Nov. 29, 1960 A. LUNDGREN 2,962,019

PORTABLE CHARCOAL BROILER

Filed March 28, 1958 4 Sheets-Sheet 1

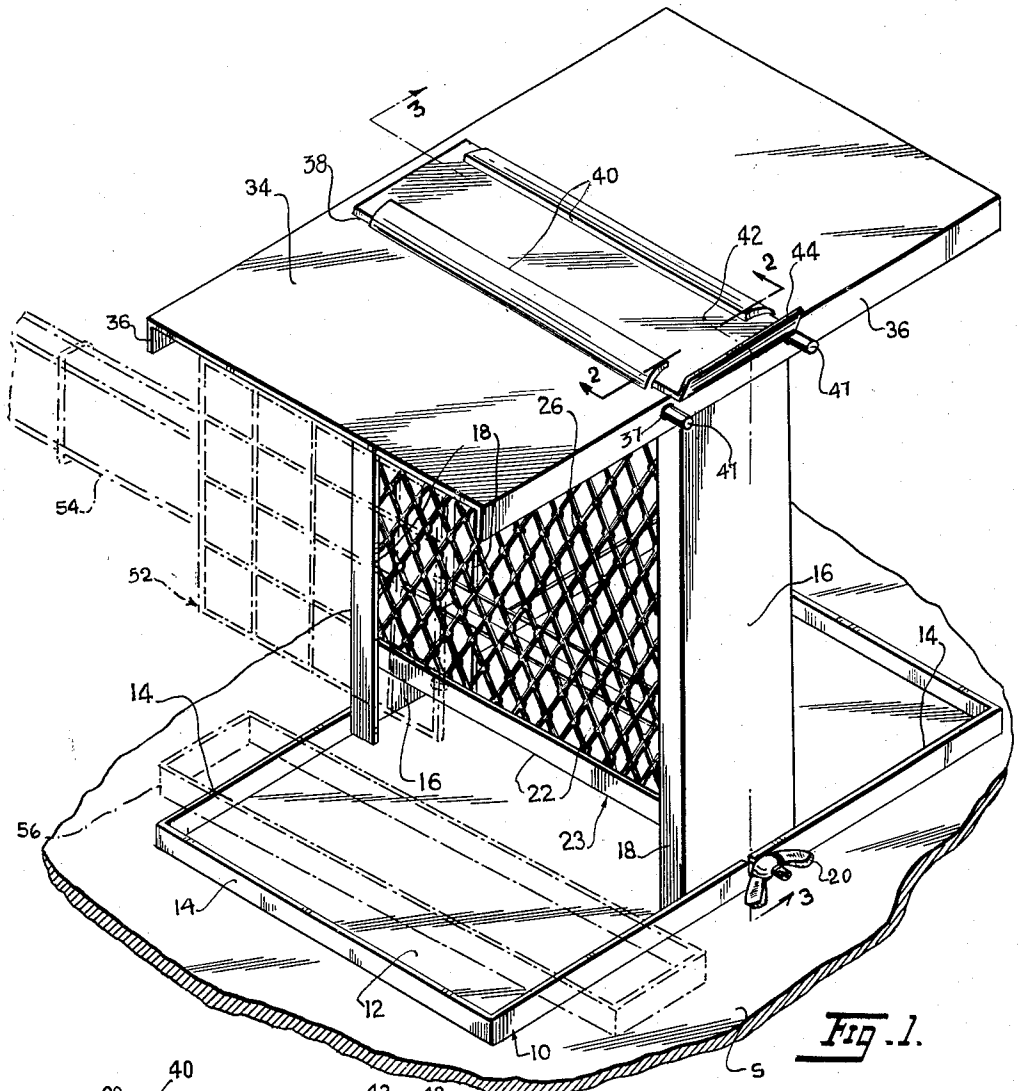


Fig. 1.

