J. A. MILLER.

PLEASURE RAILWAY STRUCTURE.

APPLICATION FILED JULY 24, 1919.

1,319,888.

Patented Oct. 28, 1919.

2 SHEETS—SHEET 1.

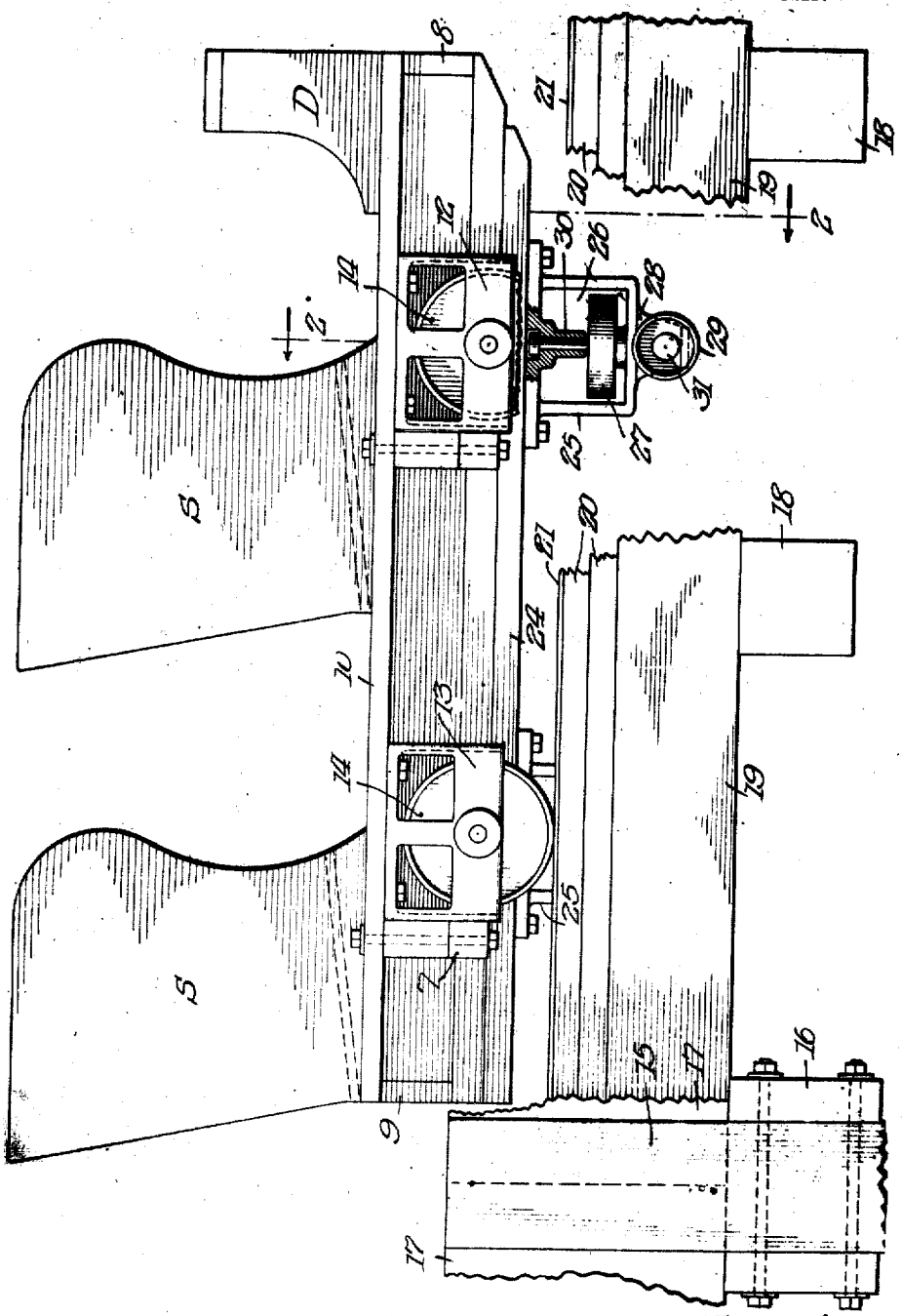


Fig. 1

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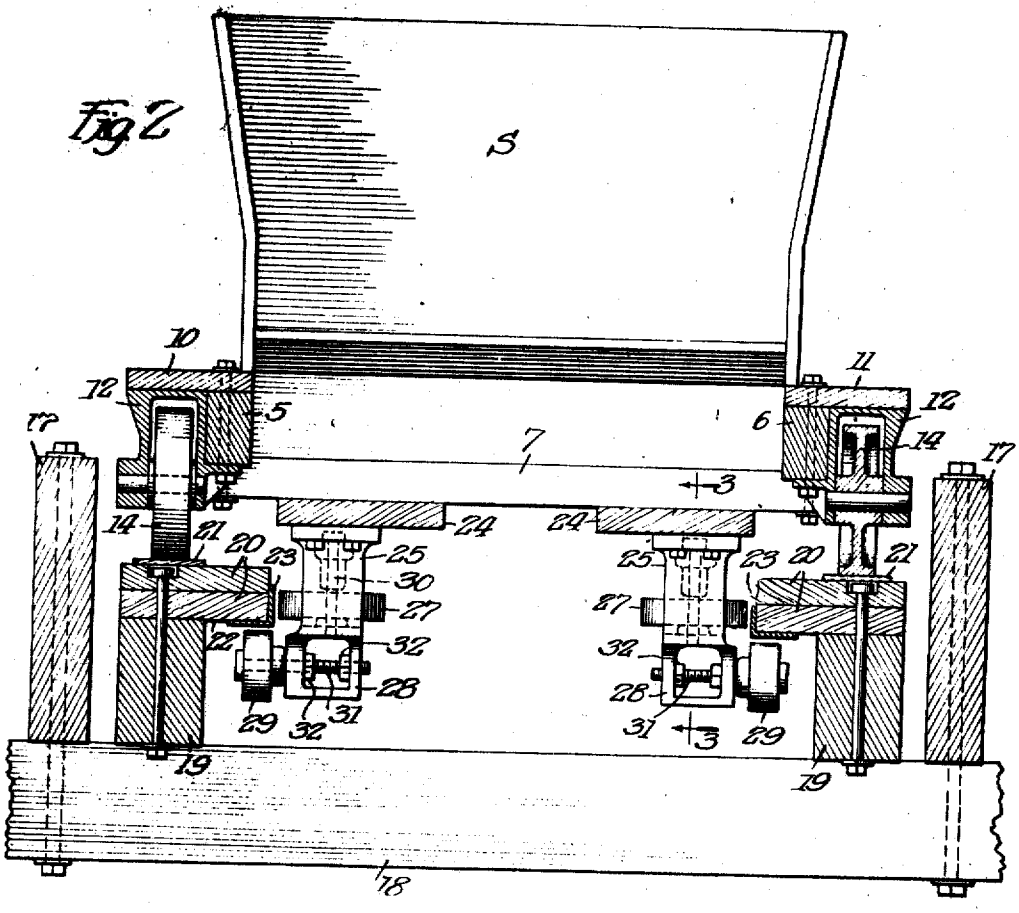
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2 SHEETS—SHEET 2.

Fig. 2



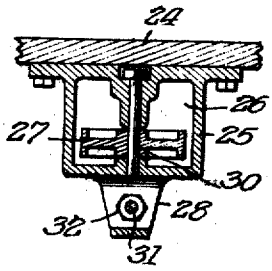


Fig. 3

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UNITED STATES PATENT OFFICE.

JOHN A. MILLER, OF HOMEWOOD, ILLINOIS.

PLEASURE-RAILWAY STRUCTURE.

1,319,888. Specification of Letters Patent. Patented Oct. 28, 1919.

Application filed July 24, 1919. Serial No. 313,010.

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 and particularly to improved construction which will make riding more sensational but which at the same time will make such riding entirely safe.

Heretofore vertical curves on pleasure railway structures have been limited on account of centrifugal force, the curves being confined within limits which will permit gravity to overcome centrifugal force sufficiently to keep the cars on the rails and the passengers in their seats. More abrupt vertical curves will be more sensational as it will give the passengers the feeling of being lifted off of their seats as the cars take the incline. The object of my invention is therefore to provide improved safety means in the track and car construction which will efficiently hold the cars to the rails laterally and vertically when the car is traveling over abrupt inclines.

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

Figure 1 is a side elevational view of a car and supporting track structure.

Fig. 2 is a sectional view on plane 2—2, Fig. 1, and

Fig. 3 is a sectional view on plane 3—3, Fig. 2.

The body of the car shown comprises side beams 5 and 6 connected together by cross beams 7 and the front and the rear end walls 8 and 9. Engaging the top of the side beams and extending laterally therefrom are the running boards 10 and 11. The body also supports a number of seats S and a dashboard structure D. Any number of seats may be provided. At the opposite sides of the car body are front and rear wheel journal frames 12 and 13, in which are journaled the vehicle supporting wheels 14.

