W. H. PRETTYMAN.

MOTOR VEHICLE HEATING DEVICE.

APPLICATION FILED JUNE 22, 1915.

1,166,630. Patented Jan. 4, 1916.

Fig. 1.

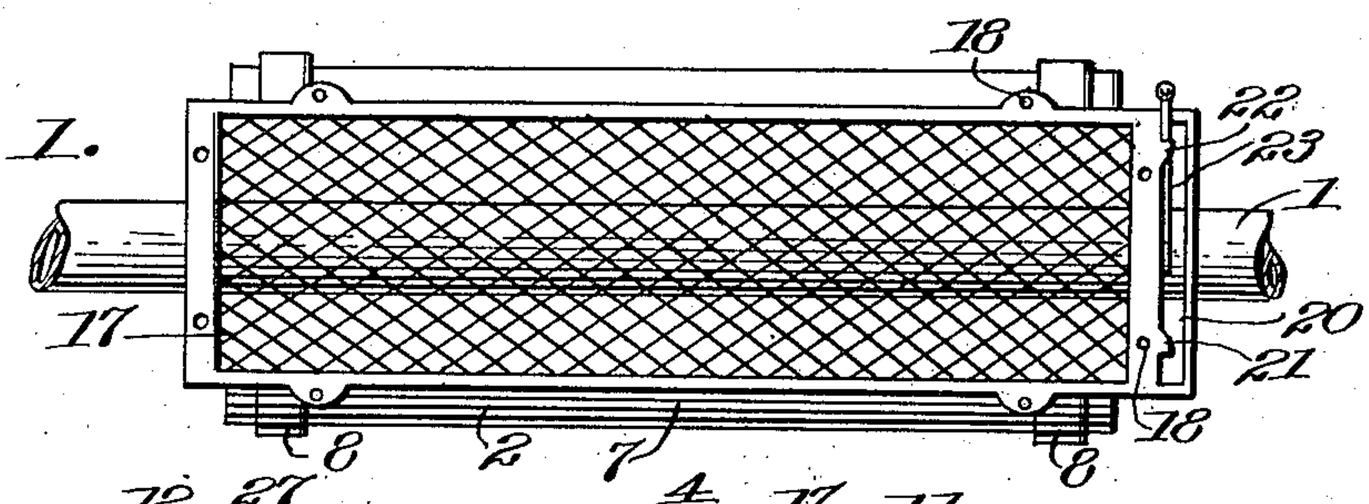


Fig. 2.

