J. Y. McCLINTOCK.

GUARD RAIL.

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1,233,080.

Patented July 10, 1917.

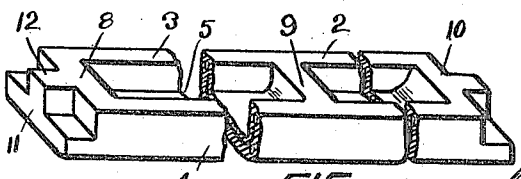


FIG. 2.

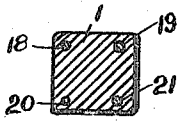


FIG. 6.

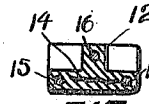


FIG. 3.

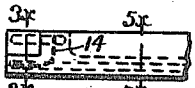


FIG. 4.

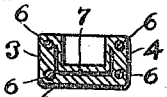


FIG. 5.

FIG. 1.

FIG. 7.

FIG. 8.

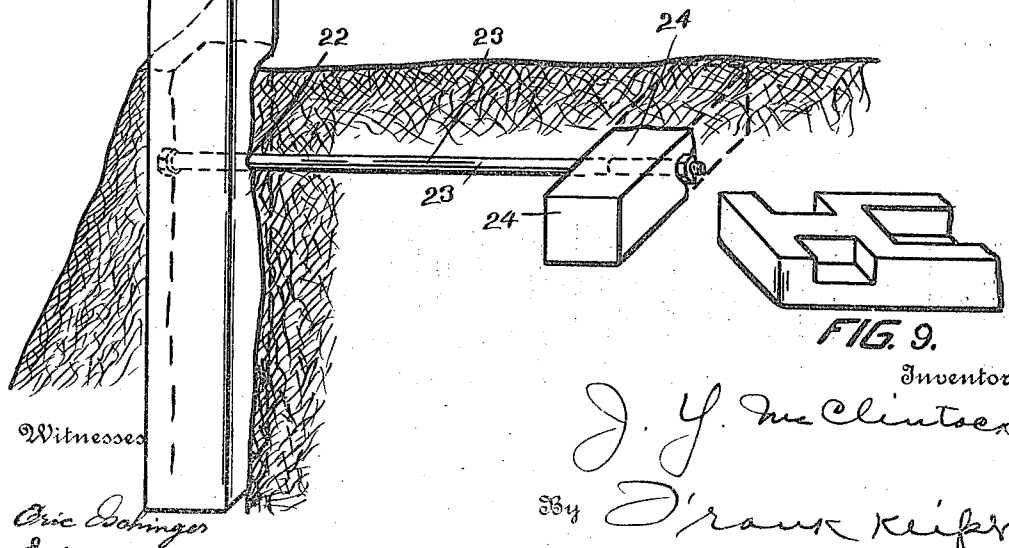


FIG. 9.

Witnesses:

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GUARD-RAIL.

1,233,080. Specification of Letters Patent. Patented July 10, 1917.

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To all whom it may concern:

Be it known that I, J. Y. McCLINTOCK, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Guard-Rails, of which the following is a specification.

The object of this invention is to provide a guard rail for highways, bridges and similar places.

Another object of this invention is to construct the guard rail in standard sections of wood, concrete or any other material of sufficient strength, providing the sections with ends that will suitably and positively engage the tops of the posts so that the sections will hold themselves firmly in place by gravity.

Another object of this invention is to construct the posts with suitable ends so that they will positively engage with the sections of the guard rails.

Another object of this invention is to reinforce the posts and guard rails.

Another object of the invention is to provide a suitable anchor for the posts that will hold it firmly in place on the side of the bank.

These and other objects of the invention will be fully illustrated in the drawings, described in the specification and pointed out in the claim at the end thereof.

In the drawings, Figure 1 is a perspective view of the posts and guard rail in place at the edge of a road, the anchor for holding the post also being shown.

Fig. 2 is a perspective view of one of the rail sections inverted.

Fig. 3 is a transverse section through the rail section on the line $3^{\times}$—$3^{\times}$ of Fig. 4.

