

PATENT SPECIFICATION



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279,105

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COMPLETE SPECIFICATION.

Improved Method of Mounting Motor Vehicle Bonnets and Radiators.

I, ADOLPHE KEGRESSE, of 54, Quai Michelet, Levallois Perret (Seine), France, a French citizen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

In all motor-cars the bonnet of the engine rests upon the front end of the body and upon the edge of the radiator. It is secured directly to the longitudinal members of the chassis and sometimes resilient means are disposed therebetween.

In vehicles on which the radiator is not in front, the bonnet of the engine rests upon the longitudinal members of the chassis and on a wooden or metal base.

It is common knowledge that the longitudinal members of motor-car chassis have some degree of flexibility. Owing to the action of uneven ground over which the car may run, the flexibility of the said members causes the whole of the chassis to be put out of shape within its limits of elasticity, so that elements secured to the said chassis (i.e. the radiator, the bonnet and the body) are likewise put out of shape.

The whole chassis is very often actually twisted, the consequence being that the radiator and the body, at some distance from one another, are subjected to the action of forces of dissimilar magnitude and in dissimilar directions. The bonnet connects the said radiator to the body and is therefore also subjected to stresses of dissimilar magnitude exerted in dissimilar directions, because it bears with its two ends upon the radiator and upon the front end of the body respectively. It is thus very difficult, if not impossible, to hold the bonnet steady relatively to the radiator and these two elements steady relatively to the body.

This invention relates to a method of mounting the radiator and the bonnet to render them independent of the flexures of the corresponding portion of the chassis and rigidly connect them to the front end of the body.

The invention comprises a method of mounting the bonnet and the radiator on

motor vehicles in which the radiator is foremost, characterised by an oscillable attachment point at the base of the radiator which is connected, on each side of its lower portion, to the lower portion of the front end of the body by means of rigid cross-ties with a clearance between the latter and the chassis, the bonnet being mounted on the front end of the body and on the radiator, and being rigidly fastened to the said cross-ties without contacting with the chassis.

The invention also comprises in motor vehicles without a radiator foremost, a method of mounting the bonnet by means of a base rigidly secured to the front of the body and oscillating on the opposite side, on a front cross-piece of the chassis, with a clearance between the said base and the chassis, the said base serving as a support to which the bonnet is secured.

In order to make the invention clearly understood, an example is illustrated in the drawings appended hereto, in which:

Figure 1 is an external view, in elevation, of one construction;

Figure 2 is a vertical section through the axis of the radiator;

Figure 3 is a plan view with the bonnet removed;

Figure 4 is an end elevation;

Figure 5 is a front cross-sectional elevation on line A—B of Figure 3; and

Figure 6 is a side elevation showing the arrangement of the invention applied to a motor-car having no radiator in front.

In all the figures, 1 is the chassis of the vehicle, 2 the front end of the body, 3 the bonnet, 4 the radiator and 5 the front springs.

The lower part of the radiator is fitted with a base plate 6 (Figures 2, 3 and 4) having two lugs 7 mounted astride the cross-piece 8 of the chassis 1 (Figures 1, 2, 3, 4, 5 and 6). A tubular spindle 9, secured to the lugs 7 of the base plate 6, is articulated on a bushing 10 which may be of wood or any other suitable material and which is fixed for this purpose within the cross-piece 8 of the chassis 1.

The spindle 9 is in line with the axis of the engine and carries the ball-and-socket attachment 11 of the engine front

[Price 1/-]

when the engine has a three-point suspension, as shown on Figure 2. The said spindle may be hollow to afford passage to the starting handle.

5 A clearance 12 (Figure 4) is provided between the base of the radiator and the cross-piece 8, to allow the radiator to oscillate to a certain extent transversely to the longitudinal members of the
10 chassis.