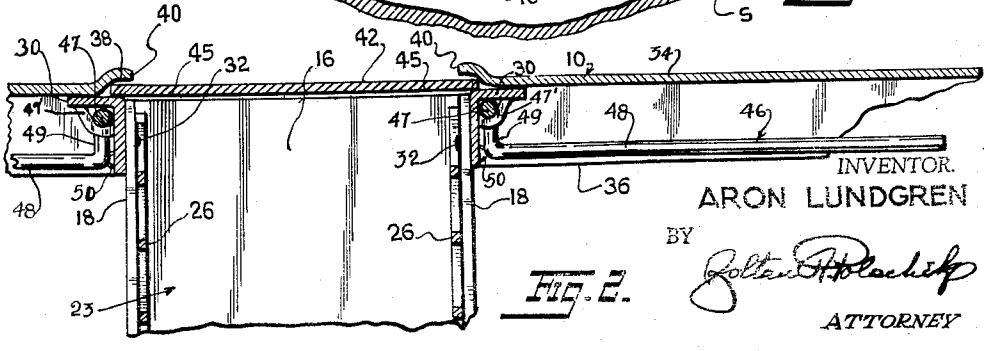


Fig. 2.

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PORTABLE CHARCOAL BROILER

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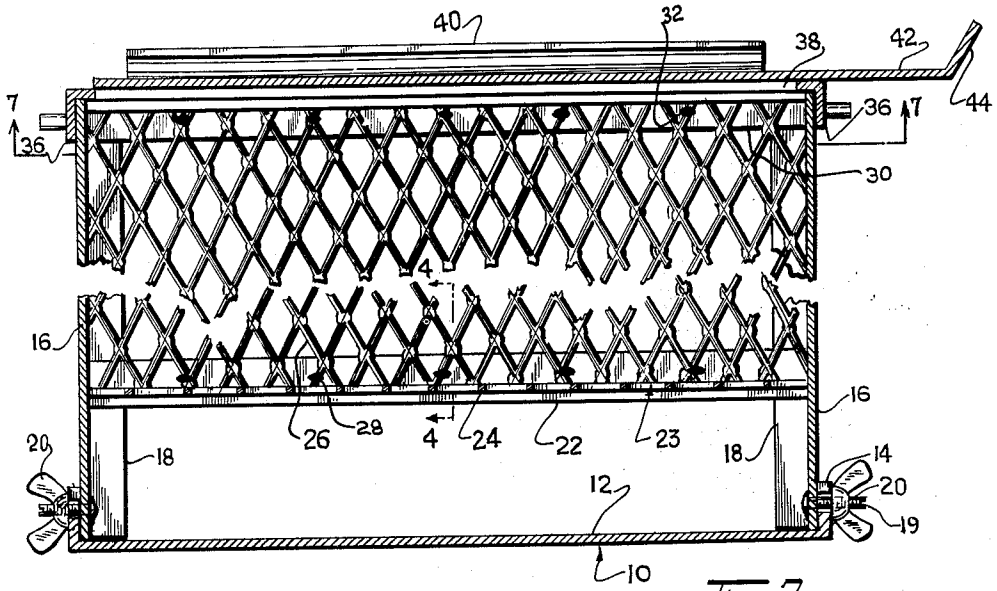


Fig. 3.

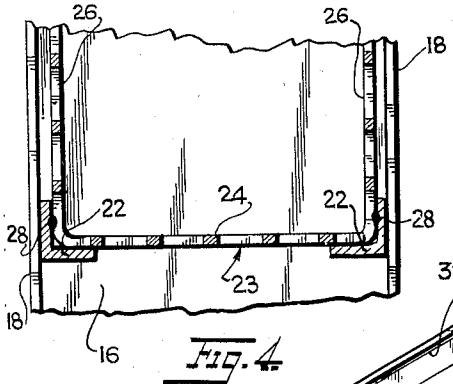


Fig. 4.

