June 3, 1930. C. M. GOODRICH 1,761,824

MONORAIL STRUCTURE

Filed Aug. 20, 1929 3 Sheets-Sheet 1

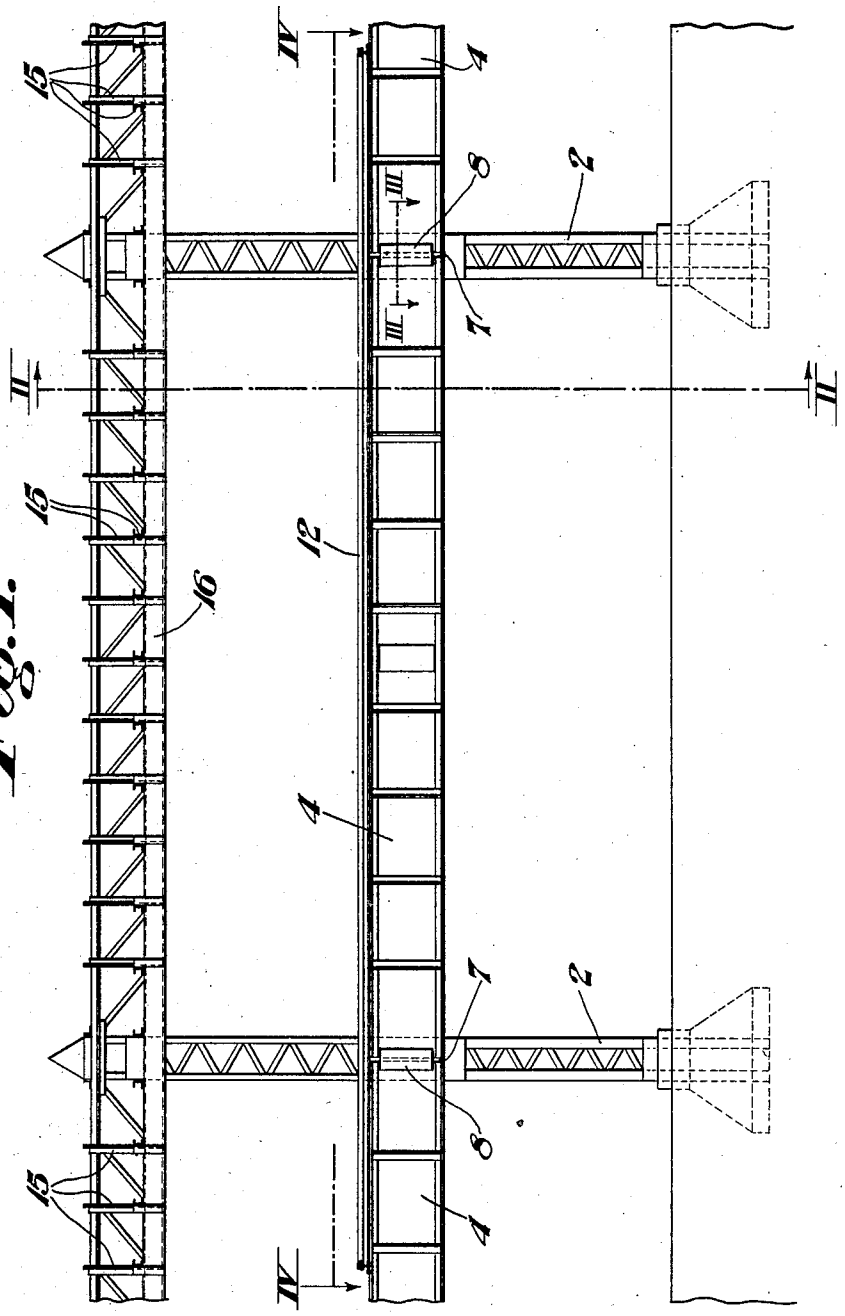

Fig. 1.

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Fig. 2.

