

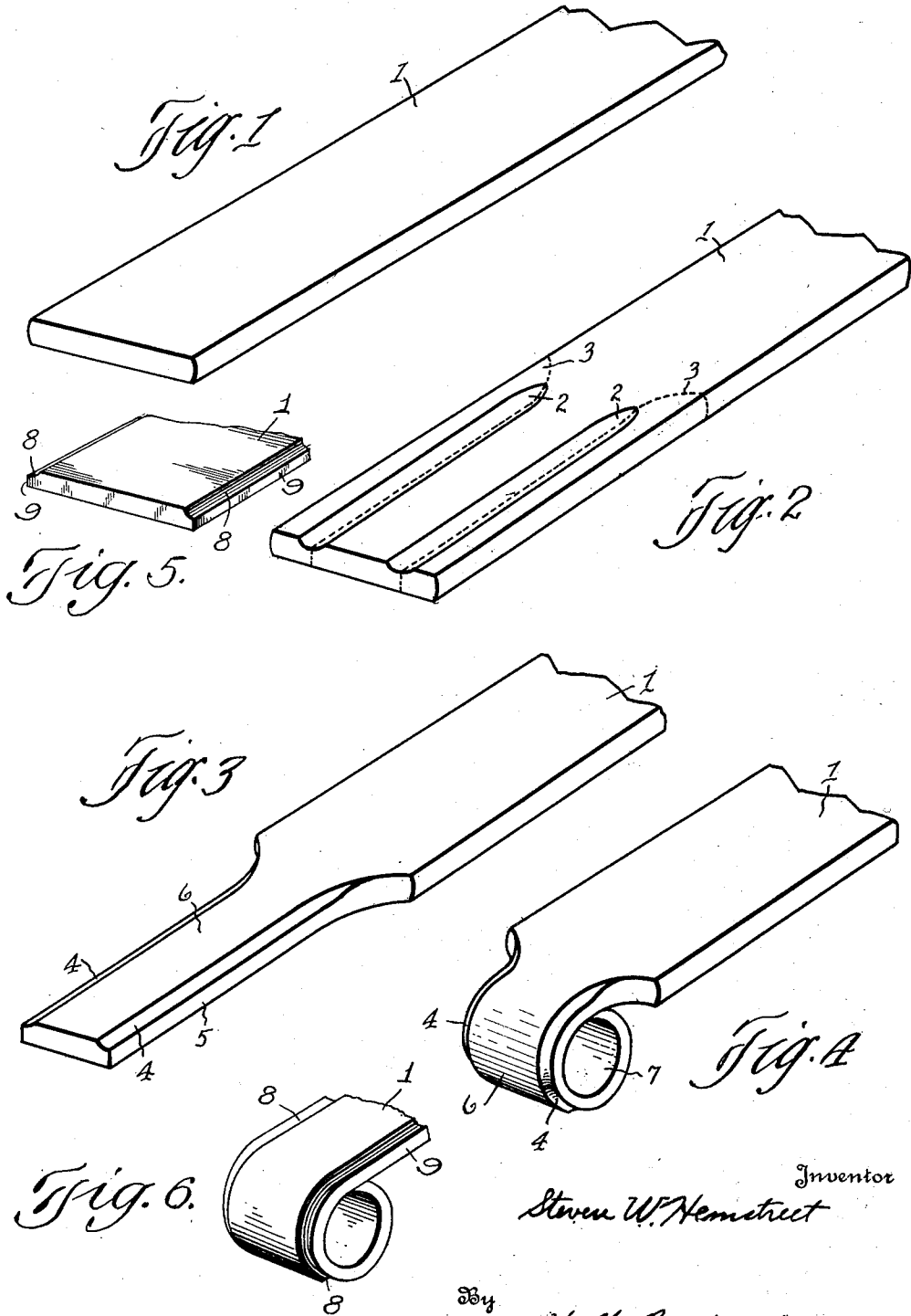
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S. W. HEMSTREET

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METHOD OF MAKING A VEHICLE BUMPER BAR

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Inventor
Steven W. Hemstreet

By
Hull, Brock and West
Attorney

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METHOD OF MAKING A VEHICLE BUMPER BAR

Steven W. Hemstreet, Detroit, Mich., assignor to
General Spring Bumper Corporation, Detroit,
Mich., a corporation of Michigan

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This invention relates to vehicle bumper construction and more particularly to the means and method for providing a suitable eye at the end of a bar whereby it may be pivotally connected to an adjoining bar.

In the production of vehicle bumpers of the general type shown in Patent No. 1,691,886, issued to Jandus and Flum November 13, 1928, wherein the space between the impact bars is narrower than the width of the rear or supporting bar, it is sometimes desirable to provide an eye of reduced width at the end of the rear bar. It is an object of the present invention to produce an eye of decreased width at the end of a bar by a novel method. Another object is to produce by an improved method a bumper bar having an eye which will result in an improved appearance when assembled with the other bars of the bumper. A further object is to produce a bumper bar having an eye with a rabbeted edge. Another object is to provide a new and novel method for constructing an eye at the end of a bar.

Further and more or less limited objects will be apparent from the following description, the drawing and from the use of articles covered by the appended claims.

