G. G. GERBER.

RADIATOR SUPPORT.

APPLICATION FILED FEB. 17, 1919.

1,357,397. Patented Nov. 2, 1920.

Fig 1

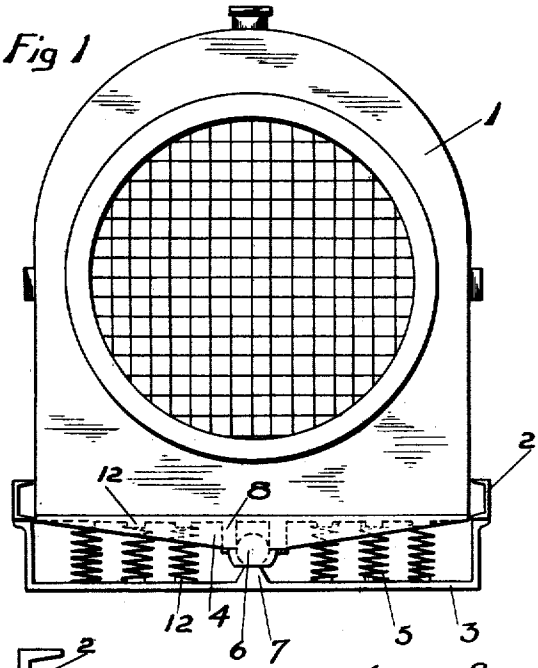
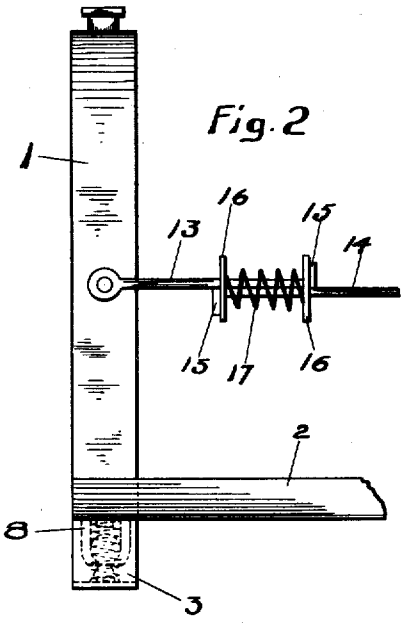


Fig. 2



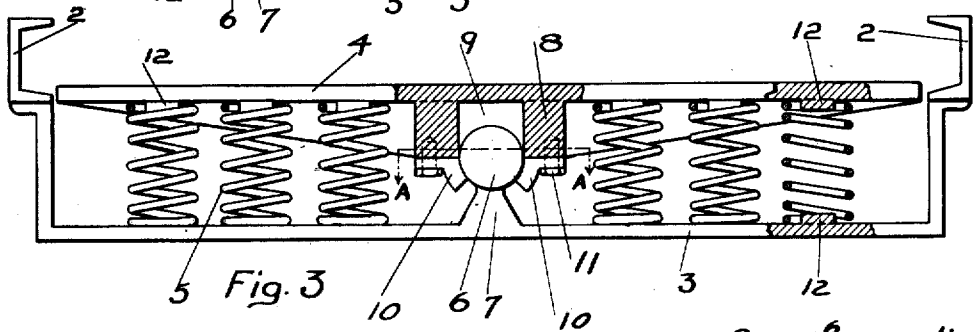


Fig. 3

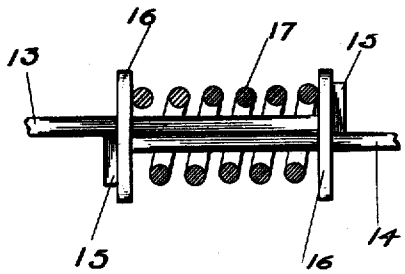


Fig. 4

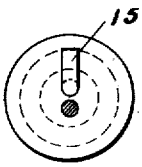


Fig. 5

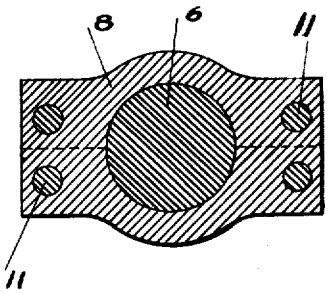


Fig 6

WITNESSES:

C. S. Brown

INVENTOR

George G. Gerber

BY

C. F. Blake

ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE GORDON GERBER, OF PORTLAND, OREGON.

RADIATOR-SUPPORT.

1,357,397. Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed February 17, 1919. Serial No. 277,671.

To all whom it may concern:

Be it known that I, GEORGE G. GERBER, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Radiator-Supports, of which the following is a specification.

My invention relates to methods of supporting radiators or water cooling devices upon automobiles.

The object of my invention is to supply a support for such a device that shall be flexible in every direction, and thus relieve the radiator from all strain due to any movements of the vehicle.

