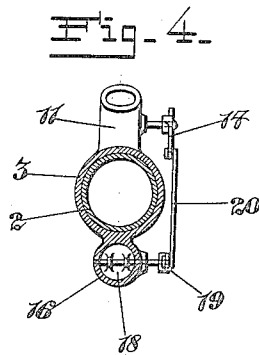
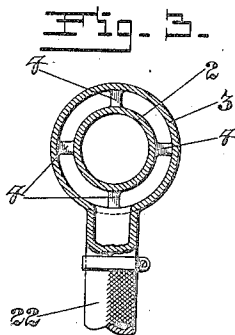
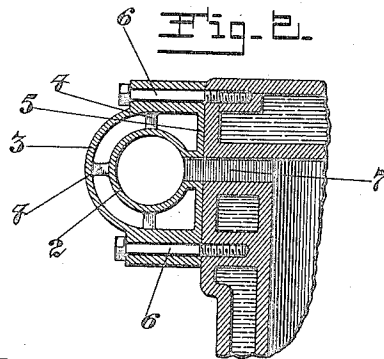
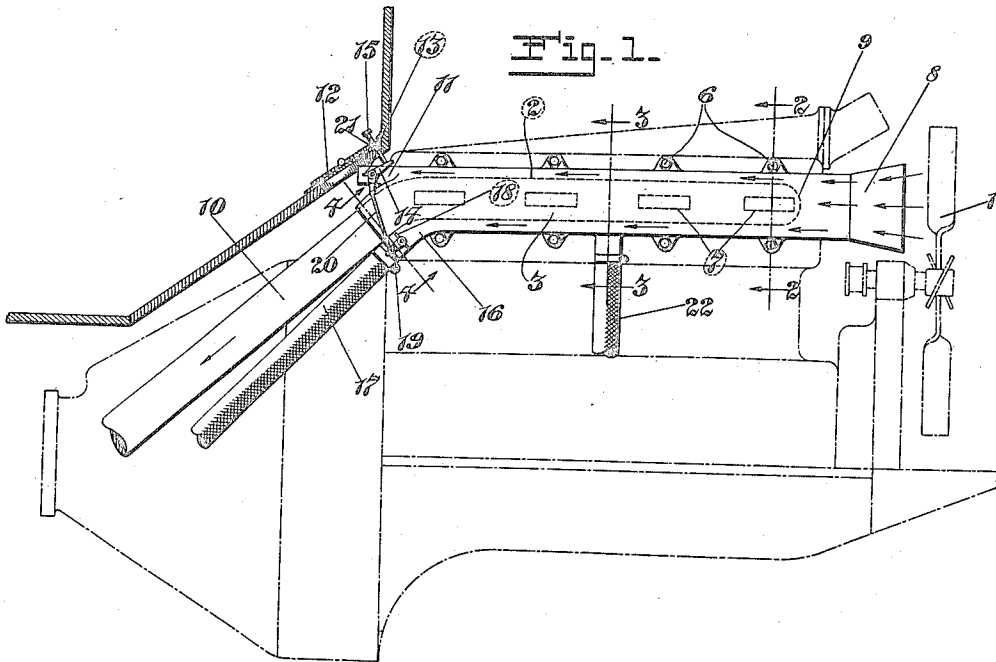


W. J. SLINGER,
 AUTOMOBILE HEATING DEVICE.
 APPLICATION FILED AUG. 16, 1920.

1,375,939.

Patented Apr. 26, 1921.



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WILLIAM J. SLINGER, OF ST. LOUIS, MISSOURI.

AUTOMOBILE-HEATING DEVICE.

1,375,939.

Specification of Letters Patent. Patented Apr. 26, 1921.

Application filed August 16, 1920. Serial No. 403,697.

To all whom it may concern:

Be it known that I, WILLIAM J. SLINGER, a citizen of the United States, residing at the city of St. Louis and State of Missouri, have invented a new and useful Automobile-Heating Device, of which the following is a specification.

This invention relates to automobile heaters.

10 An object of the invention is to provide a novel and efficient means for utilizing the heat radiated from the exhaust manifold of the engine, in combination with means for controlling the heat whereby the heat may
15 be directed into the seating portion of the automobile or not, as desired.

Another object of the invention is to provide an exhaust manifold of novel construction comprising a casting composed of the
20 exhaust manifold and a jacket cast integral with the exhaust manifold and spaced therefrom and forming a passage to confine the heat radiated from the manifold, with means for diverting the heat into the seating
25 portion of the automobile or away therefrom, as desired.

Another object of the invention is to provide a novel construction of the character mentioned having its forward end opening
30 adjacent to the fan and provided with branches at its rear end, one of which is arranged to discharge the heated air into the seating portion of the automobile and the other of which branches is arranged to discharge the heated air away from the seating
35 portion of the automobile, said branches having valves provided with connections whereby the opening of one of said valves closes the other.

40 Other objects will appear from the following description in which reference is made to the drawing showing a preferred embodiment of the invention, and in which—

45 Figure 1 is an elevation of my improved heater in connection with an automobile.

Fig. 2 is a sectional view on the line 2—2 of Fig. 1.

50 Fig. 3 is a sectional view on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view on the line 4—4 of Fig. 1.

In Fig. 1 of the drawing the motor is shown in broken or dotted outline and is of

familiar construction. In front of the motor 55 the usual fan 1 is supported.

