

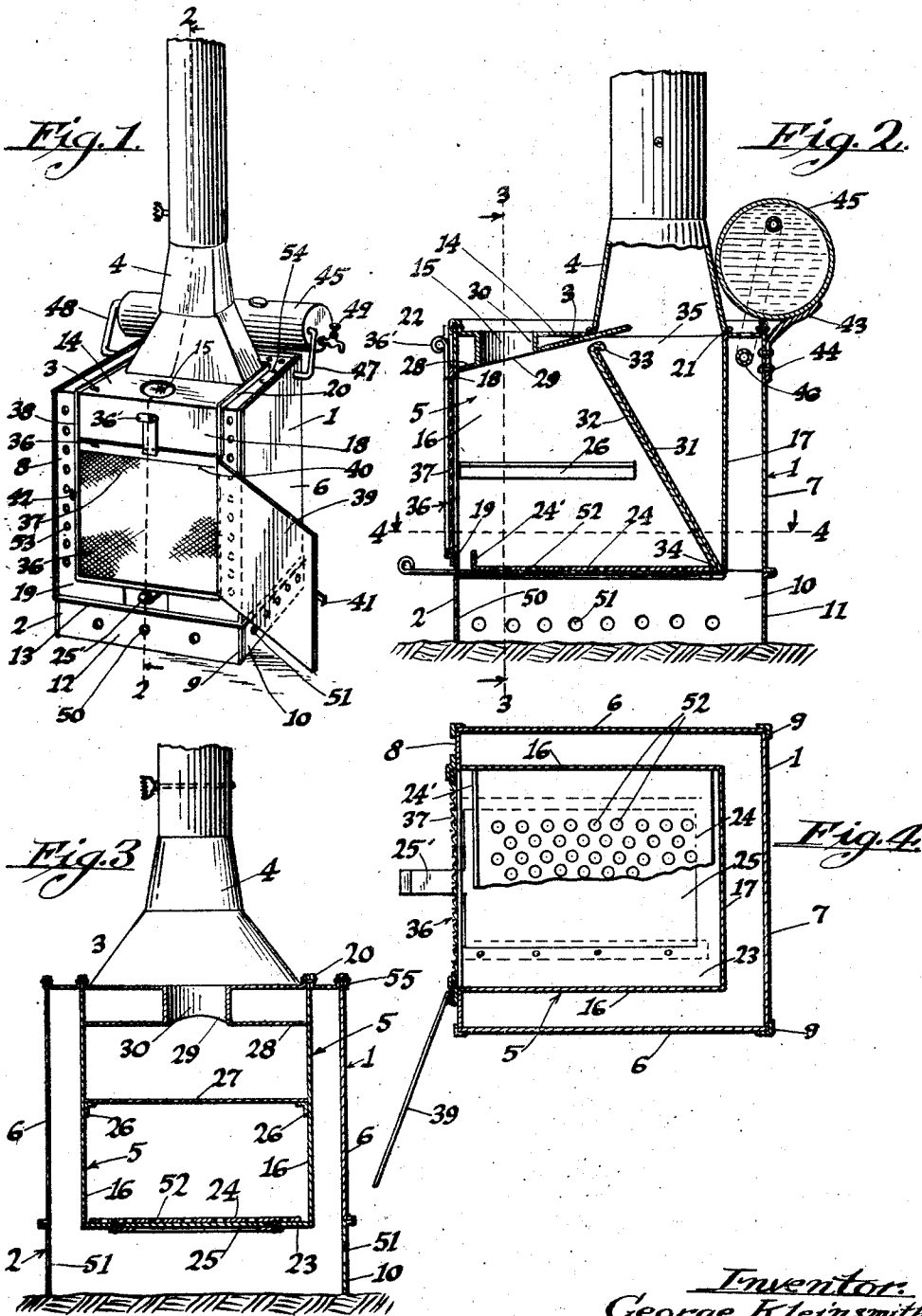
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PORTABLE CAMP STOVE

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# UNITED STATES PATENT OFFICE.

GEORGE KLEINSMITH, OF PINE KNOT, CALIFORNIA.

## PORTABLE CAMP STOVE.

Application filed November 20, 1924. Serial No. 751,068.

*To all whom it may concern:*

Be it known that I, GEORGE KLEINSMITH, a citizen of the United States, residing at Pine Knot, in the county of San Bernardino and State of California, have invented new and useful Improvements in Portable Camp Stoves, of which the following is a specification.

My invention is a camp stove preferably constructed of the portable type so that it may be knocked down for convenient transportation.

The various elements of my stove are made of sheet iron and angles which may be bolted together and easily disconnected. The stove is preferably for use in a hut or tent, as it is specially designed to utilize the heat from the fire place both as a heater by direct radiation from the open fireplace and through the walls of the stove, and also by convection heating by currents of air warmed in the stove.

The stove has a simple removable grate which is adapted to burn wood, coal or refuse. It may be utilized for cooking with pots on top of the stove or for roasting and baking with the oven. A removable water tank is supported in such manner that water is heated by circulation pipes passing through the stove.

My invention will be more readily understood from the accompanying specification and drawings, in which—

Figure 1 is a perspective view of the stove.

Fig. 2 is a vertical section on the line 2—2 of Fig. 1 in the direction of the arrow.

Fig. 3 is a vertical section of Fig. 2 on the line 3—3 in the direction of the arrows.

