F. M. GATES.

STOVE.

APPLICATION FILED JULY 23, 1917.

1,286,274. Patented Dec. 3, 1918.

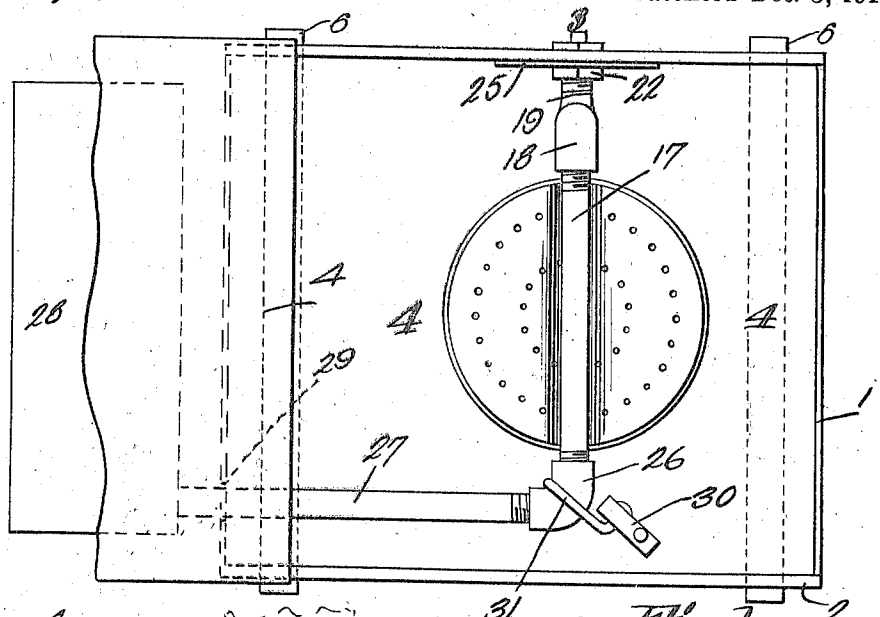


Fig. 1.

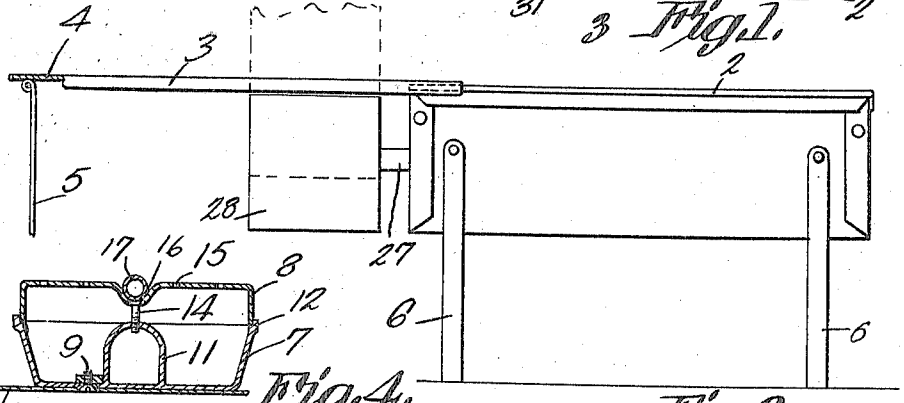


Fig. 2.

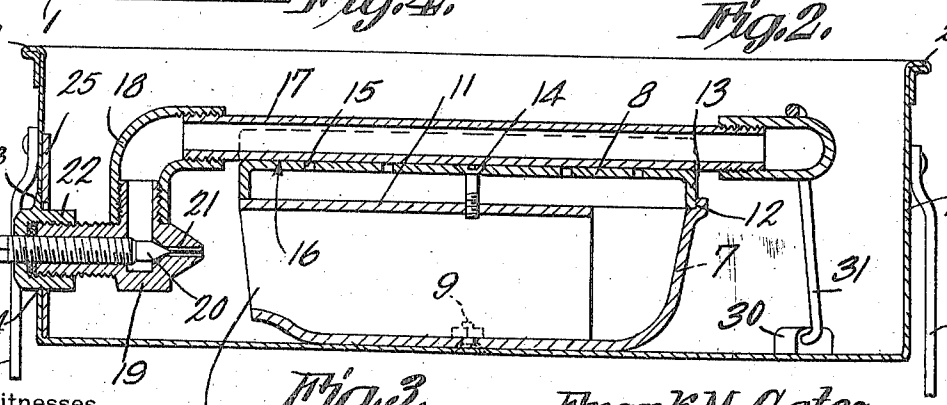


Fig. 4.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

FRANK M. GATES, OF LOS ANGELES, CALIFORNIA.

STOVE.

1,286,274. Specification of Letters Patent. Patented Dec. 3, 1918.

Application filed July 23, 1917. Serial No. 182,245.

To all whom it may concern:

Be it known that I, FRANK M. GATES, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Stove, of which the following is a specification.

This invention relates to portable stoves especially designed for use by camping parties and the like, one of the objects being to provide a hydrocarbon cook stove the parts of which can be compactly assembled so as to enable the structure to be easily carried and which parts can be quickly set up for use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—

Figure 1 is a plan view of the stove, the cover being shown open and a portion of it broken away.

