July 7, 1959 G. W. RUNDLE 2,893,373

PORTABLE COOK STOVE

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FIG. 1.

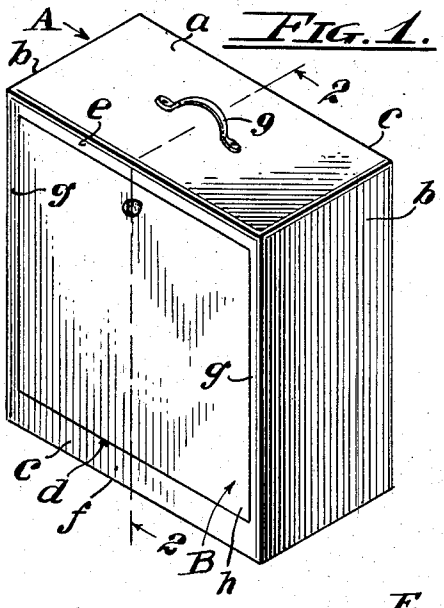


FIG. 2.

FIG. 3.

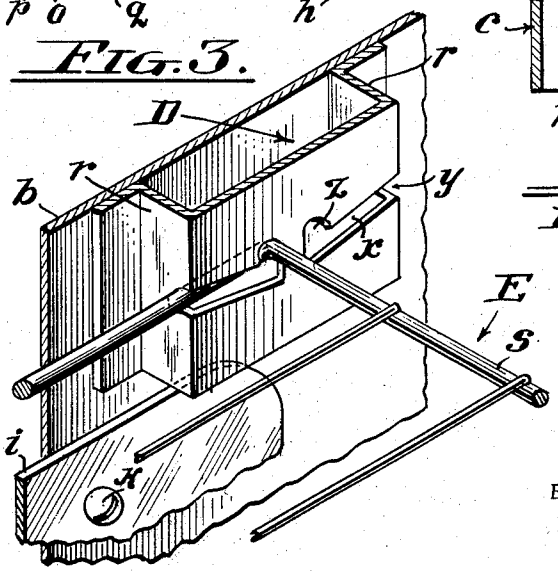
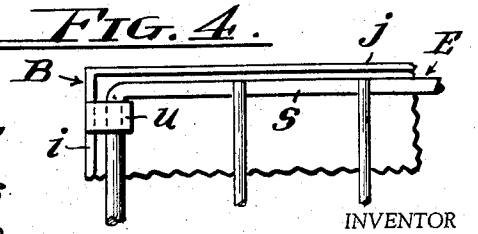


FIG. 4.



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FIG. 5.

