J. A. MILLER.

PLEASURE RAILWAY STRUCTURE.

APPLICATION FILED NOV. 6, 1920.

1,415,187. **Patented May 9, 1922.**

Fig. 1.

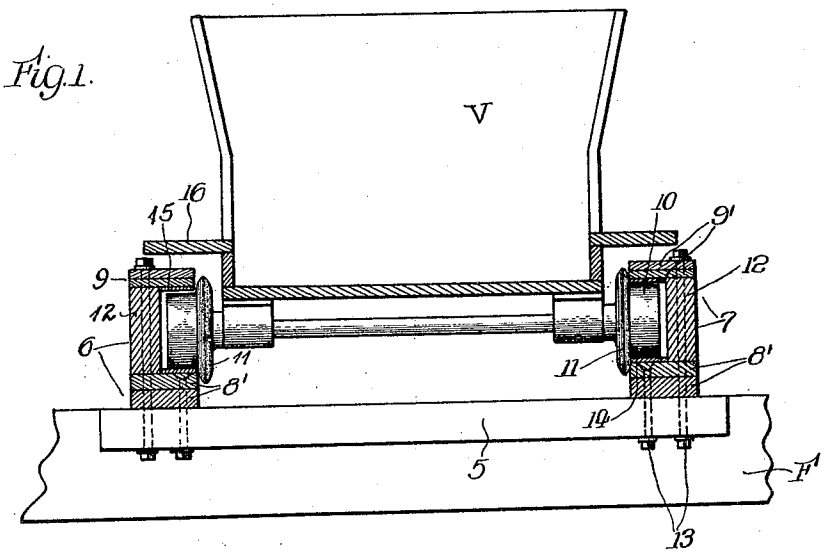


Fig. 2.

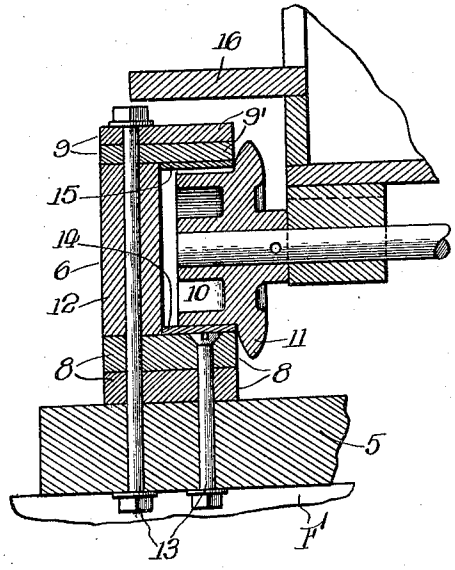
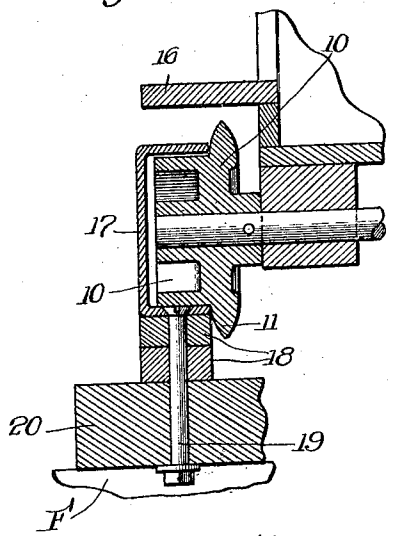


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN A. MILLER, OF HOMEWOOD, ILLINOIS.

PLEASURE-RAILWAY STRUCTURE.

1,415,187. Specification of Letters Patent. Patented May 9, 1922.

Application filed November 6, 1920. Serial No. 422,117.

To all whom it may concern:

Be it known that I, JOHN A. MILLER, a citizen of the United States, and a resident of Homewood, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Pleasure-Railway Structures, of which the following is a specification.

My invention relates to pleasure railway structures of the class disclosed in my Patent No. 1,319,888, dated October 28th, 1919, its object being to provide improved track construction and co-operation therewith of the pleasure vehicles to safe guard such vehicles against leaving the track during abrupt and sudden lateral curves and particularly vertical curves.

My improved construction and arrangement is clearly shown on the accompanying drawing in which

Fig. 1 is a vertical sectional view of track structure and a vehicle thereon,

Fig. 2 is an enlarged vertical sectional view and a corner of the vehicle and the track structure and

Fig. 3 is a sectional view showing a modified arrangement.

