I. DICKSON.

ELEVATED RAILROAD STRUCTURE.

APPLICATION FILED MAY 2, 1917.

1,238,276.

Patented Aug. 28, 1917.

2 SHEETS—SHEET 1.

Fig. 1

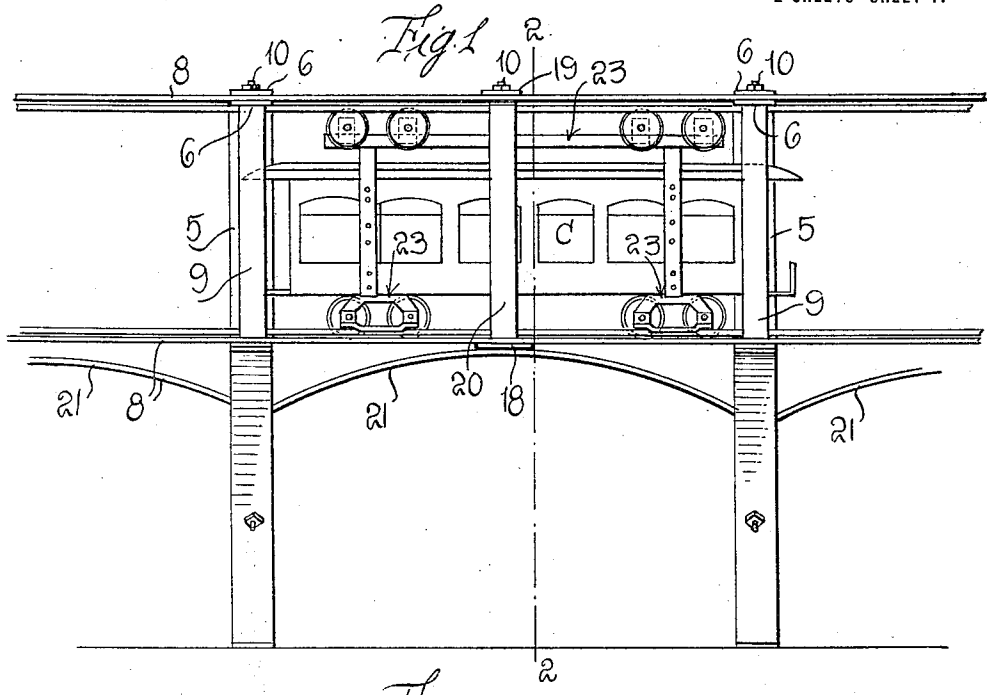
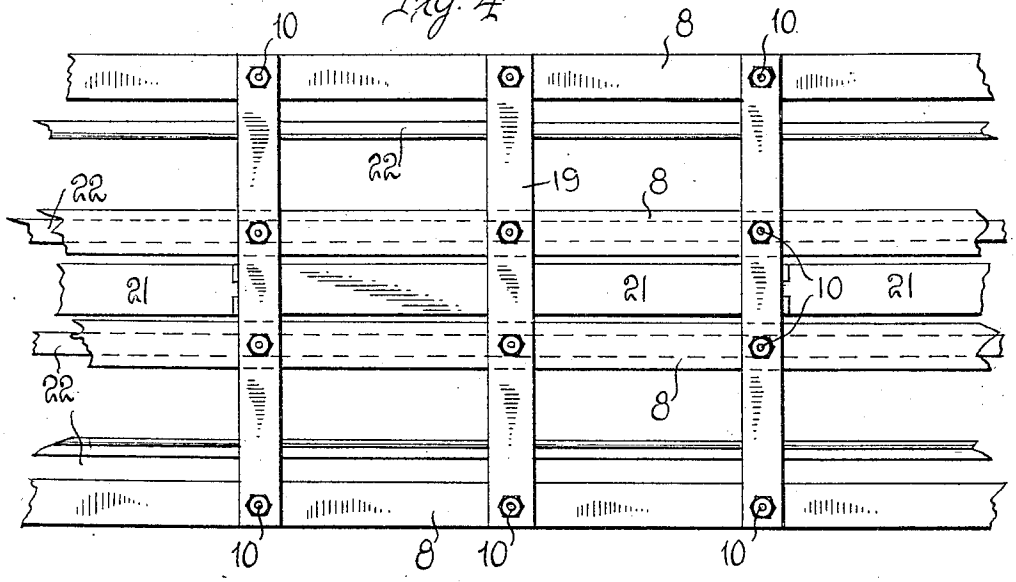


Fig. 4



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2 SHEETS—SHEET 2.

