

PATENT SPECIFICATION

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(54) BARBECUES

(71) I, RITVA MAIJA LEHTOVAARA, a citizen of Finland, of 20 South Close Green, Mersham, Surrey, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to apparatus for cooking food in barbecues, and is particularly applicable to barbecues where the grill grid is circular.

A barbecue generally consists of a device in which food to be cooked, such as meat, is held over a bed of burning fuel such as charcoal, the food being supported by a grid. The grid is frequently circular and mounted horizontally. Barbecues are frequently made portable and self-contained to facilitate use in the open air, particularly for garden parties, picnics and the like.

It is normally very difficult to have the fuel burning so evenly in the barbecue that there results an even distribution of heat to the food placed on the grill grid of the barbecue. Uneven burning frequently results in local hot spots which can burn the food, particularly items such as sausages, fish and tomatoes. It is known, to prevent the food burning in those places which are especially close to the hot spots of the burning, to rotate occasionally the grill grid manually. This however, unless done continuously, will not result in completely even cooking of the food. Further barbecues are not generally constructed with parts supporting the grill grid allowing continuous rotation of the grid.

The object of the invention is to provide a method and means to rotate the grill grid without continuous manual operation.

According to the invention, there is provided a flexible drive shaft of variable length, for use in a barbecue, the shaft

being provided at one end with means for attachment to a motor to rotate the shaft and at the other end with means for attachment to a barbecue grid to be rotated by the shaft, the shaft comprising two flexible members each provided with an eye terminal engaging the other flexible member so that each flexible member is slidable through the eye terminal fixed to the other flexible member.

The invention also relates to a barbecue in which the grid is rotatable using such a drive shaft.

The barbecue is constructed so that the grill grid can be rotated via the drive shaft by a motor attached temporarily or permanently to the barbecue.

Where used herein the term "motor" is to be understood to represent any type of device, whether mechanical, hydraulic, or electric, which can be used as a power source for the rotating movement. Advantageously the motor is an electric motor powered by batteries.

The motor can be placed above the grill grid preferably outside the body, the drive shaft then passing through an aperture in the body or a wind-shield above the body.

Preferred embodiments of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a drive shaft for barbecues.

Figure 2 is a side view of a plug for use with a drive shaft.

Figure 3 is a perspective view of a plug for use with a drive shaft having means for fixing it to a non-rotating part of the barbecue.

The parts of the barbecue not shown in the drawings may be of conventional type and will not be described in detail. The barbecue comprises a stand supporting a body suitable for containing a bed of burning fuel such as charcoal; the fuel may be

contained in a bowl within the body. A rotatable horizontal grid is mounted above the fuel bed and the height of the grid above the bowl may be varied. The motor is mounted above the grid, preferably outside the body so that it is accessible from the side of the barbecue. The barbecue may be provided with an upstanding wind-shield.

10 In the preferred embodiments the motor and the grid are connected by a driving shaft of a kind shown in the drawings.

The driving shaft illustrated in Figure 1 comprises a plug 41, having a square cross-section at its outer end 42 and a cylindrical centre part 43.

The centre part 43 can be equipped with a groove 44 and/or with one or more washers 45 and 46. The plug 41 is fixed to the shaft, comprising two members 47 and 48 of flexible wire, and two eye terminals 49 and 50. The terminals 49 and 50 are fixed to the ends of the flexible wire members 47 and 48 respectively, so that both members 47 and 48 can slide through the eye of the terminal fixed to the other member. The flexible member 48 is fixed to the tubular terminal 51 of a grip member comprising the said tubular terminal 51 and a grip wire 52 which resembles the shape of letter S or Z.

In use in the barbecue, the assembly illustrated in Figure 1 is connected to the grill grid by sliding the grip wire 52 between the parallel wires of the grill grid. The plug can now be slid into a slot 53 of the barbecue normally located in a wind shield plate 54.

