

(No Model.)

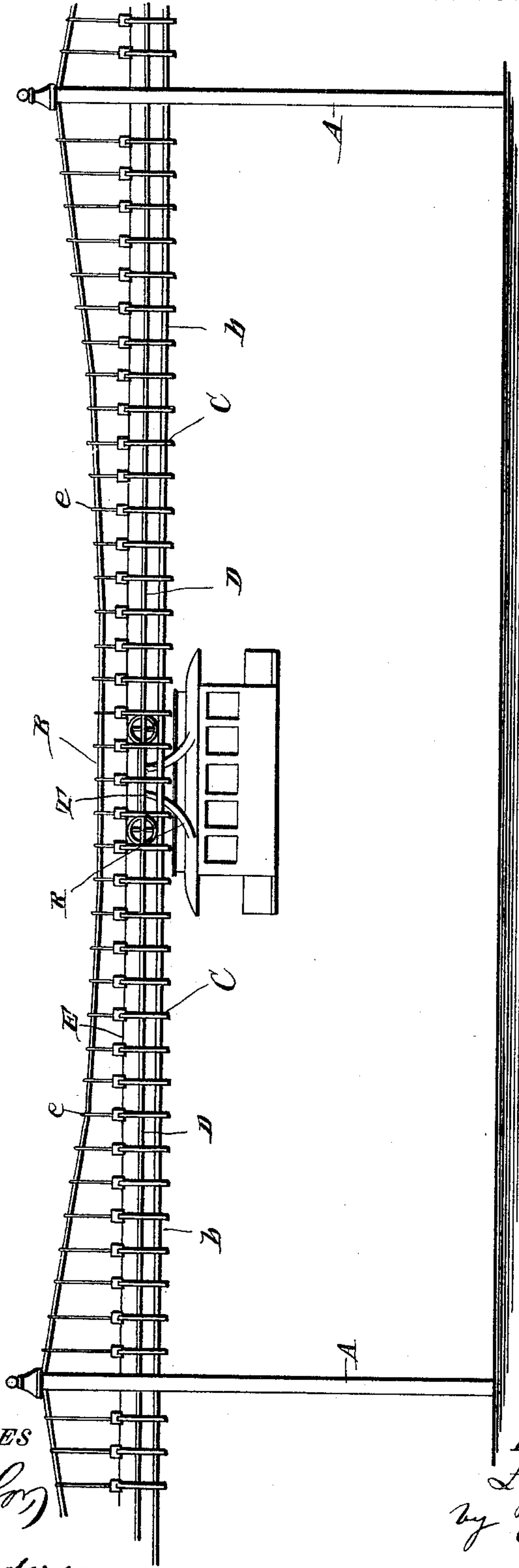
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L. JOHNSTON.
ELEVATED SUSPENSION RAILWAY.

No. 415,209.

Patented Nov. 19, 1889.

Fig. 1.



