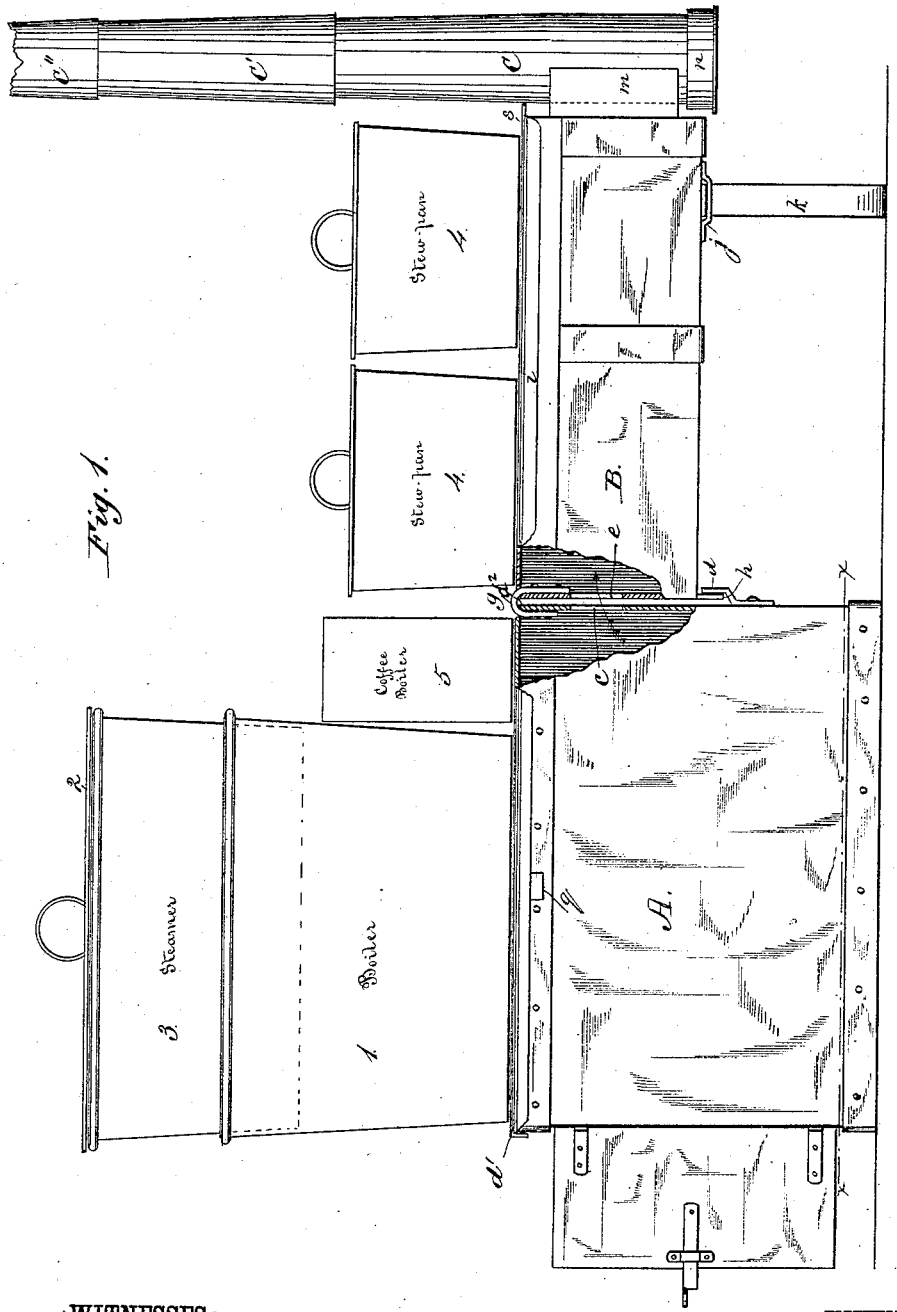
(No Model.) 2 Sheets—Sheet 1.

W. CLIFFORD.

FIELD STOVE AND KIT.

No. 264,627. Patented Sept. 19, 1882.

Fig. 1.



