

May 19, 1931.

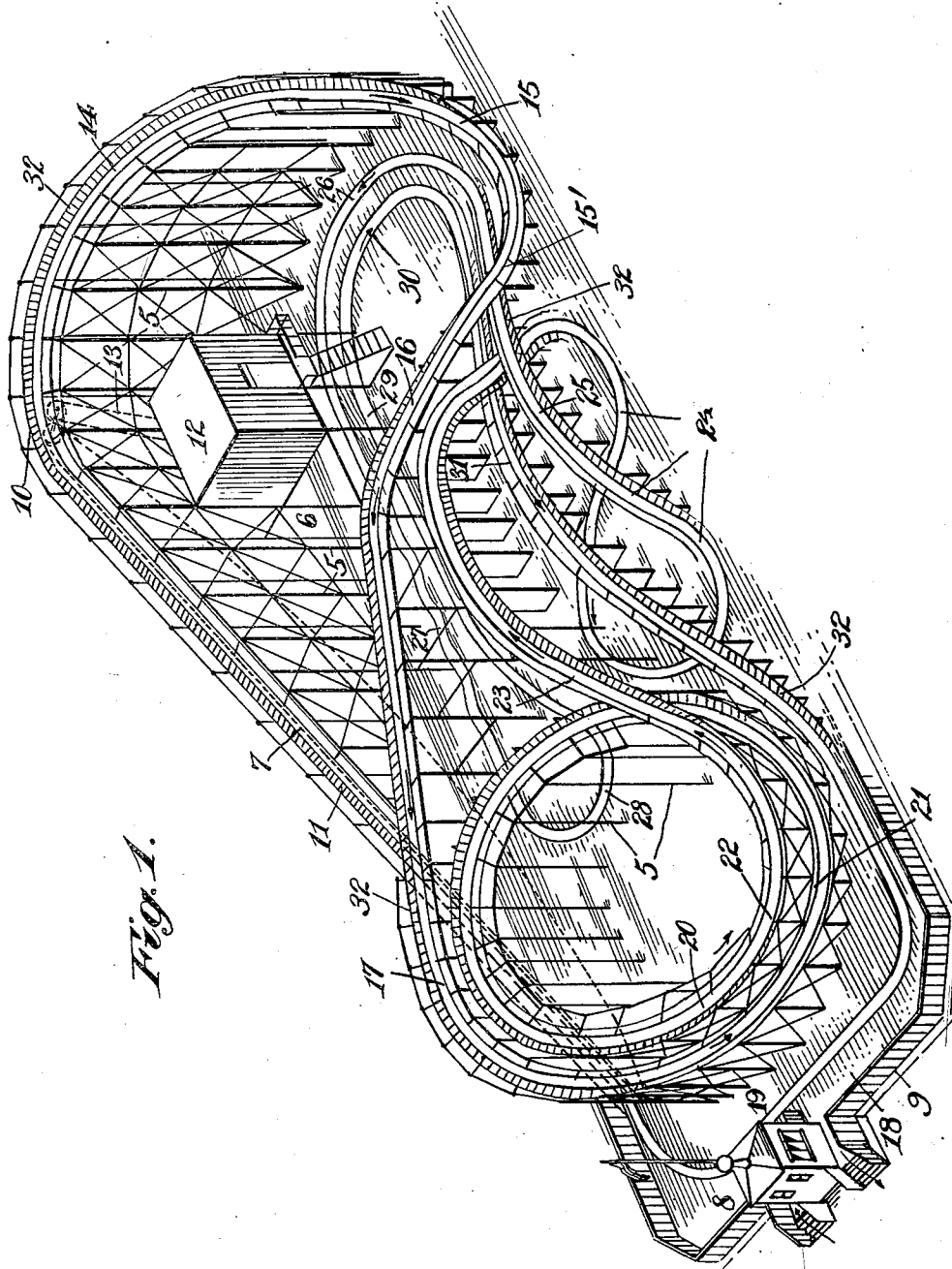
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1,806,102