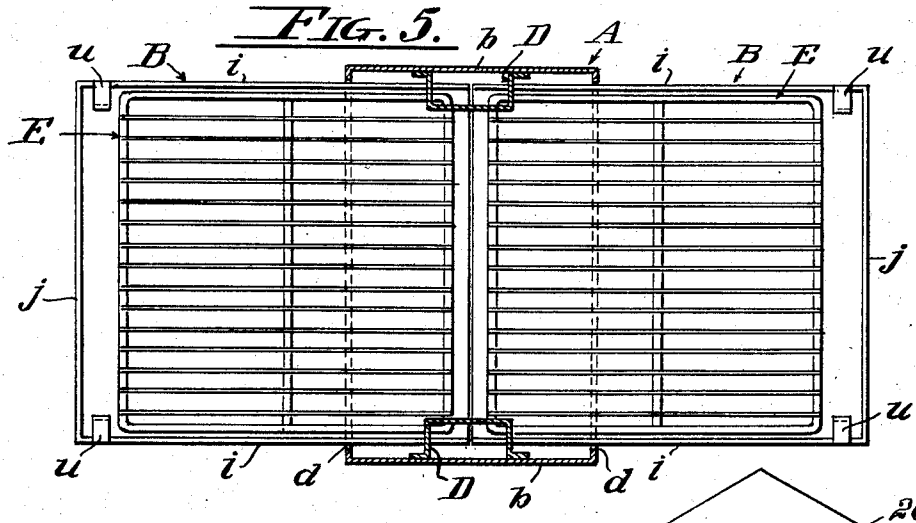
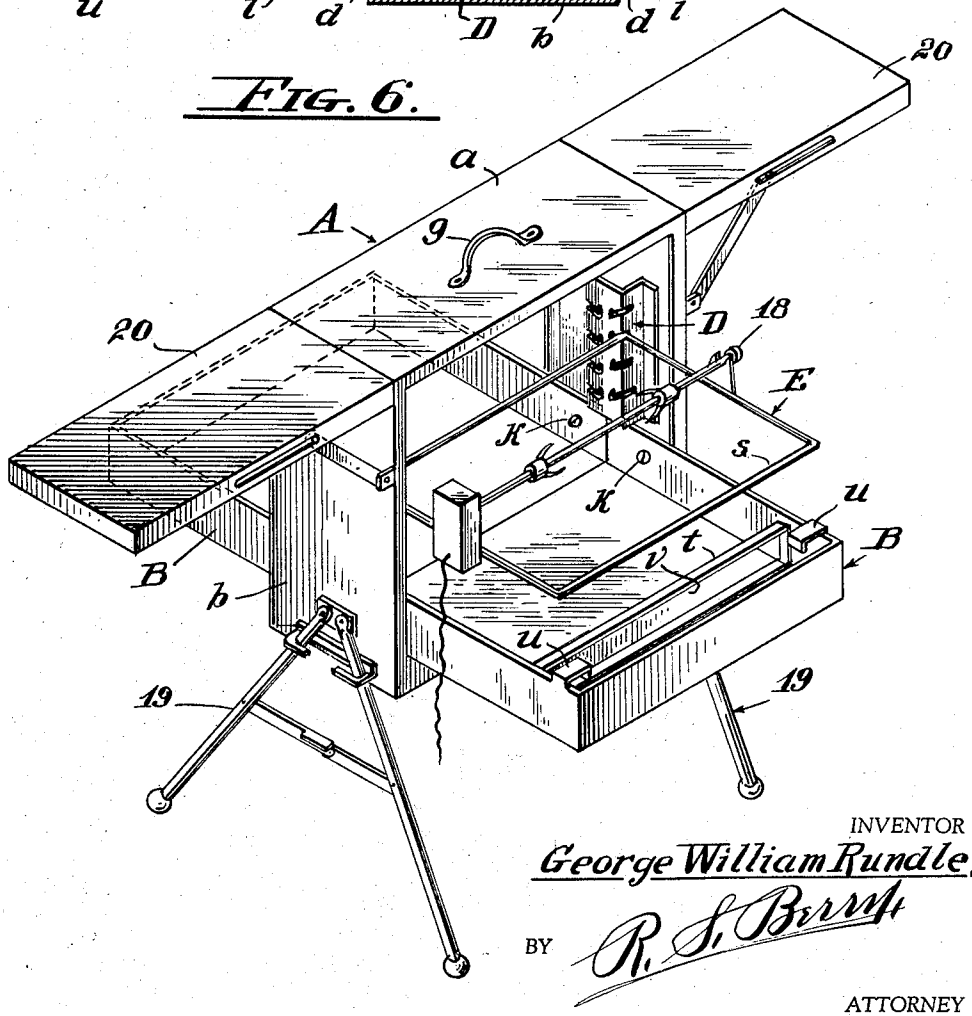


FIG. 6.



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PORTABLE COOK STOVE

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FIG. 7.

