

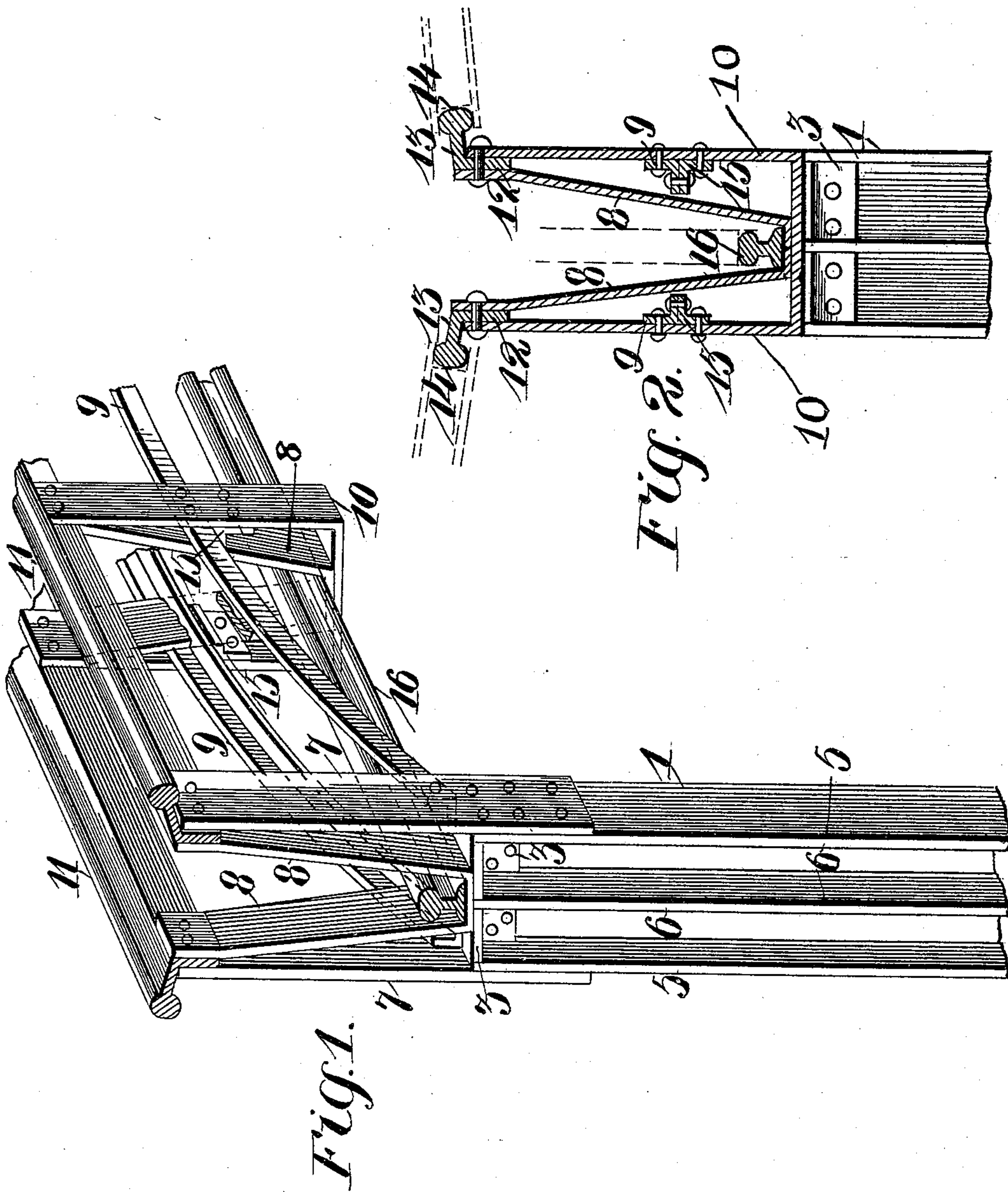
(No Model.)

2 Sheets—Sheet 1.

E. M. TURNER.
ELEVATED RAILWAY.

No. 488,154.

Patented Dec. 13, 1892.



