Feb. 12, 1935. C. B. BROWN 1,991,135

STOVE

Filed June 14, 1933 2 Sheets-Sheet 1

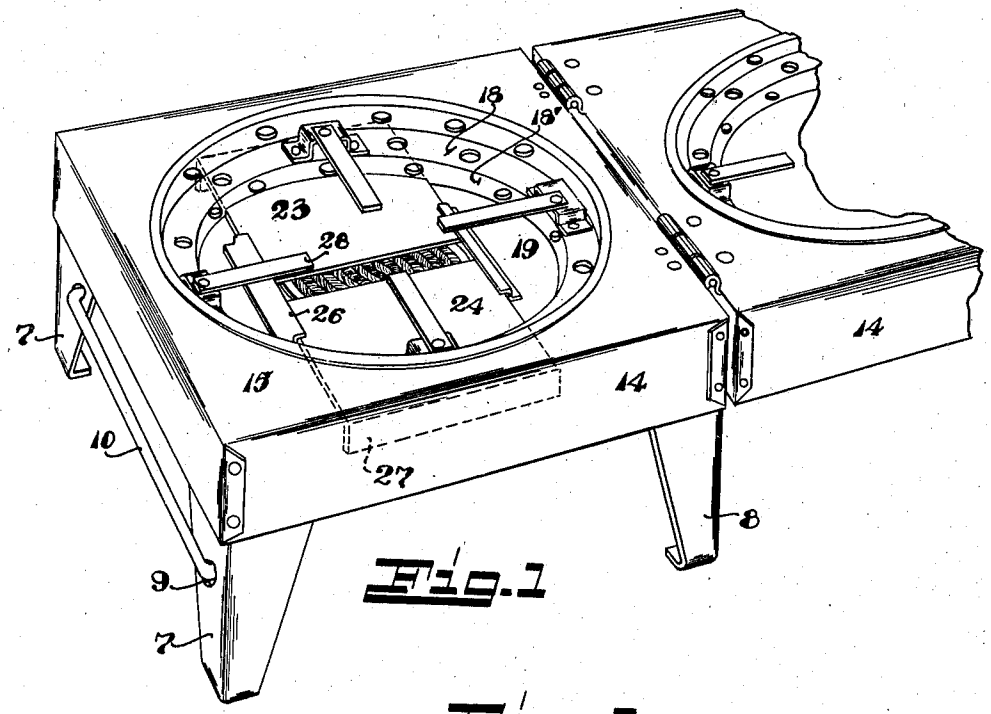


Fig. 1

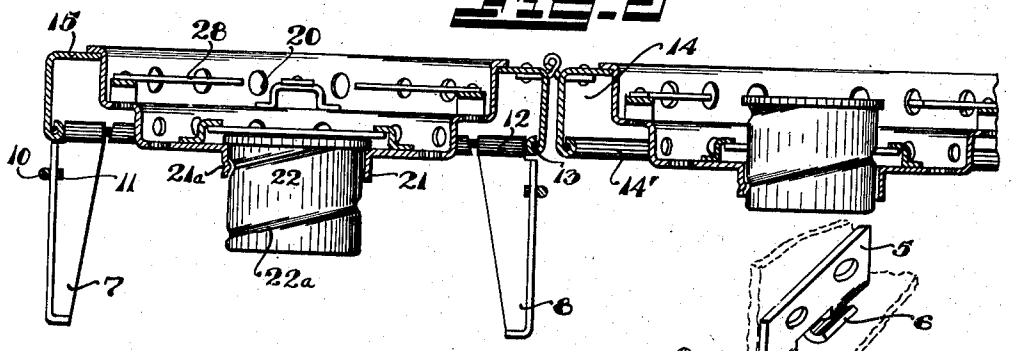


Fig. 2

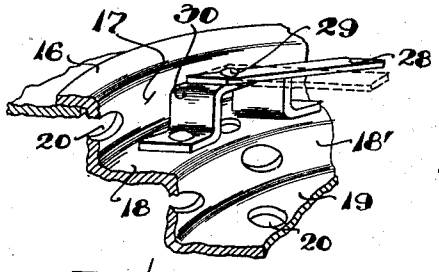


Fig. 3

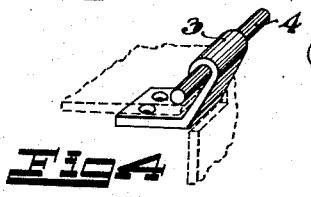


Fig. 4

Fig. 5

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STOVE

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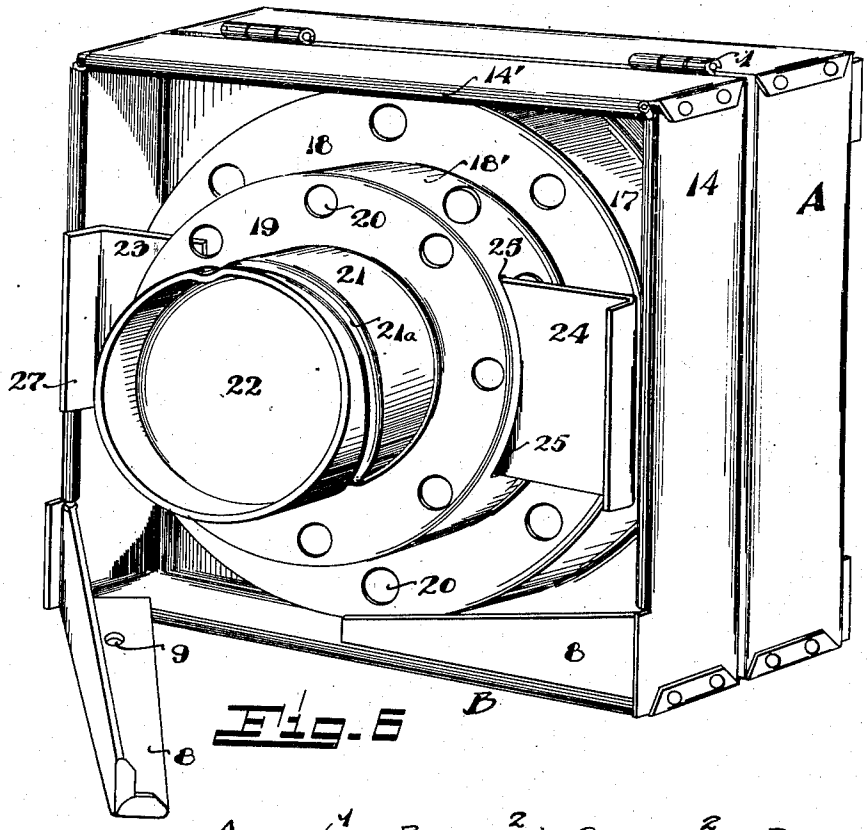


Fig. 6

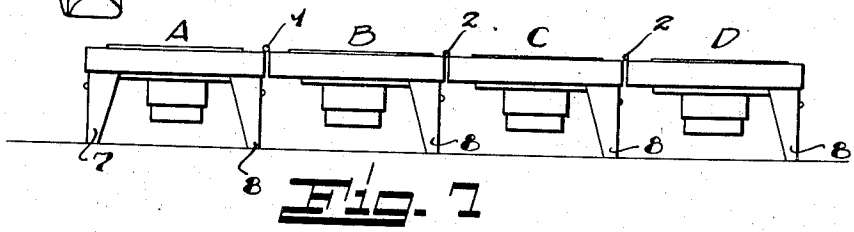


Fig. 7

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UNITED STATES PATENT OFFICE

1,991,135

STOVE

Charles B. Brown, Sandpoint, Idaho

Application June 14, 1933, Serial No. 675,721

4 Claims. (Cl. 126—38)

My present invention relates to improvements in stoves of the liquid fuel type and designed as a folding-kit, cooking stove, composed of one, or of a plurality of units, and in which the units may be compactly arranged to insure comfort and convenience in the transportation of the portable kit. Means are provided whereby the equipment may with facility be set up for use and the parts of the stove are so combined and arranged as to provide an efficient, economical, and durable stove of this type.

