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GASOLINE CAMP STOVE

Filed March 3, 1927

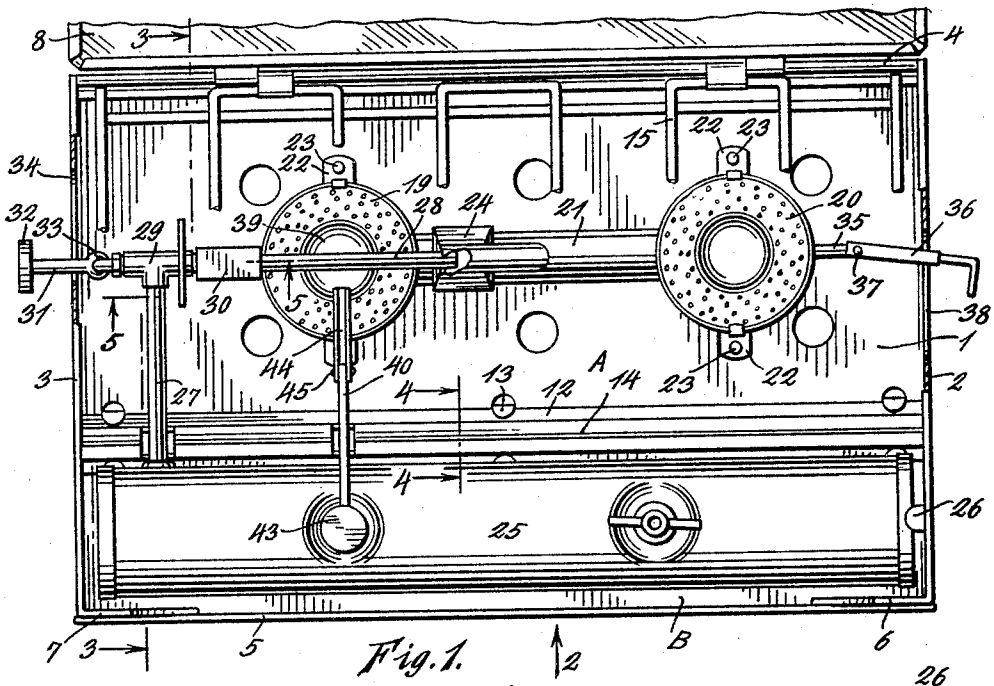


Fig. 1.

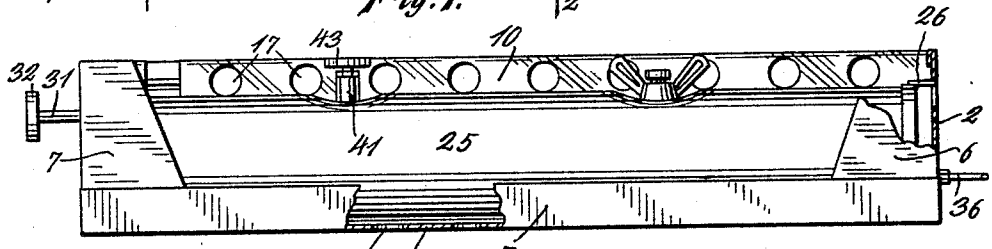


Fig. 2.

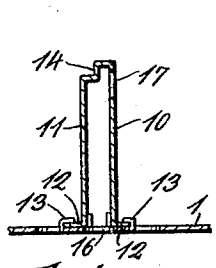


Fig. 4.

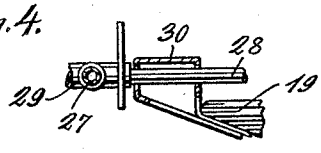


Fig. 5.

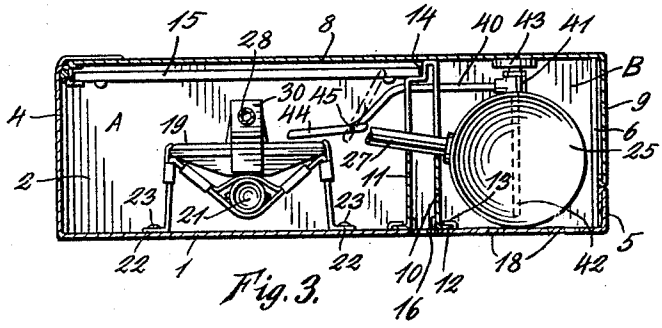


Fig. 3.

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UNITED STATES PATENT OFFICE.

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GASOLINE CAMP STOVE.

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This invention relates to improvements in gasoline stoves of the type sometimes referred to as camp stoves.

Automobile tourists, hunters, fishermen and others who do a considerable amount of outdoor camping, find it more convenient to employ for their cooking a stove that burns hydrocarbon fuel, such as gasoline, than to depend on the wood camp fires. The great prevalence of automobile tourists has resulted in wood famines along the highways, which makes it imperative that some other means of producing heat than the old and well known wood fire must be provided.