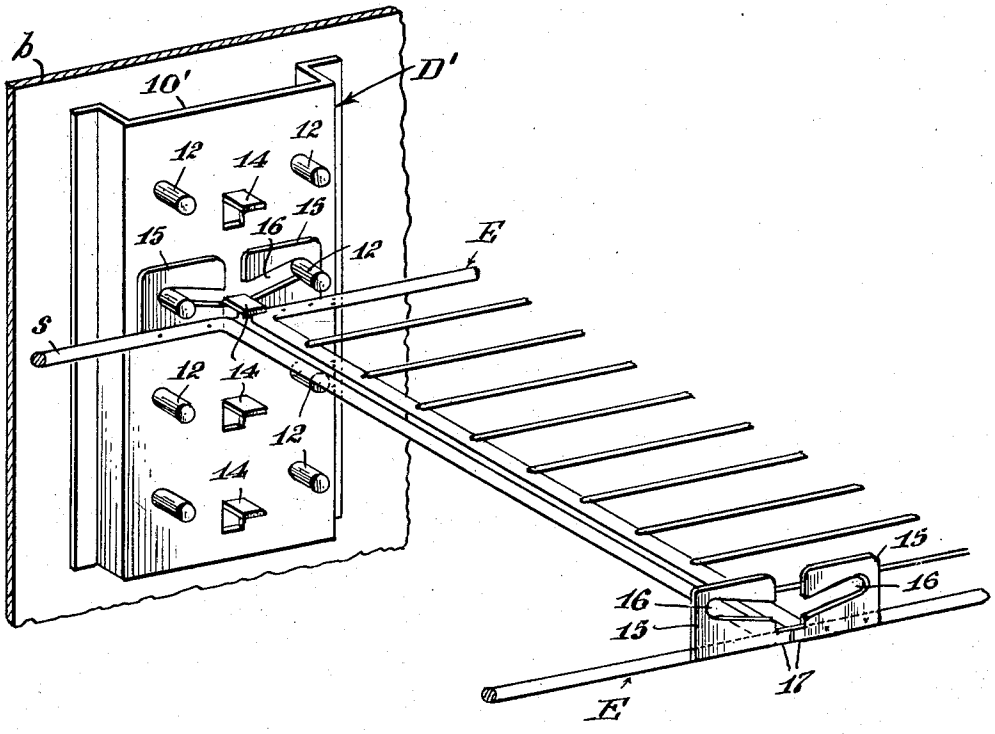
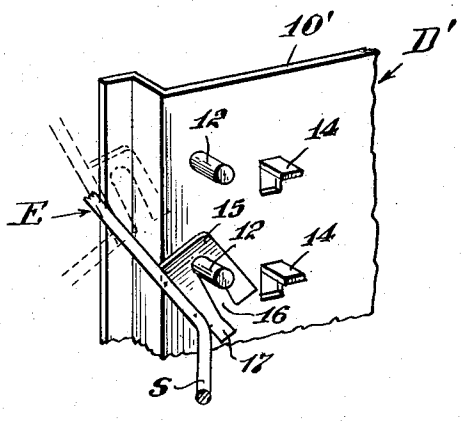


FIG. 8.



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PORTABLE COOK STOVE

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Application July 5, 1955, Serial No. 519,941

1 Claim. (Cl. 126—9)

This invention relates to a portable cook stove and has as its primary object the provision of a stove of the type employed in out-of-doors cooking operations which may be folded into a compact package, conveniently transported and carried from place to place and easily set up in operating condition, which may be employed with facility, and which may be readily refolded and stored when not in use.

Another object is to provide a foldable stove which is particularly adapted for use by campers, and also by cooks in preparing cooked foods for garden, patio and beach parties, where charcoal and the like may be utilized as a fuel.

Another object is to provide a charcoal burning stove with a tiltable fire-box mounted in a portable housing and adapted to be disposed in a horizontal operating position projecting from the housing or folded into an upright inoperative position within the housing and in which the contents of the fire-box may be discharged therefrom on swinging the fire-box from its horizontal to its folded position.

Another object is to provide a stove of the above character which embodies a pair of internal racks so formed and arranged as to receive and hold a horizontal utensil supporting element in superimposed spaced relation to a horizontally disposed fire-box therebeneath, and which is adapted to support said element in various selected spacings relative to the fire-box.