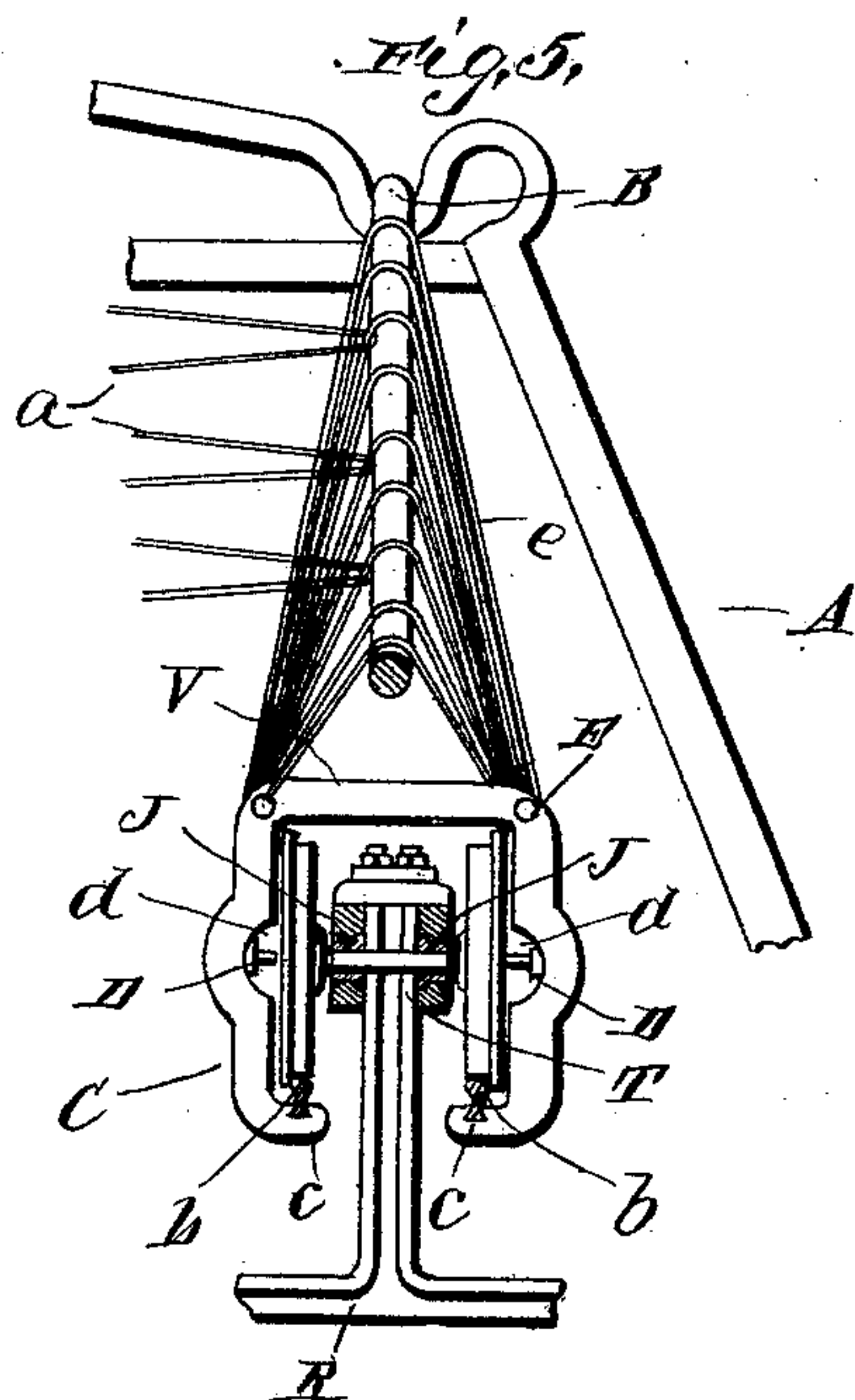
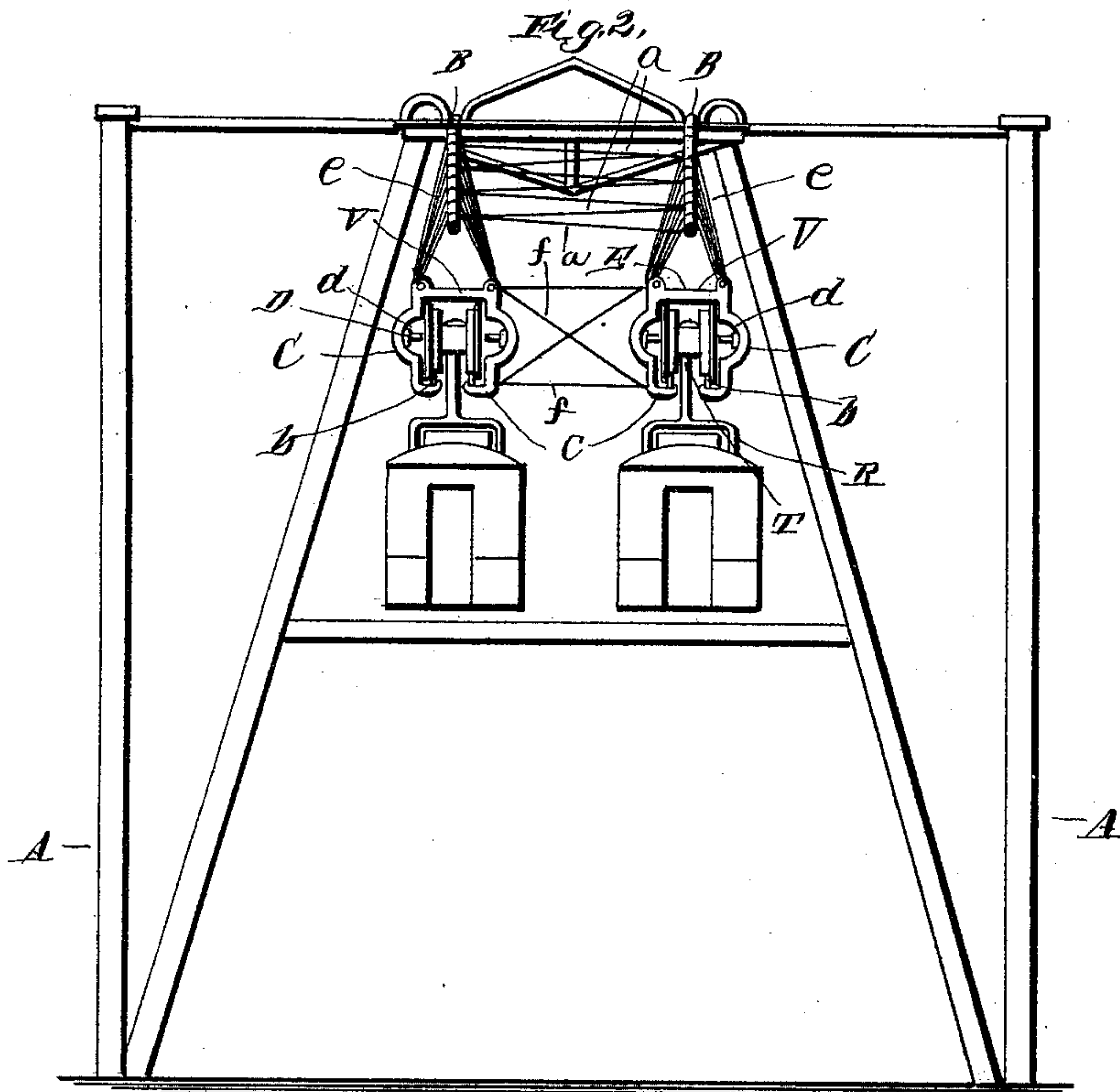
WITNESSES
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INVENTOR
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by *E. W. Anderson*
his Attorney