Witnesses
D. J. Hollar.
Ed. E. Langan

Inventor
Ephraim M. Turner.
By H. S. Atcheyns, Higdon & Higdon

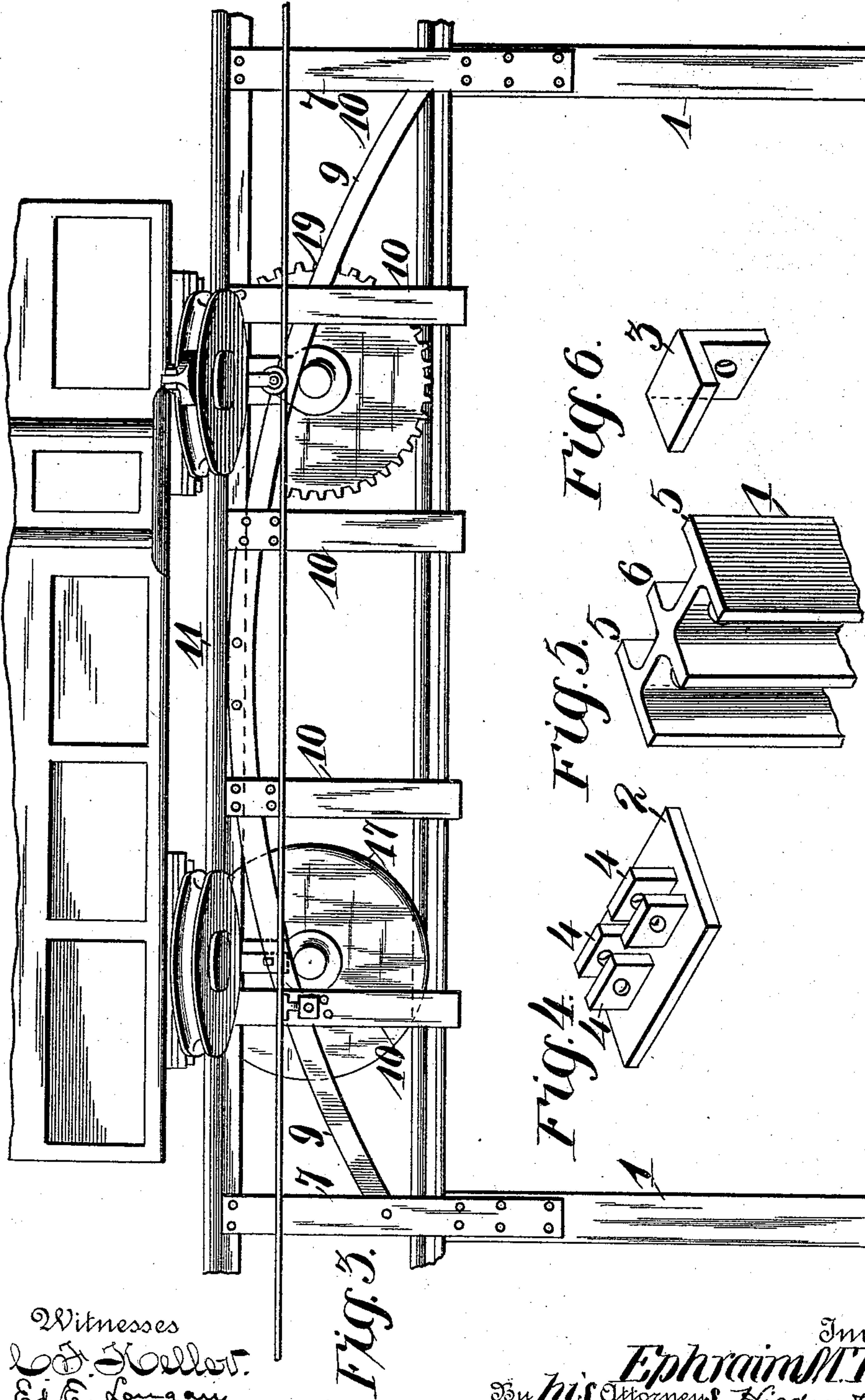
(No Model.)

2 Sheets—Sheet 2.

E. M. TURNER.
ELEVATED RAILWAY.

No. 488,154.

Patented Dec. 13, 1892.



Witnesses
L. J. Keller.
E. E. Langan,

Inventor
Ephraim M. Turner.
By his Attorneys Higdon & Higdon

UNITED STATES PATENT OFFICE.

EPHRAIM M. TURNER, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
R. E. MADDOX, OF FORT WORTH, TEXAS.

ELEVATED RAILWAY.

SPECIFICATION forming part of Letters Patent No. 488,154, dated December 13, 1892.

Application filed October 12, 1891. Serial No. 408,549. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM M. TURNER, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Elevated Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in tricycle electric elevated railways; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a perspective view of the superstructure for the cars or vehicles with parts broken away. Fig. 2 is a vertical section of the same. Fig. 3 is a side elevation of one span of the superstructure, showing an electric-motor car mounted thereon. Fig. 4 is a perspective view of a cap-plate which is adapted to fit to the top of the supporting posts or columns which I employ in carrying out my invention. Fig. 5 is a perspective view of the upper portion of one of the supporting posts or columns. Fig. 6 is a perspective view of a modified cap-plate which I may employ.

Referring to the drawings, and especially to Fig. 1, wherein a perspective view of the superstructure is illustrated, 1 indicates a supporting post or column, which is rolled in any suitable manner out of a single piece of steel, metal, or any other suitable and appropriate material. In the construction of the superstructure I locate these posts or columns preferably about forty feet apart; but I wish to state that I do not confine myself to any definite distance, as I may find that said distance is too close or too far apart, and I may desire to change the same so as to effect a solid and substantial superstructure adapted to carry moving vehicles. In order to make the supporting posts or columns 1 suitable for the support of the remaining parts of the superstructure, I find it necessary to secure to the top of said posts cap-plates 2, as illustrated in Fig. 4, or a modified form of a cap-plate 3, as illustrated in Fig. 6, and then

secure said cap-plate to said supporting posts or columns by bolts or rivets which are adapted to pass through the perforated ears 4 of the cap-plates and also through the supporting-posts. It may be noted in this connection that the supporting post or column 1 is provided with two external webs 5 and an intermediate web 6, and between the webs 5 and 6 the perforated ears 4 of the cap-plate are located and secured to the supporting posts or columns, as hereinbefore stated.