AMUSEMENT RIDE

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2 Sheets-Sheet 1



*Fig. 1.*

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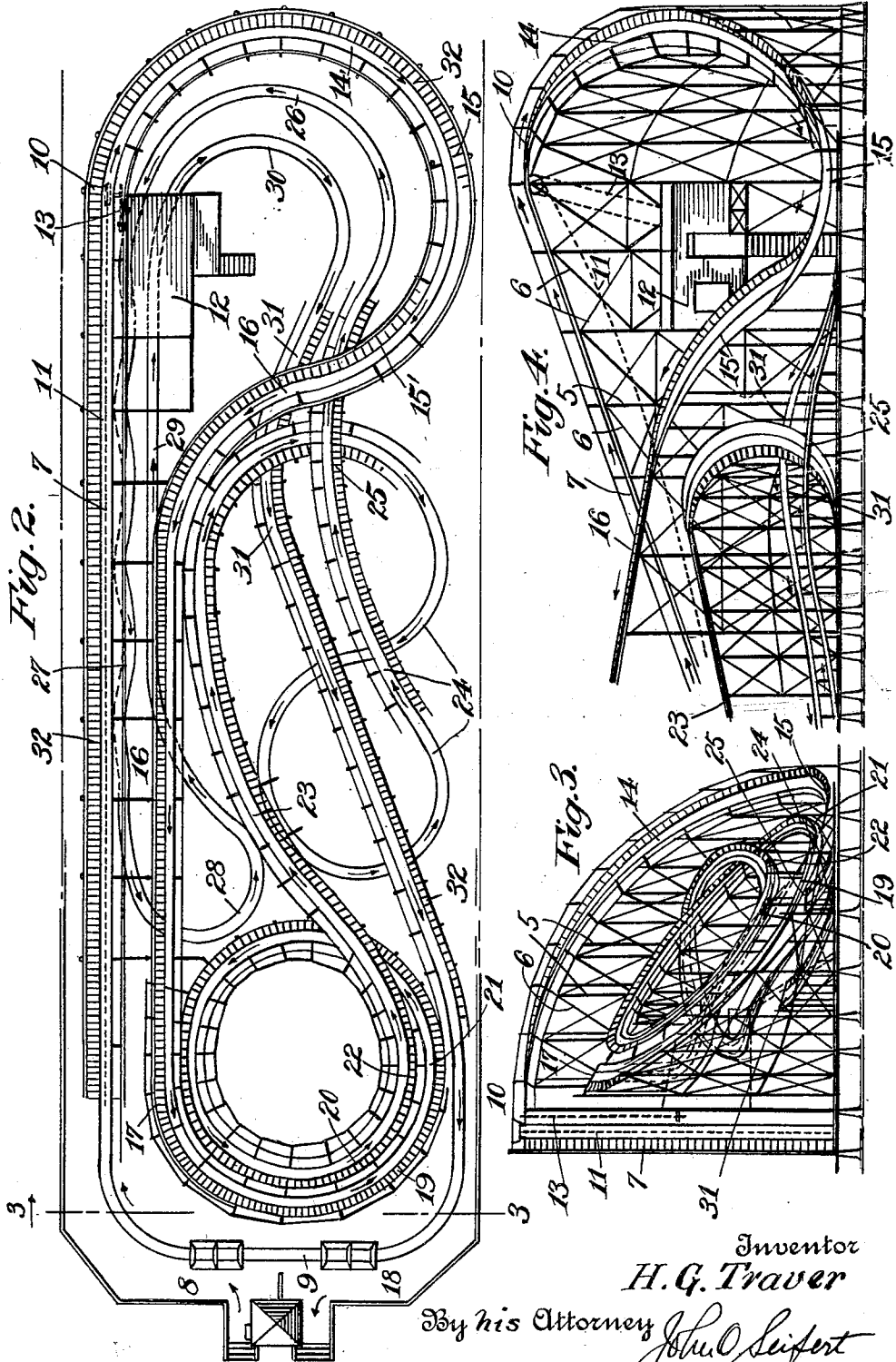
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## UNITED STATES PATENT OFFICE

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## AMUSEMENT RIDE

Application filed September 20, 1928. Serial No. 307,246.

This invention relates to amusement rides, and while it is particularly adapted to amusement railways which are commonly termed "coaster railways" wherein the passenger carrying cars are propelled up an uptrack section of a track structure and then propelled by gravity from the top of such uptrack section to the place of commencement, it is also adapted to amusement railways wherein the cars are propelled under power means around the entire track structure, and it is the object of the invention to provide an improved and novel arrangement of track structure wherein patrons will be subjected to successive thrills for the entire period of the ride, and to provide a structure to take up a minimum of ground space.

In the drawings accompanying and forming a part of this application Figure 1 is a perspective view of an amusement railway illustrating an embodiment of the invention.

Figure 2 is a plan view.

Figure 3 is a view taken substantially on the line 3—3 of Figure 2 looking in the direction of the arrows; and

Figure 4 is an elevation of the right hand end portion of Figure 2 and looking at the bottom of said figure.

In carrying out the invention there is provided a track supporting structure of structural steel, comprising columns 5 of angle shape in cross section although other forms may be used, said columns being braced by strap or angle iron, as shown in a general way at 6, and supported upon a suitable base or foundation, such as concrete, with interposed metallic plates.

A continuous track of suitable structure is mounted upon the supporting structure by ledgers or track rail supporting ties mounted and secured upon the supporting structure, the ledgers for certain portions of the track being arranged in a horizontal plane while others are arranged at varying angles to the horizontal to bank the track at progressively varying angles in the track passing around curved and circular sections of the structure.