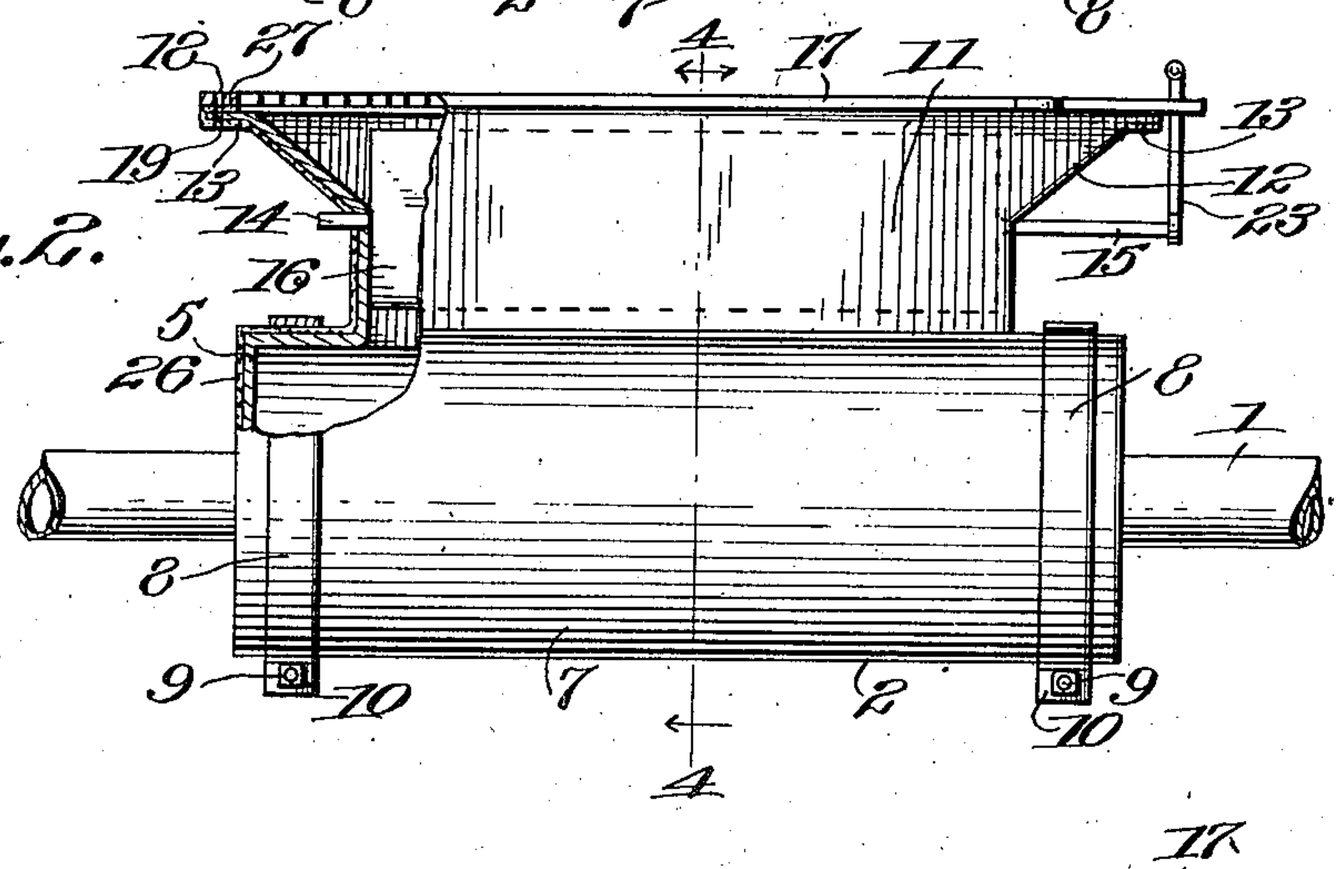


Fig. 3

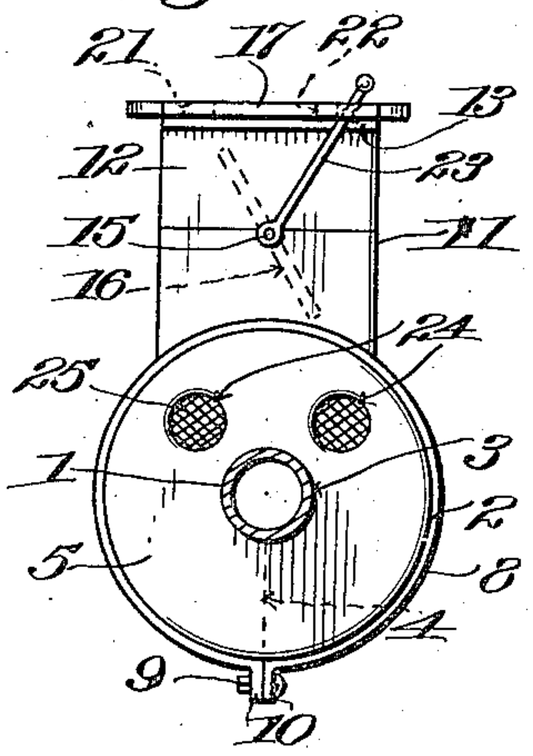
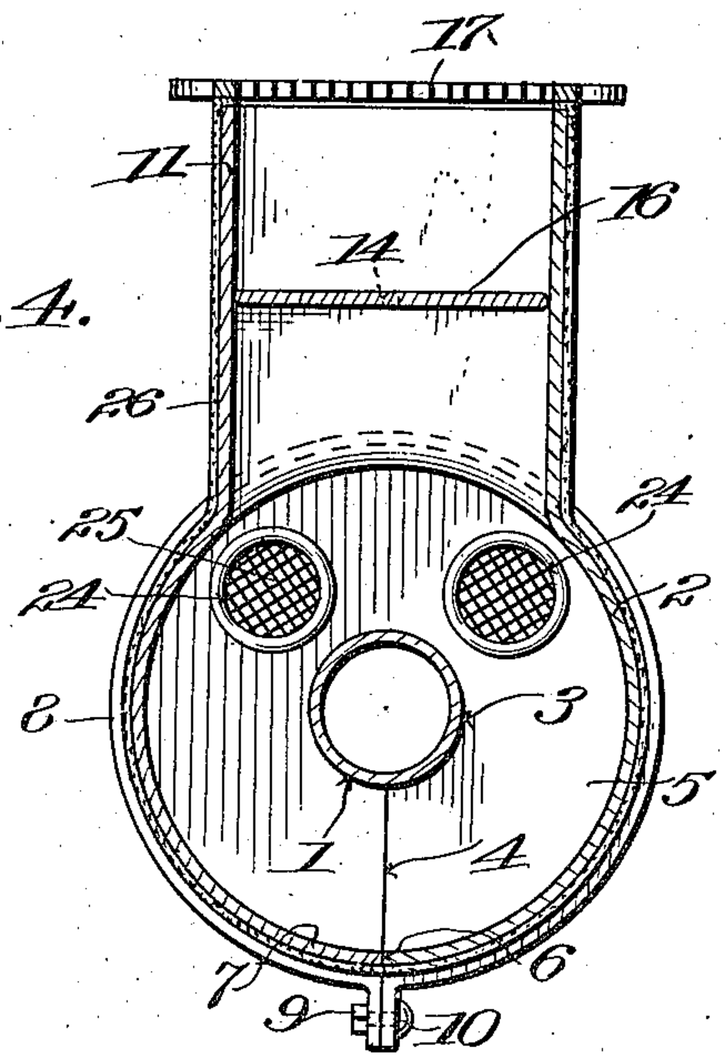


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. PRETTYMAN, OF HYANNIS, NEBRASKA.

MOTOR-VEHICLE HEATING DEVICE.

1,166,630. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed June 22, 1915. Serial No. 35,525.

To all whom it may concern:

Be it known that I, WILLIAM H. PRETTYMAN, a citizen of the United States, residing at Hyannis, and the county of Grant and State of Nebraska, have invented certain new and useful Improvements in Motor-Vehicle Heating Devices, of which the following is a specification.

My invention relates to heating apparatus for use on self-propelled bodies using internal combustion engines as the power medium such as motor vehicles and motor boats.

The invention aims to provide an effective construction of heater which may serve to heat the interior of the vehicle or boat, and utilize the exhaust products from the propelling engine as the heating medium.

Further I aim to provide a special construction enabling ready attachment of the heater to the exhaust pipe of the engine, and a heater having suitable damper means to cut off the supply of heat to the interior of the vehicle or boat, as during warm weather.

Having in view the above and additional objects, which will hereinafter appear, the invention has been embodied in one prefered form as illustrated in accompanying drawings wherein:

Figure 1 is a top or plan view; Fig. 2 is a side elevation, partly broken away; Fig. 3 is an end view; and Fig. 4 is an enlarged cross sectional view on the line 4—4 of Fig. 2.

Referring specifically to the drawings, wherein like reference characters designate like or similar parts throughout the views thereof, 1 represents a conventional exhaust pipe of an internal combustion engine. Said pipe extends through a drum 2 of the heater which drum is preferably substantially cylindrical in shape and has end openings 3 which the pipe snugly fits and from which radial slits 4, in end walls 5 extend toward the edge of the cylinder and are continued at 6 in the longitudinal or round wall thereof which may be designated 7. The slit 4—6 permits ready insertion of the exhaust pipe through the drum. After insertion of the pipe into the drum, annular clamping bands 8, preferably one at each end of the drum or cylinder, are applied as illustrated by Fig. 2 and thereupon bolts 9 are passed through lugs 10 of the clamping bands and tightened so as to effectively close the cylinder at the slit 4—6 and rigidly clamp the cylinder or drum to the exhaust pipe. Drum 2 is preferably made of metal which will slightly yield so as to permit the action described.