The bushing (made of wood or of any other suitable material) may also be rigidly secured to the radiator 4. In this case the cross-piece 8 of the chassis is used
15 as a frame for it and the articulation spindle 9 is carried on the said cross-piece 8. This arrangement is within the scope of the invention.

The base of the radiator 4 is connected
20 on each side to the front end of the body by means of two pressed sheet-metal ties 13 (Figures 1, 2 and 3) disposed with a clearance above the chassis 1. The ties 13 are rigidly attached to the lower end
25 of the front 2 of the body and to the base of the radiator 4. The bonnet 3 rests upon the said front 2 of the body and upon the edge of the radiator 4. The bonnet is held down on the two ties 13
30 and therefore does not bear on the chassis.

The upper portion of the radiator may be connected to the front of the body by one or two ties 14 (Figures 2 and 3) which
35 may be made of steel wire, of tubing or of swaged metal, and may be cross-braced.

These ties are unnecessary in three-point-suspension engines attached to the
40 front of the chassis by means of a ball-and-socket joint. The water-pipe unions 15 (Figure 2) afford a sufficient amount of connection since the radiator and the engine are mounted on one and the same
45 spindle, as stated in the foregoing.

With cars in which the radiator is not in front, a frame 16 is provided (Figure 6) as a supporting base for the bonnet. The rear end of this frame is
50 secured to the lower portion of the front end 2 of the body, while the foremost portion of this frame bears with its middle point on a lug clamp mounted astride the cross-piece 8 of the chassis, like the base
55 of the radiator in the case previously considered.

A certain amount of clearance 17 is provided between the frame 16 (Figure 6) and the chassis 1, so that the bonnet is
60 secured directly to the said frame 16, which rests upon the chassis only through its oscillating forepart.

A structure of this kind behaves as follows, for example on a rough road
65 surface:

1. As regards vehicles having the radiator foremost, the twistings of the chassis, which take place around the longitudinal axis thereof, are transmitted
70 neither to the radiator nor to the bonnet because the radiator is connected to the chassis only through its articulation and is, therefore, unaffected by the said twistings. Moreover, the bonnet rests on the
75 front end of the body and upon the radiator, and is secured to cross-ties 13, so that it has no point of attachment to the chassis, with the consequence that it cannot be affected by the deformations of the latter.
80

2. In vehicles in which the radiator is not foremost, the bonnet rests upon a supporting base which is some distance from the chassis and is secured to the
85 front end of the body and is articulated on the opposite side to the longitudinal axis of the machine so that it is unaffected by any twistings of the chassis.

Having now particularly described and
90 ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A method of mounting the bonnet
95 and the radiator on motor vehicles in which the radiator is foremost, characterised by an oscillable attachment point at the base of the radiator which is connected, on each side of its lower
100 portion, to the lower portion of the front end of the body by means of rigid cross-ties with a clearance between the latter and the chassis, the bonnet being mounted on the front end of the body and on the
105 radiator, and being rigidly fastened to the said cross-ties without contacting with the chassis.

2. In motor vehicles having their radiator foremost, a method of mounting
110 the bonnet and the radiator as in Claim 1, characterised by an oscillable attachment point at the base of the radiator, the axis of oscillation of the said attachment corresponding to the axis of the
115 engine.

3. In motor vehicles without a radiator foremost, a method of mounting the bonnet by means of a base rigidly secured to the front of the body and oscillating
120 on the opposite side, on a front cross-piece of the chassis, with a clearance between the said base and the chassis, the said base serving as a support to which the bonnet is secured.
125

4. In motor vehicles, the methods of mounting the bonnet and radiator as in Claim 1 or 3 and substantially as described or substantially as illustrated in the accompanying drawings.
130

Dated this 14th day of October, 1927.

