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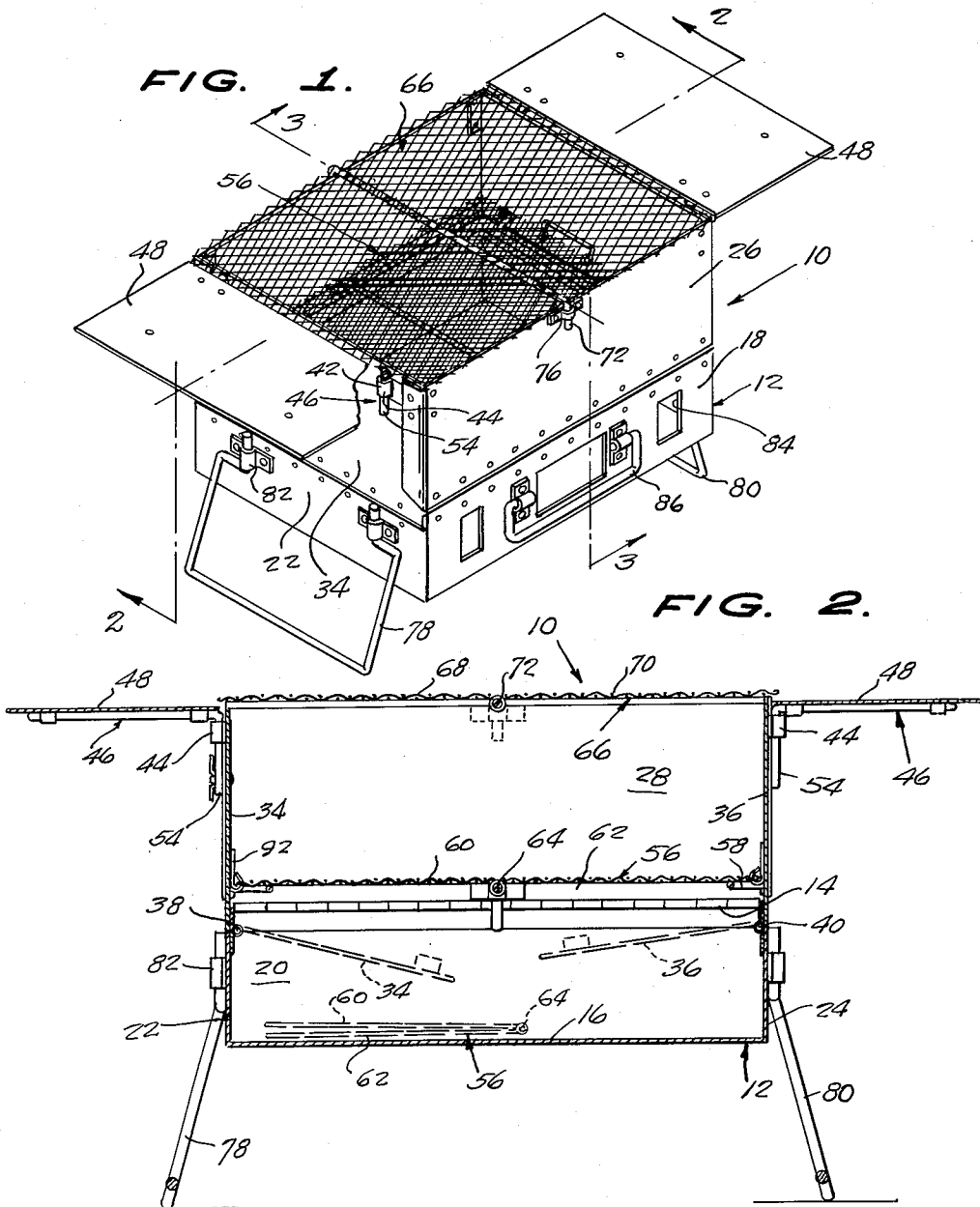
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2,985,164

