

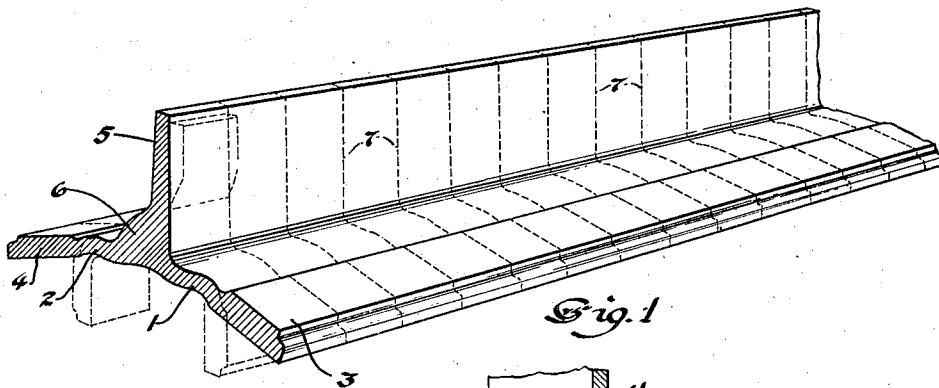
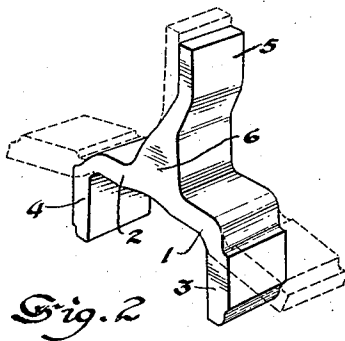
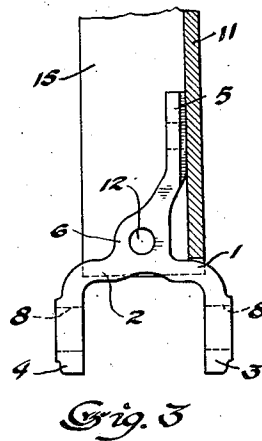
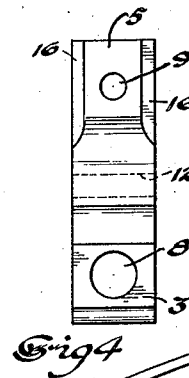
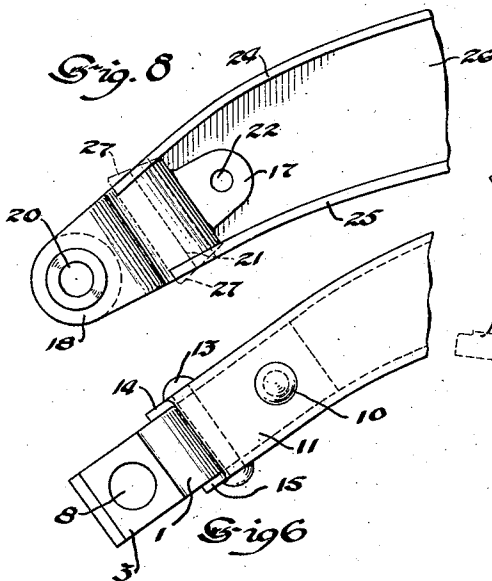
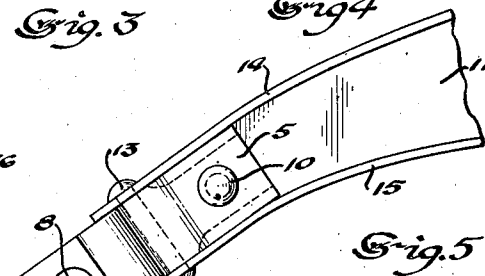
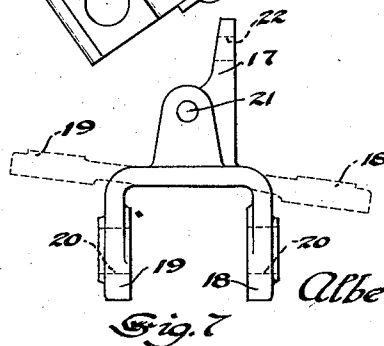
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SPRING BRACKET AND METHOD OF MAKING SAME

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SPRING BRACKET AND METHOD OF MAKING SAME

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This invention relates to spring suspension for motor vehicles and, more particularly, to an improved spring horn, or hanger bracket, and the method of making the same.

