Dec. 8, 1942. F. J. WESTROPE 2,304,223

VISOR

Filed Sept. 4, 1941

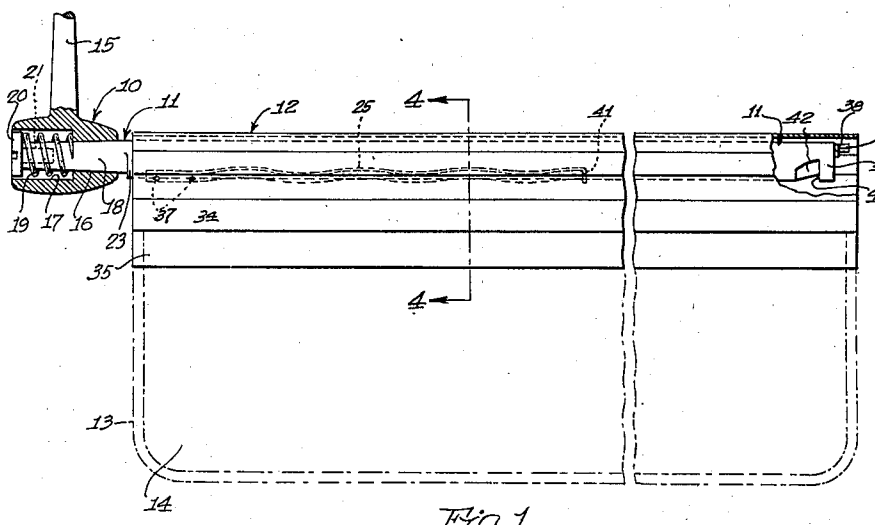


Fig. 1.

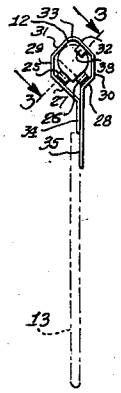


Fig. 2.

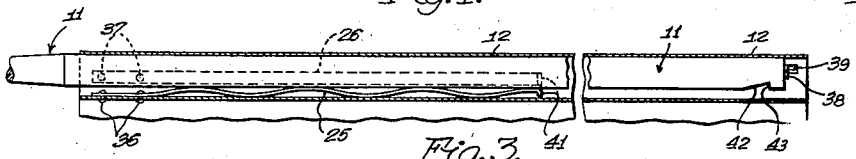


Fig. 3.

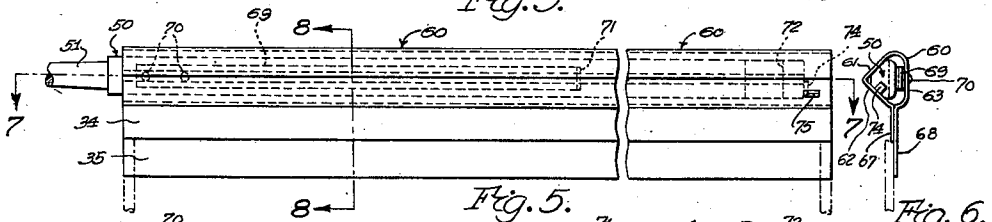


Fig. 5.

Fig. 6.

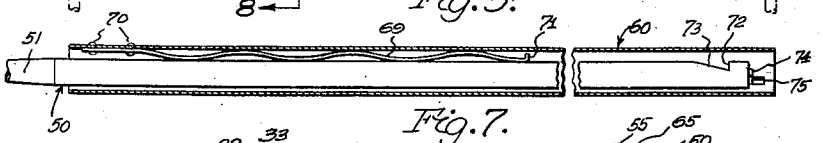


Fig. 7.

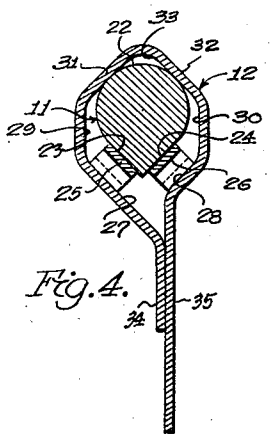


Fig. 4.

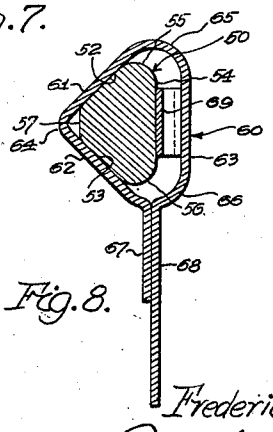


Fig. 8.