COLLAPSIBLE CAMP STOVE

Filed Feb. 13, 1959

2 Sheets-Sheet 1



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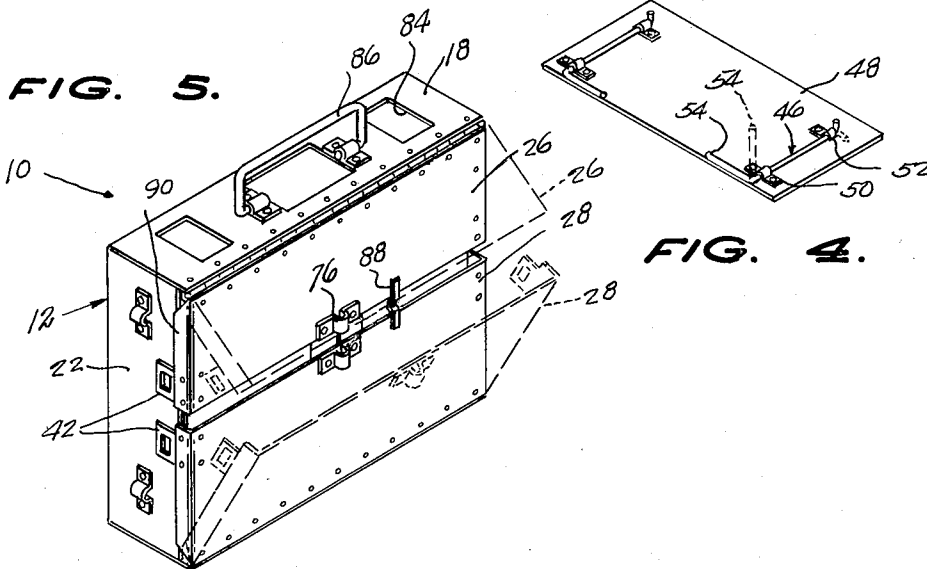
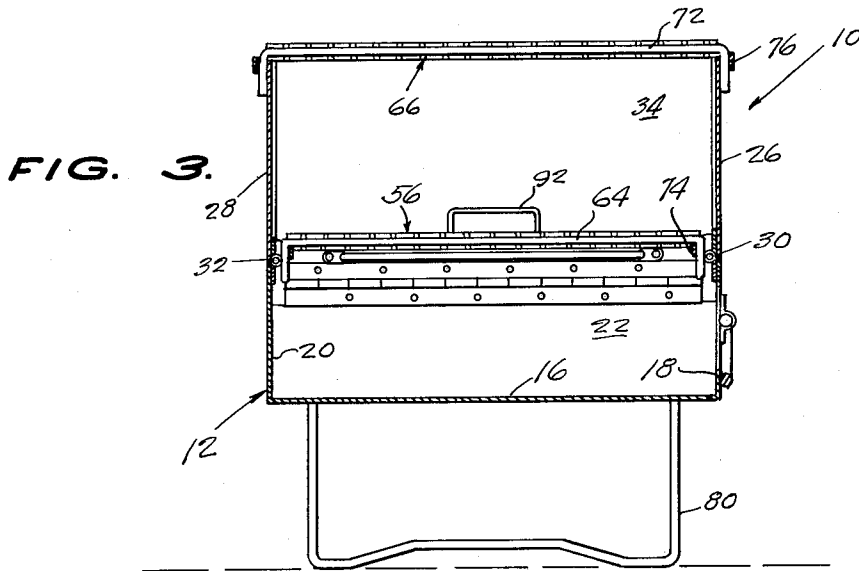
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**COLLAPSIBLE CAMP STOVE**

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3 Claims. (Cl. 126—25)

The present invention relates to a stove of the collapsible type generally employing charcoal as fuel.

Collapsible camp stoves have heretofore proposed and included base members with extension panels, grates, and grills, each secured to the base members by locking clevises and pins and the like. In order to keep the weight of such a camp stove to a minimum, the clevises, pins, and other fastening elements are provided in as small a size as possible. Frequently, due to the use which is made of the camp stove constructed so as to employ such fastening elements, the fastening elements are inadvertently lost and the usefulness of the stove is impaired.

