F. HICKERSON.

PORTABLE HEATER.

APPLICATION FILED MAR. 4, 1912.

1,053,812.

Patented Feb. 18, 1913.

Fig. 1.

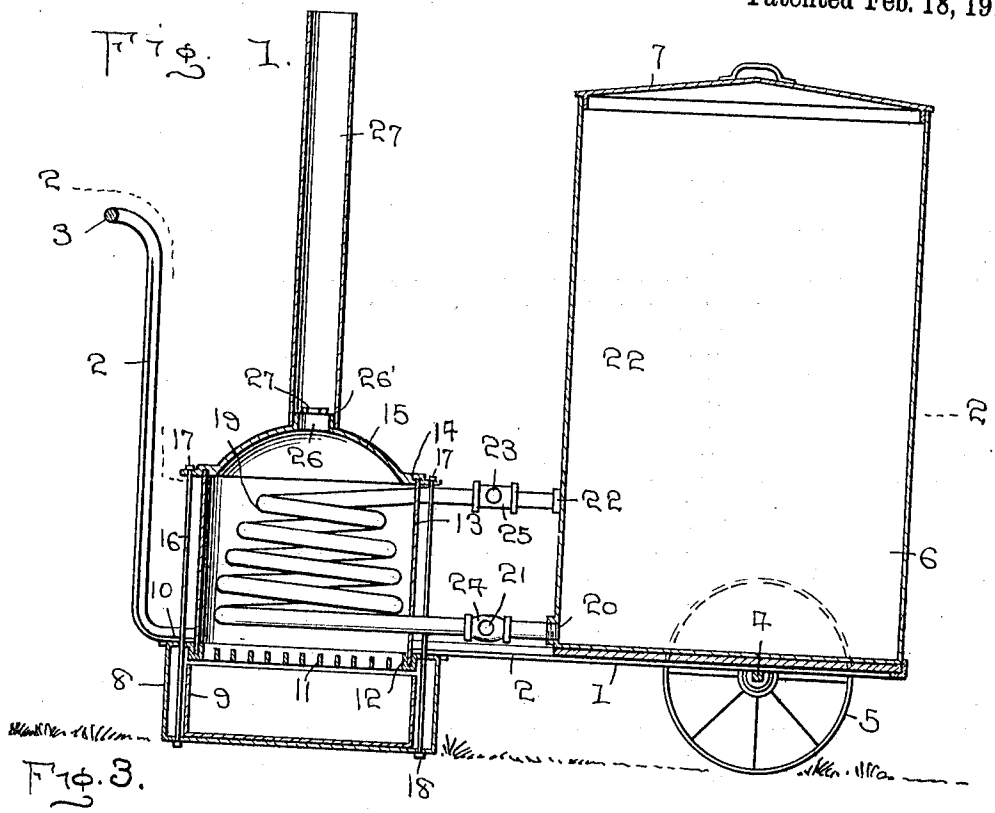


Fig. 3.

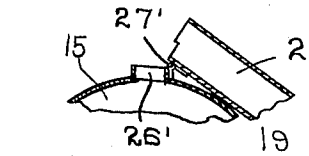
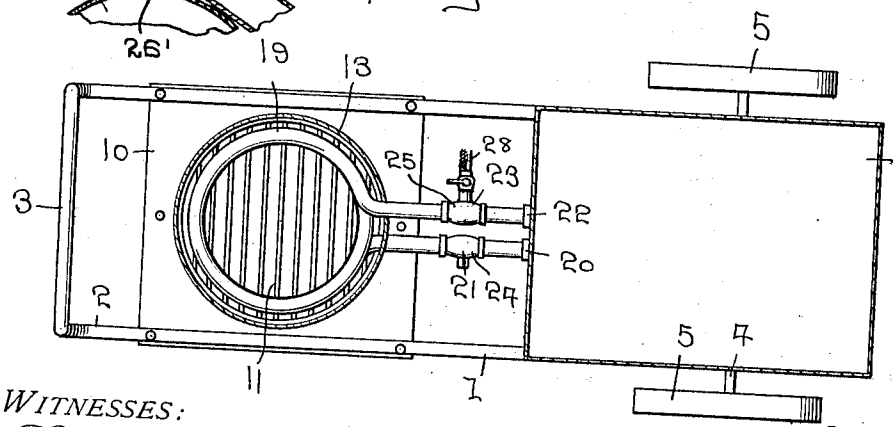


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK HICKERSON, OF McCOMB, OHIO.

PORTABLE HEATER.

1,053,812. Specification of Letters Patent. Patented Feb. 18, 1913.

Application filed March 4, 1912. Serial No. 681,358.

To all whom it may concern:

Be it known that I, FRANK HICKERSON, a citizen of the United States, residing at McComb, in the county of Hancock and State of Ohio, 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, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to heating devices and more particularly to portable heaters.

An object of the invention is to provide a portable heater which may be employed for various purposes such as heating water for scalding hogs, washing clothes, etc.

Another object of the invention is to provide a portable heater of this character which will be of extremely simple construction and which may be employed for heating water for various purposes and which is also adapted to be employed as a cooker for cooking food or the like or for preventing the formation of ice in stock or other tanks to which it may be attached.

Further objects and advantages will be hereinafter set forth and pointed out in the specification and claim.

Referring to the drawings which form a part of this application, Figure 1 represents a longitudinal vertical section through the complete device. Fig. 2 is a horizontal cross sectional view, and Fig. 3 is a detail sectional view showing the hinge connection between the smoke pipe and the cover of the heater.