5 The invention contemplates the provision of a bracket comprising a pair of spaced ears for the pivotal mounting of a vehicle spring therebetween and a shank portion for attachment at the extremity of a longitudinally extending chassis frame member, the
10 bracket being formed by dividing a bar that has been rolled to a predetermined shape into a number of sections, each section constituting one bracket.

15 Heretofore, the general practice among manufacturers has been to either cast or forge the spring brackets and machine the castings or forgings to the desired shape. In either event, the cost is quite high and in
20 case the brackets are cast an inferior article is likely to be obtained. The principal object of the present invention is to devise a method by which the brackets may be made from rolled or forged sections, which require
25 a minimum of machining, thereby both reducing the cost and insuring a more uniform product. The invention also relates to certain details of the brackets themselves.

30 The invention will be more clearly understood upon reference to the accompanying drawing in which:

Fig. 1 is a perspective view of a bar of metal as it appears after the rolling operation.

35 Fig. 2 is a perspective view of a section that has been cut from the rolled bar and formed into the desired shape.

40 Figs. 3 and 4 are an end elevation and a side elevation, respectively, of the completed bracket.

Figs. 5 and 6 are side elevations looking in opposite directions of the bracket secured in a frame member.

45 Fig. 7 is an end elevation of a modified form of the bracket, and

Fig. 8 is a side elevation showing the modified bracket attached to the frame.

50 In the manufacture of brackets according to the present invention a bar of metal is first subjected to a rolling operation, to form

it into a tri-dentate or T-shape somewhat as shown in Fig. 1, the legs or angular flanges thereof, comprising the lateral webs 1 and 2 substantially aligned with each other and having adjacent their ends the enlarged portions 3 and 4, respectively, which later constitute the spaced ears of the bracket, and a web or leg 5, extending upwardly from the webs 1 and 2, intermediate the ends thereof, to provide the shank of the bracket.

60 The bar is also provided with an enlargement 6 in the corner between the angular webs or flanges 2 and 5, for the purpose to be later described.

65 The bar thus formed is divided or cut into a number of sections of equal width, as indicated by the series of dotted lines marked 7 in Fig. 1, after which each section is pressed or bent from the rolled shape, illustrated by the dotted lines in Fig. 2, to the
70 shape shown in full lines; that is, the web 5 is slightly offset, or moved sideways, and the portions 3 and 4 are bent down into substantial parallelism with each other, to form a pair of spaced ears. Aligned apertures or
75 holes 8 are then formed by drilling or piercing the ears 3 and 4, for the reception of a spring or shackle bolt; a hole 9 is also formed in the offset shank 5 for the passage of a fastening element or rivet 10, to secure the bracket
80 to the vertical web 11 of the channel shaped chassis frame member, and a hole 12 is provided in the enlargement 6 extending at right angles to the hole 9, for the passage of bolt or rivet 13, for the attachment of the bracket
85 with the upper and lower flanges 14 and 15, respectively, of the frame member.

To insure a snug fit of the bracket within the end of the frame member, the shank 5 of the bracket is preferably beveled or chamfered as at 16, to afford clearance at the corners or bends between the flanges 14 and 15 of the vertical web 11. As will be readily understood, the bracket or horn may be secured in either the front or rear end of the longitudinally extending chassis frame member, for attaching either a spring or spring
90 shackle.

As best shown in Fig. 6, the upper and lower flanges 14 and 15 of the frame member
100

extend for a short distance beyond the vertical web 11 and the leg or lateral web 1 of the bracket extends between the flanges and abuts or bears against the end of the vertical web 11 of the frame member, thus insuring a firm connection and serving to relieve the fastening rivets from the severity of stresses and strains, which might otherwise tend to shear the rivets, or tear and split the material of the frame member at the rivet openings.

In the modified form of the bracket shown in Figs. 7 and 8, the method of manufacture is somewhat different from that heretofore described. In this instance the brackets are individually produced by a forging operation which forms the metal into T-shape with a shank portion 17 and a pair of lateral or outwardly projecting legs 18 and 19, as shown in the dotted lines in Fig. 7. These legs are later pressed or bent into substantial parallelism after the manner heretofore referred to, to form the spaced ears between which a vehicle spring is pivotally mounted. Aligned bolt holes 20 are then formed in the ears 18 and 19 and the apertures 21 and 22 for the fastening elements are provided in the shank portion 17. The sides of the shank are also dressed down to insure a snug and even fit of the bracket between the upper and lower flanges 24 and 25 of the channeled chassis frame member 26. The portions indicated by the numeral 27 at either side of the shank and shown in dotted lines in Fig. 8, and which must be removed, are those that remain after the forging operation, because of the tapers given to the die members to permit their separation.

