CHARCOAL LIGHTER DEVICE

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ABSTRACT

A heater device for heating charcoal bricks for a grill. The device includes a hollow, open-ended stack which acts as a housing for containing the charcoal bricks therein. The stack is mounted on a base which includes an apertured grate for supporting the charcoal bricks thereon. The base is arranged so that the grate and the lower open end of the stack are supported in elevated relation above the supporting surface of the grill, and the stack is aligned in a position over the grate such that air passes upwardly through the apertures in the grate and the stack to produce a "blast furnace" effect to facilitate rapid combustion of the charcoal bricks.

9 Claims, 8 Drawing Figures
CHARCOAL LIGHTER DEVICE

BACKGROUND OF THE INVENTION

The present invention is related to devices for heating charcoal bricks for use in barbecue grills, and more particularly, to a device which can heat such bricks very rapidly and uniformly.

Heretofore, it has been known to place charcoal bricks within the pit or pan of a barbecue grill, apply a fluid lighting material to the bricks, and then light the bricks. In such arrangement, the bricks are generally spread out over a relatively large area, and the lighter fluid is not always distributed uniformly throughout the coals. Thus, a slow, non-uniform heating of the bricks is the result. In addition, the height of the pile of bricks within the pan is limited such that only those bricks adjacent the top of the pile are heated rapidly and it is necessary to agitate the bricks such that those located at the bottom of the pile are moved to the top of the pile to obtain sufficient heating thereof.

SUMMARY OF THE INVENTION

The present invention contemplates a novel device for quickly and uniformly heating charcoal bricks for use in a barbecue grill. The device includes a base adapted for mounting within the pit or pan of the grill, and a hollow, open-ended stack which is mounted on the base for housing the charcoal bricks therein. The base includes an apertured grate which supports the charcoal bricks within the stack. The stack is mounted on the base so that it is disposed over the grate such that air can be drawn upwardly through the apertures in the grate and through the stack into the area surrounding the bricks to provide increased oxygen for combustion of the bricks. More specifically, the stack is of a generally cylindrical construction being formed by a pair of oppositely disposed semi-cylinders which are detachably connected to one another. The base is provided in the form of a stand which includes a flat support plate in which the apertures are located. A leg assembly supports the plate in elevated relation with respect to the supporting surface of the grill, and includes laterally spaced leg members which project outwardly beyond the periphery of the support plate. The legs are provided with generally horizontally extending upper edges which are disposed below the general plane of the support plate such that the stack is supported in seated engagement thereon and the support plate is positioned interiorly of the stack.

As can be seen by the foregoing arrangement, the charcoal bricks are confined into a relatively small area and are contained in a relatively deep pile within the stack. After lighter fluid has been applied and combustion is commenced, the elevated position of the bricks assures that a quantity of oxygen will be drawn into the stack and through the area surrounding substantially all of the bricks to produce a "blast furnace" effect to promote rapid heating thereof. In addition, the increased depth of the pile of bricks within the stack assures that a substantially greater quantity of the bricks will be exposed to this flow of oxygen and thus further contribute to more rapid heating of the bricks. Accordingly, only a relatively few bricks which may be disposed adjacent the lower end of the pile will not necessarily obtain the relatively high heat of those at the top of the pile, but still the overall effect will be to rapidly heat an increased quantity of charcoal bricks within a given period of time than could be obtained by any former arrangement.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the heater device of the present invention shown mounted interiorly of the pan or pit of a grill.
FIG. 2 is a side elevation view of the stack of the present invention;
FIG. 3 is a top plan view of the stand of the present invention;
FIG. 4 is a side elevation view of the stand of the present invention, as seen from the bottom of FIG. 3, showing by phantom lines, the stack in the mounted position thereon, and charcoal bricks disposed therein;
FIG. 5 is a perspective view of the stand of the present invention;
FIG. 6 is a side elevation view of the frame of the present invention for maintaining the shape of the stack;
FIG. 7 is a side elevation view taken along the line 7-7 of FIG. 6, and
FIG. 8 is an elevation view of a handle for use with the heater device of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The charcoal heater device of the present invention is illustrated, generally at 2, in FIG. 1, where it is shown mounted within a conventional barbecue grill 4. In the form shown, the heater device 2 includes a hollow stack 6 which is adapted to hold a quantity of charcoal bricks 7 therein. The stack 6 is shown supported within a conventional barbecue grill 4 on a base 8. The stack 6 is open adjacent its upper 9 and lower 10 ends defining a passageway for the flow of air therethrough. The base 8 supports the lower end 10 of the stack 6 in elevated relation with respect to the interior surface of the pan 11 such that air can enter the lower end 10 and pass upwardly through the stack 6 and through the area surrounding the charcoal bricks 7 for supporting combustion thereof.