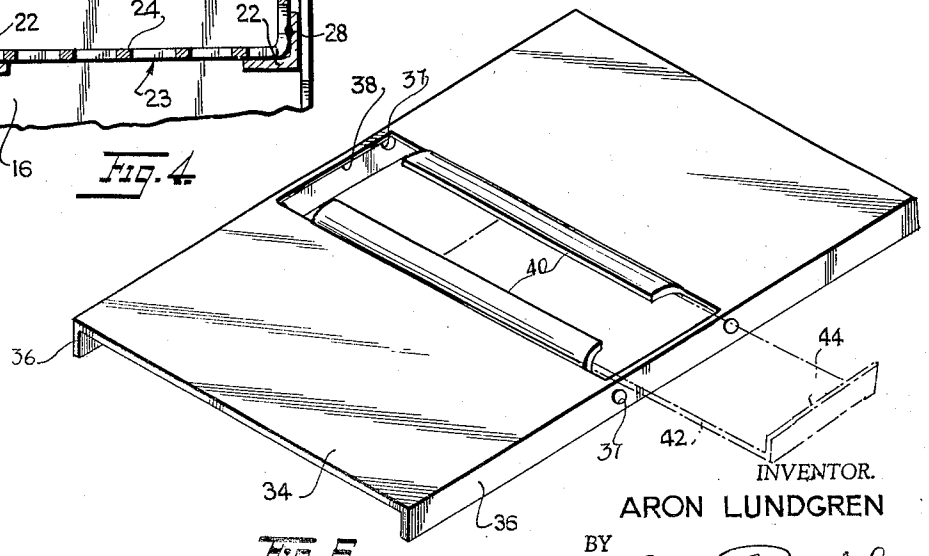


Fig. 5.

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PORTABLE CHARCOAL BROILER

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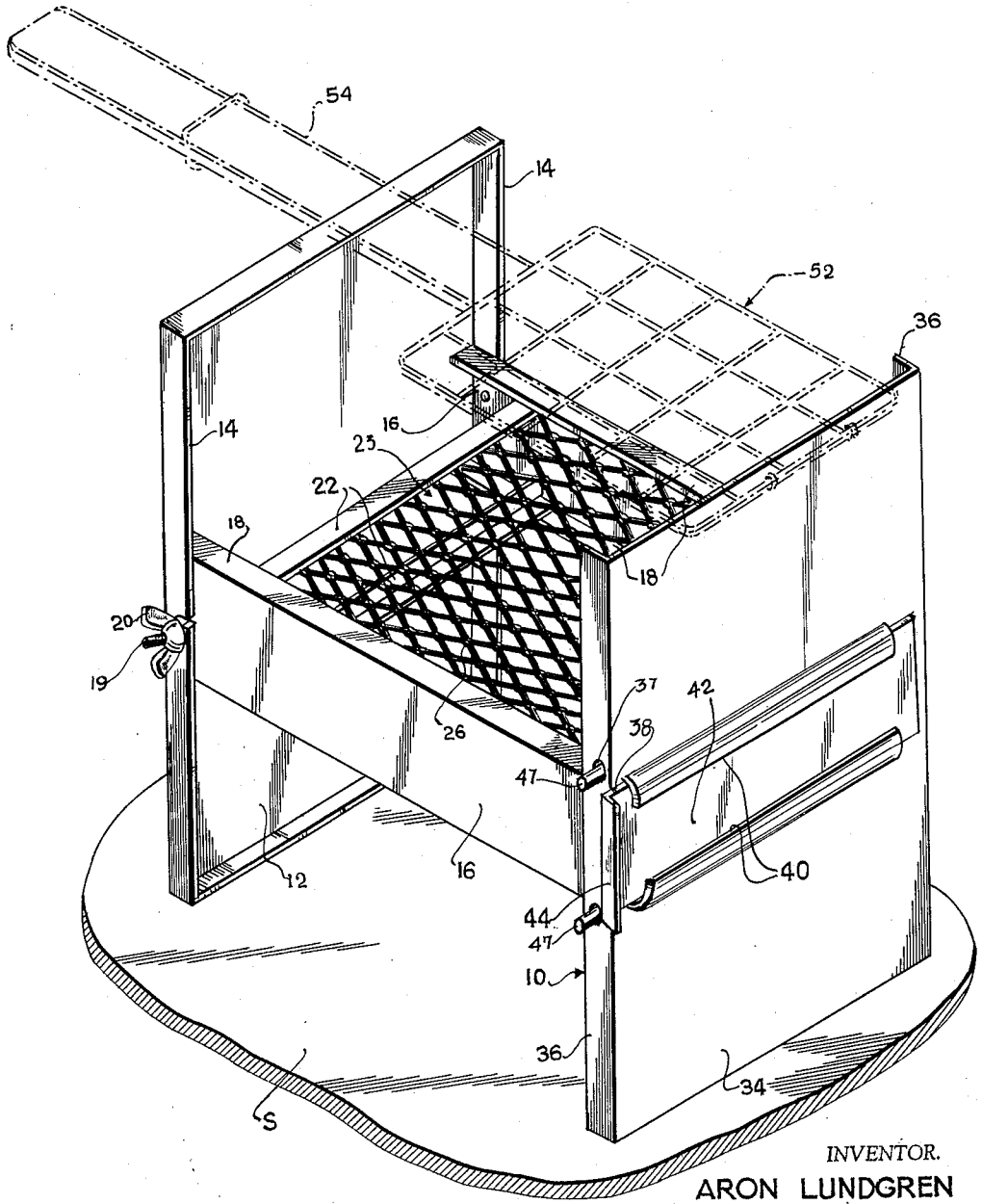


