Nov. 4, 1924. 1,514,252

P. F. FELLMANN

ASPHALT HEATER

Filed June 25, 1924 2 Sheets-Sheet 1

Fig. 1.

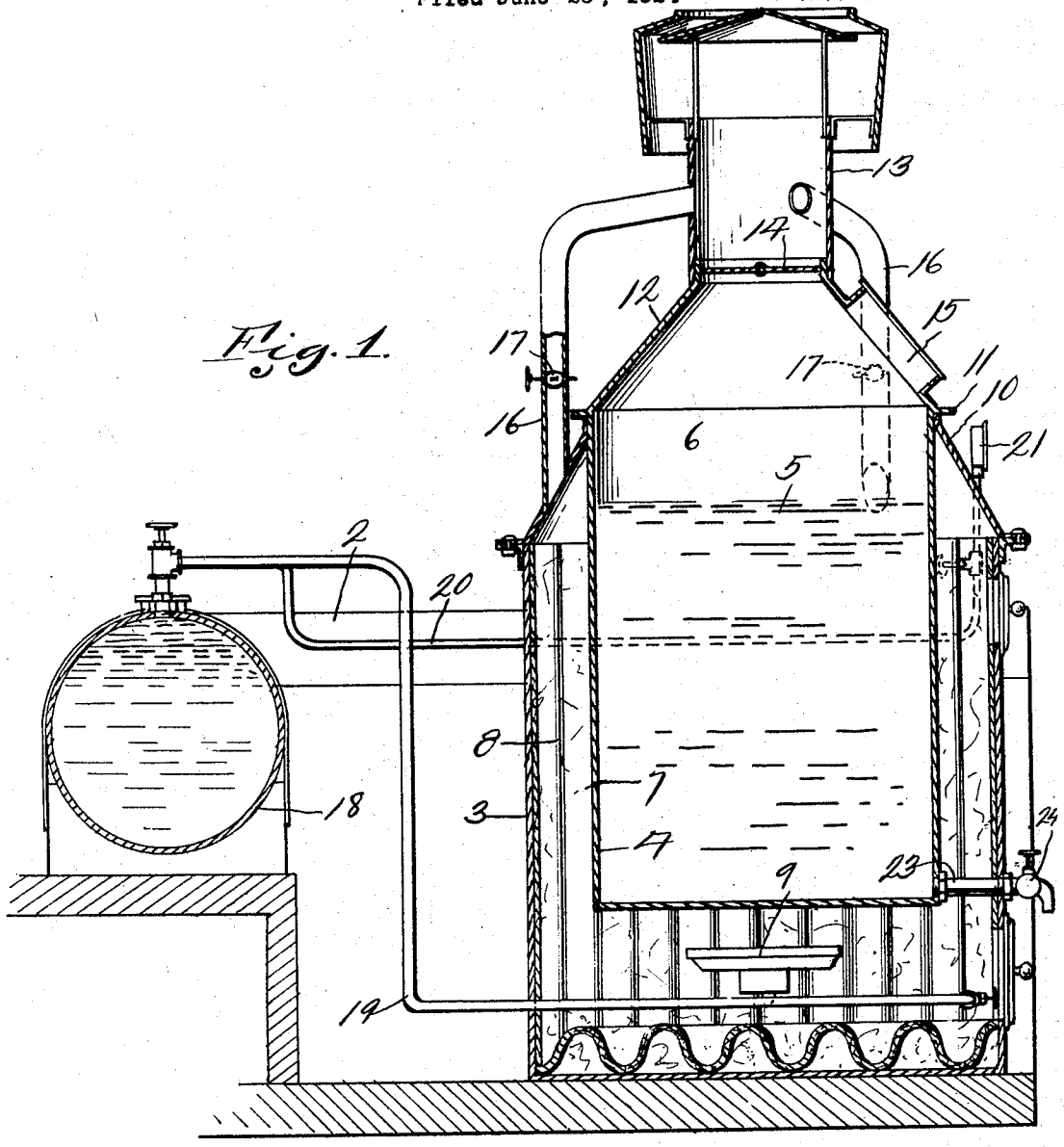
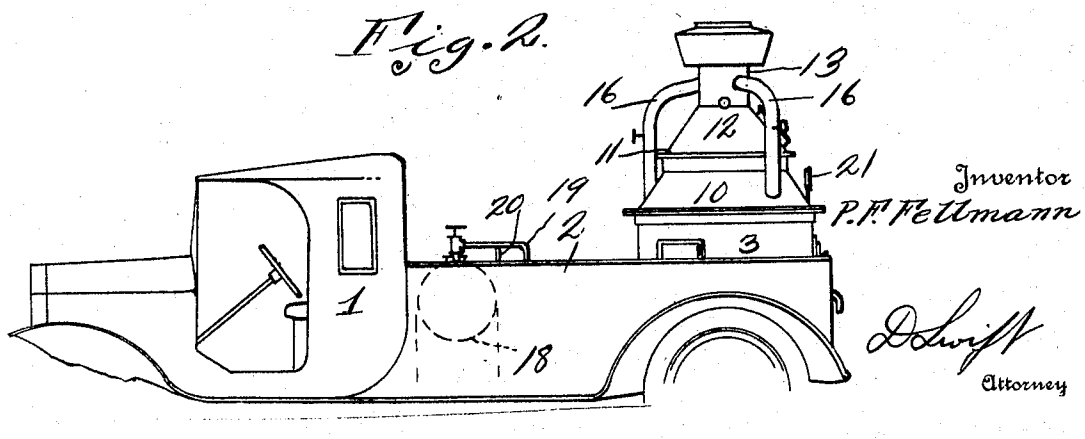