The plug illustrated in Figure 32 consists of a tubular part 61 having an outer end 62 slit into two or more sections, a screw-type part 63 having a wide end 64, a washer 65 around the tubular part 61, a washer 66 around the screw-type part 63, a wing nut 67 and a tubular terminal 68. The plug is fixed to the motor by pushing the outer end 62 of the assembly into the hole of the driving parts of the motor and tightening the wing nut 67, so that when the wide end 64 of the screw-type part 63 is pulled inside the slit end 62 of the tubular part 61, this is forced to expand providing the gripping action. When the plug connected to the motor is slid into a slot of the barbecue the plug with the help of its washers 65 and 66 provides the support for the motor.

The plug 69 illustrated in Figure 3 consists of washers 71 and 72 a U-shaped plate 73, a support plate 74, a bolt 75 and a wing nut 76. The outer end 70 of the plug 69 is shaped to correspond to the hole in the driving parts of the motor. The plug goes through the holes of the U-shaped plate 73 and the support plate 74

and is cylindrical in the parts which touch the plate 73 and the plate 74.

The washers 71 and 72 prevent non-cylindrical parts of the plug 69 from entering the above-mentioned holes. When 70 used in barbecues the plug is clamped to a non-rotating part of the barbecue by placing the plug so that the non-rotating part of the barbecue is gripped between the plate 73 and the plate 74 when the wing 75 nut 76 is tightened.

WHAT I CLAIM IS:—

1. A flexible drive shaft of variable length for use in a barbecue, the shaft being provided at one end with means for 80 attachment to a motor to rotate the shaft and at the other end with means for attachment to a barbecue grid to be rotated by the shaft, the shaft comprising two flexible members each provided with an 85 eye terminal engaging the other flexible member so that each flexible member is slidable through the eye terminal fixed to the other flexible member.

2. A shaft according to claim 1 90 provided with fixing means to prevent the shaft sliding through an aperture in a wall member in which the shaft is mounted.

3. A shaft according to claim 2, in which said fixing means comprises a pair 95 of washers connected to the shaft to engage respective sides of the wall member.

4. A shaft according to any one of claims 1 to 3, provided with a fastening device comprising a pair of plates between 100 which a wall member may be clamped, the shaft passing through holes in the plates.

5. A shaft according to any one of claims 1 to 4, in which the means for attachment to the grid comprises a generally 105 S or Z-shaped grip wire.

6. A shaft according to any one of claims 1 to 4, in which the means for attachment to the grid comprises a grip wire having loops at its ends for engaging the 110 grid.

7. A shaft according to any one of claims 1 to 6, in which the means for attachment to a motor comprises a shaft portion of square cross-section to fit in a 115 corresponding square hole in a motor.

8. A drive shaft for a barbecue, substantially as hereinbefore described with reference to Figure 1, 2 or 3 of the accompanying drawings.

9. A barbecue which comprises a stand 120 supporting a body suitable for containing a bed of burning fuel, a rotatable horizontal grid mounted above the fuel bed and a motor connected to the grid by a flexible driving shaft according to any preceding claim to rotate the grid continuously.

10. A barbecue according to claim 9, in which the motor is mounted outside the body and the driving shaft passes through 130

contained in a bowl within the body. A rotatable horizontal grid is mounted above the fuel bed and the height of the grid above the bowl may be varied. The motor 5 is mounted above the grid, preferably outside the body so that it is accessible from the side of the barbecue. The barbecue may be provided with an upstanding wind-shield.

10 In the preferred embodiments the motor and the grid are connected by a driving shaft of a kind shown in the drawings.

The driving shaft illustrated in Figure 1 comprises a plug 41, having a square cross-section at its outer end 42 and a 15 cylindrical centre part 43.

The centre part 43 can be equipped with a groove 44 and/or with one or more washers 45 and 46. The plug 41 is fixed to 20 the shaft, comprising two members 47 and 48 of flexible wire, and two eye terminals 49 and 50. The terminals 49 and 50 are fixed to the ends of the flexible wire members 47 and 48 respectively, so that both 25 members 47 and 48 can slide through the eye of the terminal fixed to the other member. The flexible member 48 is fixed to the tubular terminal 51 of a grip member comprising the said tubular terminal 51 30 and a grip wire 52 which resembles the shape of letter S or Z.