FIG. 5.

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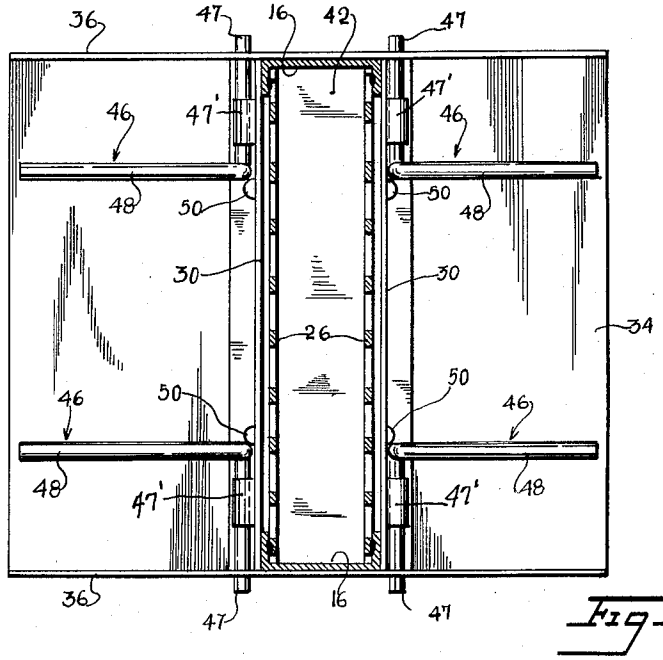


Fig. 7.

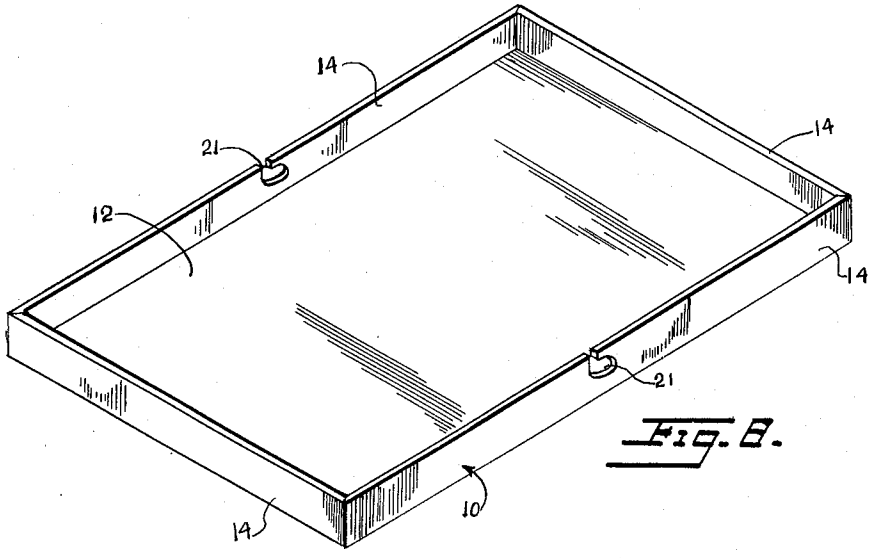


Fig. 8.