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Patented Dec. 8, 1942

2,304,223

UNITED STATES PATENT OFFICE

2,304,223

VISOR

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Application September 4, 1941, Serial No. 409,452

11 Claims. (Cl. 287—108)

This invention relates to visors or glareshields, and in particular to such devices which are capable of being adjusted laterally around an axis and also longitudinally along the axis.

One object of this invention is to provide a visor having a supporting rod and tube structure cooperating to facilitate longitudinal adjustment along the rod while impeding swinging around the rod, the latter adjustment being accomplished by means outside the tube.

Another object is to provide a visor having a supporting rod of non-circular cross-section with at least one flattened area running longitudinally thereof, this flattened area being engaged by a yielding means within the visor supporting tube so as to facilitate longitudinal adjustment while impeding lateral swinging of the tube around the rod.

Another object is to provide a visor as set forth in the preceding objects wherein the visor supporting rod has a pair of longitudinally extending flattened areas disposed at an angle to each other and engaged by yielding means within the visor supporting tube.

In the drawing:

Figure 1 is a front elevation of a visor according to a preferred embodiment of the invention.

Figure 2 is a right-hand end elevation of the visor shown in Figure 1.

Figure 3 is a longitudinal section along the line 3—3 in Figure 2.

Figure 4 is a cross-section along the line 4—4 in Figure 1.

Figure 5 is a partial front elevatiton of a modification of the visor shown in Figure 1 wherein the visor supporting rod is approximately triangular in cross-section with rounded or flattened edges.

Figure 6 is a right-hand end elevation of the modified visor shown in Figure 5.

Figure 7 is a longitudinal section along the line 7—7 in Figure 5.

Figure 8 is a cross-section along the line 8—8 in Figure 5.

In general, the visor of this invention consists of a visor-supporting rod of non-circular cross-section having a pair of flattened areas extending lengthwise thereof and at an angle to each other. The preferred form of the visor-supporting rod has the remainder of the rod of arcuate cross-section.

The rod is encircled by a visor-supporting tube having elongated spring mounted inside the tube in engagement with the flattened areas. These springs force the rod against an angular portion of the tube and provide a frictional engagement which tends to hold the visor in its adjusted position lengthwise of the rod. The visor panel is attached to the visor-supporting tube. Stops are provided between the rod and tube for limiting the motion of the tube relatively to the rod.

The end of the rod which emerges from the tube is tapered and is urged into frictional engagement with a conical bore by a coil spring within a cavity in a supporting arm which likewise contains the bore. This supporting arm has an additional tapered portion for mounting it in the usual supporting bracket attached to some suitable portion of the vehicle.

The modification of Figures 5 to 8 is generally similar to the preferred form but the visor-supporting rod is of approximately triangular cross-section with rounded or flattened edges. Two of the walls of a triangular portion are urged into engagement with the internal walls of a visor-supporting tube of approximately triangular cross-section by means of an elongated spring pressing against the third wall of the rod. The remainder of the modified construction is similar to that of the principal form of the invention.

By this construction, either in the preferred or modified form of the invention, the visor is prevented from rattling, even though subjected to considerable vibration, or while the vehicle is being driven over rough roads. The elongated springs and the peculiar cross-section of the visor-supporting rod cooperate to eliminate any such rattling at its very source. This rattling in longitudinally adjustable visors has been a serious defect in such visors of the prior art and has given manufacturers much trouble, expense and dissatisfaction arising from this defect.

Referring to the drawing in detail, Figure 1 shows a preferred embodiment of the invention as consisting generally of a visor support generally designated 10 carrying a visor-supporting rod generally designated 11, which in turn is encircled by a visor-supporting tube generally designated 12 having a frame 13 carrying the visor panel 14. The visor support 10 is provided with a tapered stem 15 projecting from the side thereof and adapted to be received in a corresponding tapered bore in a conventional bracket (not shown), such as that disclosed in the Jacobs Patent No. 2,084,584 of June 22, 1937. Such a bracket is mounted in any convenient position upon the car body, such as on the header constituting the forward part of the vehicle roof.

The visor support 10 is provided with a conical bore 16 having its axis at an angle to the axis of the tapered portion 15 and having an enlarged recess 17 coaxial therewith.

