Feb. 3, 1970 T. G. ACKERMAN 3,493,213

HIGHWAY BARRIER

Filed Sept. 17, 1968

FIG. 1

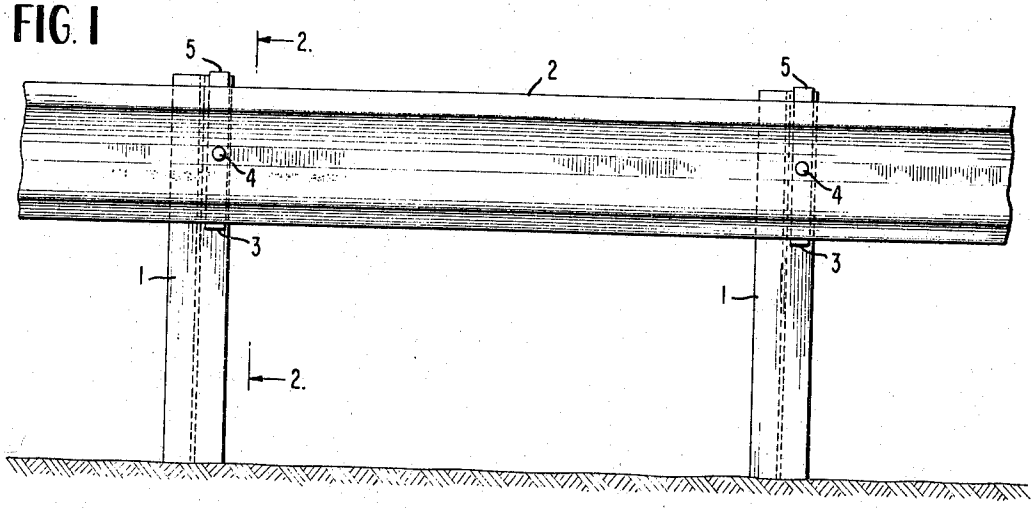


FIG. 2

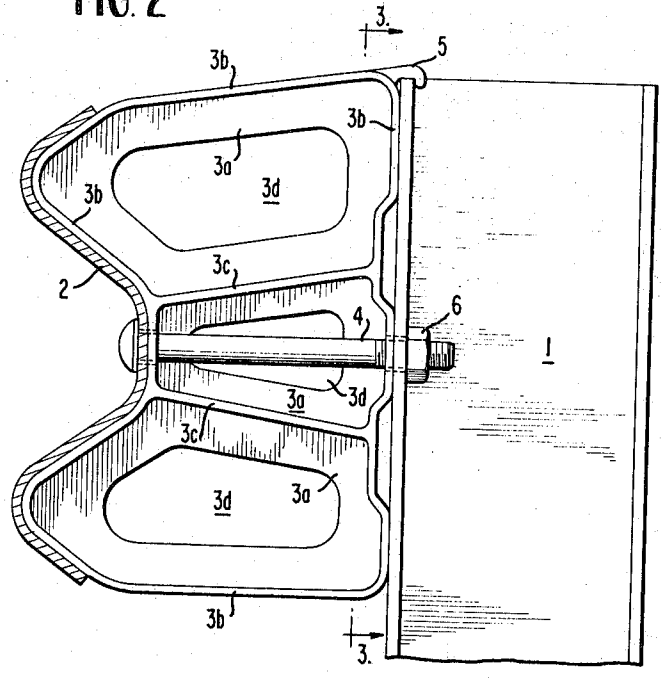
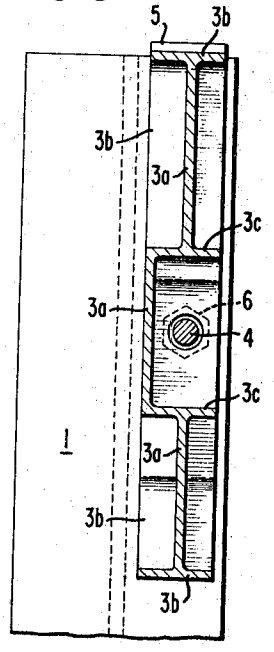


FIG. 3



INVENTOR

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3,493,213
Patented Feb. 3, 1970

3,493,213

HIGHWAY BARRIER

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Filed Sept. 17, 1968, Ser. No. 760,309
Int. Cl. E01f *15/00*; A01k *3/00*
U.S. Cl. 256—13.1 1 Claim

ABSTRACT OF THE DISCLOSURE

A highway barrier comprising a corrugated guard rail panel joined to upright supporting posts with offset brackets, each of which comprises a plate essentially vertical and perpendicular to the panel, flanged around its edges, and whose end adjacent the panel is contoured to the panel's shape. Where aligned holes are formed in the bracket's flanges, the post and guard rail panel, a single bolt may be used to connect the three together. In addition, a hook, adapted to engage the top of the post, may be mounted on the top of the bracket and, thereby, allow it to be hung on the post while the highway barrier is being erected.