I claim:

1. The method of making spring hanger brackets consisting in bending the lateral legs of a member T-shaped in cross section into substantial parallelism with each other and with the shank thereof, and forming aligned apertures therein for the passage of a spring bolt.

2. The method of making spring hanger brackets consisting in angularly bending the lateral legs of a member, T-shaped in cross section, into substantial parallelism with the shank thereof to form a Y-shaped bracket.

3. The method of making spring hanger brackets of substantially Y-shape consisting in first rolling a bar of metal into substantially T-shape in cross section and thereafter bending portions of the lateral legs into substantial parallelism with the shank thereof.

4. The method of making spring hanger brackets consisting in forming a bar of tri-dentate shape in cross section, dividing the bar transversely into sections, and thereafter bending portions of each section into spaced parallelism to form ears between which a spring may be secured.

5. The method of making spring hanger

brackets consisting in rolling a bar of metal into tri-dentate shape in cross section, transversely cutting the bar into sections angularly bending a pair of legs of each section into spaced parallelism, and forming aligned apertures in said legs for the passage therethrough of a spring bolt.

6. The method of making spring horns which comprises rolling a bar of metal to provide a pair of aligned web portions, cutting said bar into transverse sections, bending the extremities of said web portions substantially into parallelism with each other to form ears, and piercing said ears to form aligned apertures for receiving a connecting bolt.

7. The method of making spring hanger brackets consisting in forming a bar of metal with laterally projecting legs, dividing the bar into sections, and thereafter bending a pair of legs of each section into substantial parallelism with each other, and forming apertures in the respective legs to accommodate the passage of fastening elements therethrough.

8. The method of making spring hanger brackets consisting in forming a bar of metal with laterally projecting legs, dividing the bar into sections, and thereafter bending a pair of legs of each section into substantial parallelism with each other, and forming aligned apertures in said pair of legs for the passage of a spring bolt therethrough.

9. The method of making spring hanger brackets consisting in rolling a bar of metal into T-shape, angularly bending the lateral legs to form a pair of dependent ears offsetting the end of the other leg to one side and forming apertures in the respective legs for attachment purposes.

10. The method of making spring hanger brackets consisting in rolling a bar of metal into T-shape, with a corner enlargement between two adjacent legs, dividing the bar into sections, angularly bending a pair of said legs into substantial parallelism and forming apertures in the respective legs and in said enlargement for attachment purposes.

11. The method of making spring hanger brackets consisting in rolling a bar of metal into T-shape, with a corner enlargement between one of the lateral legs and the shank, angularly bending the lateral legs into spaced parallel relation, bending the shank to an offset position, and forming apertures in said enlargement and shank that extend at angles to each other for the passage of fastening elements for attachment of the bracket to a frame member.

12. A rolled spring hanger bracket including a pair of spaced apertured ears for the attachment of a spring bolt, an apertured offset shank for attachment to a frame member and a corner enlargement between the shank and one of said ears, having an open-

ing therethrough extending at an angle to the aperture in the shank for the passage of a fastening element therethrough for attachment to the frame member.

5 13. A rolled spring hanger bracket including a pair of spaced apertured ears for the attachment of a spring bolt, an apertured shank and a corner enlargement between the shank and one of the ears having an aperture, the apertures in the shank and enlargement being adapted for the passage of fastening elements to secure the bracket on a frame member.

10 14. A rolled spring hanger bracket including a pair of spaced apertured ears for the attachment of a spring bolt, and a shank extending in a plane substantially parallel with said ears, and having an offset portion that is apertured for attachment with a frame member.

15 15. A rolled spring hanger bracket of substantially Y-shape in cross section including a pair of spaced apertured ears for the passage therethrough of a spring bolt, and an apertured shank for the passage of a fastening element to secure the bracket to a frame member, said ears and shank lying in substantially parallel planes.

20 16. A rolled spring horn having a flange and two aligned webs extending at substantially right angles thereto, said webs terminating in parallel ears having aligned perforations therein.

25 17. In addition to the elements of claim 16, a corner enlargement between the flange and one of said webs, said enlargement and the flange having apertures therethrough disposed at angles to each other.

In testimony whereof I affix my signature.

ALBERT W. FREHSE.