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United States Patent Office 2,962,019 Patented Nov. 29, 1960

2,962,019

PORTABLE CHARCOAL BROILER

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Filed Mar. 28, 1958, Ser. No. 724,669

2 Claims. (Cl. 126—25)

This invention relates generally to broilers, barbecue grills, and similar devices used for cooking out-of-doors.

The main object of the present invention is to provide a generally improved device of the character described, and among more specific objects there are, among others, the following:

To provide a portable, convertible and collapsible charcoal broiler having a maximum area, in relation to the amount of charcoal used, over which heat is directed, thus to provide for the cooking of a substantial quantity of foods, despite the relatively small size of the charcoal compartment and the small overall size of the portable broiler;

To provide a device as stated which can be used in either an upright position or on its side, in a manner to increase the versatility and maneuverability of the device and permit the cooking of a wide variety of different types of foods;

To so form the device that conventional broiler frames or food-holding devices of a similar nature may be suspended or supported in position upon the broiler in a manner to insure an even distribution of heat over the full area thereof;

To provide a novel means for facilitating the insertion of fuel and for improving combustion through the provision of a highly desirable flue effect;

To provide a device of the character stated, which is readily assembled and disassembled and cleaned, and which when not in use, will occupy relatively small amount of space;

To so form the device that a plurality of surfaces thereof may be readily coated with reflective paper for the purpose of still further increasing the uniformity and efficiency of the heating action; and

To permit manufacture of the device entirely from relatively inexpensive, readily obtainable components.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a broiler according to the present invention in upright position, disposed upon a support only a fragment of which is shown, a conventional broiler frame and drip pan being shown in dotted lines.

Fig. 2 is an enlarged transverse sectional view on line 2—2 of Fig. 1.

Fig. 3 is an enlarged, vertical sectional view substantially on line 3—3 of Fig. 1, portions being broken away.

Fig. 4 is a detailed, transverse sectional view through the lower portion of the fuel compartment substantially on line 4—4 of Fig. 3.

Fig. 5 is a perspective view of the device in use while supported on its side, a conventional broiler frame being shown in dotted lines.

Fig. 6 is a fragmentary top perspective view of the top plate per se, a slidable lid being shown in dotted lines in partially open position.

Fig. 7 is a transverse sectional view taken substantially on the plane of the line 7—7 of Fig. 3.

Fig. 8 is a top perspective view of the base.

Referring to the drawings in detail, designated generally at 10 is a portable charcoal broiler according to the present invention. This is shown in Figs. 1 and 5 supported upon a suitable supporting surface S.

The device includes a rectangular, one-piece, sheet metal base or bottom plate 12 integrally formed along opposite edges thereof with low, upwardly projecting flanges 14. Projecting upwardly from base plate 12, medially between the opposite ends thereof, are confronting, identically but oppositely formed side plates 16, formed as wide, shallow channels having side walls 18 projecting toward each other, that is, the side walls 18 project inwardly from the adjacent flanges 14 with the wide web portions of the side plates being in contact with the respective flanges 14. Screws 19 fixed to the bottom of the side plates passing through bayonet slots 21 in the flanges 14 serve detachably with wing nuts 20 to fasten the base 12 to the side plates 16.

Extending between the side plates 16, a short distance upwardly from the base plate 12, are confronting lower support bars 22, formed as angle members, said bars 22 being extended in parallel relation in a common plane parallel to the general plane of the base plate 12. At their opposite ends, bars 22 are welded or otherwise fixedly secured to the side walls of the respective side plates 16.

The lower support bars 22 constitute components of a fuel compartment designated 23. Said compartment comprises largely a grille structure U-shaped in configuration and cross section. The grille structure is formed of expanded metal and includes a bottom wall portion 24 and spaced side wall portions 26 (Fig. 4). The piece of expanded metal is supported, along opposite sides of the bottom wall 24, upon the confronting lower support bars 22, and spot welds 28 are employed for fixedly connecting the expanded metal to said lower support bars, as clearly shown both in Figs. 3 and 4.