Referring now to FIGS. 1 and 1 cylindrical construction being formed of a pair of stack 6 is shown as being of a pair of semi-cylinders 12 and 13. As shown in FIG. 2, the semi-cylinder 12 is defined at its upper and lower ends by generally semi-circular marginal end edges 15 and 16 which terminate in generally parallel, linearly extending marginal side edges 17 and 18. Likewise, the semi-cylinder 13 is defined by generally semi-circular marginal end edges 20 and 21 which terminate in generally parallel, linearly extending marginal side edges 22 and 23. As shown in FIGS. 1 and 2, the ends of the semi-cylinders 12 and 13 have there ends adjacent the marginal side edges 17, 18 and 22, 23 disposed in overlapping relation to enable attachment therebetween. As shown particularly in FIG. 2, the semi-cylinder 13 may be provided with slots 26, 27 and 28 which are disposed in laterally spaced relation adjacent the marginal side edge 22. On the other hand, the semi-cylinder 12 is provided with outwardly projecting buttons or hooks 29, 30 and 31 adjacent the marginal side edge 17 which are adapted to be slidably interconnected, in a well known manner within the slots 26, 27 and 28, respectively, for releasably attaching the ends of the semi-cylinders 12 and 13 adjacent the marginal side edges 17 and 22 to one another. Although not shown in the
drawings, the opposite ends of each of the semi-cylinders 12 and 13 adjacent the marginal side edges 18 and 23 may be connected to one another in a manner similar to the ends adjacent the marginal side edges 17 and 22.

Referring now to FIGS. 1 and 6, a brace or frame 35 is mounted adjacent the upper end 9 of the stack 6 to maintain the semi-cylinders 12 and 13 in the desired cylindrical form and prevent disengagement thereof. As shown in FIG. 6, the frame 35 includes a pair of transversely extending bars 37 and 38. One of the bars, such as 37, includes a notch 39 which extends inwardly from its upper edge, whereas, the other bar 38 is provided with a notch 40 which extends inwardly from its bottom edge. By this arrangement, the bars 37 and 38 are interconnected by slidingly inserting one another within the respective notches 39 and 40. Both of the bars 37 and 38 are cut-out at their distal ends adjacent the bottom edge as in 43, 44, 45 and 46 to provide seating surfaces 48, 49, 50 and 51, respectively, adapted for seated engagement adjacent the upper end 9 of the stack 6 on the marginal end edges 15 and 20. As shown in FIG. 1, the bars 37 and 38 extend transversely, such as diametrically across the open top 9 of stack 6. As shown in FIG. 1, the bars 37 and 38 have a minimum transverse length along their bottom edges which is sufficient to prevent movement of the semi-cylinders 12 and 13 in a direction toward one another a distance which will allow the buttons, such as 29, 30 and 31 to become disengaged from within the slots, such as 26, 27 and 28, and thus maintain the stack in a generally cylindrical configuration. In addition, the frame 35 can be used as a rack for supporting containers, such as a pan or the like, when a concentrated or intense flame or heat is desired.

As shown in FIGS. 1 and 7, a handle 59 is provided which is arranged at one end for engagement, such as within aperture 61, with either one of the semi-cylinders 12 and 13 (FIG. 2). This enables lifting of the stack 6 to enable the bricks 7 to be spread in the pan 11.

Referring now to the FIGS. 3, 4 and 5, the base 8 includes a generally flat support plate 50 which is provided with a plurality of apertures 52 therethrough. As shown particularly in FIG. 3, the plate 50 is of a split construction being formed of a pair of generally semi-circular plate sections 53 and 54. As shown, the plate 53 and 54 are defined along one end by generally semi-circular outer marginal edges 55 and 56 and are defined along the other side by generally linearly extending inner marginal edges 57 and 58, respectively. As shown, the plate section 53 and 54 are detachably joined to one another along their linear edges 57 and 58 in the assembled position of the base 8.