Fig. 2 is a side elevation of the stove with the parts arranged for use, one of the positions which may be occupied by the fuel tank being indicated by dotted lines.

Fig. 3 is an enlarged section on line 3—3 Fig. 1.

Fig. 4 is a section on line 4—4 Fig. 1.

Referring to the figures by characters of reference 1 designates a box-like casing having outturned flanges 2 at the sides thereof adapted to be slidably engaged by the inturned side portions 3 of a slidable closure 4. This closure is provided near one end with one or more supports 5 hingedly connected thereto and adapted to swing upwardly against the bottom of the closure so as to slide therewith into position over the casing. Pivotally connected to each end portion of the casing is a bail 6 and the two bails are adapted, when extended downwardly from the casing, to constitute legs to support the casing off of the ground. By swinging these bails upwardly, however, they can be used as handles for carrying the device in the same manner as a basket.

Secured upon the middle portion of the bottom of casing 1 is a burner consisting of cup-like base section 7 and a top section 8. The base section 7 is preferably held to the bottom of the casing 1 by a bolt 9 and has an air and gas receiving opening 10 in the wall thereof, this opening being provided at one end of a conduit 11 which extends partly across the base member. The upper edge of the base member is formed with an annular recess 12 constituting a seat for a depending flange 13 extending from the marginal portion of the cap or top member 8, said top member being held to its seat by a screw 14 or the like engaging the top portion of the conduit. Apertures 15 for the escape of fuel are provided within the cap 8.

Formed diametrically within the cap is a groove 16 and this groove constitutes a seat for a vaporizing pipe 17 to one end of which is connected an elbow 18 constituting a connection between said pipe and the casing 19 of a needle valve 20. This casing has a nozzle 21 designed to direct hydrocarbon fuel into the large opening 10, as will be apparent by referring to Fig. 3. The casing 19 of the needle valve has a cap 22 formed with a retaining lip 23 and this cap is adapted to be extended into an opening 24 formed in the casing 1, said opening having a retaining plate 25 adjacent thereto and a portion of which constitutes an abutment for the lip 23 after the cap 22 has been inserted through the opening, as shown in Fig. 3. The outer end of the needle valve is so shaped as to be readily engaged by a wrench or other tool whereby the needle valve can be rotated.

The other end of the vaporizing tube 17 is connected by an elbow 26 to a fuel pipe 27 which is fixedly attached to one end of a fuel tank 28 preferably oblong as shown. A slot 29 is provided in one wall of the casing 1 and the pipe 27 is adapted to be seated upon the lower wall of this slot when the apparatus is in use. A bracket 30 is secured to the bottom of the casing 1 and has a hook 31 pivotally connected to it, this hook being so located and proportioned as to engage the elbow 26 and thus hold the

pipe 17 against movement upwardly away from the burner when the parts are assembled for use.

Under ordinary conditions the tank 28 is located in the casing 1 against one wall thereof, while the pipe 17 is located in the casing near the other wall othereof, the extreme length of the fuel pipe 27, tank 28 and elbow 26 being somewhat less than the length of the casing 1 so that these parts can all be readily housed in the casing with the burner located between the pipe 17 and the tank 28. With the parts thus arranged the cover 4 can be moved to closed position and the bails 6 can be used as handles. By removing the cover 4 from the casing the various parts of the apparatus can be quickly set up for use. This necessitates first the insertion of the cap 22 into the opening 24 while the pipe 17 is held in an inclined position, so as to bring the lip 23 back of the plate 25. Pipe 17 is then lowered into the groove 16 while pipe 27 is lowered into the slot 29, the parts being thus held by the hook 31. If desired, the tank 28 can be left in a horizontal position so that the cover 4 can be placed thereover as shown in Fig. 2. Instead of arranging the tank in this manner, however, the cover 4 can be extended beyond the opposite end of the casing 1 and the tank 28 and pipe 27 can be rotated relative to the elbow 26 until the tank is brought to a vertical position as indicated by dotted lines in Fig. 2. By opening the valve 20 fuel will be free to flow to the burner and when ignited will cause that portion of the fuel within the pipe 17 to be vaporized so that the fuel will be discharged in the form of a gaseous jet into the opening 10 where it will mix with air and flow through conduit 11 into the space below the top member 8 and thence through the outlets 15 where ignition will occur. Obviously a stove such as described will be found especially advantageous for use by tourists, camping parties and others as it can be easily carried and can be stored in a small space.

Obviously two or more burners may be coupled together in any well known manner such as shown, for example, in my patent hereinbefore mentioned, in which event a suitable valve connection may be arranged between the burners for controlling the supply of fuel from one burner to another. Such an arrangement is so obvious that it is not deemed necessary to show or describe the same in detail.

What is claimed is:—

The combination with a casing, and bails connected thereto and movable to position for use either as supports or as handles, said casing having laterally extended flanges, of a cover slidably engaging the flanges, a support movably connected to one end of the cover, a burner within the casing, a tank outside the casing and revoluble to position either below the plane of the cover or across the path thereof, a valve casing detachably engaging one wall of the casing, a nozzle extending therefrom, a pipe connection between the tank and nozzle, said connection being detachably secured within the casing and including a vaporizing tube extending across and detachable from the burner.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK M. GATES.

Witnesses:

MARY M. SQUIRES,

GERALDINE SQUIRES.