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R. W. ANGSTMAN

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AUTOMOBILE HEATER

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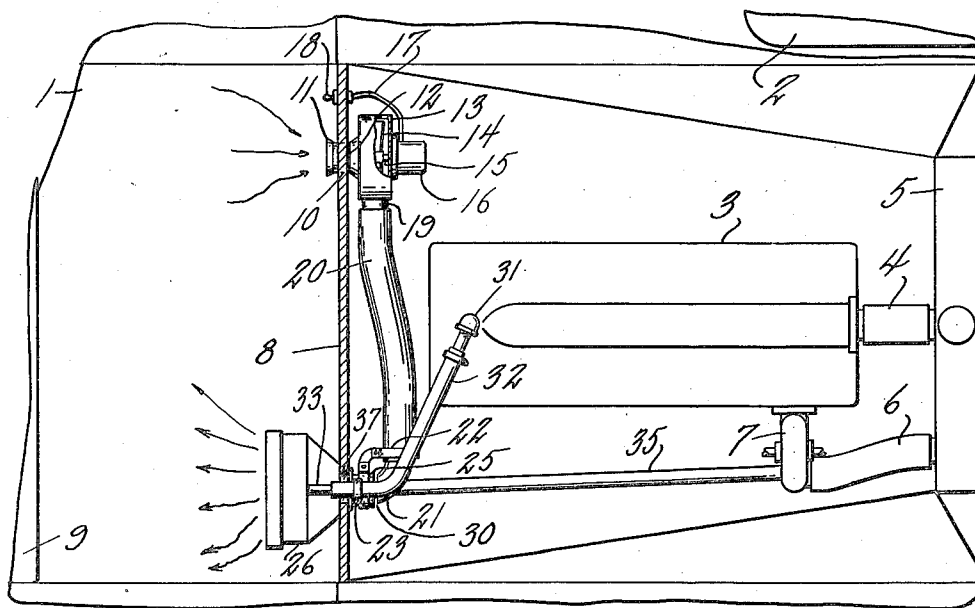


FIG. 1

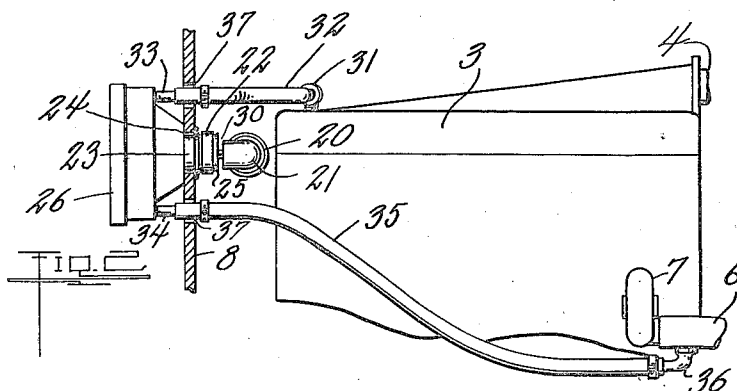


FIG. 2

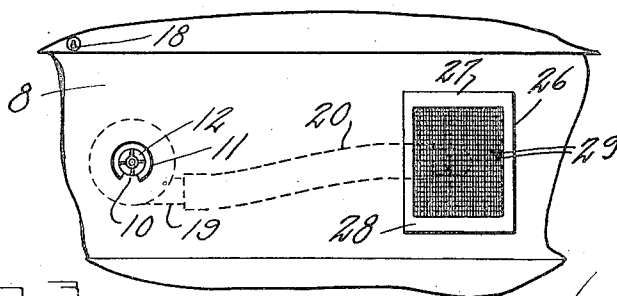


FIG. 3

Inventor

R. W. Angstman
Geo. W. Angstman

Attorney

UNITED STATES PATENT OFFICE

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AUTOMOBILE HEATER

Roger W. Angstman, Pine Lake, Mich., assignor,
by mesne assignments, to E. A. Laboratories,
Inc., Brooklyn, N. Y., a corporation of New
York

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4 Claims. (Cl. 237—12.3)

This invention relates to a functionally and structurally improved heating apparatus capable of use in numerous different associations, but primarily intended for employment in connection with motor vehicles.

It is an object of the invention to provide an apparatus of this nature which will be compact but which at the same time will efficiently heat an enclosed space, the present apparatus lending itself ideally for application to the body of a motor vehicle and is readily connectible to the units embraced within such vehicle so that an efficient operation of the heater results.

A further object of the invention is that of furnishing an apparatus of this nature including relatively few parts, each individually rugged and simple in construction, and these parts being capable of ready assemblage to provide an apparatus operating over long periods of time with freedom from difficulties.

With these and other objects in mind reference is had to the attached sheet of drawing illustrating practical embodiments of the invention, and in which—

Fig. 1 is a partly sectional plan view of the forward end of a motor vehicle and showing the apparatus in association therewith;

Fig. 2 is a sectional side view of the heater in applied position; and

Fig. 3 is a face view thereof.