Having briefly described the supporting posts or columns and the cap-plates which I secure to the tops of the same, I will now proceed to describe the construction which extends from post to post, and also the remaining parts of the superstructure which are secured to said posts, still referring to Figs. 1 and 2 for illustration. Secured to the external webs 5 of the supporting posts or columns in any suitable and mechanical manner are braces 7, for the purpose more fully hereinafter described. Located between the braces or supporting-plates 7 and mounted above each and every supporting post or column 1 and resting on the cap-plates 2 are substantially-V-shaped supports and braces 8 of the construction as illustrated in Figs. 1, 2, and 7. Said V-shaped braces or supports 8 are secured in any suitable and mechanical manner to the cap-plates 2. I also employ one or a series of said V-shaped supports 8 in the construction of the superstructure between the supporting posts or columns 1 in a manner as will be more specifically hereinafter described.

9 indicates arches, the ends of which rest on the cap-plates 2, and are secured to the supporting-plates 7, as indicated in Figs 1 and 3. Said arches 9 extend from post to post, as illustrated in Fig. 3.

10 indicates supports which are located in the construction of the superstructure between the supporting posts or columns 1, and located in said supports 10 are the V-shaped supports and braces 8, as hereinbefore described. The location of the supports 10 are thoroughly illustrated in Fig. 3.

The arches 9 are riveted or bolted or secured in any suitable manner to the guide-rails 11—that is, the arches are secured in said manner in the region of their highest 5 curved or arched portion, as illustrated in Fig. 3. The guide-rails 11 are of the construction as illustrated in Figs 1 and 2—that is, they are provided with a flange or web portion 12 and a similar portion 13, extending 10 at an obtuse angle to the web portion 12, and said portion 13 being provided with a head 14. The web or flange portion 12 is interposed between the upper ends of the supporting-plates 7 and the V-shaped braces and 15 supports 8 and secured therein by means of bolts or rivets or in any other suitable and mechanical manner, as illustrated in Fig. 1. It may be noted in this connection that the upper ends of the supports 10 and also the intermediate V-shaped braces and supports 8 20 are secured to the web or flange 12 of said guide-rails 11. The arches 9 are also secured to the supports 10 by means of bolts or rivets or any other suitable manner, as illustrated 25 in Fig. 1.

Secured on the inside of the supports 10 are brackets or braces 15, as illustrated in Fig. 1, which are adapted to assist in supporting the arches 9.

30 16 indicates the lower or drive-wheel rail, which is of the ordinary construction, as illustrated in Figs. 1 and 2. Said rail 16 is located in the V-shaped supports and braces 8 and is supported or rests directly on the same, 35 and is secured in said location in any suitable and mechanical manner. Said rail 16 is supported between the posts or columns 1 by means of the V-shaped supports 8 and the supports 10, it being noted in this connection 40 that said supports, or more specifically the upper ends of the same, are secured to the flange or web 12 of the guide-rails 11. The guide-rails 11 lie opposite to each other in approximately the same horizontal plane, and the 45 center or drive-wheel rail 16 is located below the guide-rails 11 in a plane parallel to that

in which the guide-rails are located, but in a different vertical plane.

Having fully described my invention, what I claim, is—

1. The herein-described superstructure for 50 elevated electric railways, having rolled supporting posts or columns, cap-plates mounted on or secured to the same, V-shaped supports or braces 8, mounted upon said cap-plates, a 55 main rail located within said V-shaped supports and mounted thereon, guide-rails having a head extending at an obtuse angle to the web thereof, secured to said supports, plates, such as 7, secured to said guide-rails 60 and supporting posts or columns, supports 10 and 8, secured intermediately of the supporting-columns to the guide-rails and suspending therefrom, and arches passing from post to post and secured to said plates 7, sup- 65 ports 10, and guide-rails, substantially as set forth.

2. A three-rail elevated superstructure comprising supporting posts or columns 1, cap-plates 2, mounted on or secured to the same, 70 V-shaped supports or braces 8, mounted upon said cap-plates, a main rail 16, located within said V-shaped supports and mounted thereon, guide-rails 11, having heads 14, extending at an obtuse angle to the webs 12 thereof, secured 75 to said supports, plates, such as 7, secured to said guide-rails and supporting posts or columns, supports 10 and 8, secured intermediately of the supporting-columns to the guide-rails and suspending therefrom for support- 80 ing the main rail 16, and arches 9, spanning said posts, and the ends whereof being supported upon the cap-plates 2 and secured to said plates 7, supports 10, and guide-rails, substantially as set forth. 85

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

EPHRAIM M. TURNER.

Witnesses:

BENJ. J. KLENE,

JNO. C. HIGDON.