly mounted to the holder member support;
the holder member support includes a centring mechanism (32), which automatically centres the holder members and/or the holding space in the holder member support;
the holder member support includes support rods (28) and both holder members slide towards and away from each other along the support rods;
the centring mechanism includes resilient members (30) to bias both holder members towards each other, to apply a holding pressure to the food item.

2. Apparatus according to claim 1, in which the apparatus includes a pair of the heat sources; in the cooking condition, the holder mounting removably mounts the holder in the heat paths between the two heat sources in the predetermined location;
each heat source is movable towards and away from the holder mounting between an outward position and an inward position;

each heat source comprises a heat production area (74), over which area the radiant heat energy is produced, and which substantially extends in a respective heat source plane (76); each heat source plane extends substantially parallel to the holding space plane and is spaced away from the holding space plane.

3. Apparatus according to claims 1 or 2, in which the holder mounting holds the holder in the predetermined location with a lateral accuracy (ie in a direction normal to the holding space plane) of ± 3mm, more preferably ± 2mm and optimally ±1mm.

4. Apparatus according to any of claims 1 to 3, in which the apparatus includes one or more drive devices (86) (eg a motor) for moving each heat source laterally (ie along a horizontal direction) towards and away from the holder mounting.

5. Apparatus according to any of the preceding claims, in which the apparatus includes one or more heat source mountings (82), and the or each heat source mounting mounts a respective one of the heat sources; the or each heat source mounting is arranged to permit linear movement of the respective one of the heat sources, towards and away from the holder mounting.

6. Apparatus according to claim 5 when dependent on claim 4, in which the or each heat source mounting includes a linear drive converter (88), which connects to the or one of the drive devices and converts rotary movement to linear movement.

7. Apparatus according to claims 5 or 6 when dependent on claim 4, in which the or each drive device and the respective connected heat source mounting are arranged to move the respective heat source in incremental steps, which may be no more than 1.0 mm and may be no more than 0.5mm.

8. Apparatus according to claim 4 or any claim dependent thereon, in which the apparatus includes a controller (46), which controls the operation of the apparatus; the controller provides one or more heat source position output signals (114) which control the operation of the drive device(s) and thereby control the position of the heat source(s); the controller receives input signals (100) and provides the heat source position output signal(s) which are dependent on the input signals received; the input signals include any of: a thickness indication input signal (102), an internal food temperature signal (104), one or more user input signals (106) which may include a food type signal (108) and a signal (109) relating to the degree of cooking required by the user; the controller receives input signals and provides heat

output signals (112) which control the heat output(s) of the respective heat source(s), and which are dependent on the input signals received.

9. Apparatus according to any of the preceding claims, in which the or each holder member is removably mounted to the holder member support by one or more suspension arrangements (156), which may include one or more suspension magnets (158).

10. Apparatus according to any of the preceding claims, in which the holder member support includes a pair of support frames (34); each support frame supports one of the holder members; the holder member support includes a hinge (36) which connects the support frames so that they are hingedly connected; in the open condition, the support frames extend away from each other so that the food item is locatable into and removable out of the holding space and in the closed condition, the support frames extend alongside each other, substantially in parallel and the food item is not locatable into and removable out of the holding space.

11. Apparatus according to any of the preceding claims, in which the holder member support includes a retention arrangement (38) to retain the frames in the closed condition, and a handle (42).

12. Apparatus according to any of the preceding claims, in which the holder member support includes a thermocouple mounting formation (94) for mounting a thermocouple.

13. Apparatus according to any of the preceding claims, in which the holder mounting includes guide formations (54) which guide the holder as it is moved into and out of the heat paths.

14. Apparatus according to any of the preceding claims, in which the apparatus includes any of: a thickness sensor (62) for providing an indication of the thickness of the food item, and/or a position measuring device (64) for measuring the position of one or both of the holder members.

15. Apparatus according to any of the preceding claims, in which the or each heat source mounting is arranged to permit user selection of different orientations of the heat source(s) relative to the holder mounting; wherein the apparatus is movable between a grilling configuration and a pizza/baking configuration and/or a rotisserie configuration.