In carrying out my invention I have combined and arranged various parts of the portable, folding-kit stove in such manner as will hereinafter be more fully set forth and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention.

Figure 1 is a perspective view showing one unit and a portion of another unit of the stove in which my invention is embodied.

Figure 2 is a vertical sectional view of one unit and of a portion of another unit.

Figure 3 is a perspective detail view showing one of the hinged grid-arms of the burner.

Figure 4 and Figure 5 are perspective details of the hinge joints between adjoining units of the stove.

Figure 6 is a perspective view showing two units folded together, and Figure 7 shows four units coupled together for use.

In order that the general arrangement, utility, and relation of parts may readily be understood I have shown in Figure 7 four of the stove units as A, B, C, D, coupled together and ready for use, while in Figure 6, two of the hinged units are shown folded together, the units A and B forming a folding-kit. Thus, the two units A and B may be hinged together at 1 as a permanently coupled, and foldable unit, while the separable units C and D may have detachable unit-hinges 2, 2, that may be coupled to the base unit A—B.

It will thus be apparent that one unit of the stove may be employed as a single unit A; a pair of units as A and B may be employed; or the multiple stove may be made up of a number of separable units, as C and D added to the base pair.

The construction of the separable hinges 2, 2, is illustrated in Figures 4 and 5, where the bracket 3 and its rigid pin 4 are riveted or bolted to one unit of the stove, and the hinge plate 5 with its hinge-hooks 6, 6, is riveted to an adjoining unit. Thus one unit, as C will have one member of the hinge as 5—6 (in pairs) at one side, and another member 3—4 (in pairs) at its other side in order that the separable units may be coupled together as required. Usually a pair of the units are coupled together, as in Figure 6, for compact arrangement in storing or shipping.

The units are provided with foldable legs as 7—7 and 8—8, the first unit A being provided with two pairs of legs, and the remaining hinged units being each provided with one pair of folding legs, and the complementary hinge members just described. The multiple stove of Figure 7 is thus supported by the hinge joints and the pairs of folding legs.

Each leg is fashioned with a hole 9 and a brace 10 joins the legs in pairs, said brace having bent or hooked ends 11 that fit into the holes 9 when the legs are extended, as in Figure 1, to brace the legs, and this brace bar 10 is removable when the legs are folded to compact position, as in the lower right corner of Figure 6.

At their upper ends the legs are turned over to form hinge sleeves 12 that fit around the round rod 13 which is mounted in the body of the stove unit 14 and retained, as a reinforcing or strengthening member, in the turned-in edge 14' or bead that is fashioned around the bottom edge of the stove body 14.

As indicated in the drawings, the body of the stove is an open, rectangular frame upon which the folding legs and the hinge joints are mounted, and the upper part of this body-frame is fashioned with a top flange 15 having an open, circular, central portion in which the burner portion of the stove is located.

The burner portion includes a stepped ring having an annular top flange 16 by means of which the burner-ring is attached to the stove body and the body of the burner ring is located within the open stove frame 14. Below the horizontal attaching flange 16 the burner ring is fashioned with a circular wall 17 which merges into a horizontal flange or shelf 18, and below this shelf or ledge 18 a circular wall 18' merges into the flat, horizontal, open-center, bottom 19. The bottom, the two circular walls, and the ledge, as indicated, are provided with vent holes 20 through which air may pass from the exterior of the burner ring to the interior thereof for the purpose of supporting combustion.