(No Model.)

3 Sheets—Sheet 2.

L. JOHNSTON.
ELEVATED SUSPENSION RAILWAY.
No. 415,209. Patented Nov. 19, 1889.



WITNESSES
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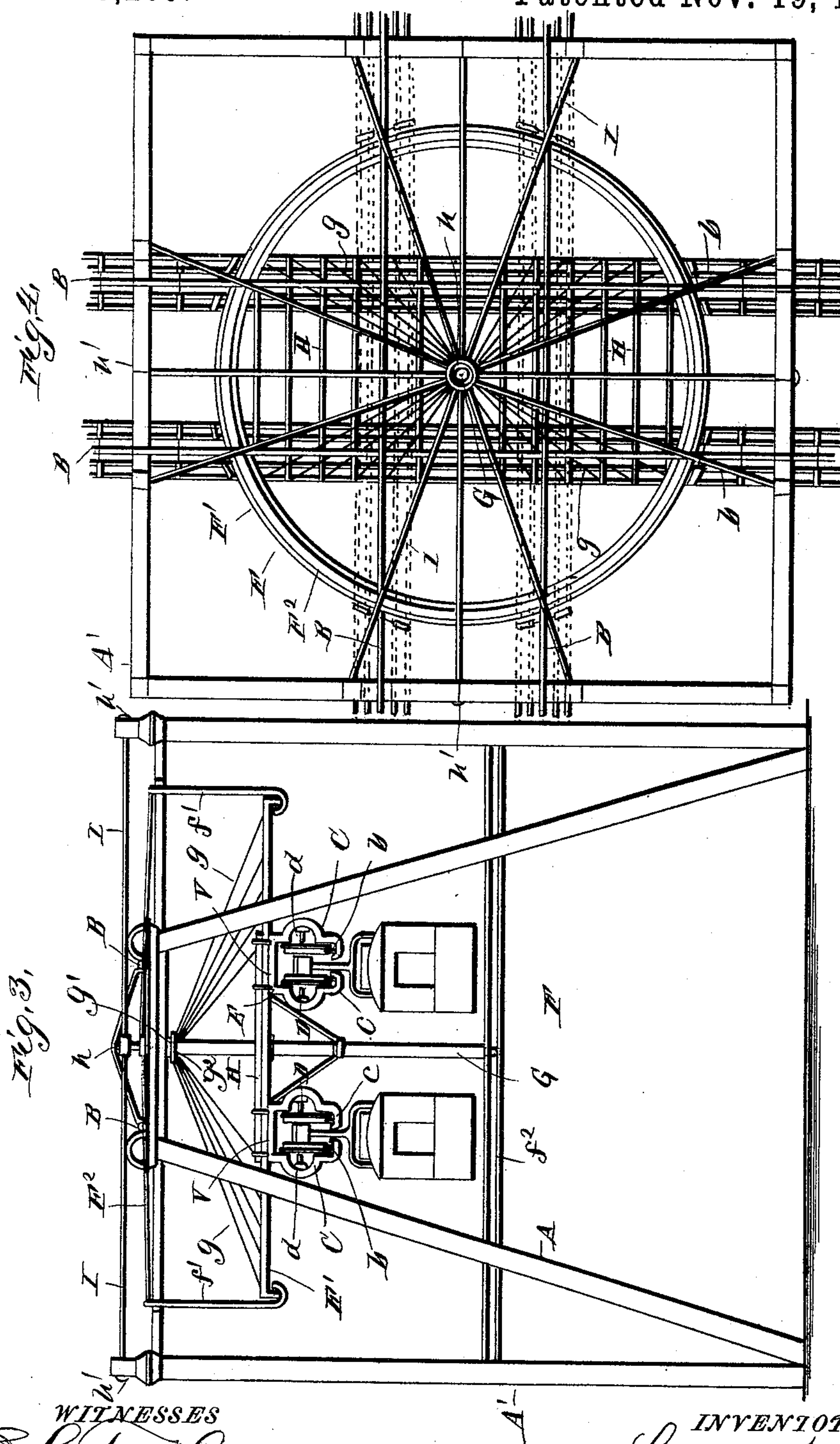
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ELEVATED SUSPENSION RAILWAY.

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Patented Nov. 19, 1889.



UNITED STATES PATENT OFFICE.

LYSANDER JOHNSTON, OF WACO, TEXAS, ASSIGNOR OF ONE-HALF TO RALEIGH CLAPP, OF SAME PLACE.

ELEVATED SUSPENSION-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 415,209, dated November 19, 1889.

Application filed June 29, 1889. Serial No. 316,068. (No model.)

To all whom it may concern:

Be it known that I, LYSANDER JOHNSTON, a citizen of the United States, and a resident of Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Elevated Suspension-Railways; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of the road, and is a side view. Fig. 2 is an end view, partly in section. Fig. 3 is an end view of the turn-table, and Fig. 4 is a top plan view of the same. Fig. 5 is an enlarged detail view, partly in elevation and partly in section, of the track-supporting stirrups or hangers and their suspending wires or rods.

