No. 684,327. Patented Oct. 8, 1901.

D. F. WATSON.

RAILWAY.

(Application filed Nov. 8, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

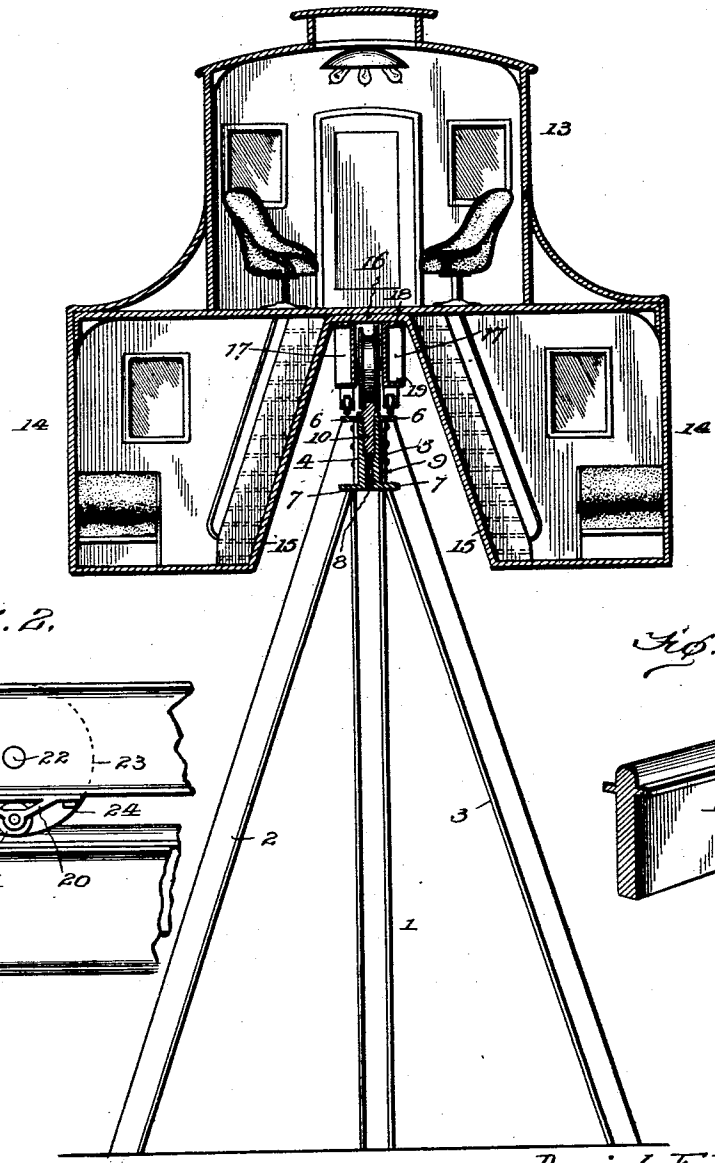
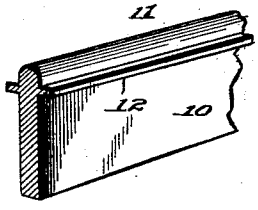


Fig. 2.

Fig. 3.



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By Victor J. Evans. Attorney

