Feb. 12, 1929. 1,701,664

J. H. COOPER

RADIATOR MOUNTING

Filed Oct. 3, 1924

Fig. 2.

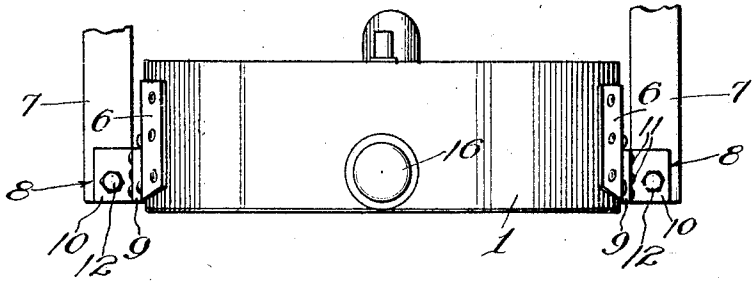


Fig. 1.

Fig. 3.

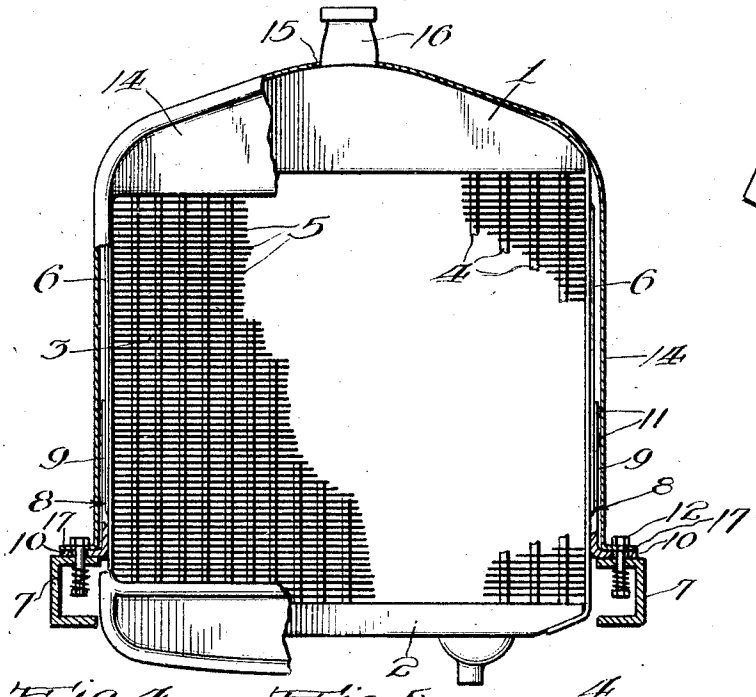


Fig. 4.

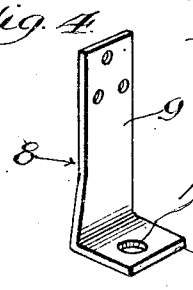
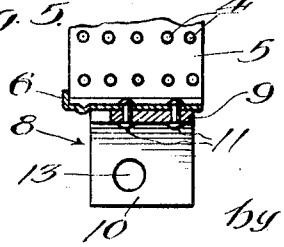
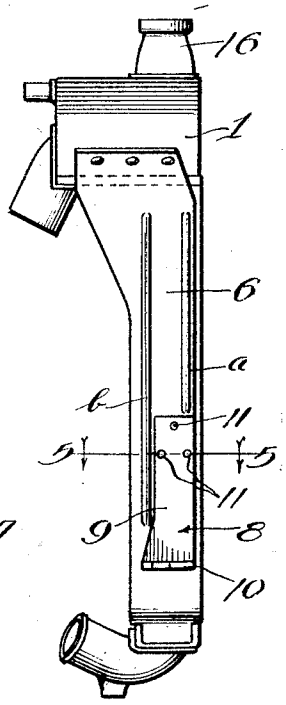


Fig. 5.





Inventor:
James H. Cooper
by
Atty.

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UNITED STATES PATENT OFFICE.

JAMES H. COOPER, OF DETROIT, MICHIGAN, ASSIGNOR TO McCORD RADIATOR & MFG. CO., OF DETROIT, MICHIGAN, A CORPORATION OF MAINE.

RADIATOR MOUNTING.

Application filed October 3, 1924. Serial No. 741,354.

This invention relates to a mounting for radiators and more particularly for radiators for Ford cars, and consists in the matters hereinafter described and claimed.

