June 2, 1931. M. B. HARRIS 1,808,165

CAR HEATER

Filed Oct. 7, 1925

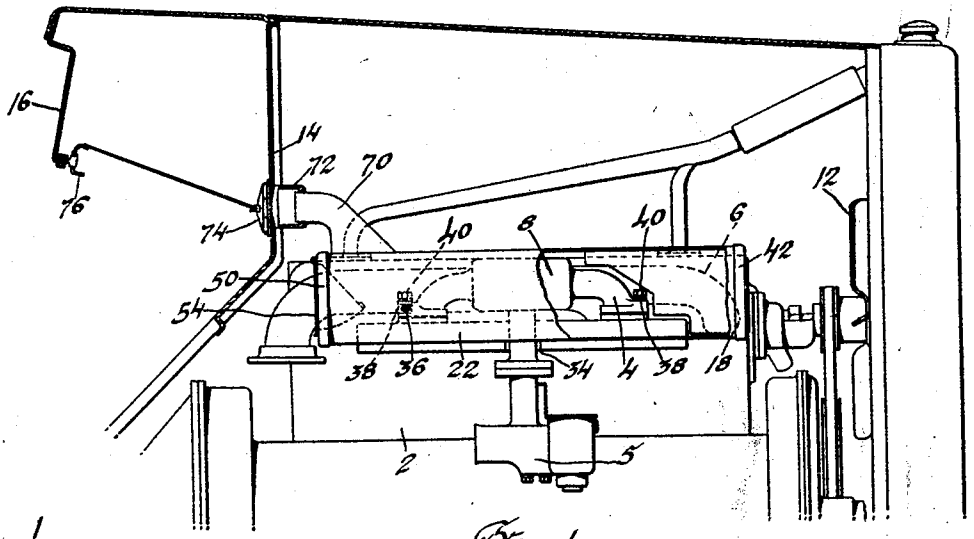


Fig. 1

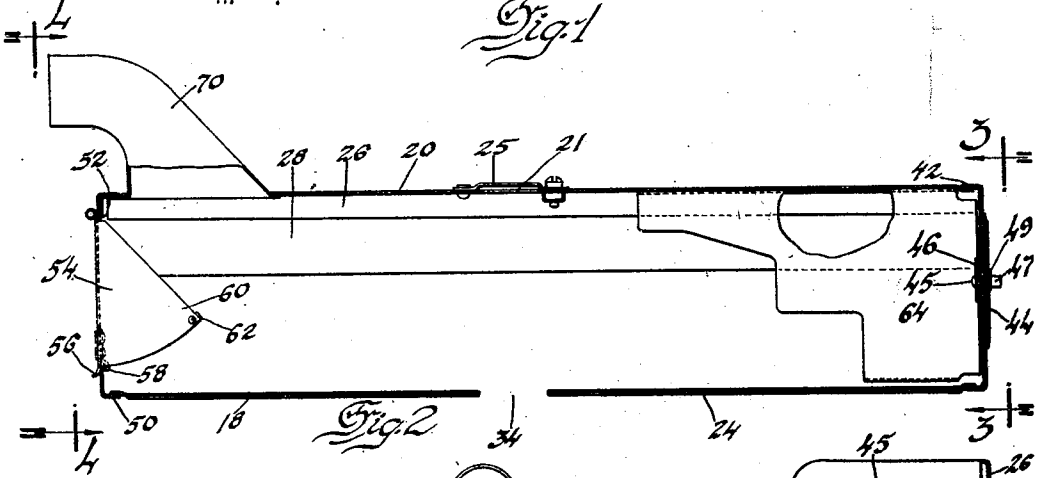


Fig. 2

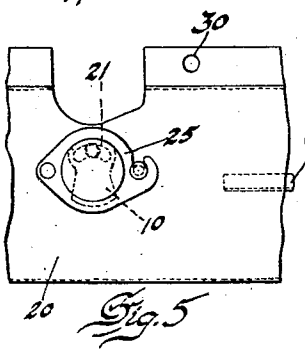


Fig. 5

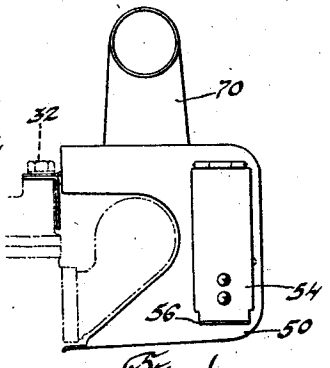


Fig. 4

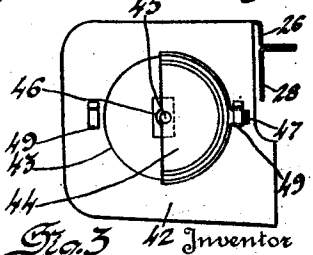


Fig. 3

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UNITED STATES PATENT OFFICE

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CAR HEATER

Application filed October 7, 1925. Serial No. 61,153.