In these views the numeral 1 indicates the chassis of a motor vehicle mounted upon wheels 2 and supporting a motor 3 having its jacket connected to a radiator 5 by means of couplings 4 and 6, a pump 7 being preferably provided in the usual manner for assuring circulation of the cooling fluid.

Positioned to the rear of the motor is a partition or dash 8, and a seat 9 being spaced from this member to an extent sufficient to allow for the accommodation of the driver and a passenger. The dash 8 is formed with an opening 10 within which is mounted a tube 11 constricted to provide a venturi. The tube 11 is coupled with the intake 12 of a blower casing 13, within which there is disposed in the usual manner a series of blades 14 secured to a shaft 15. This shaft is driven by an electric motor 16, from which leads 17 extend to a source of power (not shown), and a switch 18, by means of which the operation of the motor may be controlled. The casing 13 has a discharge opening defined by a duct 19, to which one end of a hose 20 is coupled. The opposite end of this hose or conduit is coupled to an elbow member 21 mounted by a bracket 22 secured to

a tube or throat 23. The latter is positioned within an opening 24 formed in the dash 8, and at this time it will be noted that a clearance, indicated at 30, may be provided between the throat and elbow members. As a consequence, a passage is furnished which may act as an aspirator for drawing fresh air into the throat member as air distributed by the blower is delivered into such member from the outer end of the elbow member 21.

The member 23 is preferably flared, as has been indicated at 25, and is disposed adjacent to a heat transfer element 26 arranged within the body of the vehicle. This element is preferably in the form of a radiator including an upper head 27 and a lower head 28, between which there are disposed tubes or fins for the passage of heated water or its equivalent.

Coupling between the radiator and the motor may be achieved in any desired manner. For example, the motor jacket may have extending therefrom a fitting 31 connected to a tube 32 extending through an opening 37 in the dash and coupled to a pipe 33 projecting from the head 27. The head 28 may have a pipe 34 projecting therefrom, coupled to a tube 35 again extending through an opening 37 in the dash, and the end of this tube being secured to a fitting 36 preferably disposed adjacent the pump 6 in association with the motor.

In use it will be understood that water or its equivalent, which cools the motor, will flow through the heat transfer element 26. This flow may or may not be regulated as desired. In any event, very little heat transfer will occur under normal conditions. However, when the switch 18 is closed so as to operate the motor 16, the blower will function to withdraw from the interior of the body a certain amount of air which will be distributed by the duct 20 through the throat member 23 and past the heat transfer surfaces 29, to efficiently warm the air discharged into the interior of the body. As afore brought out, a certain amount of fresh air may be drawn into the body by virtue of a clearance indicated at 30, and consequently there will be no danger of the air becoming vitiated.

From the foregoing it will be appreciated that, among others, the several objects of the invention are achieved. Obviously, numerous changes in construction and rearrangement of the parts might be resorted to without departing from the spirit of the invention as defined by the claims.

Having thus fully described my invention, what is claimed is:

1. A heater for use in connection with the body of an automotive vehicle and including a radiator to be disposed within such body, supply and return pipes for conducting heating medium to and from the radiator, means for supplying heating medium for passage through the radiator by way of the supply and return pipes, said vehicle having a wall, there being spaced openings through said wall, a centrifugal blower spaced from the radiator for withdrawing air from the body vehicle at one of said openings, a draft duct from the blower to the other opening, an air delivery way to the radiator from the latter opening and in spaced alignment with the draft duct effective for fresh air replenishment to be heated at the radiator together with the returned air of the draft in mingled delivery thereof into the body.

2. A heater for use in connection with the body of an automotive vehicle and including a radiator to be disposed within such body, supply and return pipes for conducting heating medium to and from the radiator, means for supplying heating medium for passage through the radiator by way of the supply and return pipe, a centrifugal blower spaced from the radiator, a Venturi supply way to the blower for air withdrawal by the blower from the body, a draft duct from the blower, a flared delivery way to deliver air to the radiator in spaced alignment with the draft duct, said duct and delivery way being arranged to effect the delivery of withdrawn air and of fresh air into said delivery way.

3. A heater for use in connection with the body of an automotive vehicle and including a radiator to be disposed within such body, supply and return pipes for conducting heating medium to and from the radiator, means for supplying heating medium for passage through the radiator by way of the supply and return pipes, a centrifugal blower spaced from the radiator, a Venturi supply way to the blower for air withdrawal by the blower from the body, a draft duct from the blower terminating in an elbow, a flare delivery way for air to the radiator, and a bracket mounting the elbow in spaced alignment with the flare delivery way.

4. A heater for use in connection with the body of an automotive vehicle and including a radiator to be disposed within such body, supply and return pipes for conducting heating medium to and from the radiator, means for supplying heating medium for passage through the radiator by way of the supply and return pipes, means for supplying air to the radiator for passage therethrough including a Venturi passageway spaced laterally from the radiator, a centrifugal blower axially of said Venturi passageway and outside of the body, a tangential draft duct from the blower having a flexible intermediate section terminating in an elbow, a bracket fixing the position of the elbow, and a flare delivery way from outside the body to said radiator, said elbow being spaced concentrically of said flare delivery way for draft discharge thereinto.

ROGER W. ANGSTMAN.