

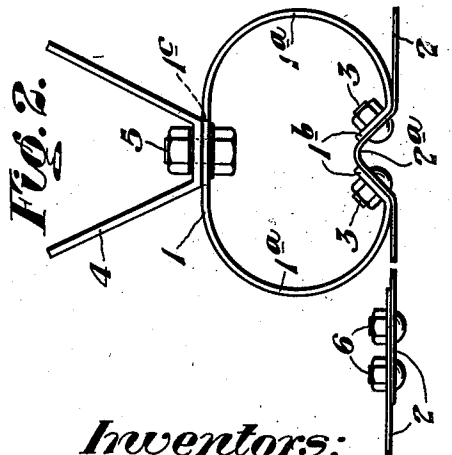
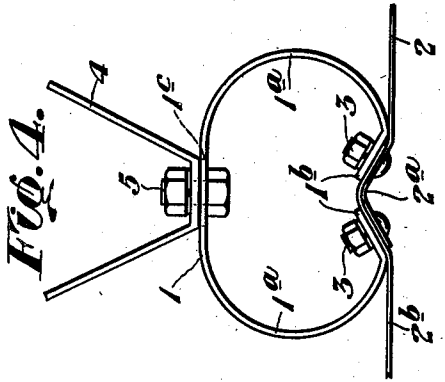
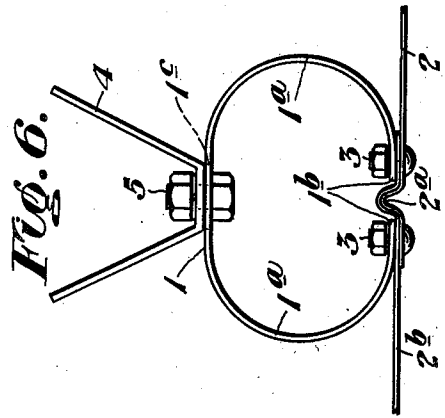
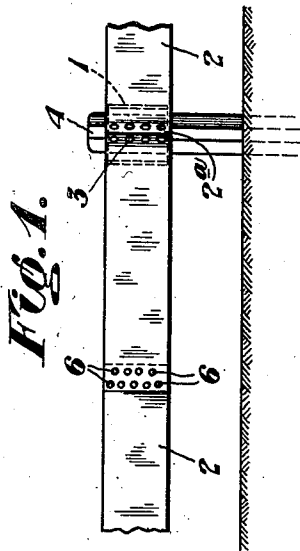
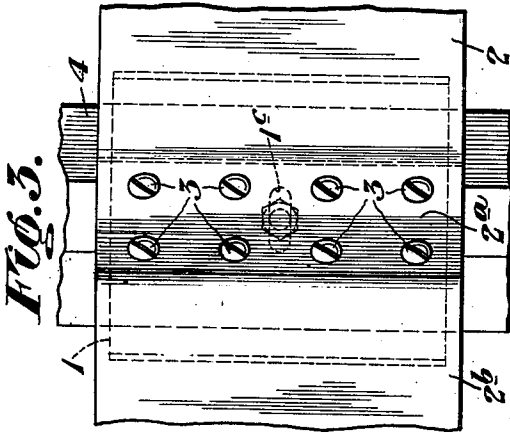
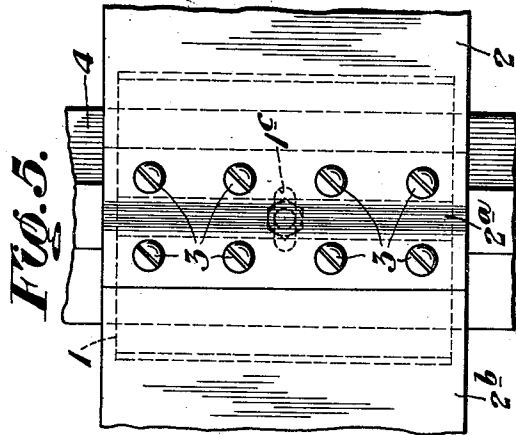
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GUARD RAIL

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GUARD RAIL

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7 Claims. (Cl. 256—13.1)

This invention relates to guard rails of the type using flat steel strips, one of the objects being to provide a simple and practical means for tensioning the strips at all times regardless of expansion and contraction caused by temperature changes. Another object is to mount the strips on their supporting posts in offset relationship. Other objects may be inferred.