A further object is to provide a foldable stove embodying a pair of independently mounted fire-boxes adapted to be either collectively folded within a portable housing or be extended collectively from opposite sides of the housing to afford separate cooking units, and wherein either of the fire-boxes may be utilized alone and the other then maintained in its folded position where it may serve as a windbreak.

With the foregoing objects in view together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed and as illustrated by way of example in the accompanying drawing in which:

Fig. 1 is a perspective view of the stove in its folded inoperative position;

Fig. 2 is a view in cross section taken on the line 2—2 of Fig. 1 showing the stove in a partly unfolded position;

Fig. 3 is an isometric view of a fragmentary portion of the stove indicated by the arrow 3 in Fig. 2;

Fig. 4 is a detail in elevation as seen on the line 4—4 of Fig. 2;

Fig. 5 is a horizontal section and plan view as seen on the line 5—5 of Fig. 2 showing the pair of fire-boxes in their open position;

Fig. 6 is an isometric view showing the stove in its open position and as equipped with accessories including foldable shelves and legs, and including a spit for barbacuing operations;

Fig. 7 is an isometric view illustrating a moldified form of the utensil supporting element and its mounting; and

Fig. 8 is a detail of a corner portion of the utensil supporting element shown in Fig. 7 showing the manner of effecting its attachment to and removal from its mounting.

Referring to the drawings more specifically A indicates generally the stove housing which embodies a top wall *a*, and walls *b*—*b* and side walls *c*—*c* which latter are each formed with a rectangular aperture *d* bordered by top and bottom rails *e* and *f* respectively and by narrow side wall portions *g*—*g*. The lower end of the housing is open. A handle **9** is applied to the top wall *a* whereby the stove may be conveniently carried.

Mounted for vertical swinging movement in and out of each of the apertures *d*—*d* is a fire-box B which embodies a bottom wall *h* conformable to the margins of the aperture *d* in which the fire-box is mounted to form a closure for such aperture, and having opposed side walls *i*—*i* and an end wall *j* at one end thereof with the opposite end of the fire-box open. Each of the fire-boxes B—B thus formed is supported on pivots *k*—*k* carried on the lower portions of the end walls *b*—*b* which pivots are engaged with the fire-box side walls *i*—*i* adjacent the end margins *m* of such side walls, being axially spaced equi-distant from the outer face of the bottom wall *h*, end margins *m* and the outer faces of the adjacent housing side walls *c*—*c*, whereby when the fire box is disposed in its upright position the outer face of the bottom wall *h* thereof will extend on a plane with the outer face of the adjacent side wall *c* with the margin of the bottom wall *h* at the open end of the fire-box aligned with and nearly abutting the upper margin of the adjacent rail *f* and with the closed end of the fire-box nearly abutting and aligned with the adjacent top rail *e*; the pivots *k*—*k* supporting one of the fire-boxes being horizontally aligned with the pivots supporting the other fire-box and spaced therefrom a distance equal the sum of the distances between the pivots and the open ends of the fire-boxes so that when the latter are horizontally disposed their open ends will abut in alignment with each other.

A manually operable latch G is provided for releasably fastening each of the fire-boxes B—B in its upright position, which latch is here shown as comprising a leaf spring *n* affixed at one end to the outer face of the end wall *j* of the fire-box and having a leaf *o* on its outer end extending inwardly through a slot *p* in the end wall *j* and overlying a finger-hole *q* in the bottom wall *h*. The outer end of the spring *n* normally protrudes outwardly from the end wall *j* with the leaf *o* slightly spaced from the bottom wall *h* as shown in Fig. 2, and with the outer end of the spring disposed to snap under the lower margin of the adjacent rail *e* on swinging the fire-box to its upright position and then engage such back of the rail *e* to thereby hold the fire-box in an upright position where it closes the aperture *d* in which it is mounted and occupies a folded inoperative position. To release the catch G the leaf *o* is pressed inwardly as by thrusting a finger or other object through the hole *q* so as to shove the leaf and thereby pull the outer end of the spring *n* inwardly out of engagement with the rail whereupon the then upper end of the fire-box may be pulled outwardly and downwardly and disposed in it operative horizontal position.

