Sept. 9, 1930. J. J. TRANCHELL 1,775,607

AUTOMOBILE HEATER

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Fig. 1.

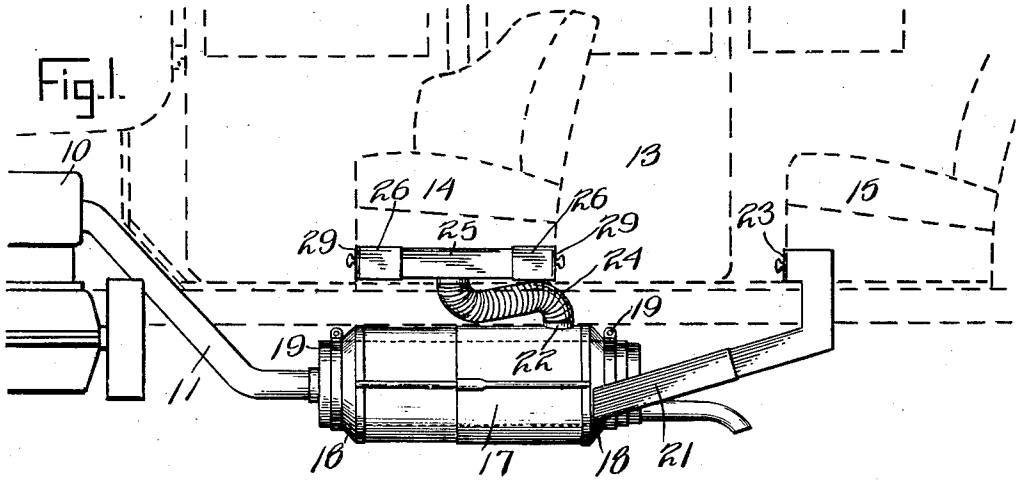
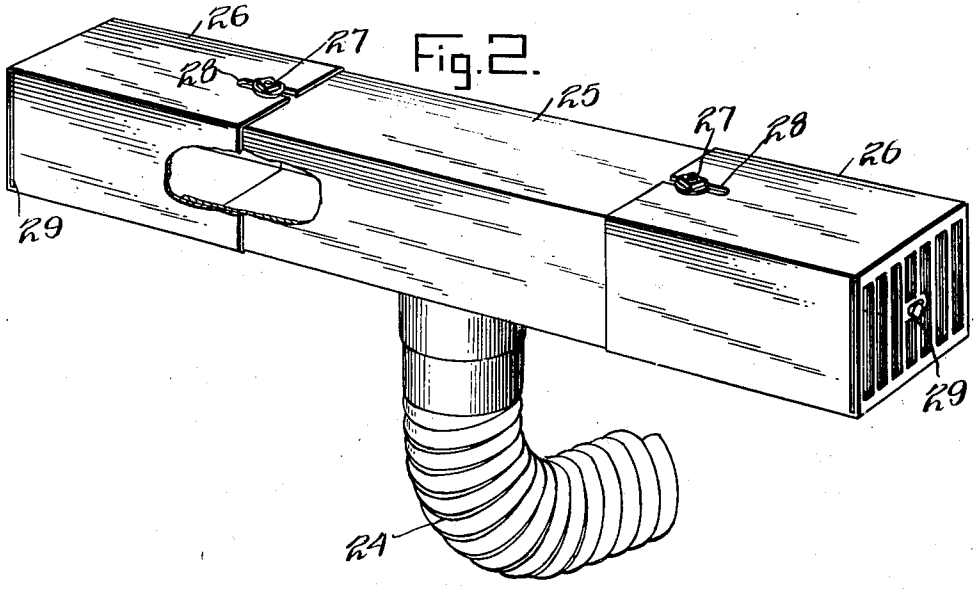



Fig. 2.




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Fig. 3.