WITNESSES:

W. W. Hollingsworth

E. W. Simpson

INVENTOR:

Walter Clifford

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

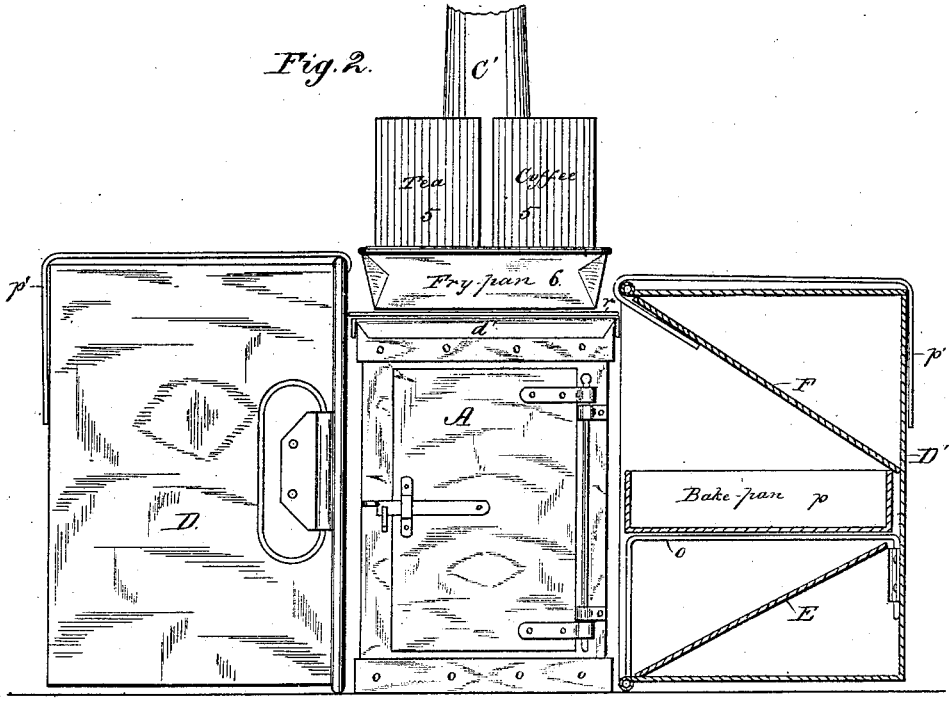


Fig. 3.

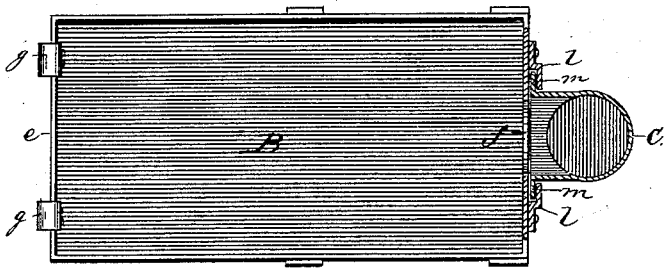
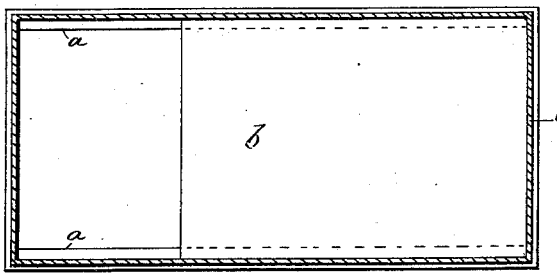


Fig. 4.



WITNESSES:

W. W. Hollingsworth

S. S. Simpson

INVENTOR:

Walter Clifford

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WALTER CLIFFORD, OF FORT BUFORD, DAKOTA TERRITORY.

FIELD-STOVE AND KIT.

SPECIFICATION forming part of Letters Patent No. 264,627, dated September 19, 1882.

Application filed January 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, WALTER CLIFFORD, of Fort Buford, in the county of Wallette and Territory of Dakota, have invented a new and useful Improvement in Field-Stoves and Kits, of which the following is a specification.

My invention relates to that class of stoves used in traveling from place to place by soldiers and campers. It is essentially requisite to the utility of such stoves that they possess the qualities of lightness, compactness, (when packed for transportation,) and capacity for standing rough usage. Furthermore, for army use they must be of such size as to allow the simultaneous cooking of a large quantity of food.

