E. G. BALLENGER.

HEATER.

APPLICATION FILED FEB. 26, 1917.

1,237,858. Patented Aug. 21, 1917.

Fig. 1.

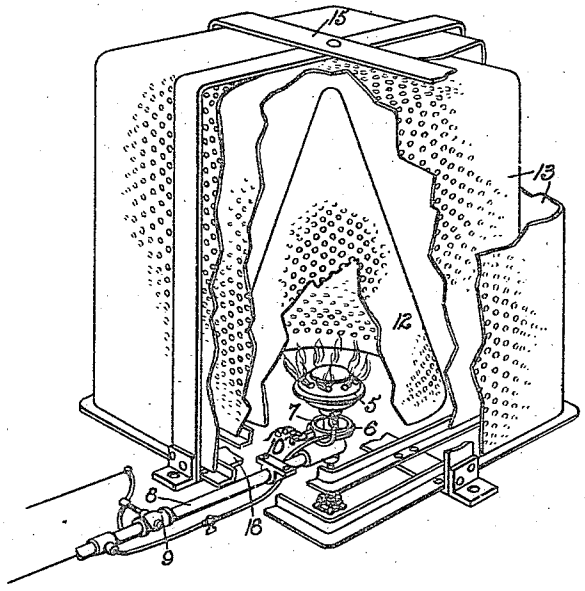


Fig. 3.

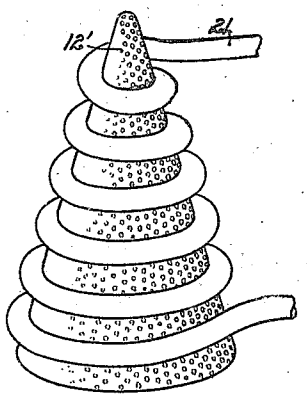
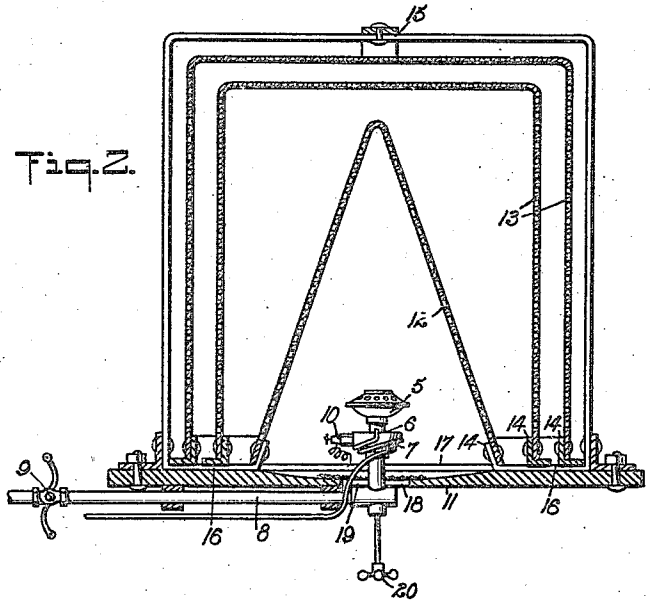


Fig. 2.



WITNESSES

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HEATER.

1,237,858. Specification of Letters Patent. Patented Aug. 21, 1917.

Application filed February 26, 1917. Serial No. 150,974.

To all whom it may concern:

Be it known that I, EDGAR G. BALLENGER, a citizen of the United States, and a resident of Atlanta, in the county of Fulton and State of Georgia, have invented a new and Improved Heater, of which the following is a full, clear, and exact description.

My invention relates to heaters, particularly designed for use in connection with internal-combustion engines on vehicles, for the purpose of keeping the engines warm during the winter months.

An object of the invention is to provide a safe and inexpensive heater which will supply sufficient heat for the engine under the hood without the risk of an explosion that may be caused by gas leaks under the hood.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings, forming part of the application, similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a heater embodying my invention, certain parts of which are broken away to illustrate the details of construction;

Fig. 2 is a vertical cross section; and

Fig. 3 is a perspective view of the inner screen provided with a water-circulating tube.

Referring to the drawings, 5 is a burner of the type used with gasolene torches when gasolene is used as a fuel for the lamp. If other fuel is used, a suitable burner for such fuel will be provided in place of the burner 5. A pilot light 6 is provided near the cup 7 of the burner, the pilot light being supplied with fuel from the main conduit 8 from a point beyond a valve 9 which controls the supply to the burner. The conduit 8 is connected to the gasolene supply of the automobile. A suitable sparking arrangement 10 is provided in proximity of the pilot light and cup to ignite the fuel thereat and preheat the burner to gasify the fuel in the well known manner. The valve 9 is operable from the seat of the operator of the vehicle.

The burner 5 is mounted centrally on the base 11, preferably of rectangular contour. The base 11 carries a cone 12 of meshed fabric which incloses the burner. The cone is in turn inclosed in a pair of spaced cups 13 of meshed fabric and preferably of rectangular cross section in either plane. The two cups are also supported on the base 11, the open ends of the cups and cone being engaged by flanges raised from the base, so as to prevent any movement of said cups and cone on the base.

The outer cup is surrounded by a cross brace 15, the ends of which are secured to the base. Preferably the ends 16 of said cross brace are made to support the flanges 14, so that when the brace is removed from the base 11, the cups and the cone are removed therewith. The base 11 circumscribed by the cone 12 is dished as shown at 17, and is provided with a central opening 18 through which a portion of the burner 5 projects. This opening serves also as an escape for the fuel that condenses within the cone or that overflows from the cup. The opening 18 is screened by metal fabric 19. The burner below the base is provided with a valve 20 whereby the size of flame and, therefore, the quantity of heat generated may be controlled. The means for securing the burner at any desired position may be provided at the base or on the brace, depending on the size of the burner and the place it is desired to have it secured under the engine hood of a motor vehicle.

In places where the temperature is very low, the water that circulates through the engine may be caused to circulate about the cone 12, so as to be partially preheated thereat. In such cases a water conduit 21 will be wound about the outer surface of the meshed cone 12′ in a manner as shown in Fig. 3.

By providing three successive metal gauzes about the burner, any danger of an explosion is obviated, for the temperature at the outer gauze will be below the ignition temperature of most of the gases that may find their way under the hood of an engine. The securing of all the gauzes to the cross brace results in a unitary structure which permits the removal of the superstructure of the heater in a unit and thereby affords quick access to the burner.

I claim:

1. A heater of the class described comprising a base, a burner on said base, means for supplying fuel to the burner, means for

igniting the burner, a plurality of interengaging metal-gauze members surmounting the burner, and a cross brace adapted to encompass the outer gauze member and adapted to be secured to the base, said cross brace having means for interengaging all of said gauze members whereby the gauze members are removable with the cross brace.

2. A heater of the class described comprising a base, a burner on said base, a metal-gauze, cone-shaped member resting on the base and inclosing the burner, a pair of interengaging, metal-gauze, cup-shaped members inclosing the cone-shaped member and engaging the base, and a brace having means for engaging the base and the said metal-gauze members whereby the metal gauze members are removable with the brace.

3. A heater of the class described comprising a base having a central depressed part, a burner on said base in the central depressed part, a metal-gauze, cone-shaped member resting on the base and inclosing the burner, a pair of interengaging cups of metal gauze engaging the base and inclosing the cone-shaped metal-gauze member, and a cross brace having flanges for engaging the cup-shaped and the cone-shaped members, said cross brace having means for engaging the base whereby all of said metal-gauze members are secured to the base when the cross brace is secured to the base.

EDGAR GARRISON BALLENGER.