

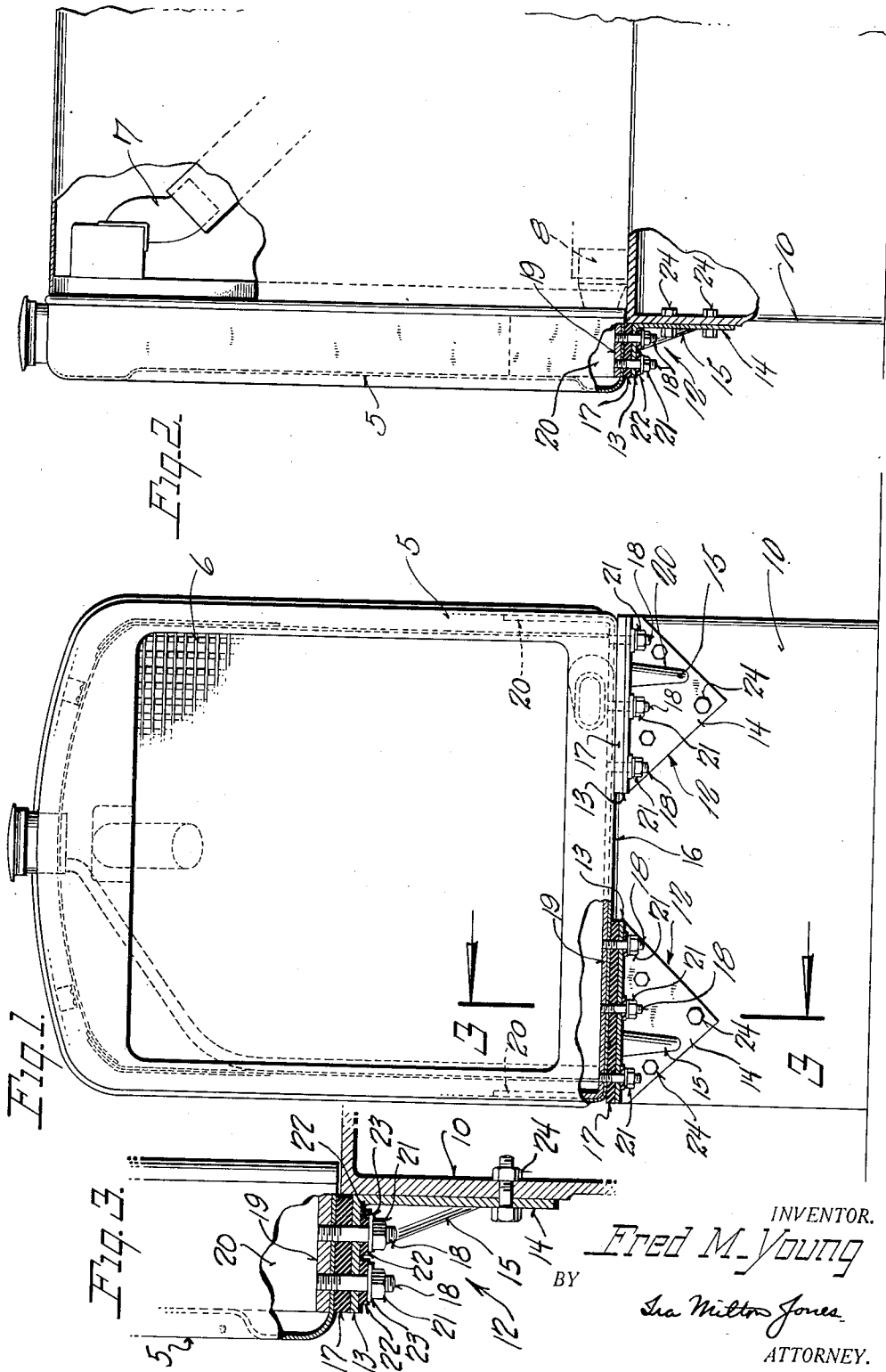
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RADIATOR

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RADIATOR

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2 Claims. (Cl. 180—68)

This invention relates to radiators and refers more particularly to a method of mounting radiators for gasoline engines and the like.

It is a particular object of this invention to eliminate the necessity for machining the base of a radiator casing and the corresponding member upon which it seats.

Another object of this invention is to provide novel means for substantially floatingly mounting the radiator so as to absorb shocks and vibration and prevent their transmission to the radiator.