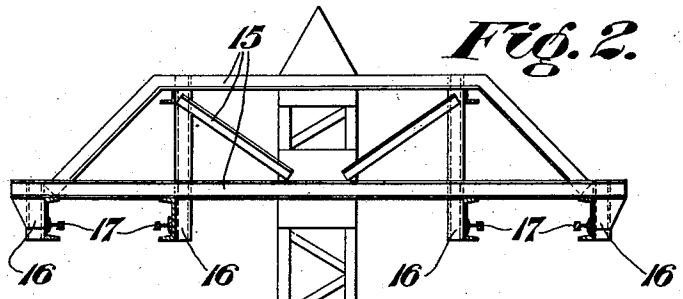
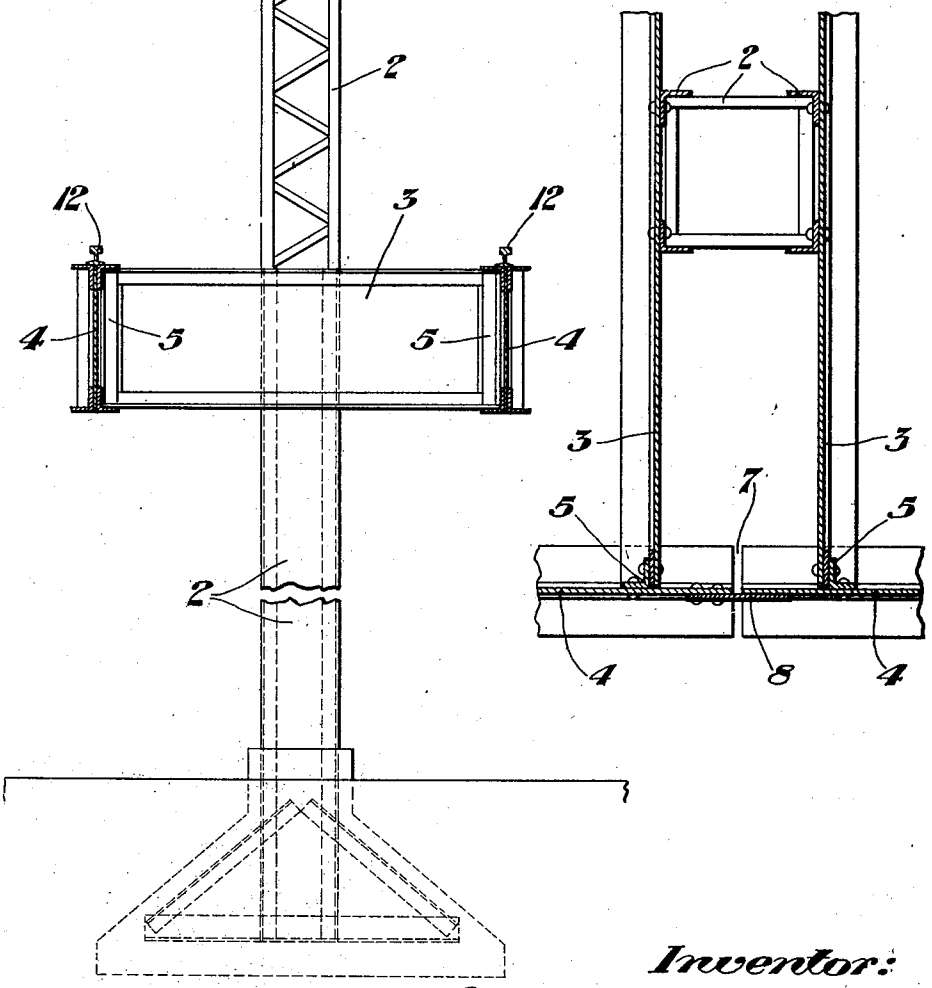


Fig. 3.