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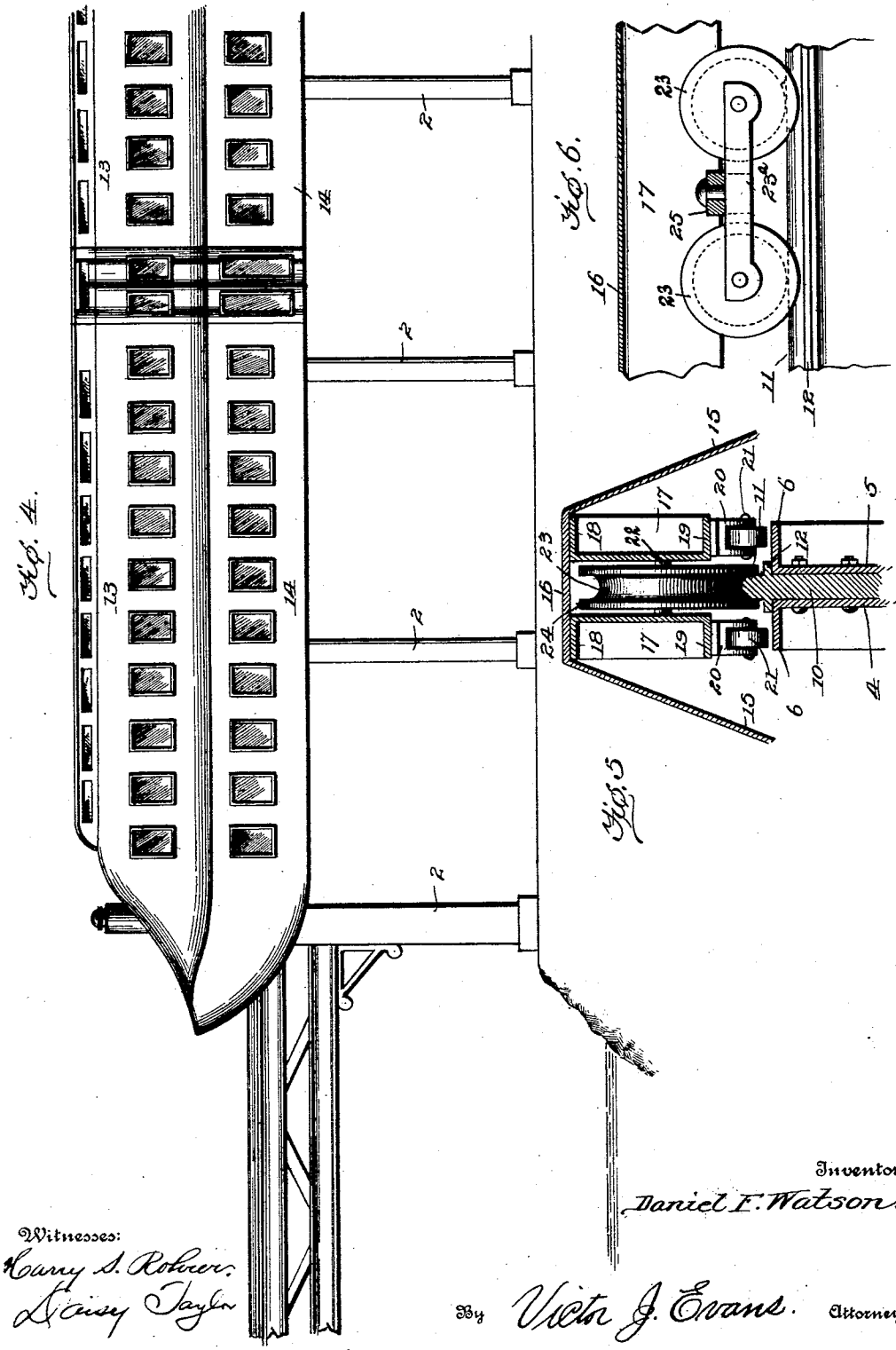
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UNITED STATES PATENT OFFICE.

DANIEL F. WATSON, OF ORONOGO, MISSOURI.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 684,327, dated October 8, 1901.

Application filed November 8, 1900. Serial No. 35,887. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. WATSON, a citizen of the United States, residing at Oronogo, in the county of Jasper and State of Missouri, have invented new and useful Improvements in Railways, of which the following is a specification.

My invention relates to elevated railways of the class in which only a single rail is employed; and the primary object of the invention is to provide an improved track-supporting structure in combination with a car adapted to straddle the rail and novel means for maintaining the car at equilibrium.

The construction of the car is such that any excess of weight at one side of the car will be compensated for, thus insuring the proper horizontal position of the car upon the track at all times, even though the two sides of the car may be unevenly weighted.

The details and novel features of the invention will be fully described hereinafter in connection with the accompanying drawings, which form part of this specification, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a vertical transverse section of an elevated railway and car embodying the invention. Fig. 2 is a detail side elevation of the rails of the track-supporting structure and track and one of the side beams between which the carrying-wheels of the car are supported. Fig. 3 is a detail perspective view of a portion of the track-rail. Fig. 4 is a side elevation of the track structure and car supported thereon. Fig. 5 is an enlarged transverse vertical section of the track, the parallel beams between which the carrying-wheels are supported, and a portion of the car proper; and Fig. 6 is a detail sectional view of a modified form of truck.

The track-supporting structure comprises a series of standards 1, braced laterally by inclined braces 2 and 3. Upon the upper ends of the standards 1 is supported an I-beam, comprising two counterpart sections 4 and 5, each formed with parallel flanges 6 and 7 and with a continuous shoulder 8 on its inner surface. The upper ends of the braces 2 and 3 are recessed to receive the lower flanges 7 of the sections of the I-beam and are also formed with vertical flanges 9, which are firmly bolted to the sections 4 and 5 of the beam.

10 designates the rail, formed at its upper edge with a rounded tread 11 and below the latter with horizontal flanges 12, projecting from opposite sides of the rail. The rail is secured between the sections 4 and 5 of the I-beam, the lower edge of said rail resting upon the shoulders 8 and the flanges 12 resting upon the upper flanges 6 of the I-beam. The rail is firmly secured by bolts extending through the sections of the I-beam.