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1

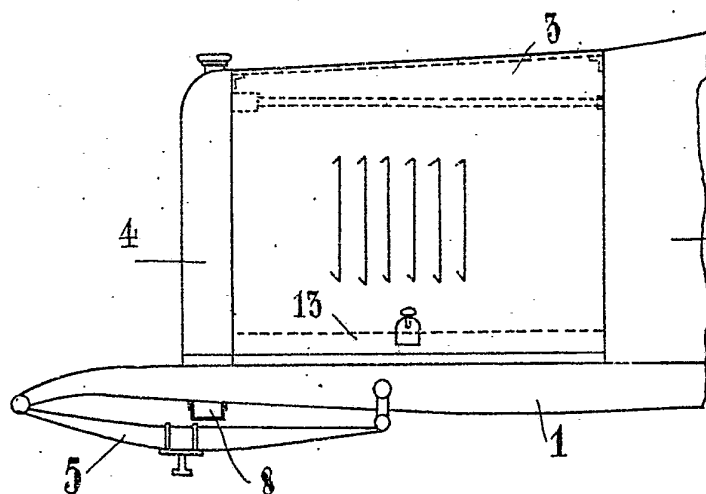


Fig. 2

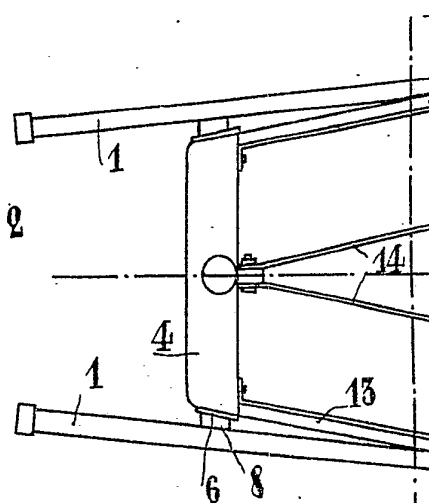


Fig. 3

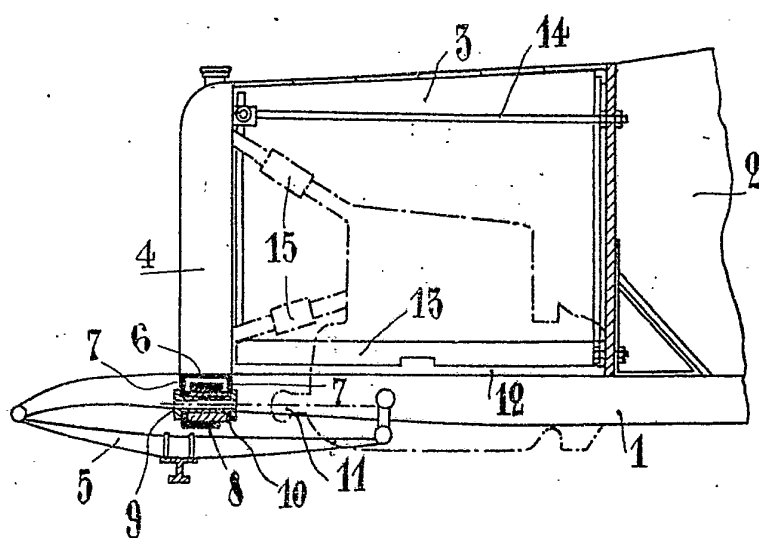


Fig. 4

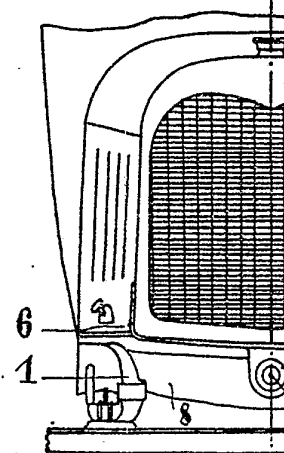


Fig.3

