(No Model.)

W. F. & L. C. UNDERWOOD.

PORTABLE FURNACE.

No. 564,320. Patented July 21, 1896.

Fig. 1.

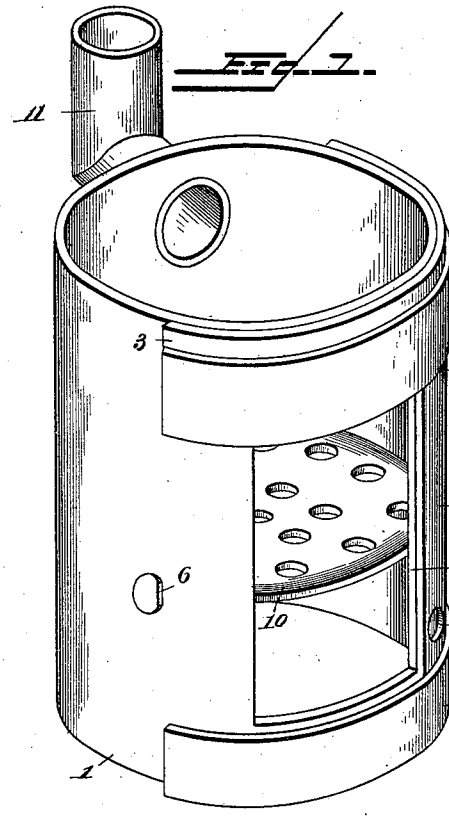


Fig. 2.

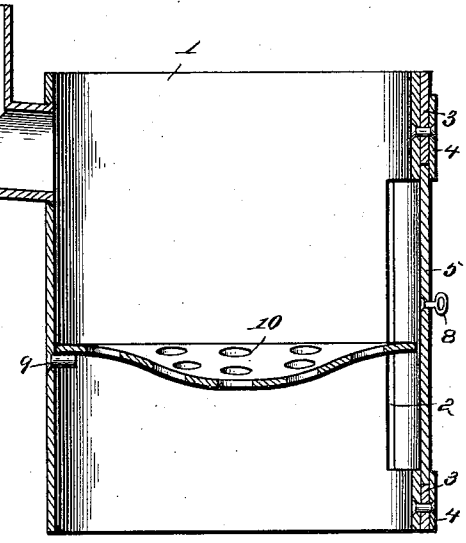


Fig. 3.

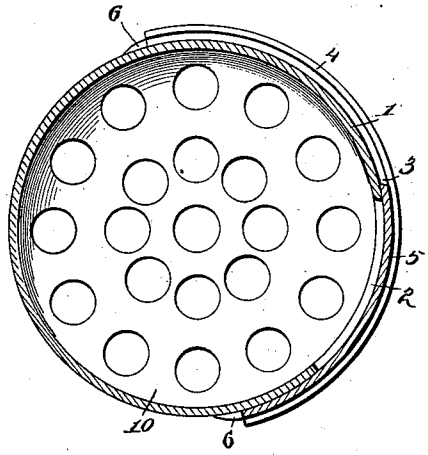
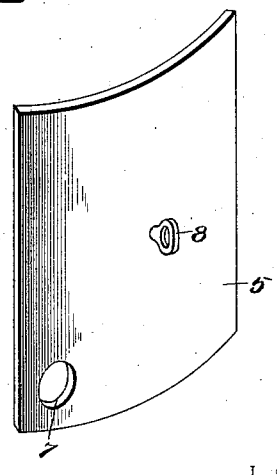


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM T. UNDERWOOD AND LEROY C. UNDERWOOD, OF ITASCA, TEXAS.

PORTABLE FURNACE.

SPECIFICATION forming part of Letters Patent No. 564,320, dated July 21, 1896.

Application filed July 10, 1895. Serial No. 555,570. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM T. UNDERWOOD and LEROY C. UNDERWOOD, citizens of the United States, residing at Itasca, in the county of Hill and State of Texas, have invented a new and useful Portable Furnace, of which the following is a specification.

This invention relates to an improvement in portable furnaces, and has for its object to provide a simple, inexpensive, and efficient furnace which may be used for various purposes, such as heating water, cooking food, &c.