Fig. 2.



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Filed June 25, 1924 2 Sheets-Sheet 2

Fig. 3.

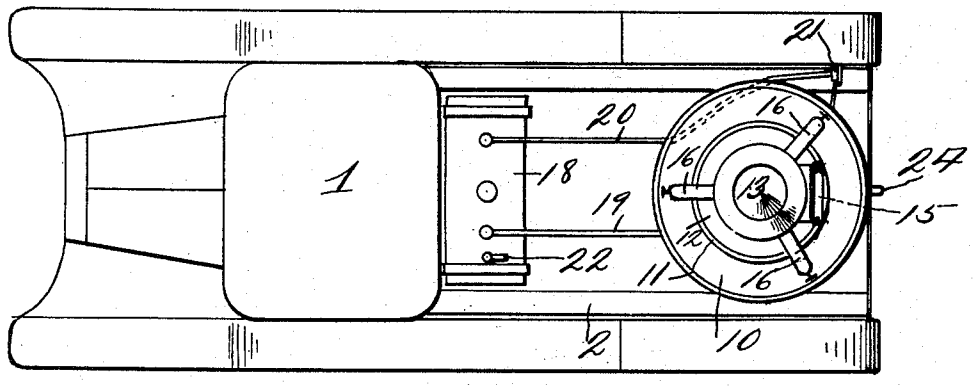
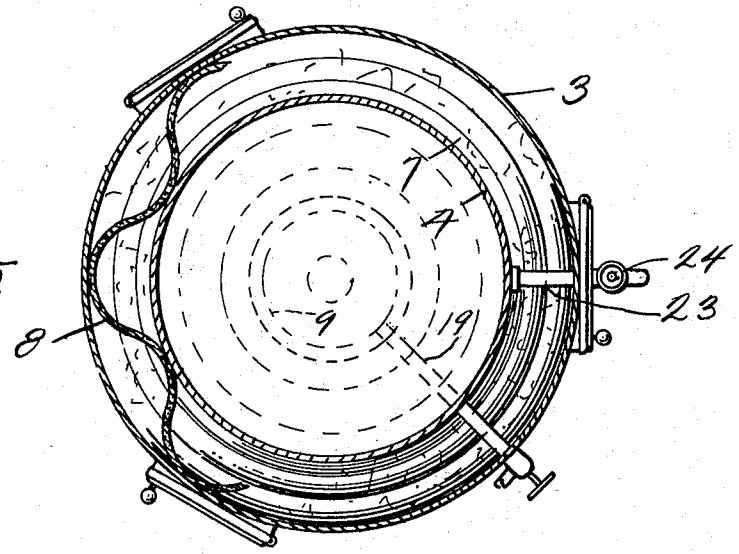