The supporting structure is so constructed and arranged as to form a substantially rec-

tangular or oblong structure in plan and take up a minimum amount of ground space, and comprises an uptrack or ascending section 7 extending from a loading portion 8 of a loading and unloading station arranged adjacent to a low and level section 9 of the track at one end of the structure, said uptrack section being arranged at one side and extending from end to end of the structure and to the highest point 10 in the structure. The passenger carrying cars (not shown) are propelled up said ascending track section by a chain 11, shown in a diagrammatic manner in dotted lines, passing around sprocket wheels at the bottom and top of said ascending section and actuated from suitable power means, which may be arranged in a housing 12 and operatively connected with the upper sprocket wheel by a chain, as shown in dotted lines 13.

A declivous track section 14 descends from the high point 10 transversely of the end of the structure to the opposite side and at the bottom merges in a curved portion 15 leading to an uptrack or ascending track section 16 extending diagonally of the structure and inclining in a direction opposite to that of the uptrack section 7 with a highest point 17 above the bottom of said uptrack section 7. The track passing around the curved portion 15 is banked, the inclination of such banking of the track progressively increasing from the entrance portion of the track to said curved portion with the track banked at its greatest inclination at the sharpest point of the curve, and the inclination of the banking progressively decreasing as the track passes out of said curved portion and banked in the opposite direction as it enters, as at 15', into the ascending section 16 of the track, the rail track supporting ledgers in such latter section of the track being arranged in a substantially horizontal plane.

The track structure from the high point 17 of the ascending track section 16 follows a declivous sinuously arranged track structure leading to the unloading portion 18 of the loading and unloading station, and embodying a looped section comprising a series of loops, shown as two in number 19 and 20,

evolved about an axis intermediate the perpendicular and horizontal with the one loop 20 within and below the loop 19, forming substantially a spiral. The track of the loop sections 19, 20 are also banked in a direction toward the axis of the loops, the greatest inclination of such banking being at a low portion of each section and substantially at the curved portions indicated by 21 and 22. The track at the high points of said sections is substantially in a horizontal plane and the inclination of the track banking progressively increases to the portion of greatest inclination, and the inclination of the track banking in passing out of said banked track portion of greatest inclination progressively decreases in inclination.

From the looped section the track leads to an ascending track section 23 which passes over an ascending portion where the track enters into the loop 20, the track advancing and descending thence to a track section 24 in the form of a figure eight arranged at the side of the structure opposite to the uptrack section 7, the loops of which figure eight section are evolved about substantially vertical axes. The track at the terminal portion of the figure eight sections ascends slightly, as at 25, passing over the track at the entrance to the figure eight section and under the uptrack section 16 to the end of the structure where the descending track section 14 is arranged and curved within said end of the structure, as at 26, and leads to the opposite sides of the structure and then to a section 27 arranged in parallel relation to the uptrack section 7, when the track is curved reversely, as at 28, to extend in parallel relation to the section 27, as at 29, to a curved section 30 arranged concentrically with the curved section 26 and then leading to an ascending section 31 extended below the ascending section 16, and the descending portion leading from the ascending section 23 where it enters into the figure eight section, when the track descends to the unloading portion of the loading and unloading station.

The parallel track sections 27, 29 are arranged in a substantially horizontal plane, and the rails of such track sections may be undulated, only the track section 27 in the present instance being so arranged, which undulations may be in an up and down direction or in a lateral direction and as the car passes over such track section an up and down or lateral undulating movement is imparted to the car.

A walk 32 is arranged in parallel relation to the track for the entire length thereof with a hand rail mounted on the supporting structure adjacent to the walk.

Having thus described my invention I claim:

1. In an amusement railway, a continuous

track having a loading and unloading station, an uptrack section extending from the loading station, a descending section leading from said uptrack section to a section interposed between said descending section and the unloading station and arranged with successive loops evolved about a common axis intermediate the perpendicular and horizontal.

2. In an amusement railway, a continuous track having a loading and unloading station, an uptrack section extending from the loading station, and a descending section leading transversely from and then substantially parallel to said uptrack section to an ascending track section entering into the highest portion of a declivous track section leading to the unloading station.

3. In an amusement railway, a continuous track having a loading and unloading station, an uptrack section extending from the loading station, a descending section leading from the uptrack section, and a declivous section arranged with an ascending portion leading from the descending section to a flat sinuous track portion interposed between the ascending portion and the unloading station.

4. In an amusement railway, a continuous track having a loading and unloading station, an uptrack section extending from the loading station, a curved descending track section leading from the top of the uptrack section, an ascending track section leading from the bottom of the descending curved track section, and a declivous sinuously arranged section leading from the top of said ascending section to the unloading station.

