L. BENSON.

AUTOMOBILE RADIATOR.

APPLICATION FILED SEPT. 29, 1919.

1,366,900.

Patented Feb. 1, 1921.

Fig. 1.

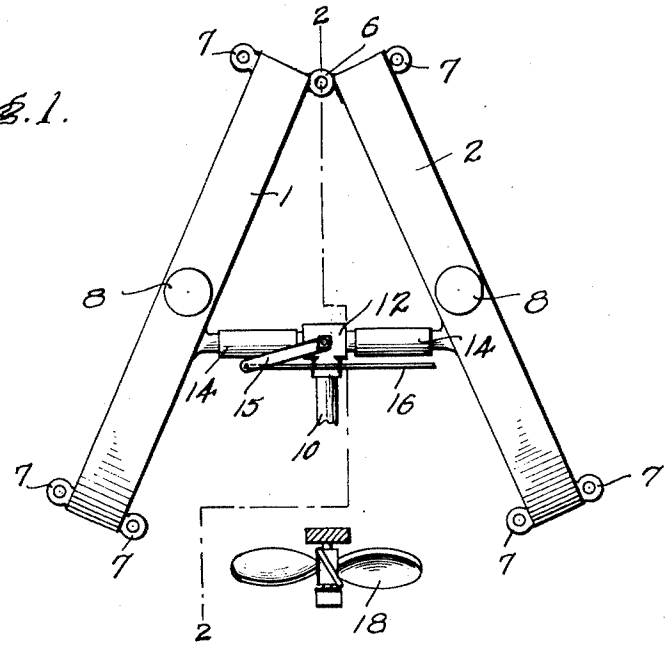


Fig. 2.

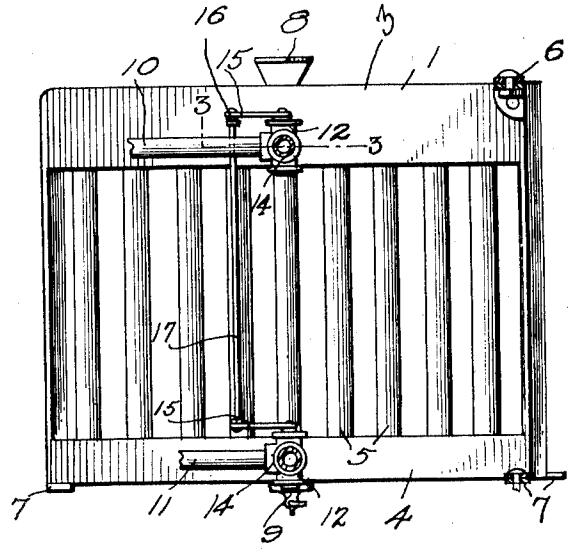
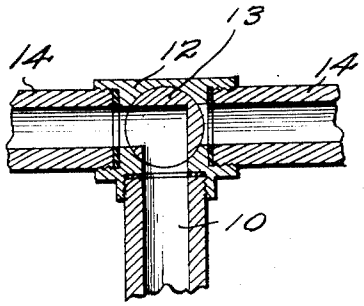


Fig. 3.



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UNITED STATES PATENT OFFICE.

LAWRENCE BENSON, OF NASHUA, MONTANA.

AUTOMOBILE-RADIATOR.

1,366,900. Specification of Letters Patent. Patented Feb. 1, 1921.

Application filed September 29, 1919. Serial No. 327,277.

To all whom it may concern:

Be it known that I, LAWRENCE BENSON, a citizen of the United States, residing at Nashua, in the county of Valley and State of Montana, have invented certain new and useful Improvements in Automobile-Radiators, of which the following is a specification.

My invention relates to new and useful improvements in a radiator and more particularly to an automobile or tractor radiator.

The principal object of the invention is the provision of a double radiator so constructed that the water may circulate through one radiator at a time.

Another object of the invention resides in the provision of means for cutting off the circulation from one radiator and directing it into the others.

A further object consists in novel means for connecting the radiators together and for connecting the radiators to the machine.

With these and other objects in view my invention consists in the novel details of construction and arrangement of parts which will be more clearly understood from the following specification and drawings in which:—

Figure 1 is a top plan.

Fig. 2 is a section on the line 2—2 of Fig. 1, and

Fig. 3 is a section on the line 3—3 of Fig. 2.