As shown, my invention comprises an integral casting including an exhaust manifold 2 cast integral with an inclosing jacket 3 spaced and supported from the manifold 60 by webs 4 formed at appropriate intervals. One side of the casting comprises a flat wall 5 fitting against the motor structure and secured thereto by screw bolts 6. The usual exhaust ports 7 from the engine cylinders 65 communicate with the manifold 2 but, as shown in Fig. 2, are out of communication with the space between the manifold and the jacket 3 so that only fresh air can enter said space.

70 The jacket 3 may be extended forwardly beyond the forward end of the manifold and formed with a flaring or funnel-shaped air receiving portion 8 which is adjacent to the fan 1 so that the operation of the fan forces
75 a continuous flow of air through the space which is between the manifold and the jacket. The forward end of the manifold is indicated in dotted outline at 9 (Fig. 1).

80 The rear end of the manifold 2 is united with the exhaust pipe 10 and the rear end of the jacket 3 is formed with branches. The upper branch 11 is in the form of a passage extending from the otherwise closed
85 end of the jacket and is arranged to discharge heated air into the seating portion of the automobile. The opening in the floor of the automobile through which the heated air is discharged may be controlled by a
90 shutter 12, so that whenever desired the opening may be closed. The branch 11 is provided with a valve 13 having an operating lever 14 in connection therewith and
95 manipulative means 15 in the seating portion of the automobile for operating said lever to open or to close the valve 13, as desired.

100 The other branch 16 which is at the rear end of the jacket communicates with a discharge pipe or passage 17 and is equipped with a valve 18 operatively connected with a lever 19. The lever 19 is connected with the lever 14 by a link 20 so that said valves will be operated simultaneously. As shown
105 the arrangement is such that when the valve 13 is open the valve 18 is closed, and vice versa, so that only one operating device is necessary to control said valves. By de-

pressing the operating member 15 the valve 13 will be closed and the valve 18 will be opened, and by raising the operating member 15 the valve 13 will be opened and the valve 18 will be closed.

A latch device 21 may be provided to hold the operating member 15 in its different positions.

Heated air may also be taken from the jacket through a passage 22 leading to the carbureter or to any other desired point of use.

From the foregoing it will be understood that an important feature of my invention is the provision of an integral casting including the exhaust manifold and a jacket spaced and supported from the manifold. This construction embodied in a motor forms an integral portion of the motor as distinguished from a mere accessory added to the manifold after the motor is otherwise complete. The same supporting elements support the manifold and the jacket since said parts are integrally united. The valves controlling the diverting passages at the rear end of the jacket are connected so that they are simultaneously operated from the seating portion of the car. The operation of the fan causes a continuous flow of air through the jacket into the seating portion of the car, or outwardly through the discharge pipe 17 as may be determined by the adjustment of the valves in the branches from the jacket.

My invention is of an efficient and simple nature, free from complications and the functioning thereof is easily controlled.

I do not restrict myself to unessential features, but what I claim and desire to secure by Letters Patent, is:—

1. The combination with an automobile motor, of a casting including an exhaust manifold, a jacket cast integral with and inclosing the exhaust manifold and spaced therefrom leaving a space within the jacket and around the manifold, flat portions on the jacket bearing flat against the motor, passages from the manifold through said flat portions and out of communication with the spaces between the manifold and the jacket, a passage from the rear end of the jacket for discharging air from said space in proximity to the seating portion of the automobile, and a passage from the rear end of the jacket for discharging the air from said space in a direction away from the seating portion of the automobile.

2. The combination with an automobile motor, of a casting including an exhaust manifold, a jacket cast integral with and inclosing the exhaust manifold and spaced therefrom leaving a space within the jacket and wholly surrounding the manifold, flat

portions on the jacket bearing against the motor, passages from the manifold through said flat portions and out of communication with the space between the manifold and the jacket, a passage from the rear end of the jacket for discharging air from said space in proximity to the seating portion of the automobile, a passage from the rear end of the jacket for discharging air from said space in a direction away from the seating portion of the automobile, and valves for controlling said passages.

3. The combination with an automobile motor, of a casting including an exhaust manifold, a jacket cast integral with and inclosing the exhaust manifold and spaced therefrom leaving a space within the jacket entirely surrounding the manifold, means for securing said casting to the motor, passages from the manifold extending through said space and opening through said jacket for admitting the exhaust from the motor, said passages being out of communication with said space, a passage from the rear end of the jacket for discharging air in proximity to the seating portion of the automobile, a passage from the rear end of the jacket for discharging air from said space in a direction away from the seating portion of the automobile, valves for controlling said passages, and a device for operating said valves simultaneously from the seating portion of the automobile whereby when one of said valves is open the other valve is closed, and vice versa.

4. The combination with the motor of an automobile, of a casting including an exhaust manifold, a jacket cast integral with and inclosing the exhaust manifold and being spaced therefrom leaving a space within the jacket and wholly surrounding the manifold, and webs integrally uniting said jacket and said manifold; passages from said manifold through said space and through said jacket for receiving exhaust from the motor and out of communication with said space; a passage from the rear end of said jacket for discharging air from said space in proximity to the seating portion of the automobile; a valve controlling said passage; a passage from the rear end of said jacket for discharging heated air from said space away from the seating portion of the automobile; a valve controlling said last-named passage; a device for simultaneously operating said valves whereby when one of said valves is open the other valve is closed; and independent means operable from the seating portion of the automobile controlling the admission of air into the seating portion of the automobile from the space within said jacket.

WILLIAM J. SLINGER.