Fig. 2

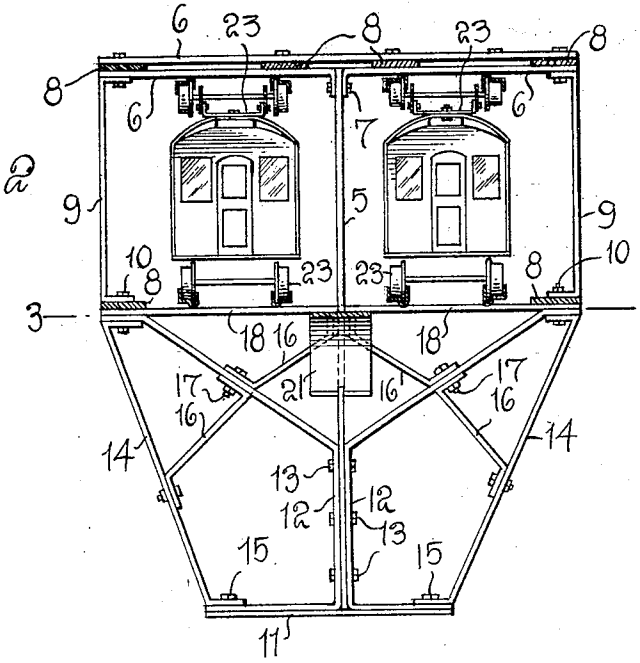
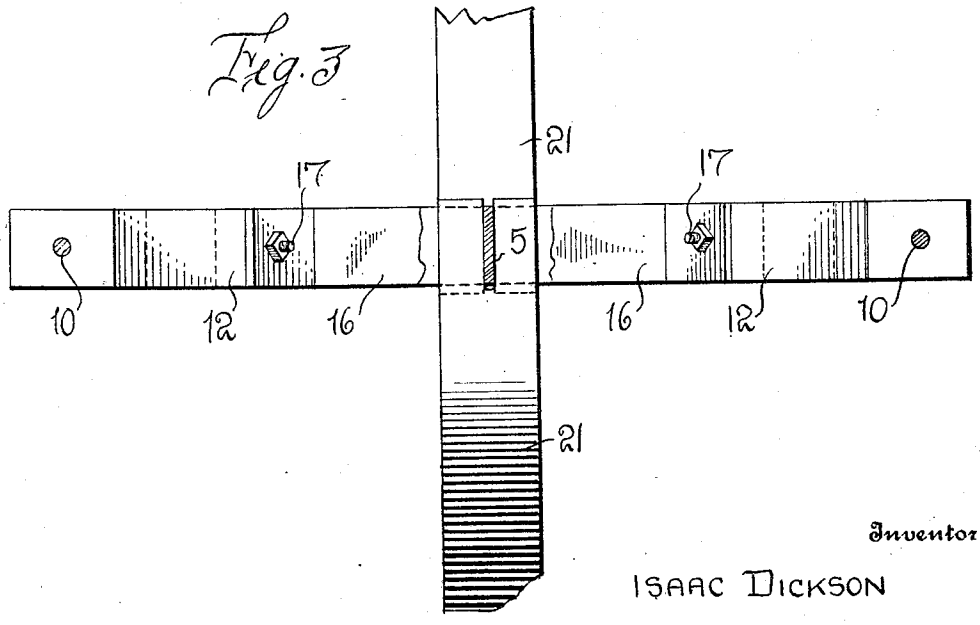


Fig. 3



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UNITED STATES PATENT OFFICE.

ISAAC DICKSON, OF PHILADELPHIA, PENNSYLVANIA.

ELEVATED-RAILROAD STRUCTURE.

1,238,276. Specification of Letters Patent. Patented Aug. 28, 1917.

Application filed May 2, 1917. Serial No. 165,978.

To all whom it may concern:

Be it known that I, ISAAC DICKSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Elevated-Railroad Structures, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved elevated railroad structure and has for its primary object to provide a structure for supporting a double-track railroad at an elevation above the street or roadbed, which is simple and durable in its construction and extremely strong and rigid, and whereon the rails are so arranged and mounted as to obviate all possibility of the derailing of the cars.

It is another more particular object of the invention to provide a structure of the above character including spaced, vertical uprights, transversely disposed rail supporting tie bars extending from opposite sides of the uprights, said bars being arranged in upper and lower pairs of rails secured to the two series of tie bars to receive truck wheels mounted above and below the car body, and means for rigidly bracing the uprights and the tie bars.

It is a further general object of the invention to provide an elevated railway structure which may be quickly erected, and the cost of which will be comparatively small.

With the above and other objects in view, my invention consists in the novel features of construction, combination, and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which,

Figure 1 is a side elevation of an elevated railway structure embodying the preferred form of the invention;

Fig. 2 is a section taken on the line 2—2 of Fig. 1;

Fig. 3 is a section taken on the line 3—3 of Fig. 2; and

Fig. 4 is a top plan view.

Referring in detail to the drawings, 5 designates the spaced, vertical uprights to each of which the upper and lower, transversely disposed tie bars 6 are securely fixed at their inner ends by means of the bolts 7. The tie bars in the upper and lower series are connected to each other by the longitudinal bars 8 and the upper and lower tie bars are connected to each other at their outer ends by the vertical bars 9, said bars 8 and 9 being connected to the tie bars by means of the bolts 10.