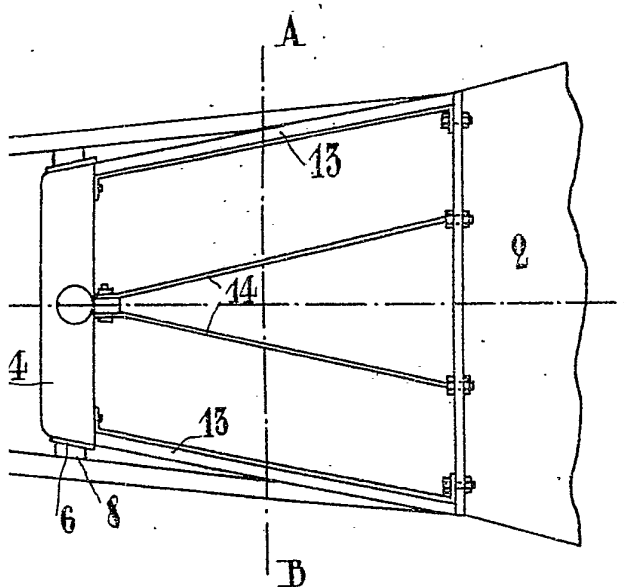


Fig.5

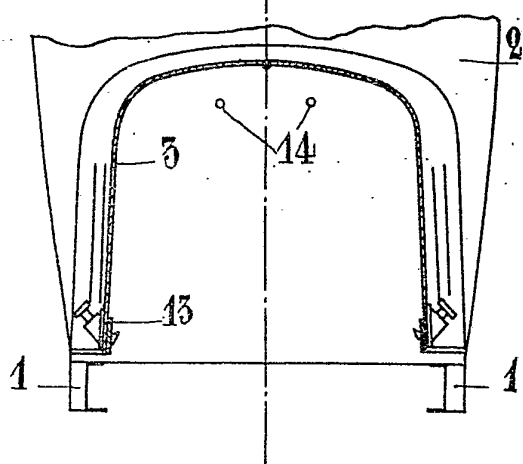


Fig.4

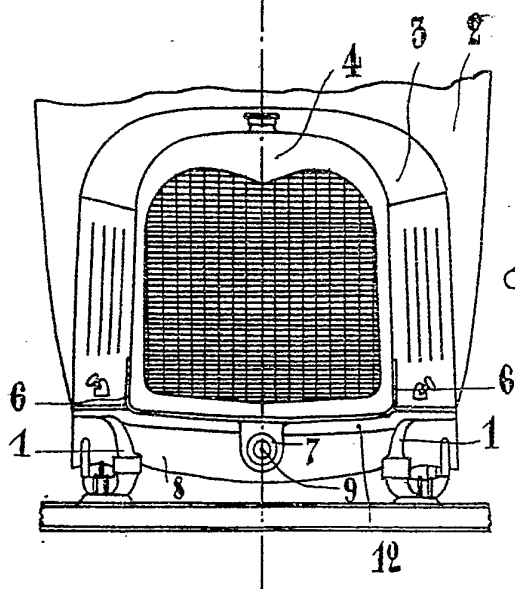


Fig.6

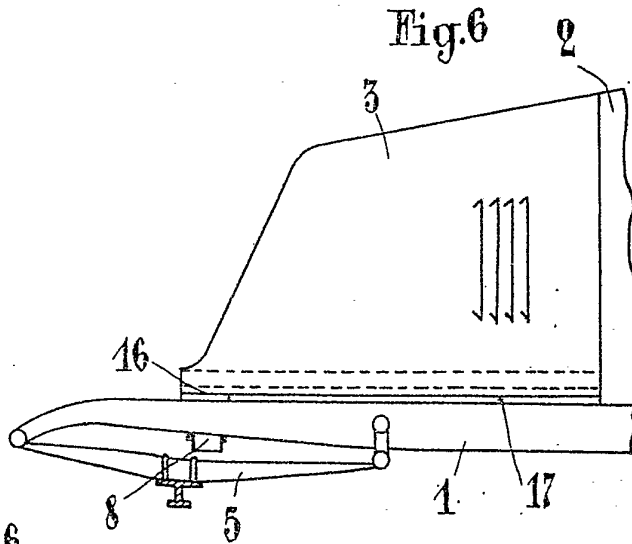


Fig. 1

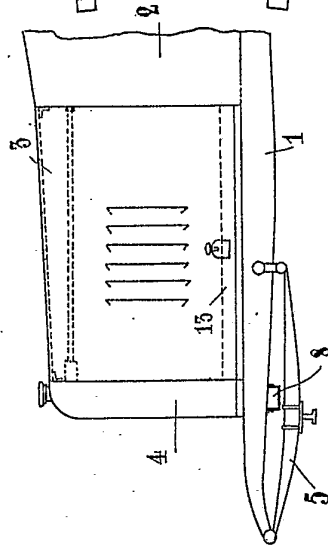


Fig. 3

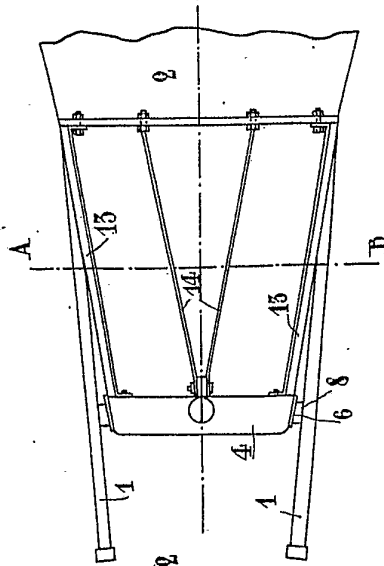


