Aug. 22, 1950 B. A. CLIFF 2,520,030

RADIANT OVEN

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FIG. 1.

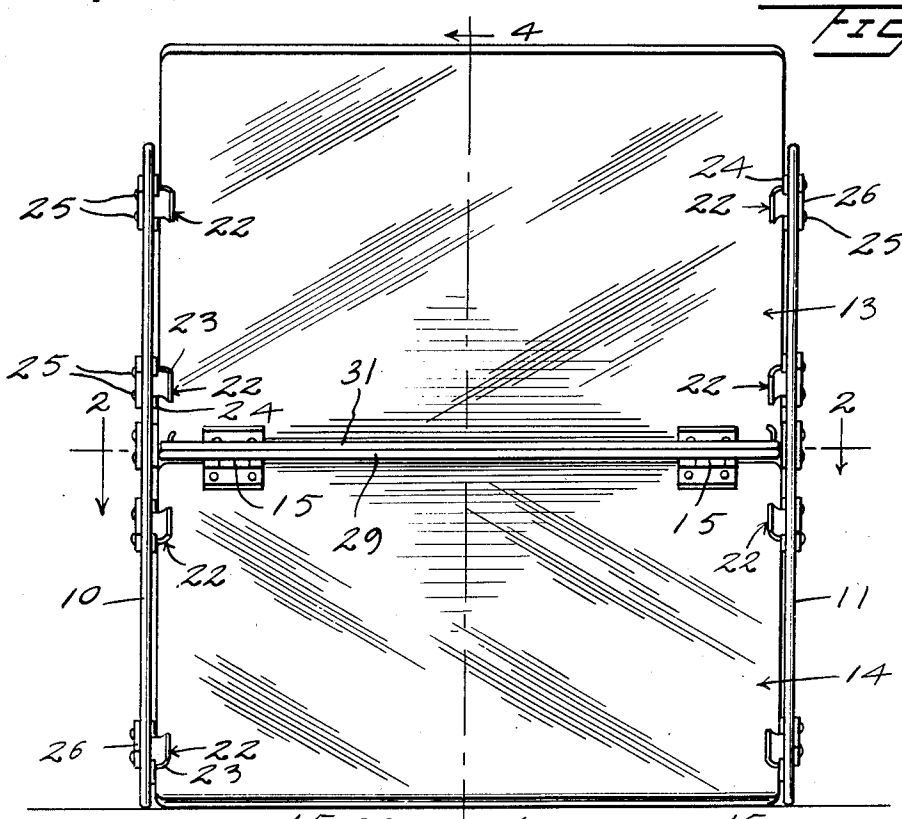
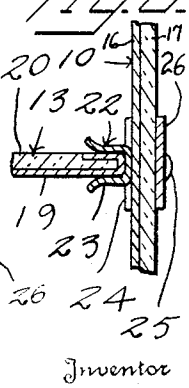


FIG. 6.



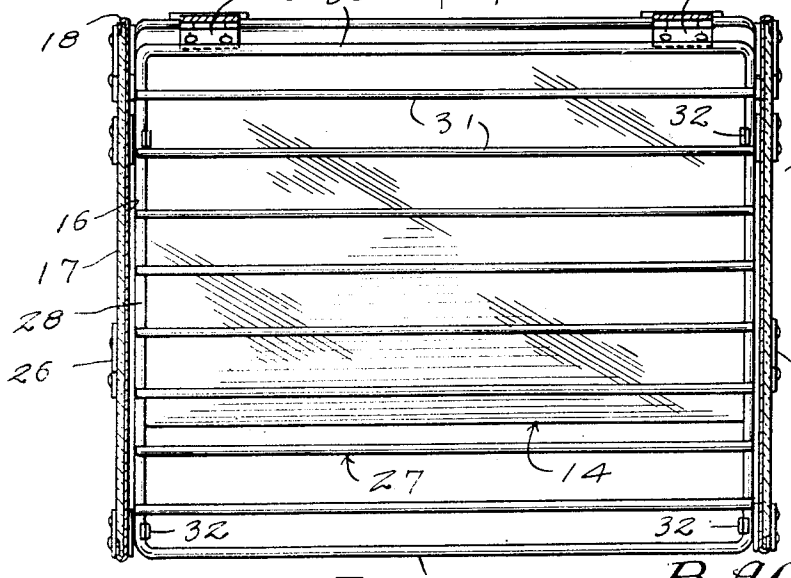


FIG. 2.