The primary object of this invention is to produce, at the lowest possible cost, a portable stove or furnace designed especially for camping parties and outdoor use in general.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in a portable stove or furnace embodying certain novel features and details of construction and arrangement of parts, whereby advantages in point of simplicity and reduced cost of manufacture are attained, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of an improved portable stove constructed in accordance with this invention. Fig. 2 is a vertical sectional view taken centrally through the same. Fig. 3 is a horizontal section through the furnace, taken just above the grate. Fig. 4 is a detail perspective view of the curved door.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates the body of the improved stove or furnace, the same being in the form of an upright hollow cylinder or drum, left open at both top and bottom, as shown, and made from sheet iron or steel, or any desired or preferred material. A large opening or doorway 2 is left at the front of the stove-body thus formed, said opening or door extending nearly the entire vertical height of the body 1. At top and bottom, or just above and beneath the door-opening 2, a reinforcing metal strip is riveted or otherwise secured and extended upon one side of the door a distance equal to or a little greater than the width of the doorway. To the outer face of each of said reinforcing-strips (designated at 3) is secured a metal cleat 4 of the same longitudinal extent as the reinforcing-strips. The upper cleat is secured in place in such manner as to project at its lower curved edge beneath the corresponding edge of the reinforcing-strip, and in like manner the upper edge of the lower cleat is projected above the corresponding edge of the lower reinforcing-strip. In this manner the stove-body is strengthened and reinforced at the points where it was weakened by the cutting of the door, and at the same time provision is made and ways formed in which a segmental or curved door 5 may be mounted. This door is of sufficient extent to entirely cover the door-opening, and the cleats or ways in which said door slides are of sufficient extent to permit the door to be moved entirely to one side of the door-opening, suitable stops 6 being provided to limit the end movements of said door. The door is also provided at its forward lower corner with an aperture 7, located below the plane of the grate, which will afford the proper draft to the stove or furnace, and also has an outwardly-extending lug or handle 8, by means of which the door may be opened and closed.

The body of the stove or furnace is formed upon its interior surface with an inwardly-projecting series of pins or studs 9, forming rests upon which is placed a concavo-convex grate 10, which is disposed at an elevation a sufficient distance above the bottom of the door-opening 2 to adapt said door to perform the functions of both a stove-door and an ash-door, whereby the opening of one and the same door will afford access both to the stove-chamber, above, the grate, for supplying fuel thereto, and to the ash chamber or space beneath the grate, for removing the ashes. The grate rests loosely upon the inwardly-projecting pins or studs referred to, and thus may be readily lifted and removed from the furnace, this feature, taken in connection with the large door-opening, adapting the furnace to receive large hunks or pieces of wood when it becomes necessary to employ the latter material in lieu of coal.

By locating the grate above the bottom of the door-opening, draft is afforded beneath

the grate and upward through the same when using coal as fuel, but when the grate is removed and wood used as fuel the latter may be placed upon the ground or in the bottom of the stove, as a bottom draft is not necessary.

If desired, the inwardly-projecting pins or studs may be formed separately from the stove-body and simply inserted through perforations made therein at the proper elevation, and shouldered and riveted therein or secured in any convenient manner.

11 designates a stovepipe-elbow, which connects with the stove-body near the upper end thereof and at a point preferably diametrically opposite to the door-opening, the upwardly extending portion of said elbow being internally screw-threaded to receive the threaded end of a detachable section of stovepipe for carrying off the products of combustion. If desired, however, an ordinary section of stovepipe may be slipped over and outside of the vertical portion of said elbow, in a manner well understood. The stove thus constructed is intended to be placed upon the ground and to be covered by a wash-kettle or metal tub or pan of a convenient size, thus doing away with the usual bottom and top and rendering the stove cheaper in manufacture. The stove described embodies all the elements requisite in a stove of this character, and, by reason of access being had at one and the same time to the space above and the space beneath the grate by a door common to both the fuel and ash spaces, a simple, convenient, and desirable stove or furnace for outdoor purposes is attained, and one in which either coal or wood in large pieces may be used for fuel.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

A portable furnace or camp-stove comprising a hollow cylindrical body provided at one side with a door-opening, and a series of inwardly-projecting studs forming grate-rests and arranged in a horizontal plane located intermediate the top and bottom of the door-opening in combination with a grate removably seated on said rests and arranged in the same proximal plane therewith, and a door for closing the door-opening both above and beneath the grate, the arrangement being such that when the grate is removed the entire door-opening is left wholly unobstructed for the admission of large fuel, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM T. UNDERWOOD.
LEROY C. UNDERWOOD.

Witnesses:
C. THOMAS,
D. M. JONES.