On the drawing F represents part of the elevated frame-work which supports the cross ties 5 on which are secured the rail structures 6 and 7 of the track for the vehicles V. The track structures shown are of channel shape with their flange members extending inwardly, the lower flange member 8 forming the main rails while the upper flange member 9 forms guard rails. The vehicle wheels 10 extend into the rail structures between the main and guard rail members thereof and have trackage on the main rails, the guard rail limiting the vertical displacement of the wheels away from the main rail. At their inner sides the vehicle wheels have the flanges 11 which by co-operating with the inner ends of the rail structure flanges limit the lateral play of the vehicles and take up the end thrust of the wheels. In Figs. 1 and 2 the rail structures are built up preferably of wood, timbers and boards, each rail structure comprising a number of boards 8′ which build up the main rails 8, the beams 12 extending upwardly from the main rails, and the boards 9′ forming the guard rail 9, the wood members being all held together and secured to the ties 5 by bolts 13. Where the rail structures are thus constructed of wood, I preferably provide wearing plates or bars 14 on the main rails and wearing plates or bars 15 on the under side of the guard rails, these wearing plates extending to the inner edges of the rails to be engaged by the vehicle wheel flanges so that these flanges will not wear away the wood. In order to lessen the frictional engagement of the wheel flanges with the wearing plates, such flanges are beveled or rounded as shown. To protect the occupants of the vehicle from the rail structures and the vehicle wheels, running boards 16 are provided which overhang the rail structures as clearly shown.

In the modified arrangement of Fig. 3 the rail structures are in the form of metal channel bars or beams 17 secured by means of their lower flanges on the built up sub rail structure 18 which is secured by bolts 19 to the ties 20. The lower flanges of these channel beam rail members form the main rails for the vehicle wheels and the upper flanges serve as guard rails for limiting the upward displacement of the vehicle, while the wheel flanges co-operate with the inner edges of the rail structures to limit the lateral play of the vehicle.

My improved construction is very simple yet highly efficient. No special bearings are required on the vehicle for supporting guard rollers, but the rail structures together with the vehicle wheel flanges taking care of the full safe guarding of the vehicles against leaving the rail structures no matter how steep and abrupt the lateral and vertical curves may be.

Where the vertical grades are steep, it is desirable to have the vehicle wheels of comparatively small diameter so that when the speed exceeds a certain limit, they will be unable to rotate fast enough and will therefore increase their frictional engagement with the rails to thereby act as brakes.

Having described my invention, I claim as follows:

1. In a railway structure of the class described, the combination of supporting framework, track rails of channel-shape cross section secured on said framework with their flanges extending toward each other, a vehicle having flanged wheels, said wheels extending into said channel rails to have trackage on the lower flanges thereof and said wheel flanges engaging with the inner ends of the rail flanges to take up lateral thrust of said vehicle wheels.

2. In a pleasure railway structure, the

combination of supporting framework, main rail members on said framework, vertical members rising from said main rail members, guard rail members on top of said vertical members and overhanging said main rail members, bolts securing said members together and to said framework, a vehicle having vehicle wheels for extending between said main and guard rail members and having trackage on said main rail member, said guard rail members limiting the upward displacement of said vehicle wheels from said main rail members, wearing plates on the opposed faces of said main and guard rail members, and flanges on said wheels for abutting against the inner edges of said wear plates to take up the lateral thrust of said wheels and to prevent lateral escape of said wheels from said main rail members.

3. In a pleasure railway structure, the combination of supporting framework, main rail members of non-metallic material on said framework, vertical members of non-metallic material rising from said main rail members, guard rail members of non-metallic material on top of said vertical members and overhanging said main rail members, bolts securing said members together and to said framework, a vehicle having vehicle wheels for extending between said main and guard rail members and having trackage on said main rail member, said guard rail members limiting the upward displacement of said vehicle wheels from said main rail members, wearing plates on said main rail members and said guard rail members, and flanges on said wheels for abutting against the inner edges of said wearing plates to take up the lateral thrust of said wheels and to prevent lateral escape of said wheels from said main rail members.

In witness whereof, I hereunto subscribe my name this 1st day of November A. D., 1920.

JOHN A. MILLER.