C. A. PRESCOTT.

AUTOMOBILE HEATING APPLIANCE.

APPLICATION FILED JUNE 17, 1909.

957,253.

Patented May 10, 1910.

2 SHEETS—SHEET 1.

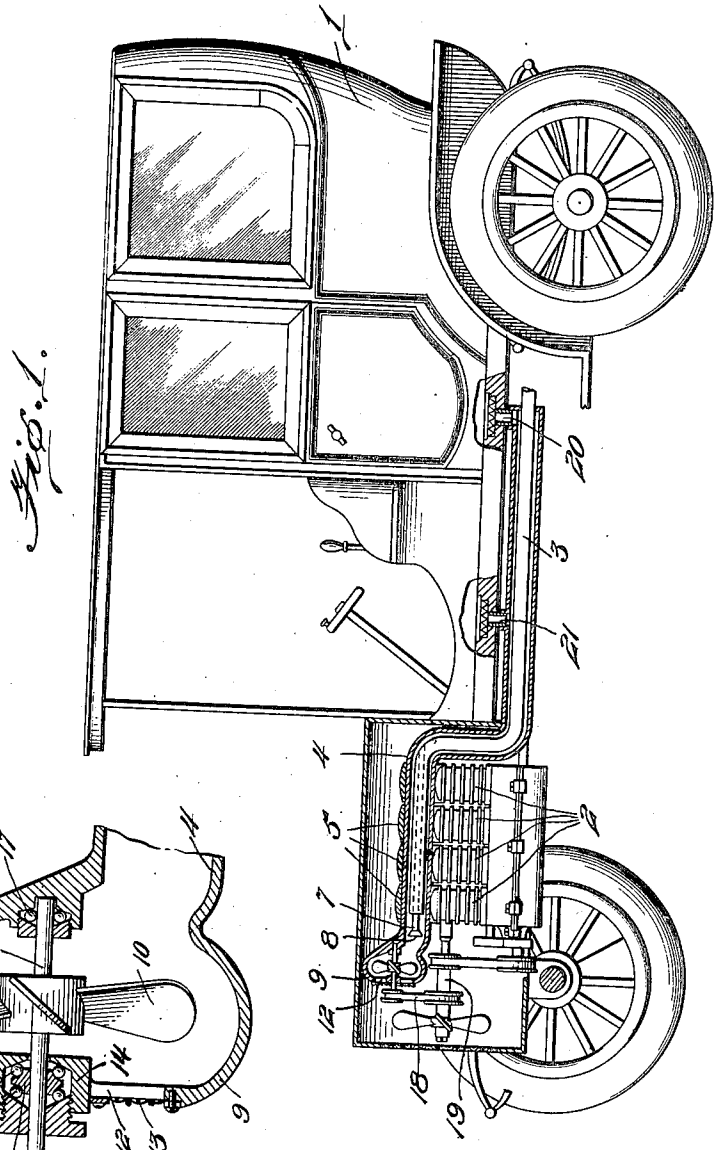

Fig. 1.

Fig. 2.

Witnesses

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Fig. 3.

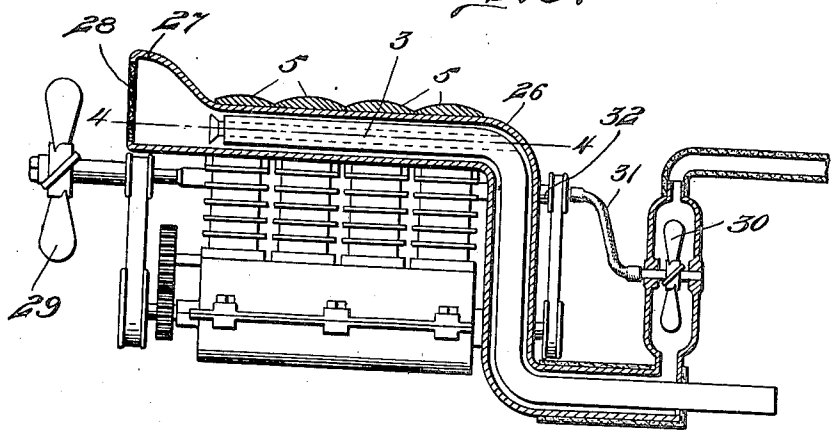


Fig. 4.