It is the object of this invention to produce a camp stove of the type referred to which shall be of simple and substantial construction and in which the burner assembly and the fuel tank shall be rigidly secured to the casing in such a manner that they will be fully protected against injury during transportation and will be prevented from being accidentally displaced with respect to each other.

It is the further object of this invention to produce a stove of this type in which the fuel tank shall be separated from the burner assembly by means of a double partition wall whose interior is in free communication with the air and whose upper portion is provided with a plurality of openings so that when the burners are in operation, a continuous stream of air will circulate between the walls of the partition and thereby produce a heat insulating effect that prevents the tank from becoming unduly heated.

The above and other objects which may become apparent as the description proceeds are obtained by means of a construction which briefly described, is as follows:

A rectangular metal casing having a bottom and a hinged top is provided for the purpose of enclosing the burner assembly and the fuel tank. This casing is divided into two compartments by means of a hollow longitudinally extending partition. This partition is secured to the bottom and the latter is provided with a large number of holes that communicate with the partition. A large number of holes is also provided near the top of the partition so that air may flow upwardly between the walls of this partition whenever it becomes heated. The burner assembly is located in one of the compartments and the fuel tank is located in the other. The longitudinally extending partition serves as a heat insulating medium and protects the tank from the heat generated by the burner while in operation.

Having thus briefly described the invention the same will now be described in detail, and reference for this purpose will be had to the accompanying drawing in which the preferred embodiment has been illustrated, and in which:

Fig. 1 is a plan view of the stove with parts broken away to better show the construction;

Fig. 2 is an elevation looking in the direction of the arrow 2 in Figure 1;

Fig. 3 is a transverse section taken on line 3—3, Fig. 1 and shows the cover in closed position;

Fig. 4 is a section taken on line 4—4, Fig. 1, and shows the preferred construction of the hollow partition; and

Fig. 5 is a section taken on 5—5, Fig. 1, showing the manner of connecting the generator tube to the burner.

Numeral 1 designates the bottom of the casing. This casing has been shown as of rectangular shape and is provided with ends 2 and 3. These end members are connected at their respective ends by sides 4 and 5. Side 4 is of the same height as the end members but side 5 is much lower. The end members 2 and 3 have portions 6 and 7 which are bent at right angles and whose lower edges are secured to the side 5 in the manner shown in Figure 2. A cover 8 is hingedly connected to the upper edge of side 4 and is provided with a downwardly extending portion 9 which closes the opening formed between the top of the side 5 and the inclined edges of parts 6 and 7. The casing is divided into two compartments A and B by means of a hollow partition which comprises two parallel members 10 and 11 of sheet metal which are integrally connected along their upper edges and are provided along their lower edges with outwardly extending feet 12. This partition is secured to the bottom 1 by means of tongues 13 that are formed integrally from the bottom 1 and are bent over the feet 12 in the manner shown in Figure 4. A rabbet 14 is provided along the upper edge of this partition wall so as to form a support for the free edge of the grate 15. The bottom member 1 is provided with a large number of openings 16, which communicate with the interior of the hollow partition, and the partition member 10 is provided with a plu-

rality of openings 17 along its upper edge, so that air may freely circulate in an upward direction through the interior of this hollow partition. The bottom of compartment B is also provided with two rows of openings 18 which permit the free circulation of air.

Located within the compartment 8 is a burner assembly, comprising two burners 19 and 20 which are secured to alternate ends of the manifold 21. This burner assembly is supported on two M-shaped brackets such as shown in Figure 3. As this assembly has been described in a copending application of even date herewith, a detailed description will not be made. Attention, however, is called to the fact that these supporting brackets have outwardly extending feet 22 which are perforated for the reception of rivets 23. The burner assembly is therefore rigidly secured to the bottom. The manifold 21 is provided with a mixing chamber 24 to which reference will hereinafter be made.