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MONORAIL STRUCTURE

Filed Aug. 20, 1929 3 Sheets-Sheet 3

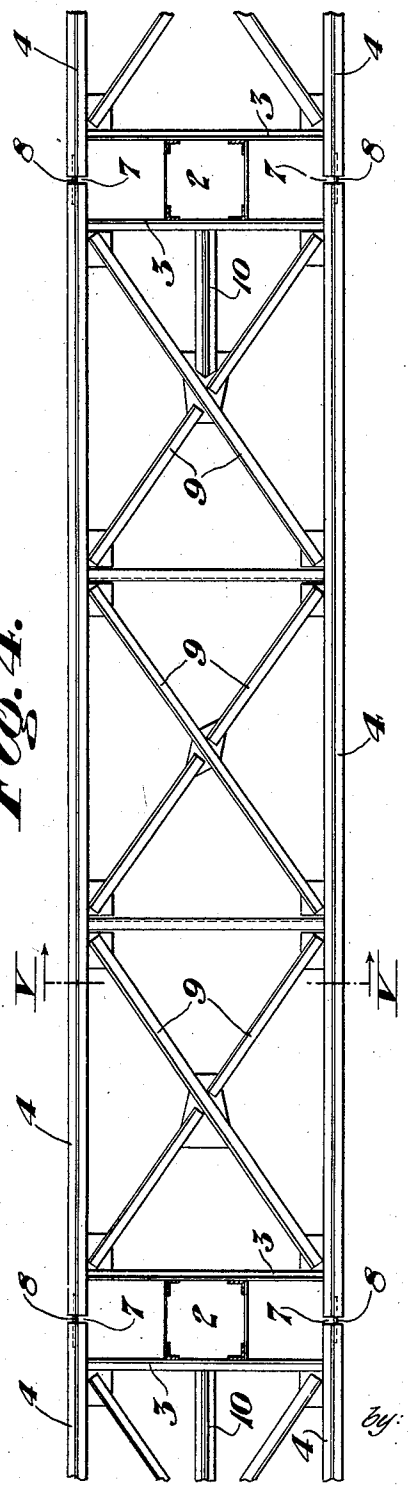

Fig. 4.

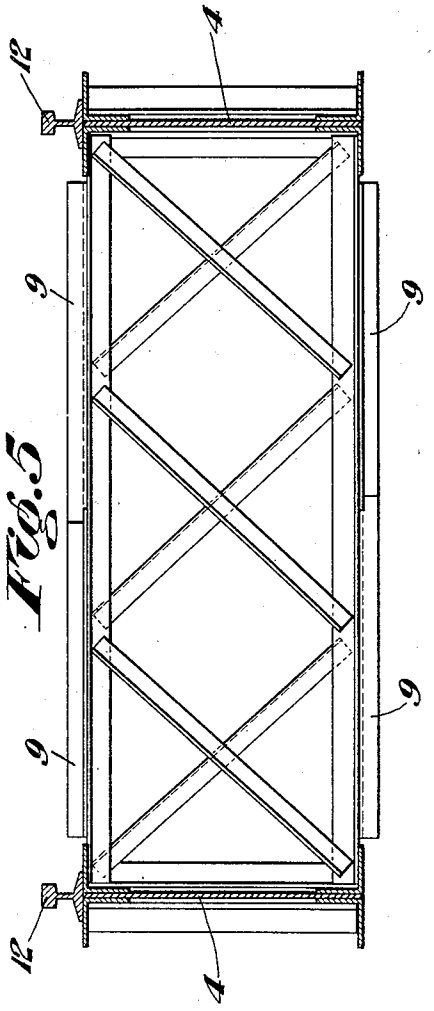

Fig. 5.

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Patented June 3, 1930 1,761,824

UNITED STATES PATENT OFFICE

CHAUNCEY MARSH GOODRICH, OF WINDSOR, ONTARIO, CANADA

MONORAIL STRUCTURE

Application filed August 20, 1929. Serial No. 387,240.