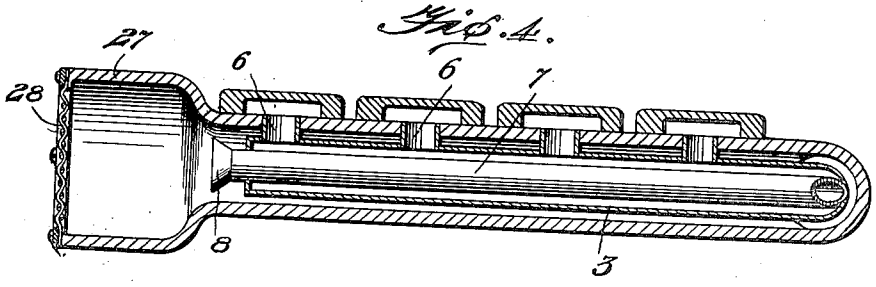


Fig. 5.

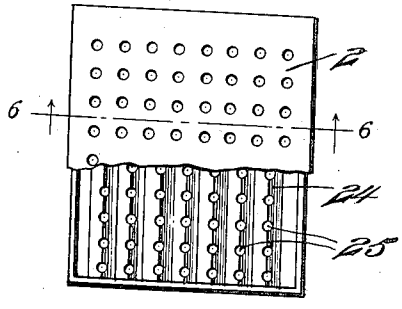
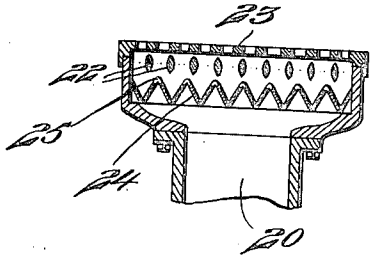


Fig. 6.



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UNITED STATES PATENT OFFICE.

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AUTOMOBILE-HEATING APPLIANCE.

957,253. Specification of Letters Patent. Patented May 10, 1910.

Application filed June 17, 1909. Serial No. 502,788.

To all whom it may concern:

Be it known that I, CHARLES A. PRESCOTT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automobile-Heating Appliances, of which the following is a specification.

My invention relates to improvements in automobile heating devices, and it consists in the constructions, combinations and arrangements herein described and claimed.

An object of my invention is to provide a simple and compact heating attachment adapted to be conveniently employed with the various standard types of automobiles.

A further object of my invention is to provide an improved means for utilizing the heat of the motor exhaust for efficiently heating an automobile in which the operation of the heating means will be positively controlled by the motor.

A further object of my invention is to provide an improved device for heating an automobile by a forced current of air, and which is provided with efficient means for screening and entrapping all dust and extraneous matter from the air.

In the accompanying drawings, forming a part of this application and in which similar reference numerals indicate corresponding parts in the several views: Figure 1 is a side elevation, partly in section, illustrating one embodiment of my invention applied to a standard type of automobile; Fig. 2 is a detail section, on a larger scale, of the flaring open end of the air pipe shown in Fig. 1; Fig. 3 is a side elevation, of a modified construction with the air pipe shown in section; Fig. 4 is a section, on a larger scale, taken on the line 4—4 of Fig. 3; Fig. 5 is a plan view, partly broken away, showing one of the registers and the corrugated dust pan slidably mounted therebeneath, and Fig. 6 is a section on the line 6—6 of Fig. 5.

Figs. 1 and 2 of the drawings illustrate an automobile having the usual form of limousine body 1 and provided with a multiple-cylinder, internal combustion engine 2; a common exhaust conduit 3 of the several engine cylinders leading to a muffler or other desired point. An air pipe 4 surrounds the exhaust conduit 3 and extends through the exhaust manifold 5 of the several engine cylinders; exhaust passages 6 extend through said air pipe to the common exhaust conduit 3. Any desired number of air tubes 7 may be extended through the exhaust conduit 3 with their respective ends in free communication with the air pipe 4; said tubes being provided with flaring forward ends 8 to facilitate the free entrance of air thereinto. The forward end of the air pipe 4 is enlarged at 9 to facilitate the entrance of air thereto and for receiving a fan 10 secured to a spindle 11.