Extending upwardly from and integral with the same, is a hood 11, substantially rectangular in horizontal cross section although having outwardly and upwardly flared walls 12 terminating in flanges 13. The end walls of hood 12 serve as bearings for the trunnions 14 and 15 which pivotally mount a damper 16 interiorly of the hood.

A cover grate 17 rests on the top of hood 11 and which grate is adapted to be fastened to the floor of the boat or vehicle by means of screws or the like passed through apertures 18 of the grate. Flanges 13 preferably have apertures or openings 19 to register both the flanges and grate. This grate preferably extends a short distance beyond the sides and ends of the hood so as to effectively overlap the floor mentioned.

At one end of the grate 17, a transversely disposed elongated slot or opening 20 is provided, into which extends two cam lugs 21 and 22 integral with the grate. Into this opening extends a crank adjusting handle 23 which is rigidly fastened to trunnion 15. This handle 23 is preferably made of yieldable metal so that it may be sprung to move past the lugs 21 and 22.

In one or both of the end walls 5, one or more openings or ports 24 may be provided through which air may pass to circulate in the interior of the drum and be heated by the pipe passing therethrough. These ports 24 are preferably covered by gauze or grating 25, to exclude large particles of foreign matter.

The device should be of such a construction as to avoid danger of the vehicle or boat catching fire therefrom. To this end, on the exterior of the drum and hood 11, I provide an envelop or covering 26 of fireproof material like asbestos which is cut away to expose the openings 24 and which has its upper edges turned inwardly as flanges at 27 which are secured intermediate the top of the hood 11 and the grate 17. In addition to serving as a fireproofing medium, the envelop 26 serves another function, namely to close the slit 4—6 in order to prevent undue escape of heat therethrough.

In operation, with the internal combustion engine from which pipe 1 leads, running the exhaust products or products of

combustion will pass through pipe 1 before escape into the atmosphere, and will accordingly heat the said pipe to a considerable degree. Since air passes into the drum or heating chamber 2, same circulates around the pipe and is accordingly heated, and afterward passes up through the drum 11 and grate 17, into the vehicle or boat, serving to heat the same. As previously stated, envelop 26 prevents undue escape of heated air through the slit 4—6. The heated air of course only passes through the drum 17 when the damper 16 is in the position shown in Figs. 2 and 3 where the handle or arm 23 engages the flat end of lug 22. If the supply of heat is to be cut off, handle 23 is moved longitudinally, or sprung, so as to be out of the path of lug 22 whereupon it is moved laterally, striking the curved edge of lug 21, which serves as a cam, springing the arm outwardly, so that when it passes the lug 21, the arm will spring inwardly and against the flat end face of the last mentioned lug, thus locking the damper in the closed position of Fig. 4. It will be realized, of course, that when the handle 23 moves against the curved edge of the lug 22, the handle will be moved outwardly in the same manner as described with respect to lug 21.

Since merely the preferred embodiment has been illustrated and described, it is to be understood that changes in the details of construction may be resorted to within the spirit and scope of the appended claim.

I claim:

In combination with the exhaust pipe of an internal combustion engine, a split drum through which the pipe passes, air inlet means for the drum, a hood of less length than the drum extending therefrom, an asbestos envelop covering the drum and hood and being turned inwardly at the upper edge of the hood, a grate resting on the hood and inturned asbestos, clamping members, one surrounding the drum and asbestos adjacent each end of the drum beyond the hood, said grate being provided with a transversely elongated slot, lugs integral with the grate extending into said slot, a damper within the hood, a trunnion pivotally mounting the damper extending exteriorly of the hood, a crank connected to said trunnion and passing through said slot, and said crank being yieldable to coöperate with said lugs.

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

WILLIAM H. PRETTYMAN.

Witnesses:

A. V. McIvor,

Chas. Finegan