An object of the present invention is to provide a collapsible camp stove having a grill, a grate, dish-supporting trays or panels, with no separate fastening element which may become inadvertently lost to therefore render the stove useless.

Another object of the present invention is to provide a collapsible camp stove which is compact in size and of suitcase shape when collapsed so that it lends itself to portability with ease and facility.

A further object of the present invention is to provide a collapsible camp stove which is easily and quickly converted from the collapsed condition to the erected position.

A still further object of the present invention is to provide a collapsible camp stove which is simple in structure, one sturdily constructed, one economical to manufacture and assemble, and one which is highly effective in action.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in conjunction with the annexed drawings, in which:

Figure 1 is an isometric view of the collapsible camp stove of the present invention, shown in erected condition, a portion of one tray or platform shown broken away;

Figure 2 is a view, on an enlarged scale, taken on the line 2—2 of Figure 1;

Figure 3 is a view on an enlarged scale, taken on the line 3—3 of Figure 1;

Figure 4 is an isometric view of one of the utensil-supporting platforms or trays of the stove, shown inverted and removed from the stove; and

Figure 5 is an isometric view of the stove in collapsed folded condition ready for transportation or storage, the dotted line showings indicating the swinging movement of the end panels toward their erected position.

Referring in greater detail to the drawings in which like numerals indicate like parts throughout the several views, the stove of the present invention is designated generally by the reference numeral 10 and comprises an upstanding receptacle 12 having an open top 14 (Figure

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2) and including a bottom 16, spaced side walls 18 and 20 rising from the bottom 16, and end walls 22 and 24 connecting each of the complementary ends of the side walls 18 and 20 together.

Upright side panels 26 and 28 are positioned above and adjacent to and are in vertical alignment with the side walls 18 and 20, respectively. The lower end edges of the side panels 26 and 28 are connected by hinges 30 and 32, respectively, to the upper ends of the side walls 18 and 20 for swinging movement from the upright position, shown in Figures 1 to 3, to positions closing the adjacent part of the open top of the receptacle 12, as shown in full lines in Figure 5. The side panels 26 and 28 are shown in dotted lines in Figure 5 in intermediate positions between their upright positions and their closing positions.

Upright end panels 34 and 36 are positioned above and adjacent to and are in vertical alignment with the end walls 22 and 24, respectively, the lower end edges of the end panels 34 and 36 being connected by hinges 38 and 40, respectively, to the upper ends of the end walls 22 and 24 for swinging movement from the upright positions to positions below the open top 14 of the receptacle 12 and within the receptacle 12. These last-named positions of the end panels 34 and 36 are shown in dotted lines in Figure 2.

Cooperating releasable latching elements are provided on the side panels 26 and 28 and the end panels 34 and 36 for holding the side panels 26 and 28 and the end panels 34 and 36 in the upright positions. Specifically, these elements include eye formations 42 secured to each end of each of the side panels 26 and 28 and each receiving a tubular member 44 arranged in an upright direction on the adjacent part of each of the end panels 34 and 36, as shown in Figure 1, with respect to the tubular member 44 on the end panels 34.

An important feature of the present invention is that while a pin of any length longer than the width of the eye formations 42 may be used to be inserted in the respective tubular member 44 for locking the tubular member 44 when projecting out of the eye formation 42, such a separate pin might become inadvertently lost and therefore other means is provided for securing the tubular members 44 in their projected positions relative to the eye formations 42 and the panels are in their upright positions. Preferably, these pins are also supporting members 46 for the platforms 48 which are provided for the support of the utensils exteriorly of each end of the stove 10 and contiguous with the upper ends of the end panels 34 and 36. One such platform 48 is shown inverted in Figure 4 with the support member 46 connected thereto by brackets 50 and 52 for swinging movement from the nested position, as shown, to the position in which the pin portion 54 of the support member 46 is vertical, as shown in dotted lines.