With this object in view, my invention consists of certain novel features of construction, combination of elements, and arrangement of parts to be hereinafter fully described in this specification, and particularly set forth in the appended claims.

In order to fully comprehend my invention, reference may be had to the accompanying drawing, which is therefore made a part of this application for Letters Patent.

In said drawing,

Figure 1 is a front elevation of my invention applied to a radiator;

Fig. 2 is a side elevation of Fig. 1;

Fig. 3 is an enlarged detail front elevation of that portion of my invention which supports the radiator;

Fig. 4 is a detail of construction of the guide rods;

Fig. 5 is an end elevation of Fig. 4;

Fig. 6 is a sectional view on line AA of Fig. 3.

Referring to the drawing, in which like characters indicate like parts throughout the several views, numeral 1 indicates a radiator of ordinary construction well known to the art, and thus requiring no description, and numeral 2 represents the frame members of the vehicle.

Secured to said frame members I provide a frame 3, adapted to span the frame members below the radiator.

A seating piece 4 is provided for the radiator, and intermediate pieces 3 and 4 are springs 5 and a universal ball and socket joint of special construction.

The male portion of said universal joint consists of a ball 6 connected by a standard 7 to frame 3.

Said ball 6, standard 7 and frame 3 may be of one piece, as shown in Figs. 1 and 3, or they may be constructed as individual members secured together in any convenient manner.

The female portion of said universal joint consists of a box portion 8, integrally connected to the seating piece 4, and having a cylindrical interior 9 adapted to fit ball 6 and allow same a small vertical movement within said box 8.

Caps 10 are secured to the lower portion of box 8 by bolts 11, said caps, when in place, forming a hemispherical seat adapted to fit ball 6.

Frame 3 and seating piece 4 are each provided with lugs 12 to seat and secure springs 5 which are intermediate said frame 3 and seating piece 4.

Said springs are sufficient to support the weight of a radiator and contents, and under normal conditions do so support said radiator, the springs being extended sufficiently to bring ball 6 into contact with the hemispherical seat provided by caps 10.

Upon receiving impact from any movement of the vehicle said springs are deflected under the weight of said radiator, allowing ball 6 to leave the hemispherical seat of caps 10 and to move upward into the cylindrical interior 9 of box 8.

As will be apparent, the resting piece 4, by means of its universal joint connection with frame 3, may take any inclined position relative to said frame, within limitations set by the springs, and may also, by means of cylindrical box 8, move toward frame 3 while remaining parallel thereto.

To secure the radiator in a substantially vertical position I provide guide rods 13 which are pivotally attached, one to each side of said radiator, and flexibly connected to guide rods 14, which are pivotally connected to any convenient portion of the vehicle.

The flexible connection between guide rods 13 and 14 I accomplish by turning a short portion 15 of the end of each rod normal to the rod, after said rods have each been passed through washers 16 with springs 17 intermediate the said washers, as shown in Figs. 4 and 5.

As an alternative device I contemplate the use of a rib and socket running longitudinally of the vehicle in place of the ball and socket as shown.

The said rib and socket construction

would limit the oscillations to one direction only.

My invention may be constructed of any material and made any size deemed suitable for all the requirements of such a device, and while I have illustrated and described a preferred form of construction and combination of elements considered essential in materializing the same, I wish to include in this application all mechanical equivalents and substitutes that may be fairly considered to come within the scope and purview of my invention as defined in the appended claims.

Having thus fully described my invention so that others skilled in the art may be enabled to construct and use the same, what I claim as new and desire to secure by Letters Patent, is:—

1. An automobile radiator in combination with a seating member for said radiator; a frame beneath said seating member and substantially parallel thereto; springs intermediate said seating member and said frame; and a universal joint connecting said seating member and said frame, said universal joint allowing no horizontal movement between said seating member and said frame but allowing relative angular and vertical movements therebetween.

2. In a radiator support for automobiles, a frame connecting the forward ends of the automobile side members; a seating member above said frame and held yieldably spaced therefrom and adapted to receive the radiator thereupon; and a universal joint connecting said frame and said seating member allowing only angular and vertical motion of said seating member.

3. In a device of the character described, a duality of horizontally disposed parallel supporting members rigidly connected in all horizontal directions by a universal joint, said joint being adapted to allow said supporting members to approach each other vertically in a substantially parallel manner, or to incline toward each other, springs intermediate said supporting members, substantially as described.

4. A radiator support for automobiles comprising a seating member; springs supporting said seating member; and a universal joint connecting said seating member in a vertically and angularly yieldable but horizontally fixed manner to a cross member connecting the side members of said automobile body.

In testimony whereof I claim the foregoing as my own, I hereunto affix my signature in the presence of two witnesses, at Portland, Oregon, Nov. 1, 1918.

GEORGE GORDON GERBER.

Witnesses:
ALBERT J. GROBEN,
C. F. BLAKE.