As shown in FIGS. 3, 4 and 5, the leg assembly 60 for supporting the stack 6 in elevated relation above the grill 4 includes one pair of legs 62 and 63 which may be rigidly connected to the plate section 53 and another pair of legs 64 and 65 which may be rigidly connected to the plate section 54. As shown in FIG. 3, one end of each of the legs 62 and 63 projects outwardly beyond the peripheral outer edge 55 of the plate section 53, whereas the inner ends thereof terminate adjacent the inner edge 58. On the other hand, the outer ends of the legs 64 and 65 project outwardly beyond the outer peripheral edge 56 of the plate section 54 and the inner ends terminate adjacent the inner edge 57. The legs 62 and 63 are joined at their inner ends by a web portion 70, whereas, the inner ends of the legs 64 and 65 are joined by a web portion 72. The web portions 70 and 72 extend linearly along and adjacent to the inner edges 57 and 58 of the plate section 53 and 54, and the web portion 70 is provided with an upturned hook 74 for receiving the web portion 72 therein to interlock the plate section 53 with the plate section 54.

Referring now particularly to FIG. 4, the legs, such as 64 and 65 of the leg assembly 60 are cut-out adjacent their upper ends as at 80 and 82 as to form generally horizontally extending upper edges 83 and 84 for seatingly engaging the lower end 10 of the stack 6 along the marginal end edges 16 and 21. The legs 62 and 63 may be provided with similar cut-outs so as to form horizontally extending edges 85 and 86 for seating engagement with the marginal end edges 16 and 21.

As further shown in FIG. 4, the maximum transverse diameter, such as the dimension A, of the support plate 50, is less than the minimum transverse diameter, such as the dimension B, of the interior of the stack 6, and the edges 83, 84, 85 and 86 are disposed generally parallel to and out of the general plane of the support plate 50 in a generally upright vertically-oriented position, such that the stack 6 may be fitted around and over the support 50 for seatingly engaging the marginal end edges 16 and 20 on the edges 83, 84, 85 and 86, and positioning the support plate 50 within the interior of the stack 6. As can be seen, by the foregoing arrangement, the charcoal bricks 7 are supported on the support member 50 within the stack 6. Further, the support plate 50 is supported by the legs 62, 63, 64 and 65 in an elevated position above the interior surface of the pan 11 when the device is mounted within the grill 4. The apertures 52 in the support plate 50 enable air to enter through the bottom end 10 of the stack 6 and flow upwardly through the air spaces between the charcoal bricks 7 and thus, provide oxygen to support the combustion of the charcoal bricks 7. This arrangement also creates a continuous upward draft through the stack so as to increase the quantity of oxygen flowing through the stack 6 and around the bricks 7 so as to decrease the time required for heating the bricks to the required temperature for broiling on the grill 4. When the bricks 7 have reached the proper temperature, the stack 6 is lifted away from the base 8 by means of the handle 59 and the base 8 is removed from within the pan 11 to distribute the heated bricks throughout the grill 4.

I claim:

1. A heater device for heating charcoal bricks for a grill comprising,
   a base,
   a hollow, open-ended stack mounted on said base for housing charcoal bricks therein,
   said base includes an apertured grate supporting said charcoal bricks within said stack,
   said stack being mounted on said base and over said grate to enable air to pass upwardly through said apertures and said stack to support combustion of said charcoal bricks,
   said base comprises a stand which includes a flat support plate and a leg assembly depending from said support plate for supporting said support plate in elevated relation when mounted on said grill,
said support plate is of a split-construction including at least a pair of plate sections detachably connected to one another, each of said plate sections includes spaced, downwardly depending leg members, each of said leg members projects at one end beyond the periphery of its associated plate section and terminates at its other end adjacent the periphery of its associated plate section, a web portion extends along a peripheral portion of each of said plate sections, each of said web portions extends between the respective other ends of each of said legs associated with a respective one of said plate sections, and said plate sections are detachably connected to one another along the portions of their peripheries adjacent said web portions.

2. A heater device for heating charcoal bricks for a grill comprising, a self-supporting base, a hollow, open-ended stack mounted on said base for housing charcoal bricks therein, said base includes an apertured grate supporting said charcoal bricks within said stack, said grate comprises a stand which encloses a flat support plate, and a leg assembly depends from said support plate for supporting said support plate in elevated relation when said device is mounted on said grill, said base is of a split construction including a pair of self-supporting base portions, said support plate being split diametrically forming a pair of plate sections having linear inner edges in the installed position thereof, said leg assembly includes spaced leg members depending downwardly from said plate sections, each of said leg members projects at one end beyond the periphery of its associated plate section, said stack having one end seated on said legs being disposed outwardly and about said grate for directing air upwardly through said apertures and said stack to support combustion of said charcoal bricks, and said base portions are detachably connected to one another adjacent said linear extending edges of said support plate to form a unitary, self-supporting structure for supporting said stack thereon for quick removal therefrom.