As stated in the objects of my invention I provide a double radiator. This consists in two separate radiators 1 and 2 each of which is constructed in the usual manner with an upper chamber 3, a lower chamber 4, and vertical connecting pipes 5. Each radiator 1 and 2 is provided at the top of the forward end with an eye or lug 6, on the inner face, and each radiator is also provided on the four lower corners with lugs or eyes 7. The top and bottom eyes or lugs 6 and 7 on the forward inner face of each radiator are used for connecting the radiators together at the forward end and the other lugs or eyes 7 are used for securing the radiators to the automobile or tractor chassis. As more particularly illustrated in Fig. 1 of the drawings the two radiators 1 and 2 are so connected as to form a V-shape.

A filling plug 8 is provided at the top of each radiator and a drain cock 9 is formed or secured to the bottom thereof.

The numeral 10 indicates the top pipe which leads from the engine jacket to the radiators and 11 indicates the bottom pipe which carries the water back from the radiators to the engine casing. Each of these pipes 10 and 11 is connected at its forward end to a T-coupling 12 and this T-coupling forms a casing for the rotatable valve 13 more clearly illustrated in Fig. 3 of the drawings. As shown this valve is a three-way valve. A branch pipe 14 leads from each end of the T-coupling to the radiators 1 and 2. The upper branch pipe 14 leads from the top coupling to the chamber 3 of each radiator and the lower branch pipe leads from the lower T-coupling to the lower chamber 4 of the radiators.

A bar 15 is secured to the top of each valve 13 and a rod 16 is connected to the upper bar and leads to any convenient point for operating the same. A vertical rod 17 connects the upper and lower arm 15 as more clearly illustrated in Fig. 2 of the drawings. By this arrangement both the upper and lower valves will be operated in unison.

The fan 18, which is mounted and driven in the usual manner, is arranged between the spaced ends of the radiators, as shown in Fig. 1 of the drawings, and thereby is used for circulating the air through the pipes 5 of each radiator.

From the above detailed description it is thought that the advantages and mode of using my device will be clearly understood. I have provided a double form of radiator in which one section may be cut off while the water is circulating through the other section. In this manner when one radiator becomes over-heated it may be cut off and the cool radiator used. As shown in Fig. 3 of the drawings the valve is set to direct the water from the engine jacket toward the left hand radiator 1. The water will pass from the water jacket through the pipe 10 into the T-coupling 12 and through the valve 13 into the branch 14 to the top chamber 3 of the radiator 1. The water will then pass through the vertical pipe 5 and be cooled by the fan 18, and movement of the vehicle, and will enter the chamber 4 from which it is taken through the valve 13 and pipe 11 to the engine jacket again. When the radiator 1 becomes hot the rod 16 is operated

to draw on the bar 15 which will turn the valve 13 so as to direct the water through the branch pipe 14 leading to the right-hand radiator 2. As the top and bottom bars 15 are connected by the vertical rods 17 they will both operate in unison. The circulation of the water through the radiator 2 will be the same as that described for the radiator 1. It is possible that in the winter it will only be desired to use one radiator for the reason that it will not become heated so readily. If this is the case then the water may be drained from one of the radiators through the cock 9. The arrangement of the fan between the spaced ends of the radiators will allow the air circulated by the fan to pass through the vertical pipe of each radiator. It will be evident from an inspection of the drawing that the valve 13 may be positioned so that the water will circulate through both radiators at the same time.

The foregoing description and the drawings have reference to what may be considered the preferred, or approved, form of my invention. It is to be understood that I may make such changes in construction and arrangement and combination of parts, materials, dimensions, etc., as may prove expedient and fall within the scope of the appended claims.

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

1. A device of the class described comprising separate radiators, a pipe connecting the radiators at the top, a valve in said pipe, a pipe connecting the lower ends of the sections, a valve in the second mentioned pipe, means connecting the valves so that they will operate in unison, and means for operating the valves.

2. A device of the class described comprising radiators having their forward ends hingedly connected, a pipe connecting the radiators at the top, a second pipe connecting the radiators at their bottom, valves in said pipes, means connecting the valves, and means for operating the valves in unison.

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

LAWRENCE BENSON.

Witnesses:
E. P. ASAL,
S. J. WICK.