Referring to the accompanying drawing:

Figure 1 is an elevation of an example of the invention.

Figure 2 is a plan of Figure 1.

Figure 3 is an elevation of another example.

Figure 4 is a plan of Figure 3.

Figure 5 is an elevation of a third example.

Figure 6 is a plan of Figure 5.

The guard rail illustrated by Figures 1 and 2 includes a flat spring member 1 that is looped at both sides of its center, as at 1^a, so as to bring its ends together. It also includes a flat metal strip 2 to which both ends of the member 1 connect at points on or adjacent to a preformed loop or kink 2^a in the same. The loop is resilient and augments the elasticity of the members 1 and 2 to form a strongly resilient expansion and shock joint. The ends of the member 1 are angled towards its center, as at 1^b, so as to lengthen the span of the loop or kink 2^a and so as to hold it in a predetermined shape. The connection between the strip 2 and the ends 1^b may be made by means of bolts 3, and the center of the member 1 may be mounted by one of the fence posts 4 by means of bolts 5 passed through slots 1^c which extend in the direction of the strip 2. The strip 2 is one of a series of strips which are spliced together by means of bolts 6.

Figures 3 and 4 show the same elements described above excepting that the strip 2 and the next adjacent strip 2^b have overlapping ends 2^c at the member to which both of the latter's ends 1^b are connected at points that are sufficiently spaced to accommodate the loop or kink 2^a.

The example shown by Figures 5 and 6 is also much the same as the first example except that the strips 2 and 2^b have overlapped ends at the member, as is the case in the second example, while the ends of the member 1 are not angled towards the center of the member but extend straight towards each other. Therefore, the loop or kink 2^a in these overlapped ends has a much shorter span and sharper bends. This example is otherwise the same as the second example.

The operation of the invention is fairly obvious. The elasticity of the member 1 tends to

preserve the loop or kink in the strip and cooperates therewith to continuously tension the various strips at all times regardless of expansive and contractive effects. The member 1 primarily functions to offset the strip from the advance post so as to prevent a colliding vehicle from striking the post.

It is to be understood that the member described is only one of many, each of which is mounted by the various fence posts so as to support the various strips of which a guard rail of this type is composed. The slots 1^c function to permit the members to accommodate possible inaccuracies resulting during the construction of the guard rail or from subsequent movement of the various fence posts.

We claim:

1. A guard rail including a flat spring metal member that is looped at both sides of its center with its ends arranged in spaced relationship, and a flat metal strip to which both ends of said member connect at points that are sufficiently spaced to provide enough strip therebetween to form a bend in the same which is normally maintained by the elasticity of said member.

2. A guard rail including a flat spring metal member that is looped at both sides of its center with its ends arranged in spaced relationship, and a flat metal strip to which both ends of said member connect at points that are sufficiently spaced to provide enough strip therebetween to form a bend in the same which is normally maintained by the elasticity of said member, and latter's ends being angled towards its center so as to lengthen the span of said bend.

3. A guard rail including a flat spring metal member that is looped at both sides of its center with its ends arranged in spaced relationship, and a flat metal strip to which both ends of said member connect at points that are sufficiently spaced to provide enough strip therebetween to form a bend in the same which is normally maintained by the elasticity of said member, the center of the latter having a slot extending in the direction of said strip and being mounted to a post by a fastening passed through said slot.

4. A guard rail including a flat spring metal member that is looped at both ends of its center with its ends arranged in spaced relationship, and flat strips having overlapped ends at said member to which both of the latter's ends connect at points that are sufficiently spaced to provide enough of the overlapped ends of said strips to form a bend in the same which is nor-

mally maintained by the elasticity of said member.

- 5 5. A guard rail including a spring metal member looped so as to have alined ends and a relatively flexible rail to which both of said ends connect at points that are sufficiently spaced to provide enough of said rail therebetween to form a loop or kink in the same which is normally maintained by the elasticity of said member.
- 10 6. A guard rail including a loop made of flat spring metal and which has portions thereof formed into an inwardly extending bend, and a flat metal guard that is fixed to said loop at

points adjacent either side of the center of said bend and which is bent to fit within the latter.

7. A guard rail including a loop made of flat spring metal formed to dispose its ends in juxtaposed spaced relation, a flat metal guard rail having a resilient offset portion disposed between said ends and fastened thereto to form an expansion and contraction joint, said resilient offset portion cooperating with said loop to tension said guard rail.

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