Feb. 5, 1924.

1,482,638

A. R. FERGUSSON

TOY RAILWAY

Filed April 17, 1923

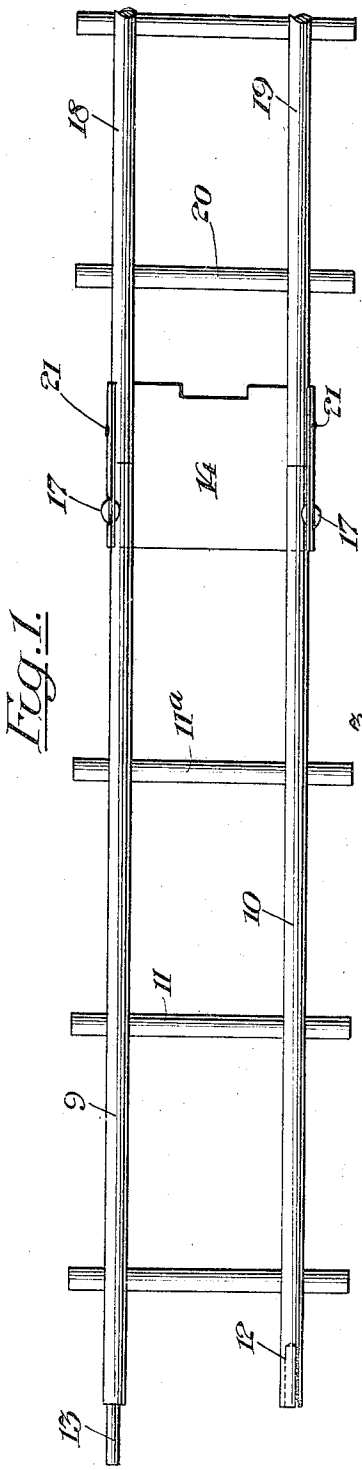


Fig. 1.

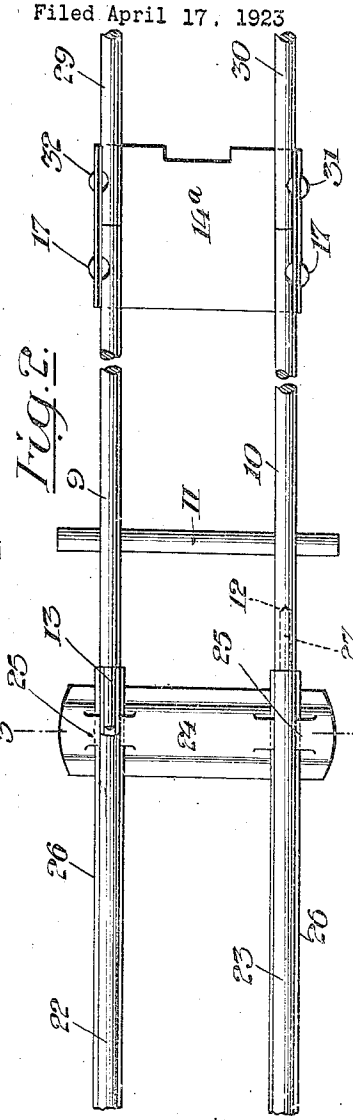


Fig. 2.

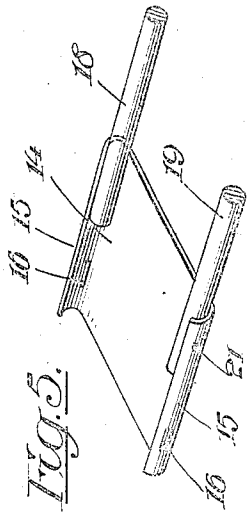


Fig. 3.

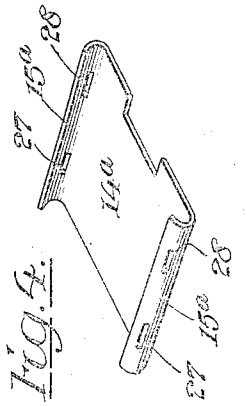


Fig. 4.

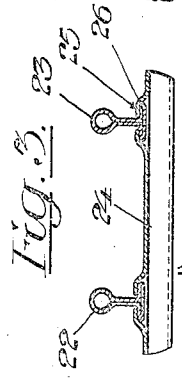


Fig. 5.

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Patented Feb. 5, 1924. 1,482,638

UNITED STATES PATENT OFFICE.

ALAN R. FERGUSSON, OF BUFFALO, NEW YORK.

TOY RAILWAY.

Application filed April 17, 1923. Serial No. 632,601.

To all whom it may concern:

Be it known that I, ALAN R. FERGUSSON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Toy Railways, of which the following is a specification.

This invention relates to toy or miniature railways, an object thereof being to provide improved means for releasably connecting together the juxtaposed ends of a plurality of toy track sections.

A further object of this invention is to provide in a toy or miniature railway a wire rail section having at opposite ends thereof different means for releasably connecting or joining said section to different kinds of toy or miniature track sections.

