

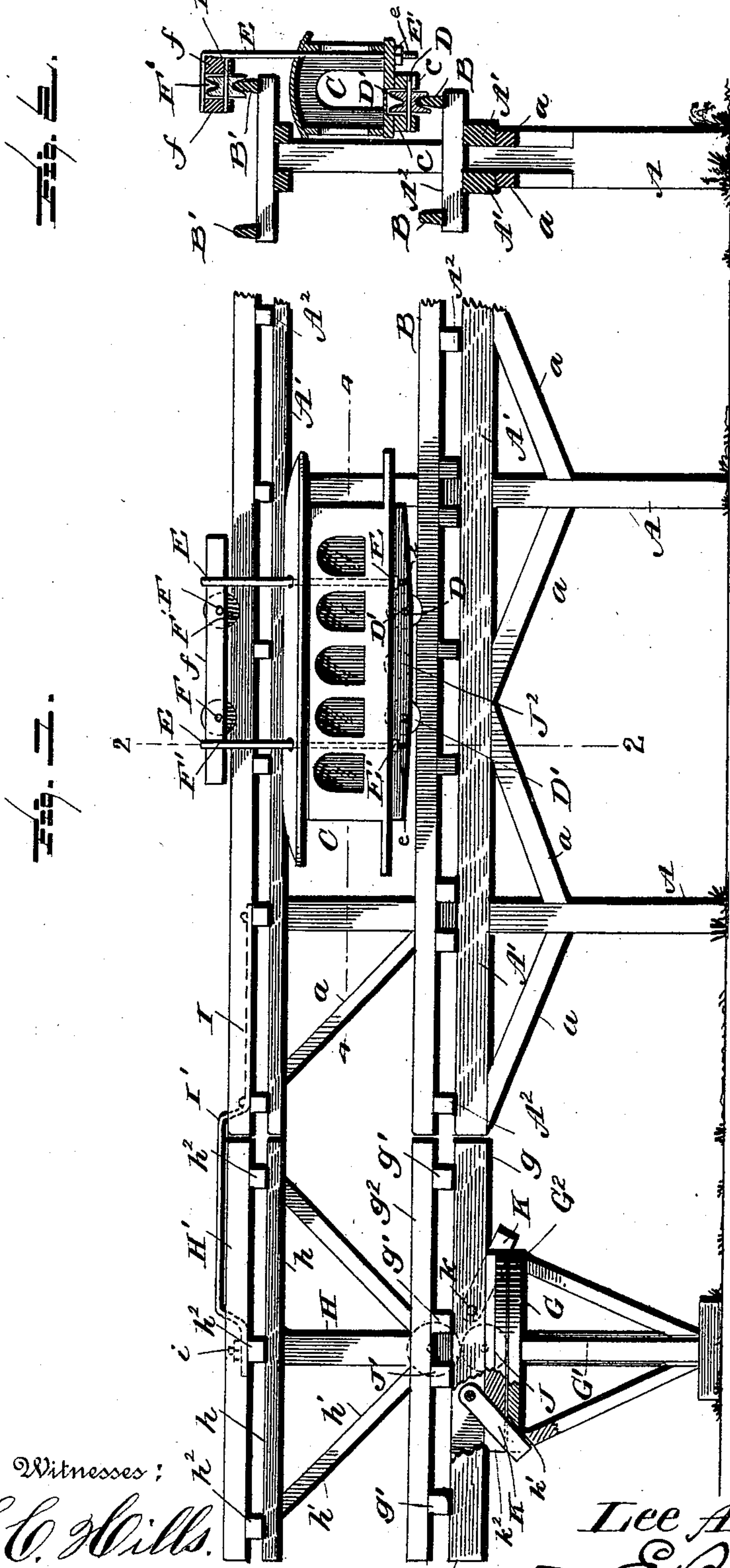
(No Model.)

2 Sheets—Sheet 1.

L. ANDERSON.
ELEVATED RAILWAY.

No. 518,170.

Patented Apr. 10, 1894.



Witnesses:

L. C. Mills.
E. A. Bond

Inventor:

Lee Anderson,
By E. B. Storking
Attorney

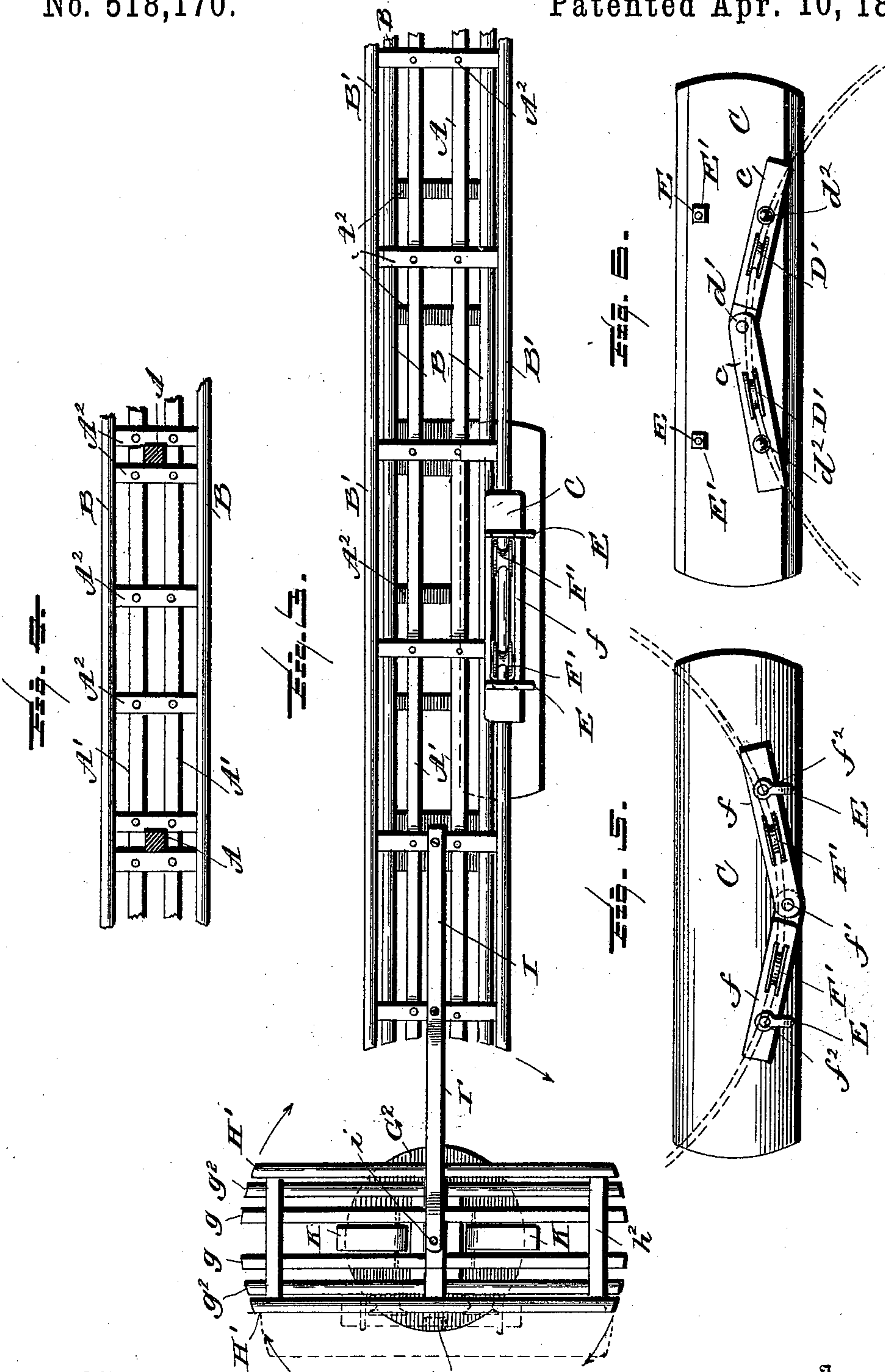
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UNITED STATES PATENT OFFICE.

LEE ANDERSON, OF PARIS, TEXAS, ASSIGNOR OF ONE-HALF TO J. J. DICKERSON, BEN H. DENTON, AND JAS. H. JOHNSTON, OF SAME PLACE.

ELEVATED RAILWAY.

SPECIFICATION forming part of Letters Patent No. 518,170, dated April 10, 1894.

Application filed October 21, 1893. Serial No. 488,789. (No model.)

To all whom it may concern:

Be it known that I, LEE ANDERSON, a citizen of the United States, residing at Paris, in the county of Lamar, State of Texas, have invented certain new and useful Improvements in Elevated Railways, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in elevated railways and it has for its objects, among others, to provide simple means for regulating and adjusting the weight of the car so as to throw the preponderance thereof upon either the upper or the lower track or to equally divide the weight so that each track bears a like proportion. In one form the car has provisions for permitting it to turn sharp curves without binding. The upper and lower rails of each track are arranged in different vertical planes and in order that the adjustment or distribution or division of the weight may be accomplished without increasing the liability of binding of the wheels the upper and lower supporting wheels are all carried by horizontal axles. I propose to employ electricity as the motive force.

Other objects and advantages of the invention will appear in the following description and the novel features thereof will be particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of a section of an elevated railway and car embodying my invention. Fig. 2 is a vertical cross section of the same on the line 2 2 of Fig. 1. Fig. 3 is a top plan of Fig. 1 with the movable portion of the turn-table turned at right angles to the line of track. Fig. 4 is a longitudinal section on the line 4 4 of Fig. 1 with the car removed. Fig. 5 is a top plan of the car. Fig. 6 is a bottom view of the same.

Like letters of reference refer to like parts in all the figures of the drawings.

Referring now to the details of the drawings by letter, A designates the uprights or posts, A' the stringers, A² the ties and a, the braces which may be of any suitable construction and the uprights may be secured or anchored in the ground in any well known manner. Supported upon the lower ties A² are the rails B preferably, though not necessarily, substantially of the form shown in cross section in Fig. 2.