The track supporting structure shown comprises the upright beams or pillars 15 connected together near their tops by a cross beam 16 securely bolted thereto. Set on edge on these cross beams and securely bolted thereto are sleepers 17, ties 18 being suspended at intervals from such sleepers for supporting the rail structures. The rail structures or beams comprise the lower beam 19 and the upper beam 20 securely bolted together and to the ties. These beams may be solid timbers or built up of smaller timbers or boards as desired. Secured on top of the beams 20 are the flat rails 21 on which the vehicle wheels ride. The top beams 20 overhang the lower beams 19 at their inner sides to provide under rail surface 22. Angle bar 23 is secured around the inner lower corner of the beam 20 to provide rail facings for safety rollers which will be presently described.

Secured against the under sides of the vehicle beams 7 and extending longitudinally are the supporting boards 24 for supporting the bearing brackets 25. These brackets are preferably in the form of castings and each provide an upper space 26 for accommodating a horizontal guard roller or wheel 27, and a lower section 28 for supporting a vertical guard roller or wheel 29. The roller or wheel 27 is journaled on a shaft 30 secured in the frame, and the vertical roller or wheel is journaled on a shaft 31, which extends through the lower section 28. The shaft is threaded to receive nuts 32 which engage against the inner sides of the section 28 to hold the shaft in horizontal adjustment, so that the vertical roller 29 will be in proper position for engaging with the under flange of the angle bar 23. When the car is on the track the roller 29 travels under this angle bar while the horizontal roller 27 travels along the side of the vertical flange of the angle bar. The horizontal and vertical guard rollers coöperate to hold the vehicle at all times in position to keep its wheels on the rails 21, the horizontal rollers preventing side displacement and the vertical rollers preventing vertical displacement. The vehicle is thus held to the rails under all conditions even where the vertical inclines are very abrupt. Absolute safety is thus assured while riding is made very sensational.

I do not desire to be limited to the exact construction and arrangement shown and

described as modifications are possible which will still come within the scope of the invention.

I claim as follows:

1. In a pleasure railway system, the combination of a supporting structure, track beams mounted on said structure, a vehicle having supporting wheels engaging said track beams, frames secured to the under side of said vehicle, a horizontal and a vertical roller journaled in each frame, said horizontal rollers engaging with the inner sides of said beams and said vertical rollers engaging with the under side of said beams, said horizontal and vertical rollers serving to prevent horizontal and vertical displacement of said supporting wheels from said track beams.

2. In a pleasure railway system, the combination of parallel supporting beams, track beams secured on said supporting beams and overhanging the inner sides thereof, a vehicle having supporting wheels for engaging the said track beams, bearing frames secured to said vehicle at the sides thereof, a horizontal roller and a vertical roller journaled in each frame, said horizontal and vertical rollers engaging respectively with the inner and under sides of the overhanging track beams, said horizontal rollers serving to prevent side play and said vertical rollers serving to prevent said vehicle wheels from jumping off said track beams.

3. In a pleasure railway system, the combination of rail beams, a vehicle having supporting wheels for engaging at the tops of said rail beams, horizontal rollers journaled on said vehicle for engaging with the inner sides of said rail beams to hold the vehicle against lateral displacement, said track beams having under rail surface, and rollers journaled on said vehicle for engaging with said under rail surface to prevent vertical displacement of said vehicle from said rail beams.

4. In a pleasure railway system, the combination of rail beams, a vehicle having supporting wheels for engaging along the tops of said beams, abutments on said vehicle for engaging with the inner sides of said rail beams to prevent lateral displacement of the vehicle, and other abutments on said vehicle for engaging with the under sides of said rail beams to prevent vertical displacement of the vehicle.

5. In a pleasure railway system, the combination of rail beams constructed of wood, flat rails secured on the top side of said beams, a vehicle having track wheels for running on said flat rails, said rail beams having their inner portion overhanging a distance to form under rail and inner rail surfaces, angle beams secured at the lower inner corners of said overhanging portion to form metallic facings for said under and side rail surfaces, and safety rollers journaled on said vehicle for engaging respectively with the inner and under sides of said angle beam to prevent lateral or vertical displacement of said vehicle when running on said beams.

6. In a pleasure railway system, the combination of a vehicle having supporting wheels, horizontal guard rollers and vertical guard rollers for said vehicle, and rail beams having upper rail surface for the vehicle supporting wheels, and having side and under rail surface for said horizontal and vertical guard rollers respectively.

In witness whereof, I hereunto subscribe my name this 18th day of July, A, D. 1919.

JOHN A. MILLER.