Referring more particularly to the drawings in which similar reference characters designate corresponding parts throughout the several views, 1 represents the supporting frame which is preferably formed of angle iron and is bent into rectangular form with its forward end 2 bent upwardly and then forwardly to produce the handle portion 3. The framework 1 has the transverse axle 4 secured therebeneath near the rear end of said frame. The wheels 5 are suitably mounted upon the projecting opposite ends of the axle 4.

Positioned upon the rear portion of the framework 1 is the tank 6 having a suitable cover 7 engaged in its upper end to close said tank. Secured under the framework 1, but forwardly of the tank 6 is the ash pit 8, which pit has a suitable opening in one side through which the ash tray 9 may be inserted or removed. The ash pit 8 is provided with an inwardly extended annular flange 10 which carries the grate 11 and is provided with an annular groove 12 to receive the lower end of the vertically positioned cylinder 13, the upper edge of which is received within an annular groove 14 in the dome shaped cover 15. The dome shaped cover has the annular groove 14 in its horizontal circular edge which is projected outwardly to receive the bolts 16 therethrough. The bolts 16 extend downwardly to the flange 10 of the ash pit and through the ash pit 8 and have suitable nuts 17 and 18 positioned upon their upper and lower ends respectively, said bolts and nuts serving to secure the parts together and hold the cylinder in proper position to inclose the coiled pipe 19 a short distance from the inner surface of the cylinder and extending practically from the lower end to the upper end thereof.

The lower end of the coiled pipe 19, the coils of which decrease in size toward the upper end of the cylinder to place the coils in the path of the products of combustion in order that the fluid within the coil may be more readily heated, extends through the cylinder 13 near the lower end thereof and is secured in the side of the tank 6 as shown at 20. The pipe 19 has positioned therein a suitable T 24 to which is attached a bib or faucet 21 between the cylinder 13 and the tank 6. The upper end of the coiled pipe 19 projects through the cylinder 13 near the upper end of the latter and is secured in the face of the tank 6, as shown at 22 about one-third the height of the tank. The pipe 19 also has a suitable T 25 and bib or faucet 23 positioned in its upper end between the cylinder 13 and the tank 6. The bibs or faucets 21 and 23 may have attached thereto suitable hose or pipe for conveying the fluid to a suitable vessel or vessels or for drawing water out of the coil and tank or for draining the tank.

The cover 15 is provided with a central opening 26 and an upwardly directed flange 26′ around the opening to receive thereabout the lower end of the pipe 27 for carrying off the smoke, etc. The pipe 27 has a hinge 27′ adjacent the upper edge of the flange 26′ and secured thereto, upon which hinge the pipe 27 may be swung to permit of fuel, etc., being inserted through the

opening 26. A hose or pipe 28 may be extended from the bib or faucet 23, as shown in Fig. 2 or from the pipe or faucet 21, or from both if desired, to convey water drawn from the coiled pipe 29 to any point desired or for draining the tank.

It will be understood that the tank 6 is filled with water or other fluid to be heated and that as the burning fuel upon the grate 11 heats the coils 19, the water entering coiled pipe 19 from the lower end of the tank 6, at the point 20, will be heated within said coiled pipe within the cylinder 13 and caused to travel upwardly through the coil and back into the tank 6 at the point 22. Thus it will be seen that there will be a continual circulation of the fluid from the tank 6 through the coiled pipe 19 and back to said tank, the water being heated as it travels through the coiled pipe within the cylinder 13, even though the tank 6 contains only a small quantity of the fluid. It will also be evident that the water may be drawn from the opposite ends of the pipe 19 by means of the bib or faucets 21 and 23. It will also be apparent that feed may be placed within a suitable receptacle and the latter positioned within the tank 6 for the purpose of cooking the food within the receptacle. Further it will be seen that the cylinder 13 is about one-third the height of the tank 6, thus permitting proper operation of the heater after the tank 6 has been relieved of a quantity of the fluid originally contained in said tank, providing the level of the fluid remaining in the tank reaches the point 22 at which the upper end of the coiled pipe 19 is secured in the tank 6.

It will be noted that the ash pit is of such depth that when resting upon the ground or other surface the framework 1 will be in a substantially horizontal position. Attention is also directed to the fact that the upwardly directed portion 2 of the frame 1 extends upwardly for a short distance above the dome or cover 15 of the upper end of the cylinder 13 before being directed outwardly to form the handle portion 3, thus placing the handle portion 3 in a convenient position to be grasped by the operator for transferring the device from one place to another.

Owing to the construction and operation of my portable water heater, it will be evident that the same may be manufactured at a reasonable cost and will be highly efficient and effective in use.

What I claim is:

In a device of the class described, the combination with a wheel mounted frame work having the forward end thereof turned upwardly to provide handles, of a tank positioned upon the rear of the frame work, an ash pit depending from said frame work, said ash pit being provided with an inwardly extending annular flange having an annular groove therein, a grate carried by said annular flange, a cylinder having the lower end thereof disposed within said groove, a dome disposed over the upper end of the cylinder, said dome having a flanged opening therein, a smoke pipe hinged to the flange, and a coiled pipe within the cylinder having its upper and lower ends projecting therefrom and secured in the tank, the coiled portion of the pipe conforming in shape to the cylinder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK HICKERSON.

Witnesses:
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BLAME BOLTON.