This invention relates to improvements in elevated railways; and it consists of the novel construction and combination of parts, as will fully appear from the following description and accompanying illustrations.

In the embodiment of my invention I erect at proper intervals apart suitable supports A, upon which are carried, one at each side, the cables B B, which are braced or connected together by wires or rods *a a*.

C C are stirrups or hangers, which are arranged in series at proper intervals to support the rails *b b* of the tracks, the hangers or stirrups being provided in pairs to carry two tracks, side by side.

Each hanger or stirrup C is of rectangular yoke-like form, having its pendent lateral arms firmly and rigidly connected to a transverse top bar portion V, and provided with inwardly-extended ledges or projections *c*, having grooves in their upper surfaces, in which are seated the base portions of the rails. In the inner sides of said pendent portions or arms of the hangers or stirrups are recesses *d d*. D D are light lateral guard-rails projecting from said stirrup-arms in said recesses opposite to the axle ends and close

enough to the car-wheels to prevent outward lateral displacement of said wheels. The hanger or stirrup is suspended by a series of wires or rods *e e*, passing over the cable and depending from each side thereof, the ends of the wires or rods upon each side being secured to a common horizontal rod E, passed through each upper corner of the transverse-bar portion of the hanger. The hangers or stirrups are braced or connected together in pairs by parallel and crossing rods or wires *f f*, to prevent the independent lateral movement of the same.

It will be observed that the car-wheels are arranged and travel upon the tracks above the cars, the latter being connected to the truck or rolling frame T in any suitable way. Usually I prefer the curved spring suspending-rods R, which are bolted to the truck-frame T, the latter being made in upper and lower sections, receiving the flanged boxes J for the shouldered axles between them, and being securely bolted together.

F is a turn-table at a crossing, which comprises two circular supports or frames F' F². From the upper circular support depend hangers *f' f'*, upon which revolves the lower circular support, which carries the track-hangers. The upper support or frame is secured upon a suitable framing A, similar to that which supports the rail-stirrup-suspending cables.

G is a standard or post stepped at its lower end to turn in bearings in cross beams or rods *f² f²*, fastened to the uprights of a second framing A', the upper end of said standard being held in the yoke or connecting-piece of the framing A.

The lower frame or turn-table proper F' is braced in position by means of inclined rods or wires *g g*, suitably secured to a ring *g'*, having its bearing in a collar or enlargement *g²* of the post or standard G, the lower ends of said rods or wire being secured to the outer frame-work of the turn-table F'. Across the longitudinal beams of the frame-work of the turn-table proper F' are secured cross-ties H, to which are bolted the hangers or stirrups C, which are similar in construction to those hereinbefore described.

I I are stay-rods radiating from and secured

to a ring *h*, in which the upper end of the post or standard *G* revolves, the outer ends of said stay-rods being suitably bolted, as at *h'*, to the upper and outer portion of the frame-work of the support *A'*.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The elevated railway provided with stirrups or hangers having upon their inner sides near to and about opposite the axles of the car-wheels the lateral guard-rails, substantially as set forth.

2. In an elevated railway, the stirrups or hangers having in their inner sides recesses, and lateral guard-rails projecting from recessed portions of said stirrups or hangers and standing closely to and about opposite the ends of the car-wheel axles, substantially as set forth.

3. In an elevated railway, the combination,

with the cable, of the hanger or stirrup and its suspending wires or rods crossing said cable and having their ends upon each side of the cable connected to rods passed through the upper corners of said stirrup or hanger, substantially as specified.

4. In an elevated railway, the combination, with the track-supporting stirrups or hangers having inward-twined lower ends, of the turn-table comprising a revolving circular frame or support revolving upon the lower ends of said hangers, and a bearing post or standard braced to said turn-table and suitably supported in position, substantially as set forth.

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

LYSANDER JOHNSTON.

Witnesses:

W. W. LARMOUR, Jr.,

W. H. HOSMER.