More specifically, it is an object of this invention to provide means for mounting a radiator in which the base of the radiator shell or casing rests on rubber or other suitable resilient material, and is held on the support upon which it seats with a yielding pressure.

It is another object of this invention to provide a bracket formed of sheet metal and having a fixed but cushioned connection with the radiator shell or casing and being readily attachable to a convenient part of the engine base.

And a further object of this invention is to simplify radiator mountings in general, to materially reduce the cost of construction, and to facilitate the assembly of the radiator with the engine base.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawing, I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a front elevation of a conventional radiator for heavy duty engines embodying the elements of the present invention and having a part thereof broken away to illustrate structural details;

Figure 2 is a side view of the radiator with certain parts broken away and shown in section; and

Figure 3 is a detail section view taken on the plane of the line 3—3 of Figure 1.

Referring now more particularly to the accompanying drawing in which like numerals indicate like parts throughout the several views, the numeral 5 indicates the shell or casing of a conven-

tional radiator embodying a core 6 to which cooling fluid is conducted through an inlet pipe 7 to flow through the core to an outlet 8.

The radiator is mounted on the base 10 of an engine (not shown) by means of brackets, generally designated 12. The means for mounting the radiator on the base, and specifically the brackets 12 and their associated elements, form the subject matter of the present invention.

The brackets 12 are preferably formed of sheet metal stamped to form with a horizontal flange 13 and a vertical flange 14. The flanges are preferably disposed at right angles to each other since the front of the engine base 10 is usually vertical and the bottom of the radiator shell horizontal.

In order to insure rigidity, each bracket is provided with a diagonal rib 15 which is formed as an integral part of the bracket.

The horizontal flange 13 of each bracket is secured to the bottom wall 16 of the radiator shell with a yieldable spacer 17, preferably formed of rubber, interposed therebetween. The bracket flanges 13 are attached to the bottom wall 16 of the radiator shell by a plurality of studs 18. The studs have their inner ends secured in a reinforcing strip 19 overlying the inner wall of the radiator shell and extending across the width of the radiator with its opposite ends 20 projected upwardly along the side walls of the shell a short distance.

The outer ends of the studs 18 project down through the bottom wall 16 of the shell, the spacers 17, and the flanges 13 to have nuts 21 threaded on the projecting ends. Yieldable washers 22 and metal washers 23 are interposed between the nuts 21 and the underfaces of the flanges 13. As the nuts 21 are drawn up tight, the flanges 13 are clamped between the spacers 17 and the yieldable washers 22 and the radiator shell is drawn down tight onto the brackets.

The use of rubber or some similar resilient material in the attachment of the radiator shell to the bracket flanges provides a shock and vibration insulation between the shell and the bracket to preclude transmission of vibration and shock from the bracket to the shell.

The method of attaching the brackets to the radiator shell as hereindescribed obviously, is exceptionally simple and results in a rigid though cushioned connection. To attach the shell to the base 10, it is only necessary to bolt the vertical flanges 14 of the brackets to the vertical front wall of the base 10 as at 24.

From the foregoing description taken in connection with the accompanying drawing, it will

be readily apparent to one skilled in the art that this invention affords a relatively simple method of attaching a radiator to the base of an engine; that the necessity for machining the base of the radiator casing and the corresponding member upon which it seats is entirely eliminated; that the transmission of shocks and vibration from the engine base to the radiator is eliminated; and that a solid-though cushioned-support is provided for the radiator with the radiator mounted entirely ahead of the front of the base.

What I claim as my invention is:

1. In combination with a radiator and a supporting base therefor, means for mounting the radiator on the base comprising, a bracket having angularly disposed flanges, means for securing one of the flanges to the base, a yieldable spacer disposed between the other flange and the radiator, a reinforcing member carried by the radiator, studs carried by the reinforcing member and projecting through aligned openings in one wall

of the radiator—the spacer—and said other flange on the bracket, nuts threaded on the ends of the studs, and yieldable washers disposed between the nuts and said other flange on the bracket.

2. In combination with a radiator having a shell of relatively thin sheet metal and a supporting base from which the radiator is mounted, means for mounting the radiator from the base comprising, a bracket having angularly disposed flanges, means for securing one of the flanges to the base, a yieldable spacer disposed between the other flange of the bracket and the bottom wall of the radiator shell, a reinforcing member overlying the inner surface of the bottom wall of the shell, and securing means connected with the reinforcing member and extending to the underside of said other flange of the bracket to secure the radiator shell to said other flange with the yieldable spacer clamped therebetween.

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