May 31, 1927. 1,630,872

C. E. TAYLOR

SELF THAWING RADIATOR FOR MOTOR VEHICLES

Filed Feb. 4, 1926

Fig. 1.

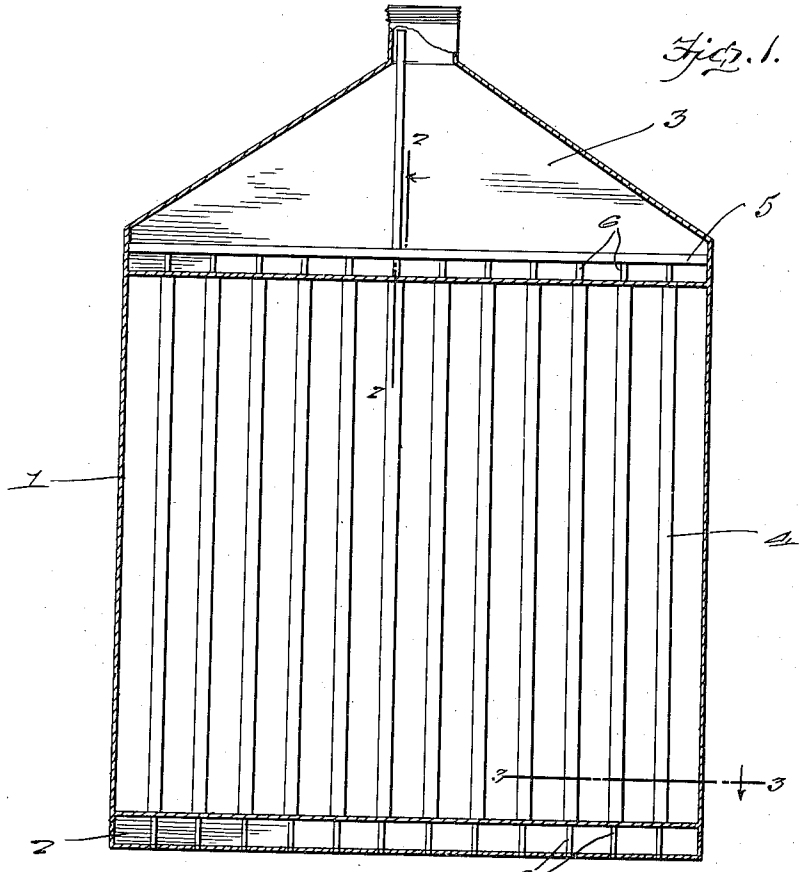


Fig. 2.

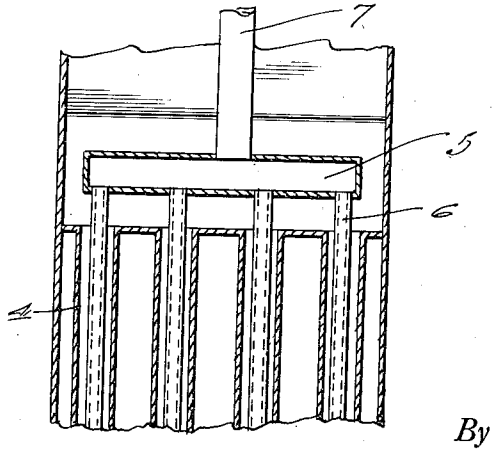
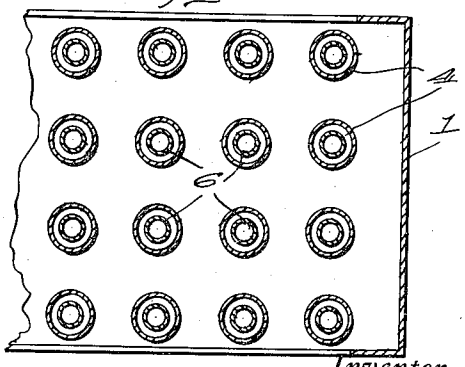


Fig. 3.