The visor-supporting rod 11 is provided with a correspondingly tapered portion 18 frictionally engaging the bore 16 and extending into the recess 17 where it is provided with a coil spring 19 having one end seated against the inner end of the recess 17 and the other end seated against the head of a screw 20 threaded into an axial hole 21 in the end of the visor-supporting rod 11. By this means the mating conical portions 16 and 18 are urged into frictional engagement with one another, so that the visor attached to the rod 11 may be adjusted by swinging it around the axis of the rod 11.

The visor-supporting rod 11 is of partially arcuate cross-section (on its upper side 22) and is provided with longitudinally-extending flattened portions 23 and 24 arranged at an angle to one another and extending lengthwise of the rod 11. The flattened portions 23 and 24 are engaged by undulating elongated springs 25 and 26 secured to the inner walls 27 and 28 of the visor-supporting tube 12. The walls 27 and 28 are approximately parallel to the flattened portions 23 and 24 and constitute extensions of the tube side walls 29 and 30 and the upper walls 31 and 32.

The upper walls 31 and 32 are likewise approximately flat and are disposed at an angle to one another, meeting along a rounded junction 33 (Figure 4). Extensions 34 and 35 of the tube walls 27 and 28 abut one another and are secured to one another in any suitable way, such as by welding. The elongated springs 25 and 26 are secured as at 36 and 37 respectively (Figure 3) to the visor-supporting tube 12.

The visor-supporting tube 12 is provided with a stop 38 struck inwardly from the material of the tube and leaving the aperture 39 in the surface thereof (Figure 1). This stop 38 engages the end 40 of the visor-supporting rod 11 and halts the visor when it has reached the limit of its travel to the left. Similarly, the bent end 41 of the spring 25 enters a notch 42 near the end of the rod 11 and engages the wall 43 therebetween, halting the visor when it is pulled too far to the right along the rod 11.

The frame 13 is secured at its ends to the visor tube portion 35 by welding or other suitable means, and serves to support the visor panel 14 mounted thereon. The latter may be attached to the visor-supporting tube by a suitable adhesive or by means of staples or other feasteners.

In operation, the elongated springs 25 and 26 yieldingly engage the longitudinally-extending flattened areas 23 and 24 on the visor-supporting rod 11 and urge the rounded portion 22 thereof into the trough formed by the tube portions 31 and 32. The engagement of the springs 25 and 26 with the flattened portions 23 and 24 prevent the rotation of the tube 12 relatively to the rod 11, yet permit the former to be slid along the latter to provide for a longitudinal adjustment. At the same time, the springs 25 and 26 are powerful enough to prevent rattling between the visor supporting rod 11 and the visor tube 12.

To adjust the visor panel 14 around the axis of the rod 11, the panel 14 is merely swung in an arcuate path, whereupon the conical end 18 of the rod 11 rotates in the conical bore 16. When the visor is released, the coil spring 19 urges the conical portions 16 and 18 into frictional engagement, holding the visor in its adjusted position. By this means, therefore, the visor is held in any desired position either around or along the axis of the visor supporting rod 11.

In the modification of Figures 5 to 8 inclusive, the visor-supporting rod 50 is of different cross-section from the visor-supporting rod 11 of the form shown in Figures 1 to 4 inclusive. The rod 50 has a conically tapered end 51 similar to the conically tapered end 18 of the rod 11 and similarly fitting into the visor support 10. The rod 50 is of approximately triangular cross section, with lengthwise flattened portions 52, 53 and 54. The longitudinal edges 55 and 56 are rounded and the longitudinal edge 57 is flattened, but may be also rounded if desired. The rod 50 is encircled by a visor-supporting tube 60 also of approximately triangular cross-section and likewise having longitudinally flattened walls 61, 62 and 63 with rounded edges 64, 65 and 66 respectively. Extension flanges 67 and 68 are joined to one another, as by welding, in a manner similar to the portions 34 and 35 of the preferred form of the invention.

The tube walls 61 and 62 are arranged at substantially the same angles to one another as the rod surfaces 52 and 53 and the latter are urged into engagement with the former by an elongated undulating spring 69 secured as at 70 to the inner side of the wall 63 of the tube 60. The end 71 of the elongated spring 69 is bent in order to engage the end wall 72 of a notch 73 near the end of the rod 50, in order to limit the motion of the visor to the right. The motion of the visor to the left along the rod is limited by a stop 74 struck out of the aperture 75 in the end of the visor tube 60 (Figure 7).