The object of this invention is to provide a heater particularly designed for use upon automobiles, which will supply the interior of the vehicle with clean, fresh air, warmed by contact with a heated engine part such as the exhaust manifold of the engine. The construction is of such character that when it is not desired that it function as a heater, as in hot weather, it may be so adjusted as to divert the heated air away from the interior of the car, or even, if desired, may be adjusted so as to actually serve to cool a portion of the engine, such as the intake manifold and thus prevent over-heating thereof.

From another point of view my invention may be regarded as comprising a device for directing a cooling blast of air over a portion of an internal combustion engine, in this case the intake manifold, so as to prevent overheating and improve the operation of the engine.

My device is also marked by simplicity of construction and ease of assembly as will appear from the detailed description which follows.

In the drawings:

Figure 1 is a side elevation of an automobile engine with my improved heater applied thereto, portions of the car body being shown in section;

Figure 2 is a longitudinal sectional view through the heater;

Figure 3 is an end view looking in the direction of the arrows 3—3 of Figure 2;

Figure 4 is an end view looking in the direction of the arrows 4—4 of Figure 2; and

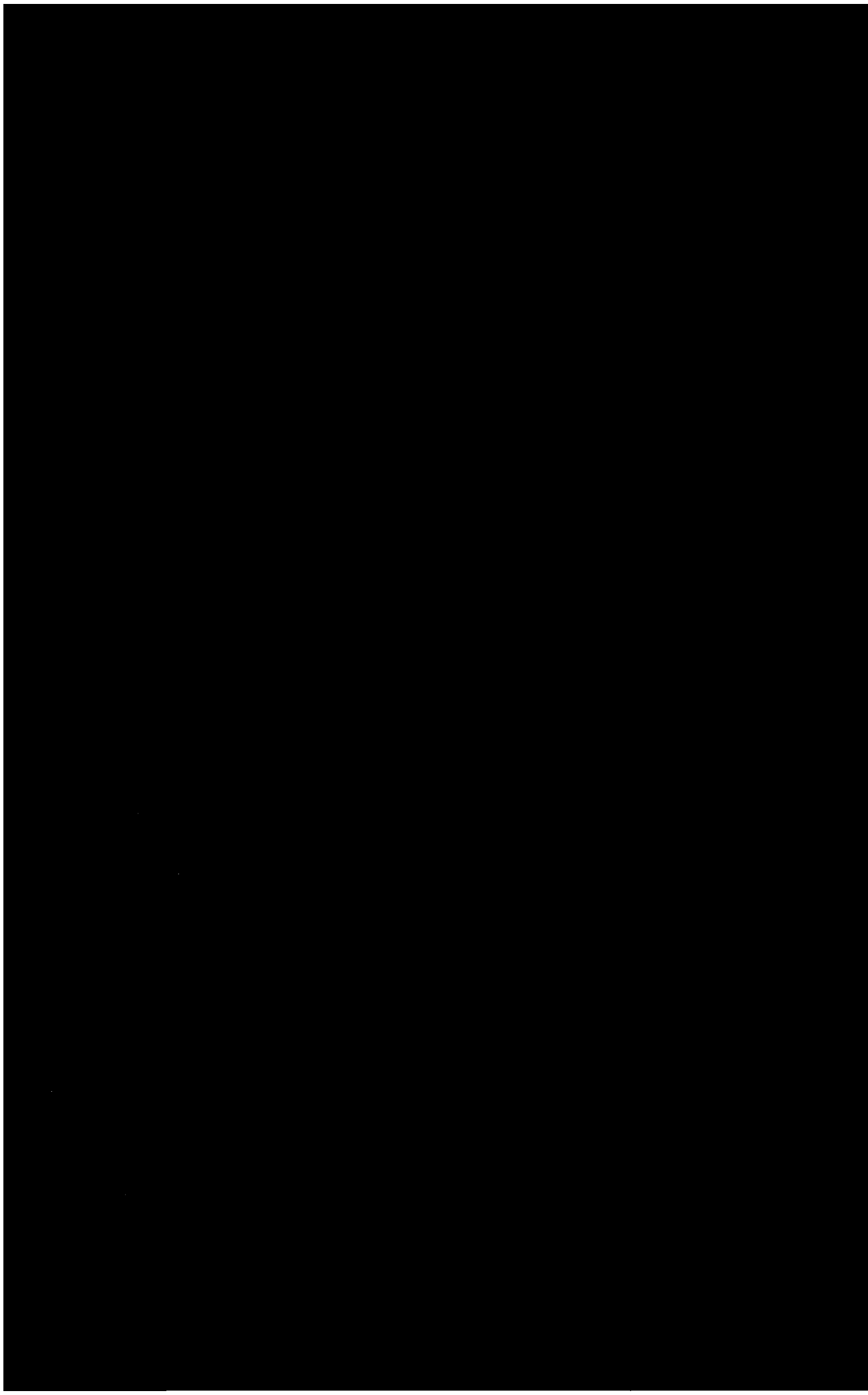
Figure 5 is a detail of a portion of the top of the heater.

