The present invention relates to bumpers for vehicles; and its object is, generally, to provide an improved device of that character whereby the vehicle would be protected from injuries which might otherwise result from contact with extraneous objects; and further, to provide such a device having an impact bar provided with improved strengthening means and being freely turnably mounted at its ends.

This object is attained by, and the invention finds preferable embodiment in, the structure hereinafter particularly described in the body of this specification and illustrated by the accompanying drawings, in which:

Figure 1 is a top plan view of a bumper for vehicles;
Figure 2 is a front or face view thereof;
Figure 3 is a transverse sectional view of the same taken on lines 3–3 of Figures 1 and 2; and
Figure 4 is a transverse sectional view of parts thereof taken on either of the lines 4–4 of the other views.

In the construction illustrated by said drawings, a bumper for vehicles, such as automobiles, is shown comprising horizontally-disposed spring impact bars 1 connected at their opposite ends by means of vertical pintles 2 with the supporting horizontally-disposed rear spring bar 3 which is mounted on the vehicle by suitable supports 4. In the construction illustrated the impact element comprises a pair of such bars 1, 1, the rear bar 3 extending at its ends between the adjacent ends of said impact bars. The ends of the rear bars are, in the construction shown, curved around the middle portions of the vertically-disposed pintles and thus support the same, while the ends of the impact bars 1, 1 are in like manner curved around the pintles above and below the ends of the rear bar; and swingably bear on the said pintles whenever the impact bars receive a thrust which springs the same out of normal position. These impact bars 1, 1 comprise upper and lower longitudinally-extending flat portions 5, 5 and an intermediate longitudinally-extending portion 6 which is bowed outwardly so that said intermediate longitudinally-extending portion has a cross-sectionally convex outer surface 7 and a cross-sectionally concave inner surface 8. It will be seen that this cross-sectionally bowed portion of the impact bar adds to its strength by enabling the bar to better resist deforming thrusts, while the inner surface 8 of the end portions of the impact bars which curl around the pintles, being spaced away by reason of their concave formation from the pintles, enables the impact bar upon receiving a thrust from an extraneous object to more readily turn on the pintles.

In the illustrated construction, clamping members 9, 10, connected by a screw bolt 11, serve to hold the impact bars 1, 1 in vertically spaced relation adjacent their middle portions.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinafore described.

1 claim:
1. In a bumper for vehicles: axially-vertical supporting pintles; a horizontally-disposed impact bar having ends curled around and swingably bearing on the pintles respectively, said ends having a cross-sectionally convex outer surface and a cross-sectionally concave inner surface.
2. In a bumper for vehicles: axially-vertical supporting pintles; a horizontally-disposed impact bar having ends curled around and swingably bearing on the pintles respectively, said ends comprising upper and lower longitudinally-extending flat portions and an intermediate longitudinally-extending portion having a cross-sectionally convex outer surface and a cross-sectionally concave inner surface.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 24th day of March, 1927.

HARVEY E. CLAY.