In describing the invention reference will be made to the drawing wherein Fig. 1 represents a perspective view of the end of a bar in which an eye is to be formed; Fig. 2 shows a perspective view of the bar shown in Fig. 1 after the first step of the eye-forming operation has taken place; Fig. 3 shows a perspective view of the bar shown in Fig. 1 after the end of the bar has been reduced in width; Fig. 4 shows a perspective view of the bar shown in Fig. 1 upon the completion of the eye at the end thereof; Figs. 5 and 6 are views of the bar of Fig. 1 in respectively incomplete and complete stages of formation of an eye in accordance with another method.

In the several figures of the drawing the numeral 1 denotes a bar in which an eye is to be formed. The first step in forming the eye at an end of the bar 1 is to roll, or punch, the grooves 2, 2 at an end thereof. These grooves are spaced apart such a distance as to follow the desired edge of the completed eye, and are of such a depth and width as to give the desired configuration to the finished grooved or rabbeted edge. Fig. 2 of the drawing shows the bar as it would appear with the grooves cut or punched from the bar. If more convenient, the grooves may be rolled, in which event the edges of the bar opposite the grooves will be bulged outwardly by the displacement of the metal from the grooves.

The material at the outer edges of the bar is then cut away or trimmed along the dotted line indicated at 3, 3, producing a blank of the configuration shown in Fig. 3, having grooves 4, 4 in the edges 5, 5. The end 6 of the blank shown in Fig. 3 is then rolled inwardly to produce the eye 7 shown in Fig. 4. This eye 7 is adapted to receive a bolt (not shown) about which the bar 1 may pivot.

The eye resulting from these operations will be shorter than the width of the bar 1 and will have rabbeted or grooved edges as indicated at 4, thereby avoiding the roughened or sharpened edges which ordinarily result from the stamping or trimming of the edges of the bar to produce a blank of decreased width.

If it is desired to have an eye the full width of the bar 1, grooves 8 may be placed at the edges of the bar as shown in Figs. 5 and 6. By this means an eye of full length, and having the desired grooved or rabbeted edge 9 may be provided. In this method, the grooves 8 are preferably formed in any suitable manner, as by rolling, before the bar is bent into the form of an eye. It is also apparent that the shape of the grooves 2 and 8 may be varied to give the desired shape at the edges of the blanks shown in Figs. 3 and 5, thereby producing either convex, concave or beveled edges. It is further apparent that the metal may be cut away along a line other than the center line of the grooves 2, 2 if it is desired to give a different shape at the edge of the eye.

I have described this invention in its application to the formation of an eye at the end of a bar. It is apparent that it may also be applied to the formation of a loop intermediate the ends of a bar or in the formation of a section of decreased width and having rabbeted or beveled edges. Also if it is necessary to decrease the width at only one edge or to have a rabbet or bevel at only one edge, the positioning and configuration of the grooves may be varied to produce the desired result.

Having thus described my invention, what I claim is:

1. A method for constructing an eye in a bar comprising forming a groove in the bar, said groove being positioned to follow a desired edge of the eye, cutting out the material between the groove and an edge of the bar, and bending the remaining metal to form an eye.

2. A method for constructing an eye in the end of a bar comprising forming rounded grooves in the bar, said grooves being positioned to follow the desired edges of the eye, cutting away the

edges of said bar along the grooves and bending the metal between the new edges to form an eye.

3. A method for constructing an eye in a bar comprising forming parallel grooves in said bar, cutting out the metal between each groove and the adjacent edge, and bending the remaining metal to form an eye.

4. A method for constructing an eye in a bar comprising forming rounded grooves in said bar, said grooves being positioned to follow the desired edges of the eye, cutting away the metal between the center line of each groove and the adjacent edge of the bar, and bending the remaining metal to form an eye.

5. A method for forming a rabbeted edge in a bar comprising forming a groove in said bar intermediate the edges thereof and cutting away the metal between said groove and the adjacent edge.

6. A method of forming an eye in a bar comprising rolling grooves in the portion of the bar in which the eye is to be formed, cutting away the metal between the grooves and the adjacent edges of the bar and turning the remaining metal back to form the eye.

7. The method of constructing an eye of a bar, comprising the steps of first reducing the thickness of opposite marginal portions of the bar and subsequently bending the portion of the bar between said marginal portions to form an eye.

8. The method of constructing an eye of a bar, comprising the steps of first reducing the thickness of opposite marginal portions of the bar adjacent one face of the bar and subsequently bending the portion of the bar between said marginal portions to form an eye.

9. The method of constructing an eye of a bar, comprising the steps of first reducing the thickness of opposite marginal portions of the bar adjacent one face of the bar and subsequently bending the portion of the bar between said marginal portions about an axis adjacent the opposite face of the bar to form an eye.

10. The method of constructing an eye of a bar comprising the steps of forming rabbets in opposite marginal portions of the bar and subsequently bending the portion of the bar between said marginal portions to form an eye.

11. The method of constructing an eye of a bar comprising the steps of forming rabbets in opposite marginal portions of the bar adjacent one face of the bar and subsequently bending the portion of the bar between said marginal portions to form an eye.

12. The method of constructing an eye of a bar, comprising the steps of first forming rabbets in opposite marginal portions of the bar adjacent one face of the bar and subsequently bending the portion of the bar between said marginal portions about an axis adjacent the opposite face of the bar to form an eye.

13. In a method of forming a bar with an eye having a substantially annular groove in a margin thereof, the steps of forming a groove in one face of a flat end portion of the bar along and substantially parallel to a longitudinal margin of the end portion and subsequently bending said portion about an axis adjacent the opposite face of the end portion into the form of an eye with the one face outermost.

STEVEN W. HEMSTREET.

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