A spider 12 supports a screen 13 across the open end of the air pipe and carries a central hub 14 containing a double row of ball bearings 15. A double cone 16 is secured to the fan spindle for engagement by the double ball bearings 15 for permitting axial movement of said spindle; the inner end of said spindle being journaled in ball bearings 17 within the air pipe 4. The spindle 14 is suitably driven from the engine, as by a belt 18 extending over pulleys on said spindle and on the stub shaft 19 of the usual cylinder-cooling fan.

Independent passages 20 and 21 lead from the air pipe 4 to any desired portions of the automobile body; as to the closed passengers' compartment and the chauffeur's section of the car. The outlets of such passages 20 and 21 are controlled by any form of hot-air register provided with the usual series of swinging slats 22 covered by a protecting grating 23.

A corrugated dust tray 24 is horizontally mounted beneath the controlling register of each outlet passage, and provided with series of perforations 25 along the upper ridges of the corrugations; said corrugated trays being slidably mounted to permit their convenient withdrawal for removing the dust accumulating in the depressions on the upper surfaces thereof.

In the operation of my invention, the fan 10 will be positively driven by the automobile engine to force a current of air through the pipe 4 at a velocity proportionate to the speed of said engine; the current of air being efficiently heated by passing in intimate contact with the heated walls of the exhaust conduit 3 and passages 6 and of the portion of the air pipe extending through the manifold of the several engine cylinders. The fine mesh screen 13 across the entrance of the air pipe will exclude extraneous substances, and the improved corrugated dust trays 24 will efficiently entrap and remove all fine dust particles from the air prior to

its passage through the registers into the car body.

It will be noted that the entrance of the air pipe is so arranged that the usual cylinder-cooling fan will force air thereto, and that the entire construction is adapted to insure a strong and positive circulation of air through the air pipe.

Figs. 3 and 4 illustrate a modification, in which the air pipe 26 extends through the exhaust manifold 5 about the common exhaust conduit 3 in the manner described in reference to Figs. 1 and 2. The enlarged forward end 27 of said air pipe is shielded by the screen 28, and is shown suitably positioned for receiving air forced rearwardly by the usual cylinder-cooling fan 29. A suction and force fan 30 is mounted in the air pipe 26, and driven in any convenient manner from the automobile motor. I have shown such fan driven by a flexible shaft 31 connected to a stub shaft 32 belted to the main engine shaft. The radiators and dust pans of these modifications are exactly similar to those previously described, and need not further be referred to.

I have illustrated and described preferred and satisfactory constructions, and changes could be made within the spirit and scope of my invention.

Having described my invention, what I claim as new and desire to secure by Letters-Patent is:

1. In an automobile provided with the usual body and internal combustion engine, the combination of an exhaust conduit for such engine, an air pipe surrounding said conduit, means for placing said pipe in communication with the automobile body, a tube extending through said exhaust conduit with its respective ends in free communication with said pipe, and means for forcing air through said pipe and tube, substantially as described.

2. In an automobile provided with the usual body and internal combustion engine, the combination of an exhaust conduit for such engine, an air pipe surrounding said conduit, means for placing said pipe in communication with the automobile body, a tube extending through said exhaust conduit with its respective ends in free communication with said pipe, a fan for forcing air through said pipe and tube, and connections to the engine for driving said fan, substantially as described.

3. In an automobile provided with the usual body and internal combustion engine, the combination of an exhaust conduit for such engine, an air pipe surrounding said conduit and provided with a flaring, open, forward end, a screen covering such open pipe end, a tube extending through said exhaust conduit with its respective ends in free communication with said air pipe, means for placing said air pipe in communication with the automobile body, and means for forcing air through said pipe and tube, substantially as described.

4. In an automobile provided with the usual body and multiple-cylinder internal combustion engine, the combination of a common exhaust conduit for the several engine cylinders, an air pipe surrounding said conduit, means for placing said pipe in communication with the automobile body, the several engine cylinders being provided with exhaust passages extending through said air pipe to said common conduit, a tube extending through said conduit with its respective ends in free communication with said air pipe, and means for forcing air through said pipe and tube, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. PRESCOTT.

Witnesses:

EUGENE L. PERRY,

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