The car consists of an upper section or compartment 13 and two lower side compartments 14. The inner walls 15 of the side compartments 14 are inclined, as clearly shown in Fig. 1, and connected by an integral horizontal plate 16, to the under surface of which are firmly secured oppositely-disposed beams 17, formed with parallel horizontal flanges 18 and 19. The upper flanges 18 of the beam 17 are securely bolted to the connecting-plate 16, and to the under surface of the flanges 19 are secured brackets 20, formed with bearings to support rollers 21, which are normally located above the upper flanges 6 of the sections 4 and 5 of the I-beam. The parallel beams 17 are formed with bearings for the axles 22 of the carrying-wheels 23, said wheels being formed with flanges 24 to embrace the opposite sides of the tread 11 of the rail.

As shown in Fig. 1, the upper compartment 13 of the car is supported centrally above the wheels 23, and the side compartments, arranged below the upper compartment 13 and suitably braced thereto, normally counterbalance each other.

The beams 17, which extend throughout the length of the car and carry the rollers 21, serve to brace the car against lateral strain when the weight in either of the side compartments 14 preponderates that of the other side compartment.

By the construction of the car above described the weight in the side compartments is below the rail, which is the point at which the car is supported, and the rigidity of the car-frame, in connection with the rollers 21, serves to maintain the car in its proper position upon the rail without regard to any uneven distribution of weight on opposite sides of the rail.

The rounded surface of the track-rail, in connection with the grooved wheels, insures free travel of the car with the minimum amount of friction.

Normally the rollers 21 do not touch the surface of the flanges 6; but in case of a sudden lateral sway or slight tilting movement of the car said rollers contact with the flanges to maintain the position of the car upon the rail.

In Fig. 6 I have shown the carrying-wheels of the car mounted on a truck 23^a, with a cross-bar 25 secured to the beams or girders 17. This swiveled truck facilitates rounding curves.

I claim—

1. The combination of standards, a track-beam having flanges and supported on the standards, a rail having a tread and supported on the beam, a car, parallel beams secured to the under side of the car, an axle extending across the car-beams, a grooved wheel mounted on the axle between the car-beams, brackets secured to the under side of the car-beams and rollers mounted in the brackets in approximately the same plane as the tread and adapted to bear on the flanges of the track-beam.

2. The combination of standards, a track-beam having flanges and supported on the standards, a rail having a tread and supported on the beam, a car having two side compartments formed with a horizontal connecting-plate and inclined walls leaving unobstructed spaces between the said inclined walls and the said standards and said track-beam, parallel beams secured to the horizontal plate, an axle extending across the car-beams, a grooved wheel mounted on the axle between the car-beams, brackets secured to the under side of the car-beams and rollers mounted in the brackets in approximately the same plane as the tread and adapted to bear on the flanges of the track-beam.

3. The combination with a single-rail track structure comprising a plurality of standards; inclined braces secured thereto; a longitudinally-disposed beam consisting of oppositely-arranged sections formed on their inner surfaces with shoulders and having outwardly-extending flanges; a rail supported between said sections formed with laterally-extending flanges bearing on the upper surfaces of the beam-sections and having its lower edge resting upon the shoulders of the sections; of a car comprising an upper compartment and oppositely-arranged side compartments; parallel beams secured to the under side of the central compartment; an axle supported in bearings formed in said beams; a wheel mounted on said axle; vertically-disposed guard-rollers mounted below the parallel beams and adapted to bear upon the flanges of the oppositely-disposed beam-sections when the car is tilted laterally.

4. A railway-track comprising standards, an I-shaped beam composed of two counterpart sections, each formed with upper and lower parallel flanges and a shoulder on the inner side of the web of the section, inclined braces upon which the upper flanges of the sections rest and having recesses in which the lower flanges of the sections are fitted, and vertical flanges secured to the webs of the sections and a rail seating on the shoulders of the sections and formed at its upper edge with a tread, and with horizontal flanges resting on the upper flanges of the sections.

5. The combination of standards, a track-beam having flanges and supported on the standards, a rail having a tread and supported on the beam, a car, parallel beams secured to the under side of the car, axles extending across the car-beams, a cross-bar secured to the beams, a truck in which the axles are mounted, secured to the beam, grooved wheels mounted on the axles between the car-beams, brackets secured to the under side of the car-beams and rollers mounted in the brackets in approximately the same plane as the tread and adapted to bear on the flanges of the track-beam.

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

DANIEL F. WATSON.

Witnesses:

STEPHEN A. BROOKS,

HERBERT D. LAWSON.