3. A device in accordance with claim 2, wherein said stack is formed by a pair of oppositely disposed semi-cylinders, each being defined by spaced, laterally extending semi-circular end edges and spaced, laterally extending linear side edges.

4. A device in accordance with claim 3, wherein said semi-cylinders are detachably connected to one another adjacent their linear side edges.

5. A device in accordance with claim 4, including a frame assembly detachably mounted on said stack and engageable with said semi-cylinders for maintaining such in predetermined spaced relation and attached to one another.

6. A device in accordance with claim 2, including a handle member is detachably connected to said stack to enable lifting of said stack off of said base.

7. A device in accordance with claim 5, wherein said semi-cylinders are slidably, interlockingly connected along their linear side edges being movable toward and away from another between an outward locked position and an inward unlocking position, and said frame assembly engageably supports said semi-cylinders adjacent said upper marginal edge of said stack and coacts with said grate to maintain said semi-cylinders in said outward position to prevent disconnection thereof in the mounted position of said stack.

8. A heater device for heating charcoal brick for a grill comprising, a self supporting base, a hollow, open ended stack mounted on said base for housing charcoal brick therein, said base comprising a stand including an apertured grate for supporting the charcoal bricks within said stack, said base including a leg assembly for supporting said grate in an elevated position above the supporting surface of said grill to enable air to pass upwardly through said apertures and said stack to support combustion of said charcoal bricks, said stack is of a generally cylindrical construction being defined by upper and lower marginal end edges and having its longitudinal axis disposed in a generally vertically oriented direction in a mounted position thereof, said grate is of a generally circular configuration in top plan having a maximum transverse dimension less than the minimum transverse dimension of said stack to enable said grate to be disposed within said stack in a mounted position of said stack on said base, said leg assembly includes a plurality of downwardly depending, laterally-spaced leg members, each of said leg members includes a generally horizontally extending upper support edge for seatingly engaging said lower marginal end edge of said stack, said upper support edge of said legs being disposed below the general plane of said grate to position said grate within said stack for creating a continuous upward draft through said aperture and stack, said upper support edges project outwardly beyond the periphery of said grate to enable said stack to be readily moved from seated engagement on said base to enable said charcoal bricks to be distributed in said grill while said base remains intact, said grate comprises a flat support plate, said support plate is generally circular in top plan, being of a split construction including a pair of generally semi-circular plate sections, each of said plate sections is defined by a generally semi-circular outer edge and a generally linear inner edge and, said plate sections are detachably connected to one another adjacent their linear inner edge.

9. A heater device for heating charcoal bricks for a grill comprising, a self supporting base, a hollow, open-ended stack mounted on said base for housing charcoal bricks therein, said base comprises a stand including an apertured grate for supporting said charcoal bricks within said stack, said base including a leg assembly for supporting said grate in an elevated position above the supporting
surface of said grill to enable air to pass upwardly through said apertures and said stack to support combustion of said charcoal bricks.

said stack is of a generally cylindrical construction being defined by upper and lower marginal end edges and having its longitudinal axis disposed in a generally vertically-oriented direction in the mounted position thereof.

d said grate is of a generally circular configuration in top plan having a maximum transverse dimension less than the minimum transverse dimension of said stack to enable said grate to be disposed within said stack in the mounted position of said stack on said base.

said leg assembly includes a plurality of downwardly depending, laterally spaced leg members, each of said leg members includes a generally horizontally extending upper support edge for seatingly engaging said lower marginal end edge of said stack.

said upper support edges of said legs being disposed below the general plane of said grate to position said grate within said stack for creating a continuous upward draft through said aperture and stack, said upper support edges project outwardly beyond the periphery of said grate to enable said stack to be readily removed from seated engagement on said base to enable said charcoal bricks to be distributed in said grill while said base remains intact, said stack is formed by a pair of oppositely disposed semi-cylinders, each being defined by spaced, laterally extending semi-circular end edges and spaced, laterally extending linear side edges, said semi-cylinders are detachably connected to one another adjacent the linear side edges, a frame assembly is detachably mounted on said stack and engageable with said semi-cylinders for maintaining such in predetermined spaced relation and attached to one another, said semi-cylinders are slidably, interlockingly connected along their linear side edges being movable toward and away from one another between an outward locked position and an inward unlocking position, and said frame assembly engageably supports said semi-cylinders adjacent said upper marginal edge of said stack and coacts with said grate to maintain said semi-cylinders in said outward position to prevent disconnection thereof in the mounted position of said stack.