A further object of this invention is to provide in a toy or miniature railway, means for releasably maintaining a pair of wire rail sections end to end, such means being detachably connected to the rails of each section and forming a releasable spring joint adapted to be easily and effectively manipulated.

A further object of this invention is to provide in a toy or miniature railway improved means for detachably joining a pair of wire rail sections together and preferably forming a spring or tension joint.

A further object of this invention is to provide a toy railway section having at one end means for forming a dowel joint with an adjacent section, and means at the opposite end of the section for forming therewith a spring joint with another adjacent section.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification, wherein like reference characters indicate corresponding parts in the several views and wherein Fig. 1 is a plan view partly broken away illustrating a pair of wire track sections embodying my invention; Fig. 2 is a plan view partly broken away illustrating my invention; Fig. 3 is a cross section taken substantially on line 3—3 of Fig. 2; Fig. 4 is a detail plan view of one form of rail clamp and Fig. 5 is a detail perspective view illustrating a somewhat modified form of rail clamp, with a pair of rails secured in position.

Before explaining in detail the present improvement and mode of operation thereof, I desire to have it understood that the invention is not limited to the details of construction and arrangement of parts which are illustrated in the accompanying drawings, since the invention is capable of other embodiments, and that the phraseology which I employ is for the purpose of description and not of limitation.

The present invention comprises in general a pair of track sections preferably constructed with wire or cylindrical rails mounted upon wire or cylindrical cross ties and secured thereto as by spot-welding. Means, preferably in the form of a clamping member is provided for releasably joining the juxtaposed ends of the rail sections and forming an interlocking tension or spring joint. At the opposite end of one of the wire rail sections means is provided for forming a releasable dowel joint with an adjacent track section. As a result of this construction the wire rail section is provided with means at one end for forming a spring or tension joint, or interlocking joint with an adjacent wire rail section, and is also provided at the opposite end with means for forming a releasable dowel joint with another adjacent section. Thus, it will be seen that by means of such improved track section, the same may be utilized for interchangeably connecting wire rail sections to various kinds of track sections having dowel forming connections.

Referring to the drawings it will be seen that a wire track section is provided comprising wire or cylindrical rails 9 and 10 mounted in spaced relation upon wire or cylindrical cross ties 11, and secured thereto as by spot-welding. The wire rail 10 at one end is provided with a dowel-receiving portion 12, which may be formed either by boring a hole in the end of the rail or in the manner illustrated in my copending application, Serial No. 632,600, filed April 17, 1923. The wire rail 9 terminates at the corresponding end thereof in a reduced or dowel end 13, which may be formed by turning down the end of the wire, or in any other suitable manner. The opposite ends of the wire rails 9 and 10 extend freely beyond the wire tie 11^a a sufficient distance to form spring ends.

For releasably joining the ends of a pair of sections, a guide clamp 14 is provided, which may be bent up from a piece of sheet

metal or coiled at the opposite edges thereof to form curved rail-receiving portions 15. The bent up edges 15 are provided with oppositely located openings or slots 16, and the free spring ends of wire rails 9 and 10 are provided with laterally projecting lugs 17 which are preferably pinched from the metal of the rails. The adjacent track section preferably comprises wire or cylindrical rails 18 and 19 mounted upon wire cross ties 20 and preferably secured thereto as by spot-welding. The ends of the rails 18 and 19 are located in the curved guide portions 15 and are preferably, as shown in Figs. 1 and 5, spot-welded thereto as at 21.

It will readily be seen from this construction that the rails 9 and 10 may be easily connected to the clamp plate 14 by contracting the ends thereof sufficiently to permit the lugs 17 to clear the guide portions 15 and spring into the openings 16, and by contracting the rails the spring or tension joint may be easily broken.

As illustrated in Fig. 2 the rails 9 and 10 are releasably connected in the same manner to a clamp plate 14^a, which however in this instance is constructed with partially coiled rail-receiving portions 15^a having two pairs of openings 27 and 28. The rails 9 and 10 are joined to the plate 14^a by contracting the rails and springing the lugs 17 into openings 27. The adjacent track section in this instance, is connected to the clamp 14^a in the same manner, and the wire rails 29 and 30 thereof are therefore provided with lugs 31 and 32 adapted to be sprung into the openings 28 by contracting the rails 29 and 30.

It will be seen from this construction that the detachable clamp plate 14^a is adapted to releasably join the several wire rail ends under tension, or in other words, forms a spring connection, not only with the rails 9 and 10, but also with the rails 29 and 30. This improved spring joint between the ends of a pair of sections is advantageous for the reason that all the ends of the wire track sections may be made uniform thereby giving the child greater latitude in using the track sections with crossovers, switches, and various combination systems. Furthermore, by means of the detachable clamp for connecting under tension all of the rail ends, uniformity of construction is obtained which results in a decrease in cost of production.