Fig. 5.



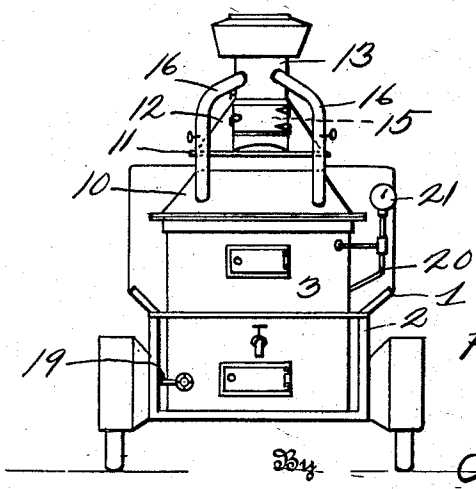


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ASPHALT HEATER.

Application filed June 25, 1924. Serial No. 722,320.

To all whom it may concern:

Be it known that I, PHILIP F. FELLMANN, a citizen of the United States, residing at Lancaster, in the county of Lancaster, State of Pennsylvania, have invented a new and useful Asphalt Heater; 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.

The invention relates to asphalt heaters, and has for its object to provide a device of this character, particularly adapted for transporting on a motor vehicle from place to place, and provided with means whereby, during the transportation of the heater, a constant heat may be maintained, and at the same time, through damper means, the gases, generated by the asphalt particularly incident to the agitation thereof, will be prevented from igniting and consequent explosion within the asphalt compartment of the heater. In portable asphalt heaters considerable difficulty has been experienced incident to the explosion thereof, therefore it is one of the primary objects of the invention to provide an asphalt heater which may be transported from place to place on a motor vehicle without explosion thereof.

A further object is to provide an asphalt heater comprising a main casing having an auxiliary casing therein, and around which casing heat flues are formed by means of corrugated heat resisting material, and to provide the auxiliary casing with a stack for the discharge of products of combustion and a plurality of pipes connecting the main casing and stack and provided with dampers whereby heat within the flues may be controlled for regulating the heat of the asphalt within the chamber of the auxiliary casing. Also to provide the stack with a damper, which damper may be closed during the transportation of the heater for preventing entrance of air into the asphalt compartment for mixing with the gases generated by the asphalt, which has been found to cause explosion during transportation of devices of this character.

A further object is to provide an oil burner within the lower end of the main casing below the auxiliary casing, and to provide force feed means for said oil burner.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawing, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a vertical longitudinal sectional view through a portion of the body of the automobile and the heater.

Figure 2 is a side elevation of an automobile and the heater carried thereby.

Figure 3 is a top plan view of the automobile and heater.

Figure 4 is a rear elevation of the automobile and heater.

Figure 5 is a horizontal sectional view through the heater.