Heretofore field-stoves have been constructed of some thin material—such as sheet-iron. This fulfilled one of the necessary qualifications, but such stoves, though light, if made of sufficient size to cook a large quantity of provisions are cumbersome and liable to be broken by the rough usage they necessarily receive. Add to this that, beside the large amount of space occupied in transportation by the stove proper, room must be found for all the cooking utensils used in conjunction therewith, and the difficulty of carriage and danger of breakage will readily be understood.

The object of my invention is to overcome these difficulties and furnish a stove which shall be light, durable, and capable of being packed in the smallest possible space. I accomplish this, first, by constructing the stove-body in the form of a parallelopipedon, having removable bottom and top plates; second, in attaching to the rear end of said stove a removable extension somewhat less in length and of about half of the depth of said body, said extension having an opening in front coinciding with a like opening in the upper rear end of the stove, a second opening in the back coinciding with a like opening in the stove-pipe, and a removable top; third, in a stove-pipe constructed in two or more sections, said sections decreasing in diameter from the bottom upward, and calculated to fit over each other, and the bottom section provided with a removable cap to cover its lower end, and having an opening in one side, and flanges formed about said opening to engage with other flanges made about the rear opening of the aforesaid extension, whereby the pipe is secured to the stove; fourth, in detached ovens provided with open sides designed to be placed in close proximity to the two sides of the stove; fifth, in reflectors situated in the upper and lower parts of said ovens, and capable of being placed at any desired angle to the stove; sixth, in wires of a peculiar form to sustain the upper reflectors in place; seventh, in removable flanges for the top of the stove and extension; eighth, in various details of construction, all of which will be hereinafter more fully described.

In the drawings, Figure 1 is a side elevation, partly in section so as to better illustrate the manner of connecting stove-extension to the stove-body. Fig. 2 is a front end elevation with ovens at the sides thereof, one of them being in section. Fig. 3 is a horizontal section of the stove-extension. Fig. 4 is a horizontal section of the stove on line *x x*, Fig. 1.

A represents the body of the stove, which is made of sheet charcoal-iron riveted together, and provided with a bottom flange, *a*, upon which rests the removable bottom *b*. In the upper rear end of said body is an opening, *c*, and on the outside, immediately beneath said opening, is formed a flanged projection, *d*.

d' is a removable flange fitting over the edges of the body.

B is the stove-extension, having end openings, *e f*, and provided upon its upper front edge with the hooks *g* and upon its lower front edge with the lip *h*. Said hooks are designed to engage with the upper posterior edge, d^2, of the stove-body, and said lip with the flanged projection *d*, whereby the extension is secured to the body of the stove. The extension also is provided with a removable top flange, *i*. On the under side are formed the keepers *j*, through which the ends of the support *k* pass, and thus sustain the extension in horizontal position. About the opening *f*, on the outside of the extension, are formed the horizontal and vertical flanged projections *l*, with which the flanges *m*, formed on the pipe-section C, engage and hold said section in vertical position.

The pipe-sections C C' C'' decrease in diameter from bottom to top and fit over each

other to form tight joints, and the lower end of section C is provided with a removable cap, *n*. The object of this peculiar feature of my invention is to allow the sections to be "nested," and retained in that position while being transported.

D D′ are the ovens, open upon one side and designed to be placed in close proximity to the sides of the stove-body. Hinged to the back of said ovens are the L-shaped wires *o*, said wires (when drawn out parallel with each other and with the opposite sides of the oven) forming supports for the baking-pans *p*.

E are the lower reflectors, set at an angle of forty-five degrees (or thereabout) with the bottom of the ovens, and held in place upon the front by the feet of the wires *o*, and upon the rear by the backs of the ovens.

F are the upper reflectors, set at an angle with the top of the oven, held upon their rear edges between the edges of the baking-pan and the backs of the ovens and upon their front edges by the ⌝-shaped wires *p′*. By the use of these reflectors it will readily be seen that nearly all the radiant heat of the stove may be utilized. The waves of heat entering the upper half of the oven are reflected down upon the food contained in the baking-pan, and those entering the lower half are reflected upward upon the bottom of the said pan.