In use in the barbecue, the assembly illustrated in Figure 1 is connected to the grill grid by sliding the grip wire 52 between 35 the parallel wires of the grill grid. The plug can now be slid into a slot 53 of the barbecue normally located in a wind shield plate 54.

The plug illustrated in Figure 32 consists of a tubular part 61 having an outer end 62 slit into two or more sections, a screw-type part 63 having a wide end 64, a washer 65 around the tubular part 61, a washer 66 around the screw-type part 63, a 45 wing nut 67 and a tubular terminal 68. The plug is fixed to the motor by pushing the outer end 62 of the assembly into the hole of the driving parts of the motor and tightening the wing nut 67, so that when 50 the wide end 64 of the screw-type part 63 is pulled inside the slit end 62 of the tubular part 61, this is forced to expand providing the gripping action. When the plug connected to the motor is slid into a slot of the barbecue the plug with the help 55 of its washers 65 and 66 provides the support for the motor.

The plug 69 illustrated in Figure 3 consists of washers 71 and 72 a U-shaped 60 plate 73, a support plate 74, a bolt 75 and a wing nut 76. The outer end 70 of the plug 69 is shaped to correspond to the hole in the driving parts of the motor. The plug goes through the holes of the U-shaped plate 73 and the support plate 74 65

and is cylindrical in the parts which touch the plate 73 and the plate 74.

The washers 71 and 72 prevent non-cylindrical parts of the plug 69 from entering the above-mentioned holes. When 70 used in barbecues the plug is clamped to a non-rotating part of the barbecue by placing the plug so that the non-rotating part of the barbecue is gripped between the plate 73 and the plate 74 when the wing 75 nut 76 is tightened.

WHAT I CLAIM IS:—

1. A flexible drive shaft of variable length for use in a barbecue, the shaft being provided at one end with means for 80 attachment to a motor to rotate the shaft and at the other end with means for attachment to a barbecue grid to be rotated by the shaft, the shaft comprising two 85 flexible members each provided with an eye terminal engaging the other flexible member so that each flexible member is slidable through the eye terminal fixed to the other flexible member.

2. A shaft according to claim 1 90 provided with fixing means to prevent the shaft sliding through an aperture in a wall member in which the shaft is mounted.

3. A shaft according to claim 2, in which said fixing means comprises a pair 95 of washers connected to the shaft to engage respective sides of the wall member.

4. A shaft according to any one of claims 1 to 3, provided with a fastening device comprising a pair of plates between 100 which a wall member may be clamped, the shaft passing through holes in the plates.

5. A shaft according to any one of claims 1 to 4, in which the means for attachment to the grid comprises a generally 105 S or Z-shaped grip wire.

6. A shaft according to any one of claims 1 to 4, in which the means for attachment to the grid comprises a grip wire having loops at its ends for engaging the 110 grid.

7. A shaft according to any one of claims 1 to 6, in which the means for attachment to a motor comprises a shaft portion of square cross-section to fit in a 115 corresponding square hole in a motor.

8. A drive shaft for a barbecue, substantially as hereinbefore described with reference to Figure 1, 2 or 3 of the accom- 120 panying drawings.

9. A barbecue which comprises a stand supporting a body suitable for containing a bed of burning fuel, a rotatable horizontal grid mounted above the fuel bed and a 125 motor connected to the grid by a flexible driving shaft according to any preceding claim to rotate the grid continuously.

10. A barbecue according to claim 9, in which the motor is mounted outside the body and the driving shaft passes through 130



(10)

an aperture in the body or in a wind-shield above the body.

11. A barbecue according to any preceding claim, in which the motor is a battery-driven electric motor.

12. A barbecue substantially as hereinbefore described with reference to Figure 1, 2 or 3 of the accompanying drawings.

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