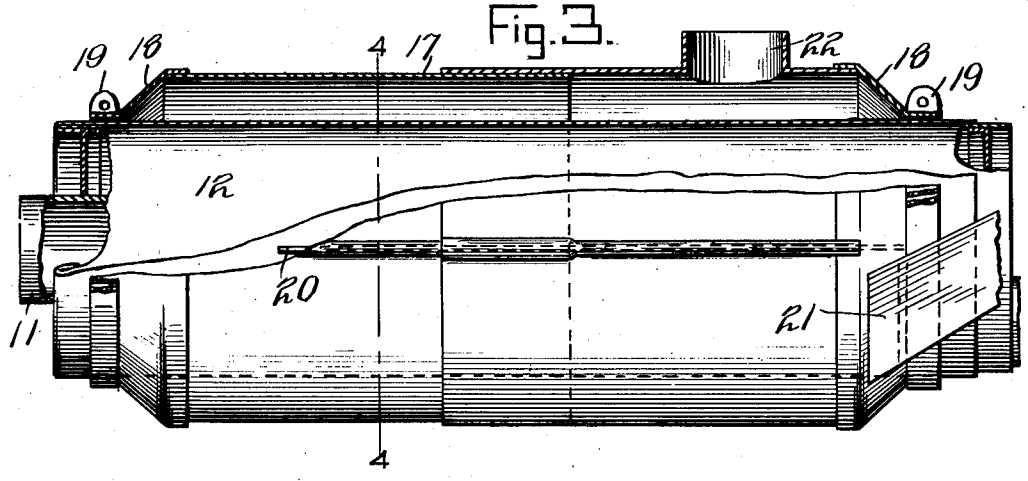
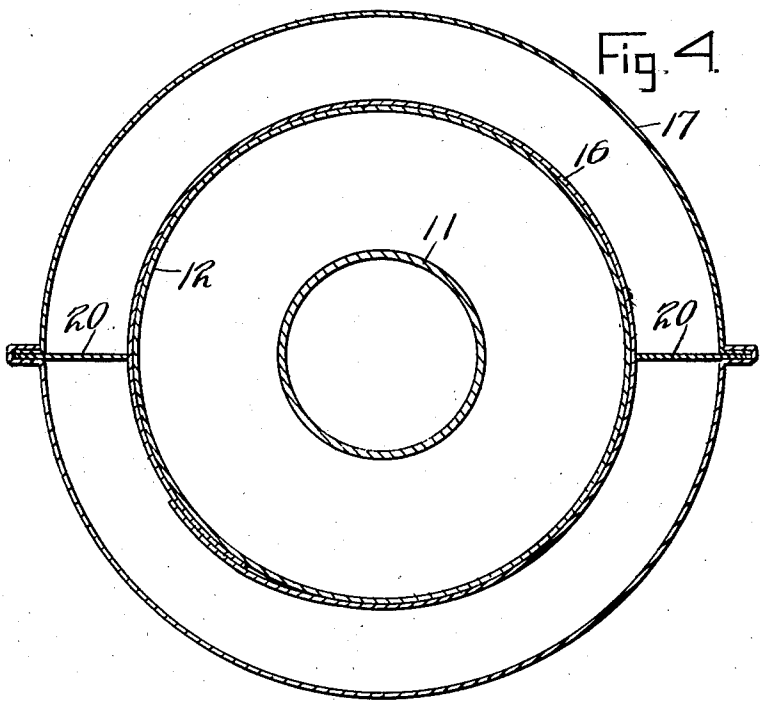



Fig. 4.




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Patented Sept. 9, 1930 1,775,607

# UNITED STATES PATENT OFFICE

JACOB J. TRANCHELL, OF PORTLAND, OREGON

## AUTOMOBILE HEATER

Application filed August 25, 1927. Serial No. 215,458.

My invention relates to automobile heaters and it is an object of the invention to utilize the heat of the exhaust gases discharged into the muffler for heating the air within the automobile as such air is circulated around said muffler all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a side elevation illustrating one application of my invention,

Figure 2, a perspective of a register constructed in accordance with my invention,

Figure 3, a longitudinal view partly in section illustrating the application of my casing over the muffler, and,

Figure 4, a transverse section on the line 4—4 of Fig. 3.

In the drawings reference character 10 indicates an internal combustion engine having an exhaust pipe 11 terminating in a muffler 12 beneath the body 13 of a "sedan" or closed type automobile having front and rear seats 14 and 15 respectively. About the muffler 12 is secured a hollow casing comprising an inner sleeve 16 provided with overlapping edges to render the same variable in size and having its front end crimped over the front end of the muffler as shown in Fig. 3. The rear end of this inner sleeve is preferably left open or uncrimped so that any fumes escaping from the muffler may pass out between the external surface of the muffler and the interior of the inner portion of the inner sleeve into the atmosphere. Around this inner sleeve is provided in spaced relation an outer sleeve 17 forming an air chamber in which air is heated before circulating into the interior of the car upon which the device is applied. This jacket is formed of top and bottom sections each of which comprises a pair of telescopic sections adapted to telescope in order to adjust the length of the jacket. The ends of the outer sleeve 17 are closed by telescopic end members 18 which are held in position by clamping rings 19. In order to render the casing air tight an asbestos packing is preferably provided between each clamping ring 19 and the inner sleeve 16.