Referring to the drawings the numeral 1 designates a conventional form of automobile of the truck type, and 2 the body thereof. Disposed within the body 2 of the automobile adjacent its rear end is the main cylindrical casing 3 of the heater, which casing has disposed therein an auxiliary casing 4 for the reception of asphalt 5 in the chamber 6 thereof. The auxiliary casing 4 is smaller than the main casing 3 and is axially disposed therein, thereby forming an annular chamber 7 around the auxiliary casing, and in which chamber 7 corrugated heat resisting material 8, preferably asbestos, is disposed. By forming the heat resisting material of corrugated form, it is obvious that heat from the oil burner 9 disposed beneath the auxiliary casing 4 within the main casing 3 will pass upwardly between the corrugations in engagement with the outer periphery of the auxiliary casing, thereby heating the asphalt 5 within the chamber 6. The upper end of the main casing 3 is frustoconically shaped as shown at 10, and in the upper end of which frustoconically shaped portion the auxiliary casing is disposed and maintained in proper spaced relation to the main casing 3 by means of the annular flange 11 carried by the auxiliary casing. Auxiliary casing 4 above the flange 11 is provided with a tapered portion 12, which tapered portion terminates in a stack 13 through which products of combustion generated by the heating of the asphalt 5 will pass to the atmosphere. However it has been found that

when devices of this character are transported, if air is allowed to enter the asphalt compartment 6 through the stack 13, explosions take place, which are dangerous to workmen. To obviate this difficulty the stack 13 adjacent its lower end is provided with a damper 14, which damper, when the device is transported, is closed, consequently danger of explosion is obviated. The auxiliary casing 4 adjacent its upper end is provided with a filling opening 15, through which asphalt, which is to be heated, is passed to the chamber 6 of the auxiliary compartment.

To regulate the heating of the asphalt, pipes 16 are provided, which pipes connect the upper end of the main casing and the stack above the damper 14, and are in communication with the annular chamber around the auxiliary casing 4. Disposed in the pipes 16 are dampers 17, which may be regulated for allowing the free exit of hot air from the annular chamber or for retarding the same according to the temperature desired. Disposed within the automobile body 2 is an oil tank 18, which oil tank is of the force feed type and has a pipe connection 19 with the burner 9, and a pipe connection 20 with an air gage 21, whereby the amount of pressure within the tank 18 may be ascertained at all times. Air is forced into the tank 18 through an air supply pipe 22, which may lead to any suitable source of air supply, and it will be seen by providing a force feed, oil will leave the burner 9 in a spray and will quickly ignite, and at the same time the maximum heating efficiency is obtained from the oil. Asphalt is drawn from the compartment 6 through a discharge pipe 23, which extends through the main casing 3, and is drawn therefrom as desired through a valve 24, a conventional form of valve is shown for purposes of illustration.

From the above it will be seen that an asphalt heater is provided, which is simple in construction, and one wherein damper means is provided for preventing explosion of the heater as the same is transported from place to place, and also damper means provided whereby the temperature of the asphalt may be regulated.

The invention having been set forth what is claimed as new and useful is:—

1. An asphalt heater comprising a main casing, an auxiliary casing disposed within the main casing and forming a chamber around the auxiliary casing, a heating element disposed within the main casing below the auxiliary casing, a stack carried by the upper end of the auxiliary casing, and damper means disposed in said stack.

2. An asphalt heater comprising a main casing, an auxiliary casing disposed within the main casing and forming an annular flue around the auxiliary casing, a heating element disposed within the main casing below the auxiliary casing, an asbestos corrugated lining within the annular chamber thereby forming vertical flues, a stack carried by the auxiliary casing, a damper disposed within said stack, a plurality of pipes connecting the stack above the damper therein and the upper end of the annular chamber, and dampers carried by said plurality of pipes.

3. An asphalt heater comprising a main casing, the upper end of said main casing being tapered, an auxiliary casing within the main casing and supported by the tapered end of the main casing, a heating element in the main casing beneath the auxiliary casing, pipes connecting the main casing at its upper end and the upper end of the auxiliary casing, a damper carried by the upper end of the auxiliary casing and below the points of connection of the pipes and dampers carried by the pipes and forming means whereby heat within the main casing around the auxiliary casing may be regulated.

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

PHILIP F. FELLMANN.

Witnesses:
HENRY L. BREITER,
W. S. SULLIVAN.