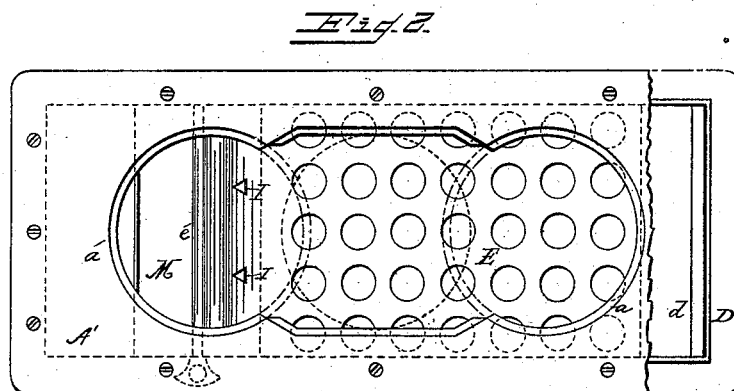
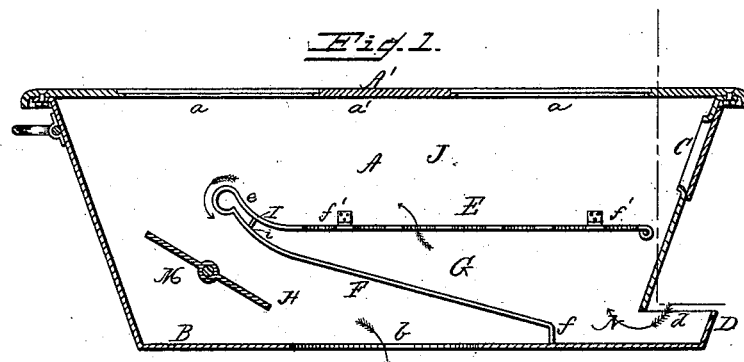


(No Model.)

C. T. SCHOEN.  
PORTABLE HEATER.

No. 342,640.

Patented May 25, 1886.



WITNESSES

Willie Powell.  
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# UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF PHILADELPHIA, PENNSYLVANIA.

## PORTABLE HEATER.

SPECIFICATION forming part of Letters Patent No. 342,640, dated May 25, 1886.

Application filed May 14, 1885. Serial No. 165,467. (No model.)

*To all whom it may concern:*

Be it known, that I, CHARLES T. SCHOEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Portable Heaters; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a longitudinal vertical section of stove; Fig. 2 is a plan of same, partly broken away, with dividing-plate of top removed.

My invention has for its object to provide a device, in the form of a furnace or fire-box, of simple and relatively inexpensive construction, which shall afford economical and effective means for cooking where a comparatively small amount of food is to be prepared, and which shall also meet the requirements of the summer months by diminishing the intensity and duration of artificial heat in the kitchen.

My invention comprises a small portable stove having a grate, an air chamber or passage, and a flue for smoke or waste products of combustion, and having also in its bottom an opening adapted and designed to register with a pot-hole on an ordinary stove or range, so that by placing said portable stove on an ordinary stove or range communication between the former and the chimney of the latter will be established.

My improvements consist in the peculiar construction and combination of parts herein-after fully set forth.

Referring to the accompanying drawings, A represents the portable stove, which is preferably oblong, having a cast top, A', and a bottom, B, with sides and ends composed of sheet metal. The top has two pot-holes, *a a*, with division-plates *a'* between them, and in the bottom B is an opening, *b*, designed to register with the pot-hole of an ordinary stove or range when the portable stove is placed on the top thereof. The front of the portable stove has a door, C, for the insertion of fuel, and below this door is an opening, *d*, in a step or projection, D, for the admission of air and discharge of ashes, &c.

E represents the grate, which is a perforated plate of sheet metal made integral with an-

other plate, F, that forms a diaphragm between said grate and the bottom of the portable stove. The space between the grate and plate F forms an air-chamber, G, while the space between said plate F and the bottom B forms a smoke-flue, or flue H, for leading the spent products of combustion from the grate to the opening *b*. Above the grate is the combustion-chamber J. The forward end of plate F is bent downwardly to form a flange, *f*, which rests upon the bottom B. As a support for the rear end of the grate, I cut out two sides of a triangular piece, I, and bend it down at right angles to the grate, so that its point *i* will rest on the surface of the plate F below.

To maintain the grate E and plate F in position the former may be fastened to the side walls of the stove by means of brackets or angle-pieces *f' f'*, riveted to the grate and to said side walls, respectively. Any number of the pieces I may be employed. The grate at its rear end has an upward projection or bend, *e*, which serves as a guard to prevent the fuel, ashes, &c., from getting into the flue H.

The grate E, with its projection, and the plate F, with its support *f*, should all be made integral or consist of a single piece, in order to secure economy of construction; though, if desired, they may be in separate parts.

It will be noted that the grate does not extend forward sufficiently to meet the front of the fire-box, and that the plate F has a still less forward extension, thus leaving a clear space under the forward end of the grate for the admission of air, and forming a pit, N, for the reception of ashes, &c.

It will also be noted that the plate F is inclined from its rear toward its forward end, and that said plate forms an air-flue below the grate, and also a smoke-flue below said air-flue and between the bottom of the stove and the grate. The fresh air entering at the front of the stove is heated by the products of combustion traveling in a contrary direction just below, and so is supplied to the fire in the best form or condition for promoting combustion, and the waste products of combustion are utilized after leaving the grate and entering the smoke-flue.

M represents a damper, which serves to regulate draft when burning ordinary fuel.

In burning ordinary fuel the air admitted

at the front of the furnace becomes heated before reaching the fire, so that its oxygen may the better combine with the gas from the fuel on the grate and produce a more thorough combustion.

5 A fire sufficient for cooking a small or light meal may be readily started in this furnace with ordinary fuel in a few minutes, and when the same is no longer required the furnace or  
10 box, being portable, may be carried into the open air or elsewhere, so to avoid unnecessarily high temperature in the house in the summer season, when the long continuance of artificial heat in apartments, such as results from  
15 an ordinary stove or range, is objectionable.

What I claim as my invention is—

In a portable stove, the combination, with the walls or casing of the stove having an exit-opening in the bottom and a draft-opening at one end of the grate E, of inclined plate F, 20 extending forward beneath the grate and connected to the bottom of the stove between the draft and exit openings, and the draft-damper M, located at the rear of said grate, substantially as shown and described. 25

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of May, 1885.

Witnesses:

CHAS. T. SCHOEN.

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WILL H. POWELL.