Fig. 4 is a side elevation of the left end of Fig. 2 the reinforcings and bar being shown in dotted lines.

Fig. 5 is a vertical transverse section on the line $5^{\times}$—$5^{\times}$ of Fig. 4.

Fig. 6 is a horizontal section on the line $6^{\times}$—$6^{\times}$ of Fig. 1.

In Figs. 7 and 8 I have shown a modification of the guard rail and the post for supporting it in which case the groove on top of the post is made V-shaped instead of rectangular in cross section and the end of the guard rail is shaped to correspond.

Fig. 9 is a perspective view of end of a rail section used as a terminal.

In the drawings like reference numerals indicate like parts.

In the drawings, 1 indicates the supporting post, preferably of reinforced concrete which are set in the ground in the ordinary manner for the purpose of supporting the sections of the guard rail. 2 indicates the sections of the guard rail. These sections are formed with channels as shown in cross section in Fig. 5 and as shown in perspective in Fig. 2, said rails having the side members 3 and 4 and the top surface 5, the members being reinforced by the bars or rods 6, 6, 6, 6, which run the length thereof and by the reinforce 7 which is channel shaped and preferably of expanded metal. The sides of the channel are connected at suitable intervals and at the ends by the cross members 8, 9 and 10. On the end of the rail is provided the T-shaped projection 11, the broad horizontal part of which is intended to engage with the top of the post and the short vertical part 12 of which is intended to engage with the recess 13 in the top of the post. This T-shaped end of the rail is reinforced as is shown in Figs. 3 and 4 with an expanded metal reinforce 14 which engages with both the broad part 11 and the cross member 8 and the rods 6, 6 and 16 which also connect between the T-shaped projection and the cross member 8.

It will be understood that the opposite end of the guard rail is formed and reinforced in like manner.

It will also be understood that the T-shaped projection on the end of rail is just half of the width of the top of the post so that when two of these rails are placed end to end, the T-shaped projection will completely cover the top of the post and fill the recess 13 that runs across the top of the post. The post will be held in place by the cross members 8 by which any longitudinal movement of the rail will be positively communicated to the top of the post or the rail will be held against longitudinal movement by the post.

The post is reinforced by the rods 18, 19, 20 and 21 which run the length of the post and serve to reinforce the sides of the posts at the top of which the guard rail engages as well as the body of the post.

The post is perforated at 22 and through this perforation passes a bolt or stud 23 which also passes through the anchor block 24 which may be of concrete or any suitable

material and reinforced if desired. The rod 23 is threaded at both ends and engaged by nuts by which the block and the post are firmly tied together or it may be provided with a permanent head on one end and a nut on the other. The anchor block 24 is set preferably several inches below the surface of the roadway and a considerable distance from the post, with the anchor rod in place in the block. The post is then set in place, the anchor rod passing through it and the post is then fastened by screwing on the nut outside of the post, after which the earth may be filled in around the post and the top of the anchor block. The position of the tie rod 23 is preferably substantially parallel to the surface of the roadway under which it lies. It is also desirable to make the hole in the post for the tie rod considerably larger in diameter than the tie rod so as to allow some flexibility in the connection between the tie rod and the post. It will thus be seen that the guard rails are formed in sections having T-shaped ends on each side of which is a pocket that is closed on three sides and open on three sides and the post is formed with a forked end having a groove running longitudinally therein, the end being adapted to receive the T-shaped end of the guard rail and that the post is firmly held in place against blows from the road by the anchor rod and anchor block.

As is illustrated in Figs. 7 and 8, the ends of the guard rail may be modified so as to be provided with V-shaped downwardly extended projections, the top of the post being modified to make suitable engagement therewith.

I claim:

The combination of a fence post, abutting sections of concrete guard rails, the said rails having shoulders bearing against opposite sides of the post as well as means for engaging the post for preventing lateral displacement of said guard rails, and a subterranean anchor block disposed at one side of the line of the rails and connected to said post.

In testimony whereof I affix my signature in presence of two witnesses.

J. Y. McCLINTOCK.

Witnesses:

ERIC ISDINGER,

ALICE M. JOHANNS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."