11 designates anchoring plates which are suitably embedded in the roadway, and bracing bars 12 are arranged at each side of each of the uprights 5 below the lower tie bars 6, the pairs of brace bars 12 being fixed to the respective uprights by the bolts 13 and having their lower ends angularly extended upon the anchoring plates 11. From the bolt 13, the bars 12 are obliquely extended upwardly and outwardly to the outer ends of the outer side bars 6 and fixed thereto by means of the bolts 10. From these bolts, the bars 12 are extended downwardly and inwardly as at 14, and the other ends thereof angularly bent and disposed upon the other ends of said bars which are engaged upon the anchoring plates 11. Bolts 15 secure the ends of these brace bars 12 and anchoring plates 11 together. Additional truss bars 16 are bolted, as at 17, to the spaced portions of the braces 12, and truss bars 18 are also disposed between the brace bars and the opposite sides of the uprights 5.

Between the spaced tie bars, the transversely disposed bars 19 are arranged and bolted to the longitudinal bars 8, additional vertical bars 20 being also arranged between the bars 8 at the ends of the bars 19. To each of the lower transverse bars 18, a longitudinally curved bar 21 is securely riveted or bolted, the ends of said bars being bifurcated to straddle the uprights 5, thus affording additional means for bracing the structure against transverse strains.

To the upper and lower series of tie bars 6, the longitudinally extending pairs of channel-shaped rails 22 are securely bolted or otherwise fastened, said bars being also similarly secured to the intermediate transverse bars 18. The cars C are provided at their opposite ends with upper and lower trucks 23, the wheels of which are engaged in the channel-shaped rails. The flanges on these rails effectually prevent any possibility of the derailment of the cars so that they may travel at the very highest speed. The cars may be operated either by steam or electric current.

From the foregoing description, taken in connection with the accompanying drawings, the construction, manner of operation

and several advantages of my invention will be clearly and fully understood. The structure being effectively braced is exceedingly rigid and not liable to collapse under the maximum weight which may be imposed thereon in the operation of cars. It will, of course, be understood that in practice, the structure may be of any desired height so as to support the rails at the required elevation above the ground surface or roadway. It will be understood that while I have herein shown and described the preferred construction and arrangement of the several parts, the invention is susceptible of considerable modification therein and I, therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

Having thus fully described my invention, what I desire to claim and secure by Letters Patent is:

1. An elevated railway structure including spaced uprights, upper and lower series of tie bars fixed to the uprights at their inner ends extending at right angles thereto, anchoring plates, brace bars fixed to the outer ends of the tie bars and having spaced, obliquely inclined portions rigidly fixed at their extremities upon the anchoring plates, the corresponding oblique portions of the brace bars being bolted to the uprights, and track rails mounted upon the upper and lower series of tie bars.

2. An elevated railway structure including spaced uprights, upper and lower series of tie bars fixed to the uprights at their inner ends extending at right angles thereto, anchoring plates, brace bars fixed to the outer ends of the tie bars and having spaced, obliquely inclined portions rigidly fixed at their extremities upon the anchoring plates, the corresponding oblique portions of the brace bars being bolted to the uprights, obliquely disposed truss bars disposed between the spaced portions of the brace bars and bolted thereto, and track rails mounted upon the upper and lower series of tie bars.

3. An elevated railway structure including spaced uprights, upper and lower series of tie bars fixed to the uprights at their inner ends extending at right angles thereto, anchoring plates, brace bars fixed to the outer ends of the tie bars and having spaced, obliquely inclined portions rigidly fixed at their extremities upon the anchoring plates, the corresponding oblique portions of the brace bars being bolted to the uprights, obliquely disposed truss bars disposed between the spaced portions of the brace bars and bolted thereto, additional truss bars obliquely disposed between the uprights and the adjacent portions of said brace bars and fixed thereto, and track rails mounted upon the upper and lower series of tie bars.

4. An elevated railway structure including spaced uprights, upper and lower series of transversely disposed ties bolted to the uprights at their inner ends, bracing connections between the ties and the uprights, track rails mounted upon the upper and lower series of ties, and centrally disposed, longitudinally curved brace bars bifurcated at their ends and straddling the adjacent uprights.

5. An elevated railway structure including spaced uprights, upper and lower series of transversely disposed ties bolted to the uprights at their inner ends, bracing connections between the ties and the uprights, longitudinal bars connecting the ties in each series to each other at their outer ends, transverse bars connecting said longitudinal bars, and longitudinally curved brace bars centrally fixed to the latter connecting bars and bifurcated at their ends to straddle the adjacent uprights.

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

ISAAC DICKSON.

Witnesses:
MARMADUKE D. SMITH,
his
DAVID × CORSER,
mark
JAMES A. HOLT.