This invention relates to monorail structures and more particularly to a novel supporting structure for the track supporting girders, whereby the longitudinal movement of said girders, due to expansion and contraction and other causes, will be limited to the individual girders and will not be communicated from one girder to the next as is generally the case in structures of this type.

In the drawings:

Figure 1 is a side elevation of a section of monorail structure constructed in accordance with this invention.

Figure 2 is a sectional elevation taken on the line II—II of Figure 1.

Figure 3 is a fragmentary plan taken on the line III—III of Figure 1.

Figure 4 is a sectional plan taken on the line IV—IV of Figure 1.

Figure 5 is a sectional elevation taken on the line V—V of Figure 4.

Referring more particularly to the drawings, the numeral 2 designates the columns or posts which are mounted at spaced intervals for supporting the overhead monorail structure.

Suitable supporting plates 3 are secured to opposite sides of the columns or posts 2 and extend transversely of the rails. The plates 3 are flexible and form supports for track beams 4 which carry track rails 12.

The plates 3 project into the space between the flanges of the beams 4 and are secured to the beams by angle attaching members 5. The beams 4 are joined to the plates 3 on the near side of the columns between which they extend, and said beams extend beyond the plates 3 less than half of the distance between the plates on the poles so that the ends of the adjacent beams are spaced a slight distance apart, as at 7. The space 7 between the adjacent beams is covered by a combined cover and guideplate 8 which is secured to one of said beams and extends freely over the adjacent beam.

The beams 4 secured to the opposite ends of the plates 3 are connected to each other by diagonal bracing 9 arranged in panels, and a strut 10 is secured between the column or post 2 at the forward end of each of the track beams 4 and the intersection of the diagonal bracing in the endmost panel so as to deliver the stresses directly to the column and cause all movement of the beams to be in the opposite direction.

Track rails 12 are mounted on the beams 4 and secured in any approved manner.

Transverse truss members 15 are secured adjacent the upper ends of the columns 2 and support an overhead structure 16 which carries guide rails 17.

In operation, all movement of the beams, due to expansion or contraction or other causes, will produce a flexing of the plate 3 at the opposite end of the beam from the strut 10 and all stresses, due to tractive and braking stresses, will be delivered directly to the columns or posts through the struts 10.

While I have shown and described one embodiment of my invention it will be understood that I do not wish to be limited thereto, since various modifications may be made without departing from the scope thereof, as defined in the appended claims.

I claim:

1. The combination with a series of posts at spaced intervals, of transverse supporting plates secured to the opposite sides of each of said posts, a series of longitudinal girders extending between said posts and connected to and supported on said plates on the near side of the posts between which they extend, said girders having their end faces spaced to permit longitudinal movement of said girders.

2. The combination with a series of posts at spaced intervals, of transverse supporting plates secured to the opposite sides of each of said posts, two series of longitudinal girders extending between said posts, the girders of the respective series being connected to and supported on the opposite ends of said plates on the near side of the posts between which they extend, said girders of each series having their end faces spaced to permit longitudinal movement, and a cover and guide plate secured to each of said girders and overlapping the joint

between said girders and the next adjacent girder.

3. The combination with a series of posts at spaced intervals, of transverse supporting plates secured to the opposite sides of each of said posts, two series of longitudinal girders extending between said posts, the girders of the respective series being connected to and supported on the opposite ends of said plates on the near side of the posts between which they extend, said girders of each series having their end faces spaced to permit longitudinal movement, diagonal bracing connecting the girders of the respective series and arranged in panels, and a strut member extending between the one side of each post and the intersection of the adjacent diagonals so as to deliver the stresses directly to said post and cause all movement of the girders to be toward the other post.

4. The combination with a series of posts at spaced intervals, of two series of longitudinal girders extending between said posts, diagonal bracing connecting the girders of the respective series, means for flexibly connecting one end of each of the girders to said posts, and means for rigidly connecting the other end of each of said girders to said posts.

In testimony whereof, I have hereunto set my hand.

CHAUNCEY MARSH GOODRICH.