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RADIANT OVEN

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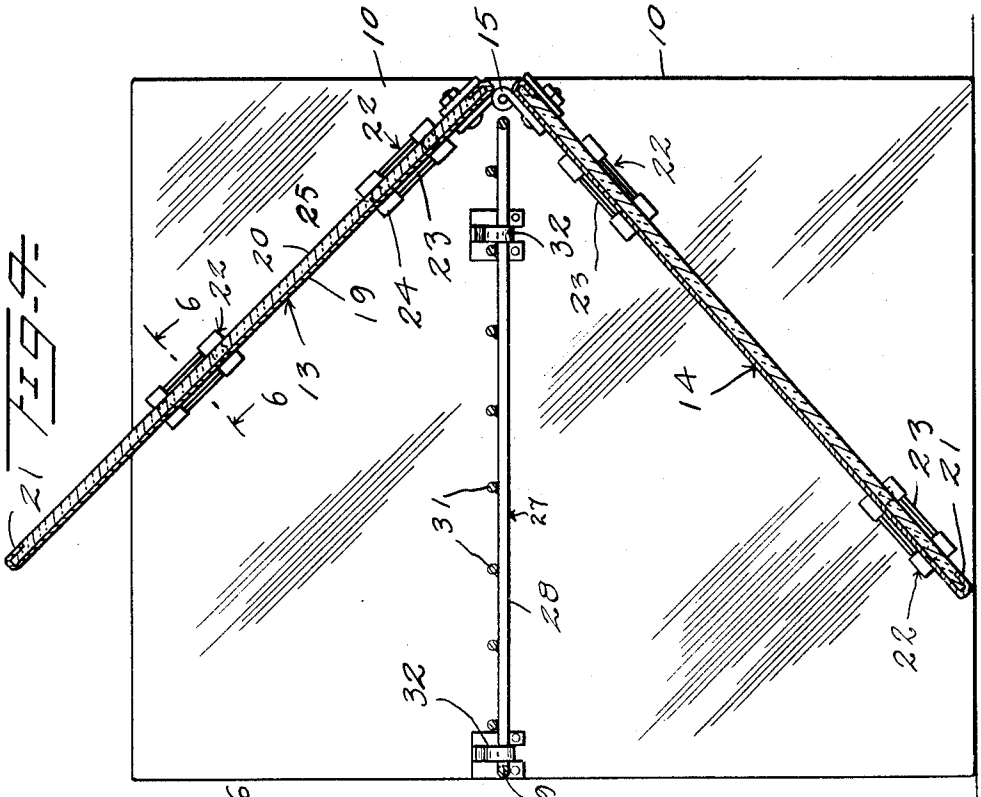


FIG. 4.

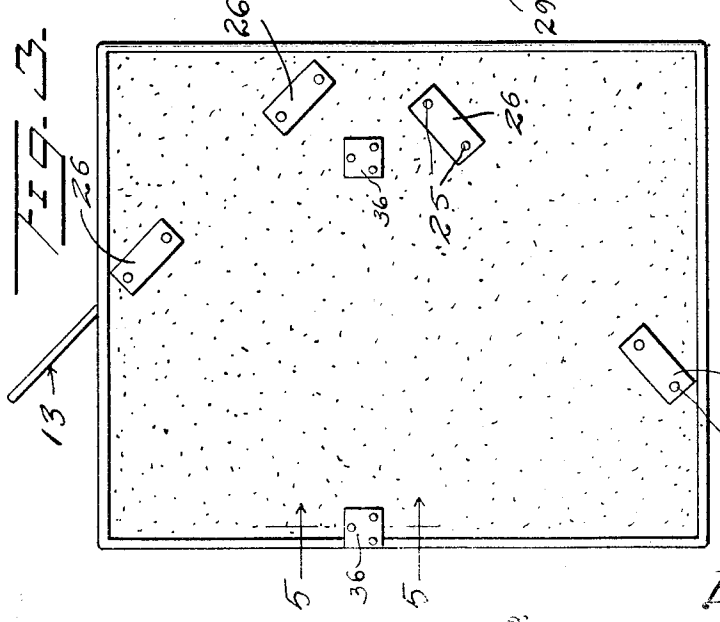


FIG. 3.

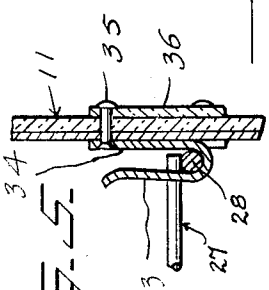


FIG. 5.

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RADIANT OVEN

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Application September 19, 1947, Serial No. 774,971

2 Claims. (Cl. 126—274)

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This invention relates to collapsible radiant ovens.

An object of this invention is to provide an outdoor oven which is formed of detachably secured together plates having reflecting surfaces on the inner sides thereof and heat insulating means on the other sides thereof, the several plates being locked together by means of the grill or grate.

Another object of this invention is to provide a radiant outdoor oven which, being made of flat plates, can be collapsed to occupy only a very small space, and at the same time, due to the detachable connections between the plates and grill, the oven can be set up in operative position without the use of tools and in a very short time. The connections for the plates and the grill being permanently secured to the plates cannot become lost.

To the foregoing objects, and others which may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts, as will be more specifically referred to and illustrated in the accompanying drawings, but it is to be understood that changes, variations, and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a detailed front elevation of a radiant oven constructed according to an embodiment of this invention.

Figure 2 is a horizontal section taken substantially on the line 2—2 of Figure 1.

Figure 3 is a detailed end elevation of the device.

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 3.

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 4.