The open-center bottom 19, as best indicated in Figures 2 and 6 is fashioned with an annular

flange 21 depending therefrom, and this flange is fashioned with a spiral thread 21*a* for co-action with a complementary groove 22*a* in the burner 22. This burner is an alcohol burner of standard or well known type as here shown, but it will be understood that any other suitable type of burner may be used. At the left in Figure 2 the burner is located in position for use, and at the right in the same figure, the burner is shown as elevated within the burner ring in order that only a minimum portion of the burner will project when the two units are folded together, that is, when the stove is not in use, but is ready for storing or shipping. By means of the threaded connection between the burner and the flange 21, the position of the burner may be adjusted with relation to the utensil that is supported on the stove unit in order to vary the intensity of the flame in its impingement on the bottom of the cooking utensil.

Means are also provided for cutting off, entirely, the flame of the burner from the utensil, and for partially cutting off direct contact of the flame with the bottom of the utensil, and for this purpose I employ a pair of rectangular slide plates 23 and 24, located above the top of the burner and adapted to cover, or to partially cover, the burner. These plates are slidable with relation to each other toward and from the center of the burner, in complementary slots 25 of the circular wall 18', and the lateral edges of these plates slide under retaining flanges 26, which are arranged in parallelism at opposite sides of the burner. At their outer ends the slide plates are provided with downwardly bent flanges 27 which are used as handles in adjusting the position of these plates.

It will be apparent that the larger sizes of utensils may be supported above the burner, directly on the top 15 of the stove unit, but for smaller utensils I employ an adjustable and removable grid that is supported in the burner ring. This grid comprises a number of grid arms 28, here shown as 4, each of which is pivoted or hinged on a vertical axis or pin 29 of a bracket 30 and the latter is riveted or otherwise secured to the ledge 18 of the burner ring. As indicated in Figure 1 the brackets are located at diametrically opposite points about center of the burner and the arms may be swung, in pairs, in diametrical arrangement, or they may be swung to positions where they are tangentially disposed about the center of the burner. In either position they are adapted to support a utensil over the flame from the burner, or if not required for use, these arms may be swung from position over the burner to positions over the ledge 18 where they are inactive.

While I have illustrated and described a preferred form and physical embodiment of my invention, it will be apparent that changes and alterations may be made in the construction, within the scope of my claims and without departing from the principles of my invention.

This form of the invention is especially well adapted for camping equipment and for out-of-doors use generally, as well as for use in water craft and air craft, and in apartment houses or other places where the space is restricted. The invention provides an economical and smokeless equipment that is free from fire hazards and which may with facility be packed for storing or shipping, and with equal facility the equipment may be assembled or set up for use, and provide an efficient means for use in the preparation of meals, at comparatively low cost and with a minimum of labor.

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

1. In a multiple unit stove, the combination with a base unit having foldable supports, of a second unit permanently hinged at one side to said base-unit, a foldable support for the free side of the second unit, said second unit having a separable hinge member at its free side, a third unit having a complementary hinge member for the separable hinge member, and a foldable support for the free side of the third unit.

2. In a multiple unit stove, the combination with a base-unit having a pair of foldable legs and a detachable brace bar for said legs, of a second unit and a permanent hinge joint between said units, a pair of foldable legs for the free side of the second unit and a detachable brace bar for said legs, and means for supporting said units adjacent the hinge joint between the units.

3. In a multiple-unit stove, the combination with a base-unit forming a housing and having hinged supports comprising legs adapted to fold into said housing, of a second foldable unit also forming a housing, hinged supports on the second unit comprising legs adapted to fold into the housing, and permanent hinge-connections between said units, whereby the hinged legs may be folded into the housings and the two units folded into parallel relation when the stove is not in use.

4. The combination with a stove body and its open center burner ring having vent openings, a supporting flange depending from the bottom of said ring, and a spiral thread on the inner periphery of said flange, of a burner having a complementary spiral thread on its outer periphery, a pair of oppositely arranged slidable plates mounted in said ring and adapted to slide over the burner when the latter is in lowered position, and a plurality of pivoted grid-arms mounted on said burner ring and adapted for use on a level with the top of the burner when the latter is in elevated position.

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