Means are provided for limiting both upward and downward movement of the fire-boxes B—B, which is here shown as comprising a pair of racks D—D mounted on the inner faces of the housing end walls *b*—*b* each of which racks embodies a rectangular panel **10** having coextensive inturned side flanges *r*—*r* affixed to the walls *b*—*b* and which flanges *r*—*r* space the panel **10** from the adjacent wall *b*.

The racks D—D are arranged on the walls *b*—*b* with the lower ends of the side flanges *r*—*r* thereof disposed

in the upward paths of travel of the inner end portions of the upper margins of the side walls *i—i* of the fire-boxes B—B and on a plane corresponding to the planes of such upper margins when the fire-boxes are disposed in their horizontal positions, whereby the lower ends of the side flange *r—r* of the racks D—D serve as abutments to limit swinging movement of the fire-boxes in one direction. The side flanges *r—r* are arranged to extend parallel with the side walls *c—c* of the housing on a plane spaced from the front face of the adjacent side wall *c* a distance equal to the width of the side walls *i—i* of the fire-boxes B—B whereby the flanges serve as abutments to limit upward swinging movement of the fire-boxes to their upright positions, since the flanges are disposed in the upward and inward paths of travel of the upper margins of the side walls *i—i*. The racks D—D while serving as stops for the fire-boxes B also serve as and are primarily designed as mountings for utensil supporting elements E—E which are detachably engageable with the racks at various elevated positions thereon in such manner that an element E may be horizontally disposed above a fire-box B in various spaced positions relative thereto.

Each of the elements E embodies a rectangular frame *s* dimensioned to substantially correspond to the inside dimensions of the fire-boxes so as to be positionable therein and be supported between the side walls *i—i* thereof, each of the fire-boxes being equipped with a transverse frame supporting rail *t* and co-operating opposed frame engaging brackets *u—u* on the walls *i—i* arranged to detachably hold the frame *s* in spaced parallel relation to the bottom wall *h* of the fire-box.

The rail *t* extends between the walls *i—i* of the fire-box B in which it is mounted adjacent to but spaced from the end wall *j* thereof and located on a plane slightly below the plane of the upper margins of the walls *i—i*, while the brackets *u—u* project inwardly from the margins of the walls *i—i* between the rail *t* and the end wall *j*. In mounting the frame *s* on a fire-box one end portion of the frame is disposed with the side rails thereof seated on the rail *t*, with the adjacent end rail of the frame disposed continguous the inner face of the end wall *j* and with the end portions of the frame side rails bearing against the under sides of the brackets *u—u* as indicated in dotted lines E' in Fig. 2. The frame *s* will then be supported in the fire-box cantilever fashion. When a fire-box is disposed in its upright position the element E embodying the frame *s* will be supported in a dependent position from the brackets *u—u* as shown at the right side of Fig. 2.

As here shown, each of the rails *t* is formed on the upper margin of a partition *v* extending upwardly from the wall *h* of each of the fire-boxes B—B between the walls *i—i* thereof and abutting the latter in spaced relation to the adjacent end wall *j*. A space *w* is thus formed in each of the fire-boxes B—B between the partition *v* and the wall *j* thereof which is utilized as a receptacle for cooking implements such as knives, forks, spoons, etc.

As a means for attaching the elements E at various positions on the racks D—D the front walls of panels **10** thereof in the construction shown in Figs. 2, 3, 5 and 6 are each formed with a series of vertically spaced angular slots **11** adapted to deachably receive an end rail and adjacent end portions of the side rails of the frame *s* of an element E, there being a series of such slots on each of the opposite side portions of each panel **10** to afford mountings for a pair of the elements E, one for each of the fire-boxes B—B.