The pin portion 54 of each of the supporting members 46 is slidably receivable in the adjacent tubular member 44 when the platforms 48 are positioned adjacent to and exteriorly of the end panels 34 and 36 adjacent the upper end of the latter.

A horizontally disposed grate 56 is positioned within the space defined by the side panels 26 and 28 and the end panels 34 and 36 when the latter are in their upright positions. Supporting means, embodying brackets 58, project from the inner faces of the end panels 34 and 36 adjacent their lower ends and receive thereon the grate 56 when the latter is positioned within the space defined by the side panels 26 and 28 and the end panels 34 and 36.

The grate 56 is fabricated in two half sections 60 and 62 connected together by a hinge bar 64 for movement from the horizontal position, shown in Figures 1 and 2, to a position in which one of the sections 62, for instance, is parallel to the other section 60, as shown in dotted lines in Figure 2, in which the folded grate is resting upon the bottom 16 of the receptacle 12.

A horizontally disposed grill 66 bridges and is supported upon the upper ends of the side panels 26 and 28 and the end panels 34 and 36 when the panels are in their upright positions. The grill 66 is also fabricated of two half sections 68 and 70 connected together by another hinge bar 72 for movement from the horizontal position to a position in which one of the sections 68 or 70 is in parallel relation with respect to the other section.

For reasons of simplification, this folded position of the grill 66 is not shown but it will be understood to be similar to the folded position shown in dotted lines of the grate 56 when resting upon the bottom of the receptacle 12.

Each of the bars 64 and 72 have their end portions downwardly and receivable in socket elements 74, 76 provided on the inner faces and outer faces, respectively, of the side panels 26 and 28, as shown in Figure 3.

Leg members 78 and 80 are provided, each of U-shape, and sockets 82 on the end walls 22 and 24 receive the free ends of the leg members 78 and 80 for support of the receptacle 12 on the leg members 78 and 80. The portions of each leg member 78, 80, adjacent the free end is inwardly bent to provide a stop for the respective socket 82 and each leg member 78, 80 is outwardly bent so as to provide as wide as possible footing for the receptacle 12.

Draft openings 84 are provided in the receptacle side wall 18 and a handle 86 is pivotally connected to the same side wall 18 for carrying the stove 10 when in the collapsed folded condition, as shown in Figure 5.

A swiveling button 88 is pivotally mounted on the one end panel 36 and is swingable to a position overlying the adjacent confronting edges of the side panels 26 and 28 when the latter are in their position closing the open top 14 of the receptacle 12, as shown in Figure 5.

In use, the stove 10 is quickly and easily converted from its collapsed or folded condition shown in Figure 5 to the erected position shown in Figures 1 to 3 and the leg members 78 and 80 are quickly and readily attached for supporting the receptacle 12 above a ground surface. When the side panels 26 and 28 are swung upwardly, the end panels 34 and 36 may be swung to their upright positions with the tubular members 44 inserted through the eye formations 42 on the side panels 26 and 28. Flanges 90, which project from the ends of the side panels 26 and 28 and carry the eye formations 42, provide rigidity to the panels 26 and 28 and end panels 34 and 36 when they are in the upright position and close the corners of the stove 10 above the receptacle 12 against drafts and leakage.

The platforms 48 are next erected with the pin portions 54 of the supporting members 46 inserted into the adjacent tubular members 44 and the grates 56 and grill 66 are unfolded and positioned within the stove 10 and over the upper ends of the side and end panels, respectively. The projecting end portions of the hinge bars 64, 72, are received in the adjacent socket elements 74, 76 provided on the inner and outer faces of the side panels 26 and 28 and secure the grate and grill into positions in which either end section may be raised for the insertion of charcoal onto the grate 56 or for raising the grate 56 when it is desired to clear the area below the grate 56 of burned fuel.

The draft openings 84 provide ample draft for a charge of charcoal when placed on the grate 56 and the grill 66 is of sufficient strength to support thereon normally noted cooking utensils which are shiftable over

the grill 66 onto either one of the platforms 48, as desired. Handles 92 are provided at each end of the grate 56 for lifting the grate bodily out of the stove 10 or raising either section 60, 62 separately.