In order to provide a tortuous or circuitous heating chamber for air within the hollow casing, I provide a baffle plate 20 which extends toward the front from the rear end of the casing. Said baffle plate is preferably formed integral with one of the sections of the outer casing 17. An inlet pipe 21 is provided for admitting cold air into the rear end of the heating jacket so that air will be caused to travel forwardly beneath the baffle and then be permitted to pass outwardly along the passage and through the discharge passage 22. This causes the air to be efficiently warmed by heat from the muffler. The inlet pipe 21 comprises a pair of telescopic sections, the outer section of which has its end disposed adjacent the front edge of the rear seat and is provided with a slide valve 23 for controlling the inlet of air into the heater. By this construction the cold air will be sucked out of the car as soon as the warm commences to flow thereinto, thereby causing a complete circulation and effecting a heating of the vehicle without the injection of harmful and obnoxious gases.

A flexible pipe 24 is connected to the discharge passage 22 and has its opposite end connected with a register, disposed preferably beneath the front seat of the automobile, such register comprising an intermediate section 25 provided with telescopic end sections 26 adapted to be secured in proper adjusted position by means of bolts 27 carried by the extremities of the intermediate section and which extend through slots 28 in the end sections. Each of the end sections 26 is provided with a slide valve 29 by means of which the heat may be directed into the front or rear of the car or simultaneously through both.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention, and I, therefore, do not limit myself to what is shown in the drawings and described in the specification, but only as set forth in the appended claims.

Having thus fully described my said in-

vention, what I claim as new and desire to secure by Letters Patent, is:

1. An automobile heater adapted to receive heat from the muffler of the automobile for heating air comprising a substantially air tight casing including a pair of spaced concentric sleeves, the outer sleeve of said pair of concentric sleeves being adjustable to vary its length, a partition member formed with one of said sleeves and extending from one end of said casing longitudinally of the same and terminating short of the opposite end, a passage for the admission of cold air into one side of said casing adjacent its end, and an outlet for hot air on the opposite side of said partition at substantially the same end of the casing, substantially as set forth.

2. A device of the class described adapted to receive heat from the muffler of an automobile for heating air comprising a casing formed of inner and outer sleeves spaced apart to provide an air chamber therebetween, the inner sleeve having overlapping edges for permitting the size of the sleeve to be varied, the outer sleeve comprising telescopic sections adjustable to vary the length thereof, spaced inlet and discharge passages adjacent one end of the casing, and a partition member disposed between said inlet and discharge passages and extending longitudinally of said casing to form a tortuous path for air passing through the casing, substantially as set forth.

3. An automobile heater adapted to receive heat from the muffler of the automobile for heating air comprising an inner sleeve adjustable to various diameters, said sleeve being adapted to fit around the muffler, an outer sleeve formed of telescopic sections longitudinally adjustable to vary the length of the sleeve and in spaced relation to said inner sleeve, means for closing the space between the inner and outer sleeves, and an inlet and a discharge passage on opposite portions of the outer sleeve, substantially as set forth.

4. An automobile heater adapted to receive heat from the muffler of the automobile for heating air comprising an inner sleeve adjustable to various diameters, said sleeve being adapted to fit around the muffler, an outer sleeve formed of telescopic sections longitudinally adjustable to vary the length of the sleeve and in spaced relation to said inner sleeve, means for closing the space between the inner and outer sleeves, an inlet and a discharge passage on opposite portions of the outer sleeve, and partition members disposed on opposite sides between the inner and outer sleeves maintaining the sleeves in spaced relation, substantially as set forth.

5. An automobile heater adapted to receive heat from the muffler of the automobile for heating air comprising an inner sleeve adjustable to various diameters, said sleeve being adapted to fit around the muffler, an outer sleeve formed of telescopic sections longitudinally adjustable to vary the length of the sleeve and in spaced relation to said inner sleeve, means for closing the space between the inner and outer sleeves, an inlet and a discharge passage on opposite portions of the outer sleeve, and partition members disposed on opposite sides between the inner and outer sleeves maintaining the sleeves in spaced relation, the inner sleeve being fitted to the muffler in a manner to permit fumes to escape from its end but preventing the passage of fumes into the space between the inner and outer sleeves, substantially as set forth.

In witness whereof, I have hereunto set my hand at Portland, Oregon, this 16th day of August, A. D. nineteen hundred and twenty-seven.

JACOB J. TRANCHELL.