A fuel tank 25 is located within the chamber B and is held therein by means of spring clips 26 or some other suitable means which prevents the tank from moving with respect to the walls of the chamber. This tank is connected by means of a tube 27 with a generator tube 28 by means of an L-shaped valve 29. This generator tube is supported by means of a bracket 30 which is secured to the burner 19 in the manner shown in Figure 5. The end of the generator tube extends into the mixing chamber 24 in the manner shown in Figure 1. Valve 29 is provided with a hinged valve stem 31 to the outer end of which a knob 32 is secured. When the valve stem 31 is rotated, the valve 29 which connects the interior of the tank with the generator tube 28, can be opened and closed. When the stove is not in use, the stem 31 and the knob 32 can be rotated about the pivot 33 so as to bring them within the casings, the end wall being provided with a slot 34 for this purpose. The interior of the manifold 21 is separated from the interior of the burner 20 by means of a valve mechanism, which is controlled by the stem 35. This stem has an extension 36 which is pivoted thereto at 37 and this can be extended in the manner shown in Figure 1 or folded to a position within the casing, the end member 2 being provided with a slot 38 for this purpose. It will be observed that the top of burner 19 is formed with a depressed central portion 39 which is located directly beneath the generator tube 28. When the stove is to be ignited, it is necessary to heat the tube 28 to such a temperature that it will vaporize the gasoline that flows through it. For this purpose, it is necessary to transfer a small quantity of gasoline from the fuel tank 25 to the priming cup 39, this is accomplished by the following means. A pipe 40 is connected to a valve 41 which in turn connects it with a pipe 42 that extends downwardly towards the bottom or the fuel tank (Fig. 3). Valve 41 can be opened and closed by rotating the handle 43 and when this valve is open gasoline will flow outwardly through pipes 42 and 40. It may be remarked here that the fuel tank 25 contains air under pressure as well as gasoline and therefore when either valve 43 or 29 is opened, the air will force the gasoline outwardly. Pipe 40 terminates a short distance from one side of burner 19 and has hinged to it a trough 44 which, when it is extended into the full line positions shown in Figures 1 and 3 will conduct the gasoline into the priming cup 31. This trough, however, can be rotated about its pivot 45 into the dotted line position shown in Figure 3.

Let us now assume that the stove is to be used. After the cover has been thrown back, the trough 44 is placed into the full line position and valve 43 opens, gasoline will now flow into the priming cup 39. When this cup has been filled with gasoline, valve 43 is closed and trough 44 turned upwardly into dotted line position (Fig. 3). The gasoline in the priming cup is now ignited and the flame striking the generating tube 28 will cause the same to become heated. Shortly before the gasoline in the priming cup has been consumed, valve 29 is opened and this permits gasoline to flow through pipe 27 into the generator tube 28, where it will be vaporized. The vapors emerging from the end of tube 28 will become mixed with air in the mixing chamber 24 thereby forming a combustible vapor or gas which will flow through the manifold and into burner 19. When this gas passes through the openings in the top of the burner it will become ignited and will thereafter furnish sufficient heat to generate vapors within the tube 28. Gas to burner 20 can be controlled by means of a valve attached to the stem 35.

From the above it will be observed that we have produced a stove in which the tank and the burner assembly are both fastened to the casing and each located in a separate compartment. The hollow partition through which air is constantly circulating serves as a heat insulator that prevents the tank from becoming too hot. The openings from which tongues 13 have been removed permit air to flow upwardly along each side of the partition and thus serves as a heat protection for the tank. The openings in the bottom directly beneath the tank also permit good circulation of air through chamber B, and therefore the temperature of the tank will never rise above a safe value.

Having thus described the invention what is claimed as new is:

1. A camp stove comprising, in combination, a casing having a bottom and a hinged cover, a hollow partition dividing the interior

of the casing into two compartments, a burner assembly located within one of said compartments, a fuel tank located adjacent the partition within the other compartment, means for conducting fuel from the tank to the burner assembly and means for producing an upwardly flowing air current through the interior of and adjacent to said partition when the stove is in operation whereby the tank will be protected from the heat.

2. A camp stove comprising, in combination, a casing having a bottom and a hinged top forming a cover, a partition for dividing the casing into two compartments, said partition being formed from two parallel spaced members provided with a plurality of openings along the top, the bottom being also provided with a plurality of openings communicating with the interior of said partition, whereby air may flow through the partition when the latter is heated, a burner assembly in one of said compartments, a fuel tank in the other compartment and means for conducting fuel from the tank to the burner assembly.

3. A camp stove comprising, in combination, a casing having side walls, end walls and a cover, a partition extending across the interior of the casing so as to divide it into two compartments of unequal size, a burner located in the larger compartment, a fuel tank located in the smaller compartment, and a conduit extending from the fuel tank to the burner, the sides of the partition being in free communication with the air below the edges of the sides and ends of the casing whereby an unobstructed circulation of air may take place on both sides of the partition.

4. A camp stove comprising, in combination, a rectangular casing having spaced parallel side walls, spaced parallel end walls and a cover, a partition extending across the interior of the casing and dividing the interior thereof into two compartments of unequal size, said partition being formed from two spaced wall members, the space between the wall members being in communication with the atmosphere at the bottom and at the top of the partition whereby air may flow through the interior of the partition when the latter is heated, a burner in the larger compartment, a fuel tank in the smaller compartment adjacent the hollow partition and means for conducting fuel from the tank to the burner.

In testimony whereof we affix our signatures.

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