BACKGROUND OF THE INVENTION

This invention relates to a highway barrier and, more particularly, to a highway barrier having offset brackets, i.e., brackets which hold a guard rail panel away from its supporting posts.

In highway barriers, offset brackets are utilized to overcome snagging of an impacting vehicle's wheels on the posts which support the guard rail panel. Usually the supporting posts are I-shaped with their flanges parallel to the highway. The offset bracket commonly used is a short I-section placed parallel to the post and having one of its flanges abutting a flange of the post. This bracket is generally connected to the post by two bolts to prevent its rotation and secured to the guard rail panel by an additional one.

However, with a corrugated guard rail panel, gaps are left between the I-shaped bracket and panel. With these gaps, there exists little resistance at the posts to deformation of the panel. Consequently, a vehicle impacting in this area causes substantial and permanent deformation.

SUMMARY OF THE INVENTION

The highway barrier of my invention joins a corrugated guard rail panel to a supporting post with an offset bracket comprising a substantially vertical plate, essentially perpendicular to the panel and flanged around its edges. The end of the bracket adjacent the guard rail panel is contoured to the panel's shape, so that deformation of the panel upon impact is limited. Also, since the bracket is flanged around its edges and no gap exists between the bracket and panel, the contoured bracket may provide a stronger post-panel connection than the conventional I-shaped bracket.

In addition, since the interlocking corrugations of the bracket and panel will prevent the bracket from rotating, my highway barrier may be erected with a single bolt passing through aligned holes in the guard rail panel, flanges of the bracket and post. Erection of the barrier may be further facilitated by using a hook mounted on the top of the bracket and adapted to engage the top of the post; this allows the bracket to be hung on the post when connecting together the guard rail panel, bracket, and post.

BRIEF DESCRIPTION OF THE DRAWING

FIGURE 1 is an elevation of a highway barrier of my invention.

FIGURE 2 is an enlarged section taken along line 2—2 of FIGURE 1.

FIGURE 3 is a section taken along line 3—3 of FIGURE 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIGURE 1 shows a highway barrier having a series of I-posts **1** embedded in the ground with their flanges parallel to the highway. The posts support a corrugated guard rail panel **2** at at fixed elevation. An offset bracket **3**, better shown in FIGURES 2 and 3, is interposed between each post and the panel. Each bracket, post, and the panel are connected together by a single bolt **4**.

As shown in FIGURE 2, the guard rail panel **2** has longitudinal corrugations which form, on its side adjacent the bracket, a convex portion located midway between its upper and lower edges and interposed between upper and lower concave portions. FIGURES 2 and 3 show each bracket **3** to comprise a vertical plate **3***a* having a flange **3** located around its edges and projecting from both sides of the vertical plate. Vertical plate **3***a* lies essentially perpendicular to the panel. One end of the bracket is contoured to, and adjoins, a vertical section of the guard rail panel. The other end of the bracket is essentially parallel and adjacent to one of the post's flanges. In the embodiment illustrated, interior bars **3***c* reinforce the bracket and apertures **3***d* are formed in vertical plate **3***a* to reduce the bracket's weight. The single bolt **4** passes through aligned holes in the convex portion of the guard rail panel **2**, flanges **3***b* of the bracket, and the adjacent flange of the post **1**. As shown in FIGURE 3, vertical plate **3***a* is displaced to one side between interior bars **3***c* to allow for passage of bolt **4**.

The use of a single bolt facilitates erection of the highway barrier as does the hook **5** mounted on the top of bracket **3**. Hook **5** is adapted to engage a flange at the top of post **1** and, thereby, allows the bracket to be hung on the post while the guard rail panel is lifted into place. Thereafter, bolt **4** and nut **6** connect the barrier together.

Since the completed highway barrier includes a bracket **3** which is contoured to the shape of the guard rail panel no gap is left between the two. This feature will limit deformation of the panel when struck by an impacting vehicle at a post. Also, because of the absence of a gap and since the bracket is flanged around its edges, the

bracket may provide a stronger connection than the normally used I-section.

I claim:

1. A highway barrier comprising a supporting post, a corrugated guard rail panel, an offset bracket between the post and guard rail panel, the bracket comprising:

a plate flanged substantially entirely around its edges and lying substantially vertical and essentially perpendicular to the guard rail panel, a first portion of said flanged plate being contoured to, and abutting, the entire vertical section of the guard rail panel, another portion of said flanged plate, oppositely disposed from said first portion, having a substantial part thereof in abutment with said post; and

means for connecting together the guard rail panel, bracket and post.

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