By virtue of the means 12 and 13 for forming a dowel joint, it will be further seen that the wire rail sections may be interchangeably used with other forms of track sections having dowel connections. As illustrated therefore, in Figs. 2 and 3, this wire rail section is connected to a track section comprising rails 22 and 23 bent or formed up from sheet metal. These rails are mounted upon suitable cross ties 24 also formed up from sheet metal, and having tongues or lugs 25 struck up from the metal of the cross tie and securely bent over the flanges 26 of the rails 22 and 23. The rail 22 is hollow, thereby forming a means at its end for receiving the dowel 13. The rail 23 is provided at its end with a dowel 27 which is inserted in the hollow sheet metal rail and held therein, this dowel being adapted to extend into the tubular end 12 of the wire rail 10. From this construction it will be seen that the wire rails 9 and 10 are provided at one end with means for forming a spring joint with another wire rail section, and are provided at the opposite end with dowel means 12 and 13 for interchangeably connecting the same to the rails of various forms of track sections, such as the sheet metal rails 22 and 23. By virtue of this construction therefore, the latitude of use of the wire rail section is greatly increased, thereby considerably extending the range of adaptation thereof and hence increasing its utility.

It is to be understood that by describing in detail herein any particular form, structure, or arrangement, it is not intended to limit the invention beyond the terms of the several claims or the requirements of the prior art.

Having thus explained the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the modes of its use, I claim:

1. In a toy railway, the combination of a pair of track sections, and means for releasably connecting said sections together, said means having a releasable connection with each section and including means for forming a spring joint between the sections.

2. In a toy railway the combination of a pair of track sections including wire formed rails, and detachable means for releasably connecting said sections together.

3. In a toy railway the combination of a pair of wire rails, and detachable means for releasably joining said rails end to end.

4. In a toy railway the combination of a pair of track sections, and means comprising a clamp adapted to be detachably connected to said sections and forming a releasable spring joint.

5. In a toy railway the combination of two pairs of wire rails, and means for maintaining said rails end to end and detachably connected to each thereof.

6. In a toy railway the combination of two pairs of wire rails, and means for maintaining said rails end to end, said means having detachable interlocking connection with all the rails.

7. A toy railway section including a wire rail having a lug adjacent to one end thereof and a dowel at the opposite end thereof.

8. A toy railway section including a wire rail having a lug adjacent to one end thereof and a dowel receiving portion at the opposite end thereof.

9. A toy railway section comprising wire supporting means and wire rails carried thereby, said section having at one end means for forming a dowel joint with an adjacent section, and means at the opposite end of said section for forming therewith a spring joint with an adjacent section.

10. A toy railway section comprising supporting means and a pair of wire rails carried thereby, said rails having at one end means for forming a dowel joint with an adjacent section, and means at the opposite end of said rails for forming therewith an interlocking joint with an adjacent section.

11. A toy railway section comprising supporting means and rails carried thereby, said section having at one end means for forming a dowel joint with an adjacent section, and means at the opposite end of said section for forming therewith a spring joint with an adjacent section.

12. A toy railway section comprising a pair of cylindrical rails having at one end means for forming a dowel joint with an adjacent section and having the opposite ends thereof forming free spring ends.

13. In a toy railway the combination of a pair of rails located end to end, means for joining the same together under tension and comprising a clamp adapted to be releasably interlocked with each rail.

14. In a toy railway the combination of a pair of rails located end to end, means for joining the same together under tension and comprising a clamp adapted to be releasably interlocked with each rail, said clamp and rails having one an opening and the other lugs extending thereinto.

15. In a toy railway the combination of wire formed supporting means and wire formed rails carried thereby, one of said rails having a free spring end and one thereof having a dowel end.

16. In a toy railway the combination of wire formed supporting means and wire formed rails carried thereby, one of said rails having a free spring end and one of said rails having a dowel-receiving end.

17. A toy railway section comprising wire ties and wire rails connected thereto, said rails having at one end means for forming a dowel joint with an adjacent track section, and having at the opposite end means for forming a spring joint with an adjacent track section.

18. In a toy railway the combination of a wire formed track section and a sheet metal track section, said sections having cooperating means for releasably joining the same together.

19. In a toy railway the combination of a wire formed track section and a sheet metal track section, said sections having cooperating dowel means for releasably joining the same together.

20. In a toy railway the combination of a pair of track sections, one thereof including a wire rail and the other including a sheet metal rail, and means for joining said rails together.

21. In a toy railway the combination of a wire rail and a tubular metal rail located end to end, and means for releasably joining said rails together.

22. In a toy railway the combination of a pair of track sections including wire ties and wire rails, and means for joining said sections together and detachably connected to each thereof.

23. In a toy railway the combination of a pair of track sections each including wire ties and wire rails welded thereto, and means for joining said sections together and detachably connected to each thereof.

24. In a toy railway the combination of two pairs of rails located end to end, and means for releasably joining the same together and comprising a clamp adapted to be detachably connected to all of said rails.

25. In a toy railway the combination of three track sections adapted to be located end to end, spring means for releasably joining one pair of said sections, and means for forming a dowel joint between the other section and one of said pair of sections.

26. In a toy railway the combination of a pair of track sections including each a wire rail having a free spring end, and means for connecting said ends together in substantial prolongation.

Signed at Buffalo, N. Y., this 12th day of April, 1923.

ALAN R. FERGUSSON.