Fig. 5

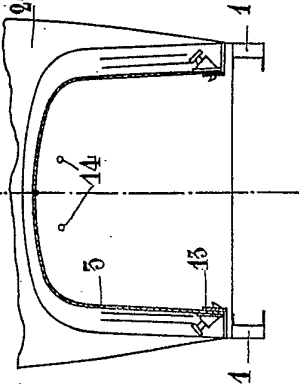


Fig. 2

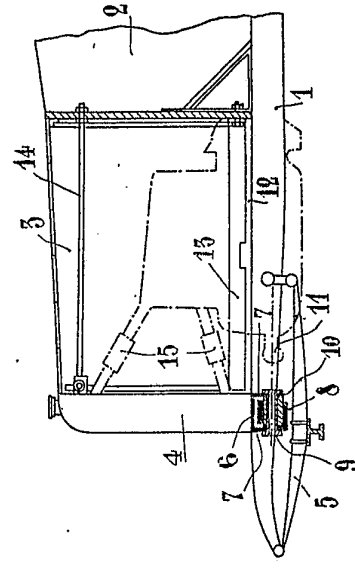


Fig. 4

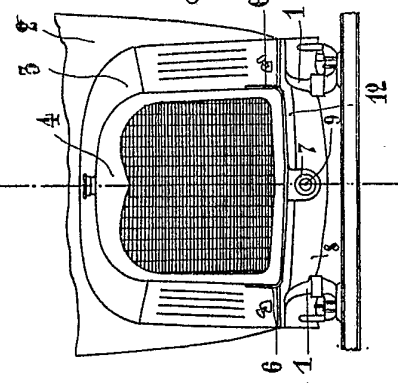
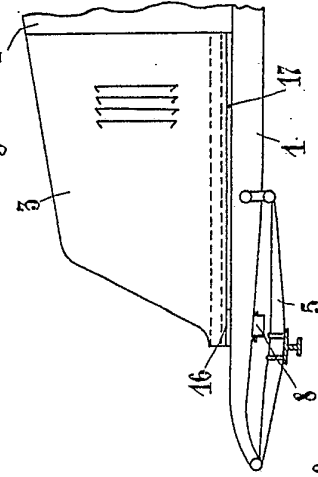


Fig. 6



[This Drawing is a reproduction of the Original on a reduced scale]