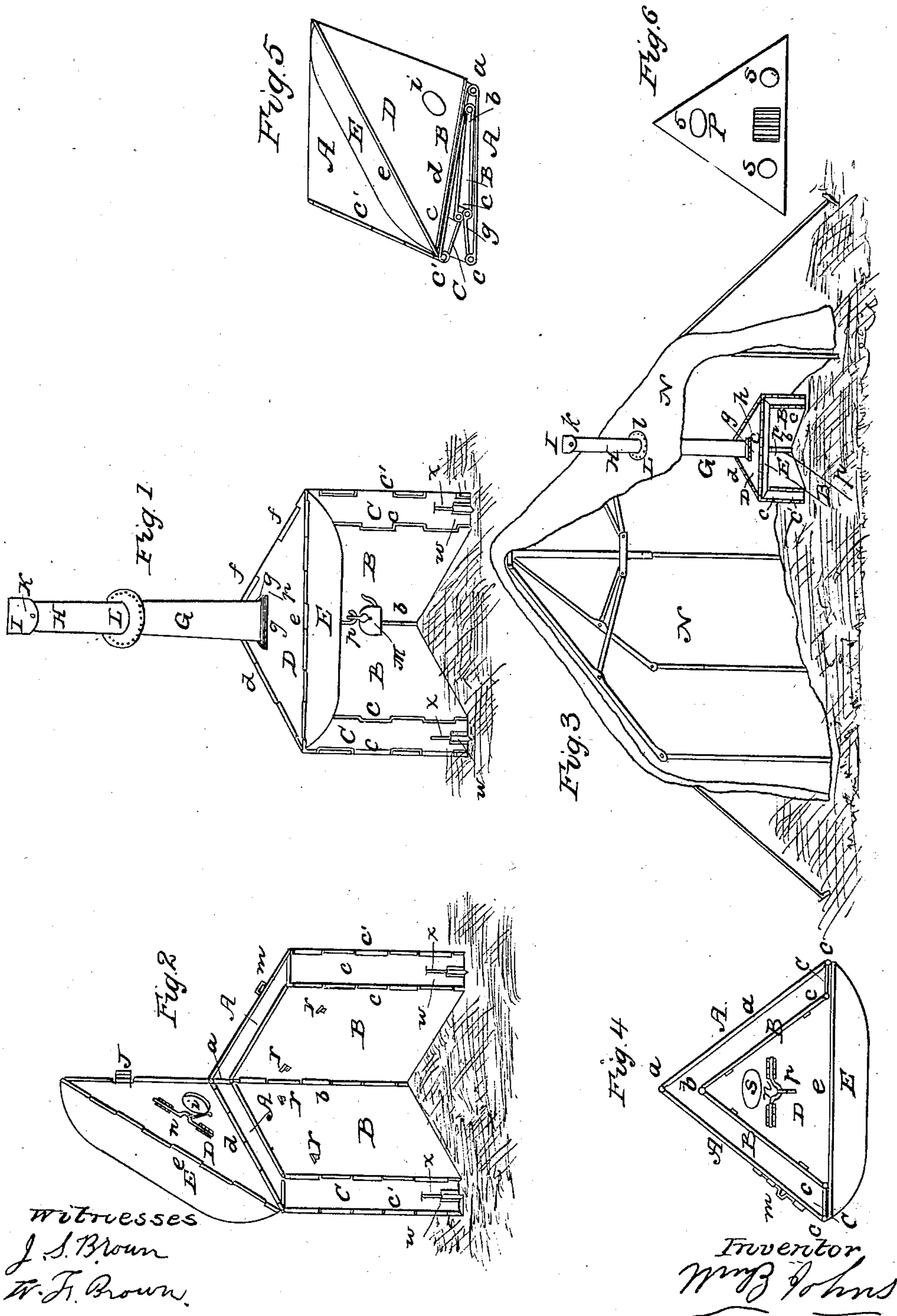


W. B. JOHNS.  
Portable Furnace.

No. 33,995.

Patented Dec. 24, 1861.



Witnesses  
J. S. Brown  
W. H. Brown.

Inventor  
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# UNITED STATES PATENT OFFICE.

WILLIAM B. JOHNS, OF GEORGETOWN, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN PORTABLE FIRE-PLACES.

Specification forming part of Letters Patent No. 33,995, dated December 24, 1861.

*To all whom it may concern:*

Be it known that I, WILLIAM B. JOHNS, of Georgetown, in the county of Washington and District of Columbia, have invented a new and Improved Portable Fire-Place or Stove; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a view in perspective of a fire-place or "Franklin" stove constructed in my improved manner; Fig. 2, a view in perspective of the same, the top being raised; Fig. 3, a view in perspective indicating the mode of using it in a tent; Fig. 4, a plan of the fire-place or stove inverted; Fig. 5, a view in perspective of the same folded together for transportation; Fig. 6, a plan of an appendage to be used with the fire-place for cooking.

Like letters designate corresponding parts in all of the figures.

The nature of my invention consists in producing a fire-place or stove which may be rendered exceedingly compact for transporting from place to place by folding the parts closely together and in making this especial capability subservient to improved qualities for camp and similar outdoor or temporary use.