In the operation of the modification of Figures 5 to 8 inclusive, the triangular rod 50 is urged into the longitudinal trough or groove between the tube portions 61 and 62 by the elongated spring 69. The friction between the rod and tube serves to hold the portions in their adjusted positions after the tube 60 is moved along the rod 50. The adjustment of the visor panel 14 around the axis of the rod 50 is the same as that set forth in connection with the preferred form of the invention. The spring 69 urges the rod 50 into engagement with the inner walls of the tube 60 with a sufficient force to prevent rattling even when the vehicle is driven over very rough roads, yet a frictional engagement is provided which will hold the visor in position along the rod at any desired location.

While a specific embodiment of the invention has been described and illustrated, it will be understood that various modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

What I claim is:

1. In a visor, a visor-supporting rod of partially arcuate and partially V-shaped cross-section, a visor-supporting tube disposed externally of said rod having angular walls contacting said rod, and means for urging said rod into engagement with said tube.

2. In a visor, a visor-supporting rod of partially arcuate cross-section having a rib of approximately V-shaped cross-section extending longitudinally therealong, a visor-supporting tube disposed externally of said rod and having longitudinally extending flattened angular portions forming an internal groove, and means for urging said rod into said groove.

3. In a visor, a visor-supporting rod of partially arcuate cross-section having a rib of ap-

proximately V-shaped cross-section extending longitudinally therealong, a visor-supporting tube disposed externally of said rod and having longitudinally flattened portions arranged in angular relation forming an internal groove, and yielding means engaging said V-shaped rib and urging said arcuate rod portion into said groove.

4. In a visor, a visor-supporting rod of partially arcuate cross-section having longitudinally-extending flattened portions disposed at an angle to one another, a visor-supporting tube surrounding said rod having angular wall portions, and yielding means engaging said flattened rod portions and urging the arcuate portion of said rod into internal engagement with angular wall portions of said tube.

5. In a visor, a visor-supporting rod of partially arcuate cross-section having longitudinally-extending flattened portions disposed at an angle to one another, a visor-supporting tube surrounding said rod having angled walls in opposed relation to the flattened rod portions, said tube having a longitudinally disposed internal groove disposed adjacent the arcuate portion of said rod, and means engaging said flattened portions and urging said arcuate portion into said groove.

6. In a visor, a visor-supporting rod of partially arcuate cross-section having longitudinally-extending flattened portions disposed at an angle to one another, a visor-supporting tube surrounding said rod having angled walls in opposed relation to the flattened rod portions, said tube having a pair of longitudinally disposed flattened walls inclined to one another to form an internal trough, and yielding means engaging said flattened rod portions and urging said arcuate rod portion into said trough.

7. In a visor, a visor-supporting rod of partially arcuate cross-section having longitudinally-extending flattened portions disposed at an angle to one another, a visor-supporting tube surrounding said rod having angled walls in opposition to the flattened rod portions, said tube having a pair of longitudinally disposed flattened walls inclined to one another to form an internal trough adjacent the arcuate portion of said rod, and a pair of yielding elements respectively engaging said flattened rod portions and urging the arcuate rod portion into said trough.

8. In a visor, a visor-supporting rod of approximately triangular cross-section and having longitudinally-extending flattened walls disposed at angles to one another, a visor-supporting tube having flattened internal walls disposed at an angle to one another, and means for urging two of the flattened portions of said rod into engagement with the flattened internal walls of said tube.

9. In a visor, a visor-supporting rod of approximately triangular cross-section and having longitudinally-extending flattened walls disposed at angles to one another, a visor-supporting tube having flattened internal walls disposed at an angle to one another, and yielding means engaging one of the flattened rod portions and urging the other flattened rod portions into engagement with the flattened internal walls of said tube.

10. In a visor, a visor-supporting rod of approximately triangular cross-section and having longitudinally-extending flattened walls disposed at angles to one another, a visor-supporting tube having flattened internal walls disposed at an angle to one another, and an elongated spring engaging one of the flattened rod portions and urging the other flattened rod portions into engagement with the flattened internal walls of said tube.

11. In a visor, a visor-supporting rod and a visor-supporting tube of approximately triangular cross-section providing three flattened walls disposed in telescoping relationship, said rod and said tube having longitudinally flattened mating surfaces, and yielding means engaging the third side of said tube and urging said mating surfaces into engagement.

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