5. An amusement railway as claimed in claim 4, wherein the declivous sinuously arranged section embodies successive loops evolved about a common axis intermediate the perpendicular and horizontal.

6. In an amusement railway, a continuous track having a loading and unloading station, an uptrack section extending from the loading station, a declivous looped section leading from the uptrack section, a section in the form of a flat figure eight leading from said declivous section to a sinuously arranged section connected to the unloading station.

7. An amusement railway as claimed in claim 6, wherein the looped section comprises a curved descending portion leading from the top of the uptrack section and an ascending portion leading from the bottom of the descending portion toward and then parallel but inclined in the opposite direction to the uptrack section and the track of said looped section banked inwardly with the inclination of the banking progressively increasing from entrance of the track to the loop and being of greatest inclination adjacent the bottom of the loop and the banking progressively decreasing as the track passes out of the loop.

8. In an amusement railway, a continuous

track having a loading and unloading station, an uptrack section extending from the loading station, a descending section leading from said uptrack section to a further uptrack and declivous sections interposed between the descending section and the unloading station, and said declivous section comprising a series of loops commencing with a descending curved portion continuing into an ascending curved portion and a similar descending curved portion within the first descending curved portion, and said latter descending portion leading to an ascending portion and passing over the first ascending portion into a sinuous track section leading to the unloading station.

9. In an amusement railway, a continuous track having a loading and unloading station, an uptrack section extending from the loading station, and a declivous section interposed between the uptrack section and the unloading station and connected thereto by a sinuous track section, comprising an ascending curved section, a section in the form of a figure eight leading from the ascending curved section, a pair of reversed parallel sections with the rails of one of said latter sections undulated, and an arch section leading from the reversed parallel sections over the figure eight section and descending into the unloading station.

10. An amusement railway as claimed in claim 2, wherein the declivous track section embodies successive loops evolved about a common axis intermediate the perpendicular and horizontal, and reverse portions arranged with curves evolved about a substantially vertical axis.

11. In an amusement railway, a continuous track, a loading and unloading station arranged adjacent a section of the track, said track having an ascending section leading from the loading station, a descending curved section leading from said ascending section to an ascending section, a declivous spiral section evolved about an axis intermediate the perpendicular and horizontal leading from the top of said second ascending section, and a flat figure eight section advancing in reverse direction from the spiral section of the unloading station.

12. In an amusement railway, a continuous track, a loading and unloading station arranged adjacent a section of the track, said track having an ascending section leading from the loading station, a descending curved section leading from said ascending section to an ascending section, a declivous spiral section evolved about an axis intermediate the perpendicular and horizontal leading from the top of said second ascending section, and a reverse sinuous section advancing in a direction from the spiral section to the unloading station.

13. In an amusement railway, a continu-

ous track, a loading and unloading station arranged adjacent a section of the track, said track having an ascending section leading from the loading station, and a sinuous track structure interposed between said ascending section and the unloading station, embodying a descending curved section leading to an ascending section; a spiral section evolved about an axis intermediate the perpendicular and horizontal leading from the top of said latter ascending section, a section advancing from the spiral section arranged in the form of a figure eight, the loops of which are evolved about substantially vertical axis, and a reverse parallel section connected with the unloading station.

14. In an amusement railway, a supporting structure, a continuous track, a loading and unloading station arranged at a low and level section of the track at one end of the supporting structure, said track embodying an ascending section leading from the loading station in a direction from end to end and at one side of the supporting structure, a descending section leading from said ascending section extending transversely of one end of the supporting structure and merging in a curved portion at the bottom of said descending section and leading to an ascending section extending diagonally of and to the opposite end of the supporting structure, a declivous looped section at said latter end of the supporting structure leading from the top of the latter ascending section, the loops of which track section are evolved about an axis intermediate the perpendicular and horizontal and advancing to a section in the form of a figure eight the loops of which are evolved about a substantially vertical axis and arranged at one side of and intermediate the ends of the supporting structure and leading to a reverse parallel track section at the side of the supporting structure opposite to said figure eight section, and said latter section leading to an ascending section over the figure eight section and descending to the unloading station.

15. In an amusement railway, a continuous track supported from a base portion, a loading and unloading station arranged at a section of the track even with the base portion, said track embodying an ascending section leading from the loading station, a descending section leading from said ascending section to another ascending section, a spiral ascending section to a section in the form of a figure eight, the greater part of said latter section being even with the base portion, and a reverse parallel track section even with the base portion leading from the figure eight section to a section spanning the figure eight section, said spanning section advancing to the unloading station.

16. An amusement railway as claimed in

claim 15, wherein the commencement of the figure eight section advances in a direction toward the spiral section.

Signed at Beaver Falls, in the county of Beaver and State of Pennsylvania, this 4th day of September, 1928.

HARRY G. TRAVER.

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