The compartment 23 further includes, at the upper ends of the side walls 26, spaced upper support bars 30, of angular configuration, secured by spot welds 32 (see Fig. 3) to the top edge portions of the respective side plates 16 adjacent the walls 26.

A top plate 34 of a configuration and size matching those of the base plate 12, is removably mounted on the top of the side plates 16. Plate 34 comprises a flat, single piece of sheet metal material formed along opposite sides thereof with depending flanges 36 disposed in confronting relation to the respective flanges 14. Referring to Fig. 6, and also to Fig. 3, it will be seen that the top plate 34 has a wide, transversely extending, rectangular opening 38, communicating with and corresponding generally in configuration to the open top of the compartment 23. Opening 38 extendings across substantially the full width of the top plate 34, and the material of the top plate, at opposite sides of the opening 38, is bent upwardly to provide elongated, upwardly convergent guide flanges 40 for a slidably movable lid or cover plate 42, one end of which is bent upwardly to provide a handle 44.

As will be noted from Fig. 2, the lid 42 is forced upwardly into engagement with the confronting inner surfaces of the guide flanges 40 by the top portions 45 of the upper support bars 30, said top portions being bent upwardly out of a common plane so as to converge in an upward direction. The lid is thus frictionally held in place between flanges 40 and top portions 45, but of

course, the lid can be slidably moved between opened and closed or partially closed positions, whenever desired.

The top plate **34** seats on the tops of the side plates **16** and is detachably supported thereon by means of pairs of L-shaped rods **46**, adjacent the sides thereof. One leg **47** of each rod **46** is shorter than the other leg **48** and is offset laterally as indicated at **49** from the plane of the leg **48** so that the rod when in operative position has its offset portion **49** normally positioned close to the downwardly extending leg portion of the support bar **30** and its long leg **48** spaced downwardly from the top plate **34** as shown in Fig. 2. The short leg **47** is slidably mounted in a bearing member **47'** formed adjacent each end of each angular support bar **30**, and protrudes through an opening **37** in the adjacent flange **36** of the top plate **34**. A protuberance or button **50** on the downwardly extending leg portion of the support bar **30** adjacent the offset portion **49** of each rod **46**, and positioned in the path of sliding movement of said offset portion normally holds the adjacent rod **46** against displacement.

Thus, it may be considered that the broiler constituting the present invention is generally I-shaped, with a vertical portion being formed as a fuel-receiving compartment and being of foraminous formation at its bottom and its opposite sides, said fuel compartment extending transversely over the full width of the device, the device including horizontal, pan-like, top and bottom portions projecting beyond the opposite sides of the fuel compartment substantial distances in opposite directions so as to define spaces within which food may be disposed, to be impinged upon and cooked by heat emanating from the fuel compartment.

Thus, in use, the device can be disposed in upright position as shown in Fig. 1, the device having the mentioned I-shape when so positioned. Charcoal or equivalent fuel would be deposited through the opening **38**, and after being ignited, will produce heat that will travel laterally outwardly from the opposite, foraminous sides of the fuel compartment. The closure plate **42** can be left partly open, if desired, to provide a flue-like action, that is, air may be caused to travel upwardly through the charcoal through the opening **38** to increase combustion.

The broiler can be readily collapsed by merely pivoting the rods **46** upwardly toward the top plate **34** to swing the offset portions **49** thereof clear of the protuberances **50** when the short leg portions **47** thereof may be slid inwardly and the rods removed permitting the top plate **34** to be lifted off of the side plates **16**. Removal of the wing nuts **20** from the screws **19** permits detachment of the base plate **12** from the side plates **16**.

A conventional broiler frame or food holder generally designated at **52** may thus be suspended in vertically depending position from the long legs **48** of the respective rods **46** at a selected side of the device. Obviously, a plurality of broiler frames can be suspended from the rods, either at one side of or at both sides of the fuel compartment. Further, the confronting inner surfaces of the top and bottom plates **34** and **12**, respectively, may be coated with a reflective foil, or may themselves have reflective characteristics designed to increase the efficiency of the heating action of the device. The broiler frame **52** has the usual handles **54** projecting beyond one side of the portable charcoal broiler to permit manipulation of the food holder or holders. A drip pan **56** can be disposed below the holder, being supported upon the flanges **14** so as to be disposed out of contact with the flat body portion of the base plate **12**. This pan may retain and catch all the drippings from the food that is being broiled, so that said drippings are not lost.