Referring to the drawings, the numerals 10 and 11 designate generally a pair of side plates which are rectangular in side elevation and are disposed in a vertical spaced apart parallel relation. The side plates have disposed therebetween a pair of reflecting members or plates 13 and 14 which are hingedly connected together as at 15, and are disposed in forwardly divergent relation with the hinge 15 substantially at the rear edges of the side plates 10 and 11.

The side plates 10 and 11 are of like construction and each includes a reflecting plate or surface 16 which has mounted on the outer side

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thereof a heat insulating sheet 17. The heat insulating sheet 17 in the present instance is secured to the sheet or plate 16 by reverting or rebending the marginal edges of the sheet or plate 16 as indicated at 18. The reflecting members 13 and 14 are also of like construction and each includes a reflecting plate or sheet 19 disposed innermost and having mounted on the outer side thereof a heat resisting plate or sheet 20. The marginal edges of the sheet or plate 19 are reverted or rebent as indicated at 21 so as to firmly secure the heat insulating plate or sheet 20 on the back side of the plate or sheet 19.

The inner sides or faces of the side members 10 and 11 have secured thereto upper and lower pairs of resilient clips or fastening members 22 and each fastening member includes a U-shaped clip 23 which is formed at the opposite ends thereof with base plates 24 secured by fastening means 25 to the side members 10 and 11. The side members 10 and 11 on the outer sides thereof have reinforcing plates 26 disposed in a position where the fastening members will extend through the plates or reinforced members 26 so that the clips 22 will be firmly secured to the inner sides of the side members.

The opposite or outer edges of the reflecting members 13 and 14 are adapted to removably engage in the U-shaped members 23 as clearly shown in Figure 6. The reflecting members 13 and 14 are firmly locked between the side members 10 and 11 by means of a wire frame or openwork grill, generally designated as 27. The grill 27 includes a rectangular metal or wire frame comprising opposite side bars 28 disposed in parallel relation, front and rear bars 29 and 30 which may be formed integral with the side bars 28 and a plurality of spaced bars 31 are secured between the side bars 28.

The inner sides of the side members 10 and 11 have secured thereto a pair of grill securing clips, generally designated as 32. The clips 32 include a resilient hook 33 having formed on the outer side thereof or from which the hook is stamped or bent, a base plate 34 which is secured by fastening members 35 to the inner side of the side members 10 and 11 and a reinforcing plate 36 is interposed between the heat insulating member 17 carried by each of the side members 10 and 11 and the heads of the fastening members 35.

The side bars 28 of the grill 27 are adapted to engage the hooks 33 as clearly shown in Figures 4 and 5 so that when the grill is in operative position, disposed horizontally between the side members 10 and 11 and extending horizontally

from the apex formed by the reflecting members 13 and 14, the side members 10 and 11 will be detachably locked together.

The inner sides or faces of both side members 10 and 11 are adapted to be formed of reflecting material and in the same manner the inner sides of the reflecting members 13 and 14 are formed of reflecting material. In this manner the oven may be disposed closely adjacent a fire so that the heat rays from the fire will be reflected by the side members 10 and 11 and also the inclined reflecting members 13 and 14. The articles which are to be cooked are placed on the grill 27 so that these articles will be heated by the radiant heat rays which are reflected by the reflecting surfaces of the side walls and the inclined walls forming the oven.

This oven being formed of flat plates which are detachably coupled together can be completely assembled within a very short space of time and the oven can be collapsed to a flat form so that it will occupy only a very small space and can be carried in the trunk of a vehicle. Furthermore, due to the fact that the securing means for securing the parts of the device together are securely fastened to such parts, it is not necessary to use any tools in the assembling or collapsing of the device. In this manner the securing devices will not become lost during the assembling or collapsing of the device or during the carrying of the device in its collapsed form.

I claim:

1. A collapsible radiant oven comprising a pair of separate flat vertically disposed side plate members formed with reflecting inner surfaces, a pair of inner reflecting plates between and perpendicular to said side plate members, hinge means securing said reflecting plates together, a plurality of U-shaped clips carried by the inner faces of said side plate members for detachably securing said inner plates to said side plate members with said plates disposed in forwardly divergent position, a grill, and resilient clips carried by said side plate members for gripping and supporting said grill in a horizontal position extending from the inside of the angle formed between said inner plates, said latter clips being so arranged and constructed that said grill when engaged therewith will detachably lock the side plate members in aligned parallel relation whereby said first mentioned clips are held in close engagement with the edges of said inner plates to secure said inner plates in detachable related assembly with said side plate members.

2. A collapsible radiant oven comprising a pair of flat vertically disposed spaced parallel side members provided with reflecting inner surfaces, a pair of divergent inner reflecting plates detachably supported at their ends on the side members and between the same, said inner plates being hinged together along contiguous edges and extending therefrom in divergent relation between said members, a plurality of supports carried by the inner surfaces of said side members for detachably engaging said inner plates at opposite edges to secure said inner plates between said side members and said side members against the ends of the inner plates, a grill between the divergent inner plates extending from the contiguous edges thereof and means carried by the inner faces of said side members detachably supporting said grill between said side members and equidistantly between the inner plates in a horizontal position and holding the side members against the ends of the inner plates and grill.

BENJAMIN A. CLIFF.

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