In the accompanying drawings—

Fig. 1 is a front view of a radiator embodying the features of my invention, the outer casing or shell being shown partly broken away and in section;

Fig. 2 is a top plan view of the parts shown in Fig. 1, with the shell omitted;

Fig. 3 is a side view of said parts;

Fig. 4 is a perspective view of one of my improved brackets; and

Fig. 5 is a horizontal sectional view on line 5—5 of Fig. 3.

The radiator shown in the drawings is for a Ford car, although of course my invention is not limited to radiators for such cars. The radiator has top and bottom tanks 1, 2 with a core 3 interposed between and soldered to said tanks. The core as shown is of the fin and tube type, thus having vertical water tubes 4, 4 extending through horizontal fin strips 5, 5, although any other type of core may be employed.

Metal strips 6, 6 are at the sides of the core 3 and have their upper and lower ends bent over and soldered to the top and bottom tanks, respectively. These strips hold the tanks and core together and are not secured to any parts of the core. The upper and lower end portions of the strips 6 where they overlap the tanks are apertured, as shown, so that places for solder connection with the tanks other than the edges of the strips are provided.

To suspend or mount the radiator on the side members 7, 7 of a Ford chassis, I provide brackets 8, 8 at the sides of the core. These brackets 8, 8 are stamped or otherwise made from flat sheet metal of the required gauge and material and have relatively long portions 9, 9 and shorter right-angled portions 10, 10. The brackets are applied to the strips 6, 6 with the long portions 9, 9 upright and secured flatwise against the outer surfaces of the strips 6, 6 by rivets 11, 11.

The shorter sections 10, 10 extend outward from the strips 6 and are clamped flatwise against the side members 7, 7 by bolts 12, said sections 10 having holes 13 for the bolts. With the bracket sections 10, 10 resting on the side members 7, 7 and secured thereto, the radiator is mounted on said members and between them, as shown.

The upright portions 9, 9 of the brackets 8, 8 are long enough to extend upward along the side strips 6, 6 to about the center of the core. This allows the brackets 8 to be secured to the strips 6, 6 far enough above the side members 7, 7 to transmit all strains on the brackets to the strips 6 at or about the center thereof, with the result that the strains are spent or absorbed in the strips before having any effect to loosen or weaken the solder connections of the core or of the strips 6 with the tanks 1, 2. Moreover, by having the bracket sections 9, 9 long, the side members 7, 7 may flex or move slightly outward from the radiator under lateral or other strains without putting any undue burden on the solder connections mentioned.

The assembled core and tanks are located in an outer casing or shell 14 of sheet metal. This shell has an opening 15 in its top wall for the filler neck 16 to pass through. At the sides of the shell are short flanges 17, which project outward therefrom and have holes for the bolts 12 to pass through for securing the shell to the side members 7, 7 and in place over the core.

Each strip 6 has strengthening ribs *a*, *b* pressed out of the same. These ribs project outward from the side strips and extend lengthwise thereof. The outermost rib *a* terminates at the upper edge of the associated bracket 8 in order to provide a flat space on the side strip for the bracket. The inner rib *b* extends below the upper edge of the bracket, the latter being made narrower in its upper portion for this purpose, as shown in Fig. 3.

Using the brackets 8, 8 to mount the radiator on and between the side members 7, 7, it is unnecessary to employ a rigid steel mounting plate extending through the core from side to side in place of one of the fin strips 5 and secured to the side members 7, 7, as heretofore. This allows all the fin strips 5, 5 to be made of the relatively thin sheet metal required and does not necessitate that one of said strips be of rigid, stiff metal, as steel, as heretofore.

I claim as my invention:

The combination with spaced side members of a motor vehicle chassis, of a radiator disposed in the space between said side members

with the core of the radiator extending above and below the upper surfaces of said side members, metal strips included in the radiator structure at the sides of the core and extending along and in contact therewith throughout the height thereof, brackets made independently of said strips and located at the opposite sides of the core above said side members and secured thereto for mounting the core thereon, said brackets having relatively long upright portions extending upward along the sides of the core in contact with said strips and terminating short of the upper ends of the strips at points spaced relatively high above said side members, the upright portions of the brackets being connected at their upper ends only with said strips so that the brackets may yield with the side members in the outward spreading thereof relatively to the radiator.

In testimony that I claim the foregoing as my invention, I affix my signature this 25th day of September, 1924.

JAMES H. COOPER.