Fig. 4 is a plan of Fig. 2 on the line 4—4 in the direction of the arrows.

The stove comprises a main outer body 1, a base 2, a cooking top 3, a chimney 4, and an inner structure 5. The body has sheet iron sides 6, a back 7, and a front wall 8. These are preferably joined to each other with vertical angles 9. The base has side walls 10, a rear wall 11, and a front wall 12, with angles 13 on the top of the walls forming a base on which the body 1 sits. The cooking top 3 is preferably constructed of a piece of sheet iron 14 with apertures 15 for cooking utensils. The inner structure 5 is formed of side plates 16, a rear plate 17, and a front plate 18 extending downwardly at the sides to a damper plate 19. The side walls are supported from the top of the

stove by the angle connection 20. The rear plate is secured to the top of the stove by the angle 21. The front plate is hung from the top of the stove by a bolt 22 connected to the front wall members 8. The side, rear and front plates thus hung from the top of the stove support a damper plate 23, a grate 24 thereon having a front upturned edge 24', and a sliding damper 25 having a handle 25'. Midway up the side plates angles 26 support an oven plate 27. The top of the oven 28 is inclined and has an aperture 29 with a short pipe 30 leading to the aperture 15 in the top plate and forming there-with the opening for cooking pots.

Midway back in the inner structure is an inclined fixed flash plate 31 secured by angles to the side plates 16. A removable flash plate 32 has hooks 33 engaging the top of the fixed plate and bears on the lower back corner 34 of the inner structure. The chimney 4 is mounted on the top of the stove in the usual manner by means of a flange inserted downwardly in the smoke opening 35 to hold it securely in position.

On the front of the stove is a sliding screen 36 having a lifting handle 36' and a wire mesh 37 or other suitable screening material. This is mounted to slide in the angles 38 on each side of the door opening. A solid door 39 is pivoted at one side of the door opening 40 and by means of a hook 41 and staple 42 is held in a closed position.

A pair of brackets 43 are attached to the back of the stove by bolts 44 and support a water tank 45. This tank has a water circulating pipe 46 passing through the space between the back wall 7 and the rear plate 17. The cold water outlet 47 leads from one end of the tank and the hot water inlet 48 to the other end. A tap 49 is provided as a convenient means of drawing hot water.

The draft for fire is through apertures 50 in front of the base and 51 in the side of the base. The damper 25 is drawn in and out by the handle 25' to regulate the draft through the apertures 52 in the grate 25.

Air is heated by passing between the outer body 1 and the inner structure 5. The cool air is admitted through apertures 53 in the front of the stove and the hot air passes out through apertures 54 in the top of the stove. The air which enters through the apertures 50 and 51 in the base that is not used for the draft also passes outward through the apertures 54.

Any convenient means may be used for connecting the side plates to angles so that they may be readily removable, but I have indicated the connection as being by bolts  
 5 55.

If it is desired to make a permanent stove the plates and angles may be welded together. For a permanent type stove it is preferable to form the sides 6 and back 7  
 10 of one plate.

The flame and products of combustion from the fuel being burned on the grate 24 strike the removable flash plate 32 and are deflected over the oven plate 27. The hot  
 15 flames impinge on the top of the stove, thus applying the heat directly to pots or the like placed on the apertures 15. The products of combustion then pass over the top of the flash plate 31 and up the chimney.

When I wish an open fire similar to a grate, the door 39 may be opened wide or removed, in which case the flash plate reflects the heat from the fuel through the  
 20 wire mesh 37 which protects the camp from fire by sparks. Heated air passes through the apertures 54 and thereby heats the camp by convection currents of air. When it is desired to use the oven for baking or roasting the door 39 may be closed over the screen  
 25 36.

Various changes may be made without departing from the spirit of the invention as claimed.

I claim:

35 1. A camp stove, comprising in combination an outer body having a top plate extending there-across; an inner structure suspended from the top plate, a grate carried by the inner structure; an oven positioned  
 40 in the inner structure and supported thereby above the grate.

2. A camp stove, having an outer body with a top plate extending there-across, an inner structure having side walls attached to the top plate, a grate carried by the inner  
 45 structure, an oven supported in the inner structure above the grate and an inclined flash plate or baffle extending upwardly from the grate.

3. A camp stove having an outer body, 50 an inner structure suspended from the top of the body, a grate carried by the inner structure, an inclined flash plate or baffle extending upward from the grate, and an inclined inner top plate. 55

4. A camp stove having in combination a base, an outer body above the base, an inner structure spaced from the outer body, a grate formed of a perforated plate supported in the inner structure, a sliding damper  
 60 below the grate, air apertures through the base, an inclined flash plate or baffle above the grate, air inlet apertures through the outer body, and air outlet apertures through the upper portion of the stove. 65

5. A camp stove having in combination a base, an outer body above the base, an inner structure spaced from the outer body, a grate formed of a perforated plate supported in the inner structure, a sliding  
 70 damper below the grate, air apertures through the base, an inclined flash plate or baffle above the grate, air inlet apertures through the outer body, air outlet apertures through the upper portion of the stove, and  
 75 a water tank supported by the body having water circulating pipes extending into the space between the outer body and the inner structure.

In testimony whereof I have signed my  
 80 name to this specification.

GEORGE KLEINSMITH.