To all whom it may concern:

Be it known that I, Elmer E. Green, a citizen of the United States, residing at Frederick, in the county of Frederick and State of Maryland, have invented certain new and useful Improvements in Running-Board and Fender Supports for Automobiles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to running board supports, and more particularly stated, consists of an improved tie brace device suspended from the frame or chassis of a motor vehicle and adapted to be secured to the running boards thereof.

An object of the present invention is to provide a relatively simple and easily attached support in which the running boards are directly supported from the chassis bars and laterally braced against swinging and vibratory motion.

Another object of this invention is to produce a substantially unitary or one-piece running board support in which the tie brace carries relatively adjustable hangers or brackets provided at their upper ends with engaging hooks, and having means for properly adjusting and positioning said hangers to the side bars of the chassis.

A further object of this invention is the production of a brace comprising a tie member in the form of an angle bar having secured thereto relatively wide brackets and supporting hooks oppositely arranged with relation to each other for engaging the forwardly extending side bars of an automobile chassis.

With these and other objects in view the invention further consists in the production of a comparatively inexpensive brace having structural features and advantages herein set forth and pointed out in the appended claims.

In the accompanying drawings wherein an embodiment of my invention is disclosed, and wherein similar reference characters designate corresponding parts in the several views:

Figure 1 is a side elevation of an automobile illustrating my invention applied to the running boards, portions thereof being broken away as shown;

Figure 2 is an enlarged cross sectional view on the line 2—2 of Figure 1, showing my improved brace secured to the running boards and positioned upon the lower side flanges of the chassis channel bars;

Figure 3 is a detail perspective view of the brace detached; and

Figure 4 is a modified form of attaching bracket.

The present invention has been designed for the purpose of strengthening the running boards and adjacent fenders or mud guards of automobiles.

In some forms of automobiles it is customary to rivet the running boards to the fenders or mud guards, while still others are designed with the running boards and fenders formed integral. It frequently happens that after comparatively short usage the running boards become both bent and loosened, the relative stability of same being thereby correspondingly weakened and the general appearance of the car marred. This condition is accompanied by an unusual vibration of the parts when the machine is moving, the rattling and noise resulting from the said vibration being highly objectionable.

The present invention has been designed to overcome the aforesaid objections and comprises a transversely positioned tie brace, the ends of which are secured to the running boards, and angular brackets carried by said tie brace arranged to engage one flange of the chassis side bars of an automobile.

Referring to the drawings, an automobile is shown provided with the usual fenders 1 and running boards 2 attached thereto. Longitudinal side guards 3 are also shown as closing the space or gap in each side of the automobile between the body of the car and the running boards. The chassis bars are indicated by the numeral 4 and are formed of oppositely disposed channels, the respective side flanges 5 and 6 of which project inwardly and toward each other as shown. The chassis bars are shown as of usual construction, but it will be understood that various other shapes and designs may be used and I do not limit myself to the exact type disclosed.

The tie brace 7 is preferably of angle shape, one flange 8 being arranged in a horizontal plane and the other flange 9 being disposed vertically and having its ends cut away as shown at 10. An angle brace
of this shape is desirable in that a relatively wide supporting surface for the brackets or hangers is produced by the horizontal flange 8 and a sufficiently strong cross support is secured by the relatively thin and vertically disposed adjacent side flange 9. I do not however limit myself to this exact shape of transverse tie brace, as other forms and shapes may be substituted with equally efficient results.

The ends of the brace 7 are arranged to extend beneath and engage the under side of the running boards, and as shown are preferably secured thereto by means of rivets 11, or other suitable connecting means. In locating and applying the tie brace to the automobile, the rivets now used to connect the running boards and fenders together may be removed and longer rivets substituted. This location of the tie brace is shown in Figure 1. It will be obvious however, that the tie braces may be located at any other points beneath the running board, and I do not limit myself to the number or exact location of the tie braces shown.

Brackets or hanger supports 12 are carried by the tie brace, and as shown are formed of upwardly converging arms 13 and 14 terminating at their upper ends in engaging hooks 15. Each arm 13 is formed with an extension 16 rigidly secured at 17 to the horizontal flange 8 of the tie brace, and each arm 14 is provided with an extension 18 adjustable secured to the said flange 8. A slot 19 is formed in each extension 18 and a bolt 20 serves to secure or relatively fix the extension to the flange 8 after an adjustment is completed. This adjustment of the movable arms 14 of the angle brackets toward and away from the relatively fixed arm 13 thereof, permits of an accurate and properly tensioned engagement of the hooked end 15 with the chassis bars.

The hook 15 is preferably formed integral with the arms 13 and 14 forming the inverted V-shaped or angular brackets 12, and as shown is composed of relatively long upper and lower engaging arms 21 and 22. These arms 21 and 22 are designed to hook over the lower flange 6 of the channel chassis bar and effect a maximum engagement therewith. The arms 21 and 22 are relatively wide and as shown are of a width corresponding to the bracket arms. This construction permits of a maximum engagement of the flange of the chassis bar in transverse and longitudinal directions, and all tendencies of the connection to rattle and work loose are reduced to a minimum. If desired, inserts or filler strips may be used between the arms 21 and 22 of the hook and the flange 6.

The tie brace may be applied to the automobile by inserting the same longitudinally between the chassis bars and then swinging it transversely of the automobile. By this operation the hooks 15 will engage the flanges 6, and the end of the tie brace may be sprung under the running boards and secured thereto. The slot and bolt connection of the arm 14 may be loosened when applying the tie brace, and subsequently tightened after the proper adjustment is effected. In some cases the tie brace may be inserted transversely and the hooked ends 15 sprung over the flanges of the chassis bars and the bolts 20 then tightened to secure the tie brace in place.

When in position the angularly disposed arms 13 and 14 serve to brace the parts against lateral or swaying movement, as well as directly support the running boards from the chassis bars. This is an advantageous construction over the vertically arranged hangers now known to me, the use of which while serving to support the running boards, does not effectively brace the same against swaying.

The provision of a substantially one-piece structure wherein the brackets or brackets are carried by and fixed to the tie brace, as hereinbefore described, is also desirable.

Changes in the construction, arrangement and design of the several parts may be made commensurate with the scope of the invention, and I do not limit myself to the disclosures herein set forth, but claim as my invention:

1. A support for the running boards of automobiles comprising a tie brace of relatively wide and flat proportions adapted to extend transversely of the machine and to have its ends secured to said running boards, in combination with upwardly extending laterally adjustable flat angle brackets carried by said tie brace having oppositely and horizontally disposed hook members arranged and adapted to engage and interlock with the side bars of the chassis of an automobile.

2. The combination with the chassis and running boards of an automobile, of a transversely arranged tie brace of relatively wide and flat proportions secured to said running boards, and means including a pair of adjustable angle brackets carried by said tie brace terminating(3,5),(997,995)
in combination with upwardly extending substantially V-shaped flat hanger supports carried by said brace having oppositely arranged horizontally disposed hook members arranged and adapted to engage and interlock with the side bars of the chassis of an automobile.

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

ELMER ELSWORTH GREEN.

Witnesses:

JOHN L. BEALL,
RICHARD A. SELLY.