Each of the slots **11** in the panel **10** of each of the racks D—D embodies an inclined portion *x* in the panel **10** opening at the side margin of the latter into a transversely extending end portion *y* in the adjacent flange *r*, and terminating at its inner end in an upwardly extending notch *z*. The slots **11** thus formed are adapted to receive the corner portions of the frame *s* as particularly shown in Fig. 3.

In the modified form of the mounting of the elements E shown in Figs. 7 and 8 the panel **10'** of each of the racks D' is fitted with a series of vertically spaced outwardly projecting studs **12** adjacent each side margin thereof and is formed intermediate its side margins with outwardly extending flanges **14** disposed on a plane spaced a short distance below an adjacent stud **12**. In order to effect detachable engagement between a pair of the racks D' thus formed each of the side members of the frame *s* of an element E is fitted adjacent one end thereof with an upstanding flange **15** having an open ended slot **16** adapted to receive and be positioned astride a stud **12** and having an end projection **17** adapted to extend beneath the flange **14** adjacent the engaged stud **12** in abutting relation thereto so as to support the element E in a horizontal position on the rack D in spaced relation to the fire-box B arranged therebeneath.

In applying an element E on an opposed pair of the racks D' the frame *s* is tilted longitudinally and presented lower end foremost to the racks as indicated in dotted lines in Fig. 8, and is then advanced so as to move the flanges **15** astride co-related studs **12** as shown in full lines in Fig. 8. On swinging the frame *s* downward to the horizontal position the projection **17** will engage the undersides of co-related flanges **14** as indicated in Fig. 7 thereby supporting the element cantilever fashion on the pair of racks D'. One only of the pair of the racks D' is shown in Fig. 7 since it will be readily understood that a companion rack will be provided to carry the unsupported ends of the elements shown in Fig. 7.

Either or both the supporting elements E may constitute a grille as particularly shown in Figs. 3, 4 and 5, but may consist of the rectangular frame *s* equipped with a spit **18** as shown in Fig. 6 for barbacue purposes.

The housing A may be equipped with suitable legs where desired such as the foldable legs **19** shown in Fig. 6, and may also be fitted with foldable end panels **20** of conventional construction as depicted in Fig. 6.

In the operation of the invention either one or both of the fire-boxes B—B may be swung downward from its folded housing closing position to its horizontal operative position. Where only one of the fire-boxes is to be used a loose panel may be disposed in its open end in an obvious fashion to confine coals therein. When both fire-boxes are horizontally positioned their inner ends extend contiguous each other as shown in Figs. 5 and 6. A quantity of charcoal or similar fuel is then placed in the fire-box and ignited in the usual manner to provide a bed of coals. The utensil supporting element E is then mounted on its support as above described according to requirements and as may be found necessary and desirable in carrying out a particular cooking operation.

In event of the stove being used where objectionable wind is blowing or where there is excessive draft one of the fire-boxes may be maintained closed as shown in Fig. 2 so as to serve as a windbreak.

On completion of use of the stove the elements E are detached from the racks and mounted on the fire-boxes as before described whereupon the latter are swung to their folded position thereby closing the housing with the elements E carried on their respective fire-boxes.

On closing the fire-boxes the coals and ash content thereof will be discharged from the open ends of the fire-boxes and delivered to discharge through the open lower end of the housing.

I claim:

In a portable cook-stove, a box-like housing embodying a top wall, side walls and end walls, at least one of said side walls having an aperture, a fire-box pivotedly mounted on said housing to swing vertically through said aperture and embodying a bottom wall and side walls; a pair of frame supporting racks mounted on the inner faces

of the housing end walls having lower ends disposed in the path of travel of upward movement of the lower ends of the fire-box side walls so as to form abutments limiting downward swinging movement of said fire-box, and said racks having side walls forming abutments to limit upward swinging movement of the fire-box to an upright position; and releasable latch means for holding said fire-box in its upright position.

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