1 is the boiler. 2 3 are the steamer; 4, the stew-pans; 5, the coffee-pots; 6, the fry-pan; and *q* represents a transverse support for the top stove-plate, *r*, and *s* represents a similar plate for the top of the extension. All of these parts are of such relative proportions as to fit within each other in a certain order, as will be understood from the hereinafter description of the operation of packing said stove, and form a kit but little subject to injury from rough usage and occupying only a small space.

The mode of operation is as follows, to wit: To set up the stove for operation, first dig a trench for an ash-pit about five inches wide, four deep, and ten or twelve long. Take off the outer cases of the kit, which are ovens having one open side. In the back of these ovens will be found two ⌝-shaped wires—bake-pan rests. Turn these rests so that they will stand parallel to each other, the feet resting on the lower outer edge of the ovens. Slide the lower reflector under the feet of these rests, so that the back edge of the reflector will rest against back of oven, close under the short bend of the rests, so that the reflectors will form angles of forty-five degrees, or thereabout, with the bottoms and backs of the ovens. Place one edge of the upper reflectors against the back of the ovens and secure the outer edges by means of the ⌝-shaped wire, the acute-angled ends of which pass over the outer edges of said reflectors and the right-angled ends over the outside back edges of the ovens. Put in the bread-pan, and the oven is ready. Now, turn the stove-body upside down and shake everything out of it. Place the stove over the ash-pit, fit the leg under extension and attach it (extension) to rear end of stove. See that the lip of extension is resting fairly in the flange designed for it under opening in rear end of stove. Take cap off lower end of lower section of pipe and take all the sections out of the end and replace cap. Fit lower (large) end of sections C′ on upper (small) end of C, following this method to the top or upper joint. Set the ovens upon either side of the stove about an inch from said sides, and with their front ends in line with the front of the stove. Place the pans, pots, &c., in their ordinary positions, and the stove is then ready for action. The pots and pans are heated in the ordinary manner by conduction, while the radiant heat escaping from the sides of the stove-body is caught by the top and bottom reflectors and turned upon the bake-pans contained in the ovens.

To pack the stove, detach the pipe, remove the cap from bottom section, C, nest the upper sections in their order of size within the bottom section, and replace cap. Put a coffee-pot on each end of nested pipe, detach extension from the stove, nest the bake-pans, and place the stove-bottom within the same. Fit the extension within the stove, and place in the extension, first, the fry-pan; second, the steamer, and, third, the boiler. In the boiler place, first, the nested pipe and coffee-pots; second, any small loose articles, such as the reflector-holders, &c.; third, the stew-pans, side by side. In one of the stew-pans place the extension-support. Then put on top of these the stew-pan covers; next, the extension and stove flanges. Finally, slip all of these within the inside oven, place over them the reflectors, slip over the open side the outside reflector, and the stove is packed ready for transportation.

By my arrangement and proportion of parts I am enabled to construct a stove capable of simultaneously cooking provisions for one hundred men, which, when packed, occupies only a space of thirty by twenty by thirteen inches and weighs but one hundred and fifty pounds.

Having thus described my invention, what I claim is—

1. The stove-body A, provided with flange *a* and removable bottom *b*, substantially as and for the purposes described.

2. The combination, with the body A, provided with the rear opening, *c*, flanged projection *d*, and posterior edge d^2, of the extension B, provided with end openings, *e f*, hooks *g*, lips *h*, and projections *l*, and the pipe-section C, provided with the flanges *m*, substantially as described, and for the purpose set forth.

3. The combination, with extension B, of pipe-sections C C′ C″, whose diameters decrease from bottom to top, and the cap *n*, substantially as and for the purpose described.

4. The combination, with stove-body A,

of ovens D D′, provided with pan-supports *o*, and the reflectors E F, substantially as described.

5. The combination, with the oven and the upper reflector, F, of the holding-wire *p′*, substantially as and for the purposes described.

6. The within-described field-stove, consisting of stove-body A, extension B, pipe C, and detached ovens D D′, provided with reflectors E F, substantially as and for the purposes described.

WALTER CLIFFORD.

Witnesses:
CHAS. A. COOLIDGE,
GEO. S. YOUNG.