Inventor

C. E. Taylor

By Clarence A. O'Brien

Attorney

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UNITED STATES PATENT OFFICE.

CLARENCE E. TAYLOR, OF WATSEKA, ILLINOIS.

SELF-THAWING RADIATOR FOR MOTOR VEHICLES.

Application filed February 4, 1926. Serial No. 85,955.

My present invention pertains to radiators for use in conjunction with the internal combustion engines of motor vehicles; and it contemplates the provision of a simple and efficient self thawing radiator.

To the attainment of the foregoing, the invention consists in the improvement as hereinafter described and definitely claimed.

In the accompanying drawings, forming part of this specification:—

Figure 1 is a view illustrative of the improved radiator constituting the best practical embodiment of my invention of which I am cognizant; the radiator being shown with the fins at the front removed.

Figure 2 is an enlarged fragmentary section taken in the plane indicated by the line 2—2 of Figure 1, looking toward the left.

Figure 3 is an enlarged fragmentary section taken in the plane indicated by the line 3—3 of Figure 1, looking downwardly.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

Generally speaking the radiator may be of the conventional construction or of any other construction compatible with the purposes of my invention, the same being shown as including a casing 1, a bottom chamber 2, a top or overflow or reservoir chamber 3, and upright pipes or tubes 4 interposed between and effecting communication between the bottom chamber 2 and the top reservoir or chamber 3. The tubes 4 may be and preferably are of slightly larger diameter than the conventional upright tubes of motor vehicle radiators.

In accordance with my invention a header 5 is disposed in the reservoir 3 and in spaced relation above the upper ends of the tubes 4, and connected with the interior of and depending from the said header 5 are tubes 6 which extend downwardly through the tubes 4 and also through the lower chamber 2 and are open at their lower ends. The said tubes 6 are smaller than the tubes 4 in about the proportion shown, and are spaced from the inner sides of the tubes 4 after the manner clearly shown in Figure 2 so as not to interfere in any appreciable measure with the free circulation of water through the tubes 4. By preference the tubes 6 are of seamless copper.

Communicating with the interior of the header 5 and extending upwardly therefrom is a tube 7 that is open at its upper end and is in communication with the interior of the top of the reservoir or chamber 3.

Manifestly in a radiator characterized as described, the water tubes 4 will not break when frozen, but on the other hand the tubes 4 will be thawed and cleared of ice due to the passage of steam and hot water from the upper portion of the reservoir or chamber 3 through the tube 7, the header 5 and the comparatively small tubes 6, the said tubes 6 being open at their lower ends as before stated, and being therefore adapted to discharge steam and water of condensation to the ground.

In addition to the capacity of function ascribed to the tubes 6, it will be appreciated that the said tubes contribute to the cooling efficiency of the radiator in warm weather, this because of the increased air contact surface with the water that is afforded by the tubes 6.

Notwithstanding the practical advantages ascribed to the radiator of my invention, it will be noted that the said radiator as a whole is simple and inexpensive in construction, and in all respects is well adapted to withstand the usage to which motor vehicle radiators are ordinarily subjected.

I have entered into a detailed description of the construction and relative arrangement of the elements, comprised in the present and preferred embodiment of my invention in order to impart a full, clear and exact understanding of the said embodiment. I do not desire, however, to be understood as confining myself to the precise construction and relative arrangement of the parts as disclosed, my invention being defined by my appended claim within the scope of which changes in structure and in arrangement may be made without departure from my invention.

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

A radiator of the kind indicated having

lower and upper water chambers, a header disposed in the upper water chamber and upright tubes interposed and effecting communication between said chambers and also having in the said tubes smaller tubes extending through the lower chamber and open at their lower ends to the atmosphere; the said comparatively small tubes being combined with and communicating with the interior of said header disposed in the upper chamber, and the said header being provided with an upright tube effecting communication between its interior and the upper portion of the interior of the upper chamber.

In testimony whereof I affix my signature.

CLARENCE E. TAYLOR.