The accompanying drawings represent a fire-place or Franklin stove of triangular form, which fully illustrates the principles of my invention; but I wish it to be understood at the outset that I do not confine myself to the particular form represented, but intend to vary the shape as much as may be practicable and desirable, provided that the substantial characteristics of the invention shall be preserved; but a description of the form represented will be a sufficient specification of my invention.

I make the sides double with a space between and at the same time capable of folding closely together. This is effected as follows: The outer plates A A are of simple sheet-iron of the dimensions required and hinged together at the back angle *a* by bending their edges around a wire in the usual manner of hinging sheet-metal plates together. Each inner plate is composed of two sheets of metal B C, hinged together at *c*, while the inner edges of the two plates B B are hinged together at *b*, and the outer edges of the plates

C C are respectively hinged to the front edges of the plates A A. These plates B C are together just large enough to fold inside of the outer plates A A when spread out in the same plane, as shown in Fig. 5; but the plates C C are only wide enough to form the width of the jambs or fronts when the plates B C are brought forward into position for use, as represented in Figs. 1, 2, 3, and 4. This arrangement leaves a space between the plates A A and B B to be filled with sand or earth when the fire-place or stove is set up. The use of the sand is to render the whole more firm, to prevent the fire-place or stove from scorching anything near it, and to retain the heat for a much longer time than the mere sheet metal of which the fire-place or stove is composed would be capable. This protection against scorching enables it to be placed within a tent close to one corner or side, as indicated in Fig. 3, and thus take up but little of the most valuable room, while the property of retaining the heat thus gained renders it peculiarly desirable for keeping the tent comfortable during the great part of cold nights, so that it thereby becomes very useful for an army in winter quarters. The sides being constructed as above set forth, a top D, applied on a similar principle, completes the structure, as follows: It is hinged at one edge *d* to one of the outer side plates A and is made of just the size and shape to cover and slightly overlap the other plate A and the front plates C C. When it is brought down into position, its other back edge is secured to the other side plate A by a socket *f* and sliding bolt *m* or any equivalent means of fastening, thus binding all firmly together. A mantel-plate E is hinged to the top at *e*, so as to hang down in front and partly inclose the mouth of the fire-place for improving the draft and adding to the neatness and finish of the whole. It is clipped off at the corners, as shown, so that it may not project beyond the other plates when folded together, as shown in Fig. 5.

A flue-aperture *i* is made in the top D, and lip-plates *g g* are secured around the edges thereof outside, leaving only one side thus unoccupied for the purpose of inserting a projecting flange *h* on the lower end of the smoke-pipe G, so that by sliding the flange in under these lips the pipe is at once firmly secured



in place, and it is again removed by simply sliding the flange out.

A collar L, of sheet-tin or sheet-iron, is slipped over the smoke-pipe and is provided with holes *l l* in its outer edge for sewing or otherwise securing it in a hole through the tent, as indicated in Fig. 3.

The top joint H of the smoke-pipe may have a shifting-cap I to protect the draft from the wind in either direction. The joints of the pipe are flattened, so as to pack well, and are made a little tapering, as shown, so that the smaller joints may be inserted in the larger ones for transportation. The smoke-pipe may have elbow-bends, if desired, to suit the direction of its extension out through the cloth or roof of the tent.

Fig. 5 shows the fire-place or stove taken down and folded together for transporting from place to place, exhibiting its compactness for the purpose. It is also comparatively light, being made of sheet-iron and a few wires for the hinges and to stiffen the edges, and can be taken down or set up in a few seconds. The fire-place or stove thus constructed serves for warming. With slight additions it likewise serves exceedingly well for camp-cooking. Thus by securing a loop-wire or bolt *n* across the under side of the top D, as shown in Figs. 2 and 4, and suspending a hook *p* therefrom a tea-kettle N, Fig. 1, or any other similar utensil may be hung over the fire. Then a triangular plate P, Fig. 6, having boiler-holes *s s* and gridiron-bars *t t*, &c., may be prepared and secured in the fire-place by hooks *r r*, Fig. 2, or by equivalent means, over the fire for cooking many articles, and

many other utensils may be employed in similar ways, if desired; but generally the top D of the fire-place or stove will be found to answer most purposes of cooking, like the top of any stove, and by having small hooks or holes on or in the inner side plates B B slices of meat and other articles of food may be readily suspended for roasting. In similar ways ingenuity will readily suggest the means of cooking anything required to be cooked.

When the fire-place or stove is set up for use, the lower edges may be slightly embedded in the ground to render its position more firm, or sockets *w w* may be employed for driving pins *x x* through into the ground to hold it more securely in place. Generally, however, the mere weight of the sheet metal and of the sand filling will hold it as firmly and securely as required.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction of the fire-place or stove so that its sides and top shall fold compactly together for transportation and when set up for use shall unfold so as to furnish a space between the outer and inner plates to be filled with sand or its equivalent, substantially as and for the purposes herein specified.

2. The folding mantel-plate E, in combination with the fire-place, as described.

In witness that the above is a full specification of my improved portable folding fire-place or stove I hereunto set my hand.

WM. B. JOHNS.

Witnesses:

EDM. F. BROWN,

J. S. BROWN.