It will be apparent that when the device is used as in Fig. 1, it can, with a relatively small amount of charcoal, cook simultaneously a large number of food items.

Referring to Fig. 5, the broiler is herein shown lying on one side, so that the fuel compartment **23** extends horizontally rather than vertically. In these circumstances, the broiler has what might be appropriately termed an H-shape, with the horizontal portion being defined by the fuel compartment and with the base and top plates constituting the vertical portions.

In these circumstances, the boiler frame **52** may be positioned in a horizontal plane, being supported upon the top edges of the plates **12**, **34**. This may be preferred in some circumstances, according to the particular food that is being cooked.

The broiler, as will be apparent, has considerable versatility, being adapted to permit quick broiling of a substantial quantity of fuel, though only a small amount of charcoal is being used. Further, the efficiency of the heating action is measurably increased, due to the fact that the greatest part of the area of the walls of the fuel compartment is open in a direction to cause heat emanating from said compartment to impinge upon the food that is being cooked.

At the same time, the broiler is so designed as to be readily collapsed and capable of being cleaned with maximum ease, and in addition, the broiler has the desirable characteristic of being comparatively small, light, and designed for manufacture at a comparatively low cost.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A portable and collapsible charcoal broiler, comprising a rectangular horizontal base, a pair of spaced channel-shaped plates upstanding vertically from the base with narrow side walls of one plate disposed in coplanar alignment with narrow side walls of the other plate, a pair of right angular bars secured respectively to the top edge portions of each coplanar pair of narrow side walls bounding the space between said plates, a U-shaped expanded metal grille structure with a bottom wall portion and spaced side wall portions supported by said plates and defining a fuel compartment therebetween, a rectangular top plate having depending flanged sides with spaced openings therein, said top plate being supported in a horizontal position on said bars with said flanged sides disposed vertically parallel to said pair of plates, bearing members formed on the undersides of said bars, and a plurality of L-shaped rods each having one leg slidably, pivotally and detachably mounted in one of the bearing members and protruding through one of said openings, locking means on the undersides of the bars for holding the rods against accidental displacement from the bearing members, the other leg of each rod being spaced from the top plate and movable to pivot the one leg of each rod and free the rod from said locking means so that the rods are rendered removable from the bearing members and top plate, whereby the top plate is rendered freely removable from said bars, said locking means comprising projections on the undersides of said bars near said bearing members, each of said rods having the two legs thereof offset from each other by a short connecting section, each connecting section being disposed adjacent one of said projections.

2. A portable and collapsible charcoal broiler, comprising a rectangular horizontal base, a pair of spaced channel-shaped plates upstanding vertically from the base with narrow side walls of one plate disposed in coplanar alignment with narrow side walls of the other plate, a pair of right angular bars secured respectively to the top edge portions of each coplanar pair of narrow side walls bounding the space between said plates, a U-shaped expanded metal grille structure with a bottom wall portion and spaced side wall portions supported by said plates and defining a fuel compartment therebetween, a rec-

tangular top plate having depending flanged sides with spaced openings therein, said top plate being supported in a horizontal position on said bars with said flanged sides disposed vertically parallel to said pair of plates, bearing members formed on the undersides of said bars, projections extending from the undersides of the bars near said bearing members, and a plurality of substantially L-shaped rods, each of said rods having a shorter leg and a longer leg, the legs being offset from each other by a short connecting section at their inner ends disposed perpendicular to the respective legs, the shorter of said legs being slidably, pivotally and detachably mounted in one of the bearing members and having the free end thereof protruding through one of said openings, the connecting section of each rod being disposed adjacent one of the projections to hold the rod against accidental displacement, the longer of the legs being spaced from the top plate and movable to pivot the shorter leg in its associated bearing member and clear the connecting section from the adjacent projection, so that the rods are rendered removable from the bearing members and the top plate and whereby the top plate is rendered removable from said bars.

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