What is claimed is:

1. A collapsible camp stove comprising an upstanding receptacle open at the top and including a bottom, spaced side walls rising from said bottom, an end wall connecting each of the complementary ends of said side walls together, an upright side panel positioned above and adjacent to and in vertical alignment with each of said side walls and each having the lower end edge connected to the upper end of the adjacent side wall for swinging movement of said side panel from the upright position to a position closing the adjacent part of the open top of said receptacle, an upright end panel positioned above and adjacent to and in vertical alignment with each of said end walls and each having the lower end edge connected to the upper end of the adjacent end wall for swinging movement from the upright position to a position below the open top of said receptacle and within said receptacle, eye formations on said side panels releasably receiving tubular members on said end panels when said end and side panels are in upright positions for holding the panels in upright positions, a platform positioned adjacent to and exteriorly of each end panel adjacent the upper end of the end panel when in the upright position, and a support member including a pin portion on each of said platforms, the pin portions of said support members being releasably received in the tubular members of said end panels for holding the platforms in position on said end panels.

2. A collapsible camp stove comprising an upstanding receptacle open at the top and including a bottom, spaced side walls rising from said bottom, an end wall connecting each of the complementary ends of said side walls together, an upright side panel positioned above and adjacent to and in vertical alignment with each of said side walls and each having the lower end edge connected to the upper end of the adjacent side wall for swinging movement of said side panel from the upright position to a position closing the adjacent part of the open top of said receptacle, an upright end panel positioned above and adjacent to and in vertical alignment with each of said end walls and each having the lower end edge connected to the upper end of the adjacent wall for swinging movement from the upright position to a position below the open top of said receptacle and within said receptacle, a horizontally disposed grate positioned within the space defined by the side and end panels when in upright positions, supporting means on said end panels and receiving said grate when positioned within the space defined by the side and end panels in upright positions, eye formations on said side panels releasably receiving tubular members on said end panels when said end and side panels are in upright positions for holding the panels in upright positions, a platform positioned adjacent to and exteriorly of each end panel adjacent the upper end of the end panel when in the upright position, and a support member including a pin portion on each of said platforms, the pin portions of said support members being releasably received in the tubular members of said end panels for holding the platforms in position on said end panels.

3. A collapsible camp stove comprising an upstanding receptacle open at the top and including a bottom, spaced side walls rising from said bottom, an end wall connecting each of the complementary ends of said side walls together, an upright side panel positioned above and adjacent to and in vertical alignment with each of said side walls and each having the lower end edge connected to the upper end of the adjacent side wall for swinging movement of said side panel from the upright position to a position closing the adjacent part of the

open top of said receptacle, an upright end panel positioned above and adjacent to and in vertical alignment with each of said end walls and each having the lower end edge connected to the upper end of the adjacent end wall for swinging movement from the upright position to a position below the open top of said receptacle and within said receptacle, cooperating releasable latching elements on said side and end panels for holding them in the upright positions, a platform positioned adjacent to and exteriorly of each end panel adjacent the upper end of the end panel when in the upright position, and a support member on each of said platforms, the support members being releasably received in the latching elements for holding the platforms in position on said end panels.

5 620,345  
871,266  
1,051,217  
1,438,345  
1,466,463  
2,460,125  
10 2,552,861  
2,627,854  
2,910,059  
2,917,039  
2,922,414

## References Cited in the file of this patent

## UNITED STATES PATENTS

Morawetz ----- Feb. 28, 1899  
Gertenbach ----- Nov. 19, 1907  
Goldberg et al. ----- Jan. 21, 1913  
Tait et al. ----- Dec. 12, 1922  
Bates ----- Aug. 28, 1923  
Carroll ----- Jan. 25, 1949  
Overman ----- May 15, 1951  
Sava ----- Feb. 10, 1953  
Gehne ----- Oct. 27, 1959  
Sheedlo ----- Dec. 15, 1959  
Brender ----- Jan. 26, 1960