In Figure 1 I have shown a portion of an Oakland automobile to which my invention has been applied. The reference character 2 indicates, generally, an engine having an exhaust manifold 6 and an intake manifold 4 to which the carburetor 5 is connected. At 8 I have shown a jacket surrounding the central portion of the intake manifold and through which exhaust gases may be circulated for heating the incoming mixture in cold weather. In automobiles of this make a valve device, indicated at 10 in Figure 5, is provided by means of which, if desired, the exhaust gases may be diverted from the exhaust manifold into the jacket for heating the incoming mixture and thence back into the manifold. The usual cooling fan is indicated at 12, the dash board at 14, and the instrument board at 16.

My improved heater comprises a casing 18 of box like form, end views of which are shown in Figures 3 and 4. This casing preferably encloses both the intake and exhaust manifolds and comprises an elongated strip of metal formed to provide a top portion 20, a side portion 22, and a bottom portion 24. The top portion 20 is preferably apertured as at 21 to permit access to the valve device 10, the aperture being ordinarily closed by a cover plate shown at 25. The portion 20 of the casing is also provided with an L-shaped flange 26 to the horizontal leg of which is secured in any suitable manner a member 28. The overlying portions of the flange 26 and member 28 are apertured as shown at 30, Figure 5, to permit passage of the bolts 32 shown in Figure 4, which serve to clamp the cylinder head to the cylinder block and to hold the heater in position as well. The bottom portion of the casing is slotted as at 34 to permit passage of the portion of the intake manifold which is connected to the carburetor. The casing may be clamped to the manifold adjacent the opening 34 if desired.

The side portion 22 is secured to the engine by means of screw bolts 36 which engage L-shaped clips 38 which are preferably held in position by the same bolts 40 which secure the intake manifold to the engine block.

The front end of the casing 18 is closed by a cap 42 which may be welded to the main body of the casing. The cap 42 is provided with a circular aperture 43 having a rotatable cover 44 which is pivoted at 45 to a bent-over extension 46 of the partition 64 to be later described. The closure is provided with a finger tab 47 which is adapted to be engaged by either of two spring clips



casing being provided at its rear end with air discharge ports, one of said ports being adapted to conduct air to a desired point, and controlling means for said ports.

8. The combination of an automobile engine provided with intake and exhaust manifolds and the usual cooling fan, a casing inclosing said manifolds and provided at its forward end with air admission means facing the fan blast, a partition in the casing between the manifolds, and a valve cooperating with said means and adjustable to direct air upon either side of said partition as desired, said casing being provided at its rear end with air discharge ports, one of said ports being adapted to conduct air to a desired point, and controlling means for said ports.

9. The combination of an engine having an intake manifold and an exhaust manifold, a casing for said manifolds, adjustable means for introducing air under pressure upon one side or the other of said casing to direct air upon the intake manifold or upon the exhaust manifold as desired, and means for discharging air from the casing.

10. The combination of an automobile engine provided with intake and exhaust manifolds and the usual cooling fan, a casing inclosing said manifolds and provided at its forward end with air admission means facing the fan blast, adapted to admit air to said manifolds, and a valve associated with said means and adjustable to direct air upon either of said manifolds as desired, said casing being provided at its rear end with an air discharge port.

In testimony whereof I affix my signature.

MARK B. HARRIS.