B' are the upper rails supported upon the upper cross ties which in turn are supported upon the upper stringers which may be suitably braced where required and these upper rails are in a different vertical plane from the lower rails, being located at a greater distance from the center of the road as seen more clearly in Fig. 2.

C is the car which may be of any desired length and in bearings c upon the underside thereof are supported the axles D carrying the wheels D' which are grooved as seen in Fig. 2 and adapted to travel upon the lower track.

E are rods or bars of sufficient strength extending upward from the under side of the car at the outer side thereof with their lower ends screwthreaded as seen at e and receiving nuts E' as shown in Figs. 1 and 2. These rods or bars extend upward and through the roof of the car and at their upper ends carry bearings for the axles F of the upper wheels F' which are mounted to travel upon the upper track as shown in Fig. 3. These nuts bear against the under side of the bottom of the car and by turning the same up or down the weight of the car can be changed or regulated so as to throw the greater portion thereof upon either the upper or lower rails as may be desired or they may be so adjusted as to equalize the weight and throw one half upon the upper rail and the other half upon the lower. Ordinarily, where the track is comparatively straight and without any material curves the supports f in which the axles F have their bearings may be of the form shown in Figs. 1, 2 and 3 but where curves are to be encountered some provision should be made for allowing the cars to readily pass said curves and in Figs. 5 and 6, I have shown one form of such construction.

On reference to Fig. 5 it will be seen that the supports f are jointed as at f', each section carrying one of the wheels F' and being pivoted near the outer end upon pivots f²

upon which the upper ends of the rods E are held. The bearings *c* for the lower wheel D' are likewise jointed at the center as seen at *d'* in Fig. 6 and each section pivotally mounted near its outer end as seen at *d*² in said Fig. 6.

Any suitable form of motive power may be employed in connection with my improvements above set forth but as the motive power and its application form no part of the present invention I have not shown the same nor does it require an explanation.

At each end of the line I arrange a turntable so as to economize room and to avoid the necessity of a loop or a switch. I have shown the table at one end of the line only but as the construction and operation are the same at each end a description of one will suffice. This turn-table in its simplest form embodies a stationary lower disk or ring G supported upon the uprights G' braced as seen in Fig. 1 and a rotatable upper disk or ring G² to which are secured the stringers *g* and the cross ties *g'* on which are supported the rail sections *g*² and this upper disk carries the centrally disposed upright H to which are secured the stringers *h* braced by braces *h'* and supporting the cross ties *h*² and the upper rail-sections H'. This upper disk or ring is centrally pivoted in the lower disk or lower upright and the upright H is pivotally held on a vertical pivot *i* as seen in Fig. 3 and the upper end of this upright H is braced by the bar or brace I which is arranged centrally of the upper tracks and elevated as seen at I' where it bridges the space between the main track and the center of the turn table to permit of rotation of the movable portion of the turn table.

The turn table may be operated by any suitable means for instance the movable portion may carry a friction wheel J arranged to move in contact with the upper face of the stationary disk and to receive its motion from another wheel J' mounted to frictionally engage the wheel J and it in turn to be revolved by means of a pulley or wheel J² on the car and to be actuated by the motor or other means on the car; said wheels are indicated by dotted lines in Fig. 1; any other means however may be employed for operating the turn table. It will of course be understood that the car is to be locked on the turn table before the latter is moved.

In order to lock the turn table I have provided gravity latches K as seen in Figs. 1 and 3 pivotally mounted as at *k* on the movable portion of the table but only one of which is designed to operate at the same time. This serves to lock the table against movement by reason of its engagement in a notch *k'* in the lower disk as seen in Fig. 1, the latch having its free end guided in a corresponding notch *k*² in the upper disk as is also seen in said Fig. 1. Said notch in the lower disk is so located that when either of the latches is engaged therein the turn table will be locked

with its rails extending in the direction of the length of the main track. The idle latch extends through its notch in the upper disk and rides upon the outer edge of the lower disk.

Any suitable means may be provided for disengaging the latch, from the car, so that the turn table may be revolved, and the latch automatically drops into position to lock the turn table as the said latch comes opposite the notch in the lower disk.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim is—

1. In an elevated railway a car having wheels above and below the same and adjustable connections for varying the distance between the upper and lower wheels, substantially as specified.

2. In an elevated railway, a car having wheels above and below the same in different vertical planes and adjustable connections for varying the distance between the upper and lower wheels, substantially as specified.

3. In an elevated railway, a car having wheels above and below the same and vertically adjustable rods carried by the car and supporting the bearing for the upper wheel, substantially as specified.

4. In an elevated railway, a car having wheels above and below the same in different vertical planes and vertically adjustable rods carried by the car and supporting the bearings for the upper wheel, substantially as specified.

5. The combination with a car, of vertical rods extended above the same and carrying a support for the upper wheels of adjusting means on the lower ends of said rods, substantially as specified.

6. The combination with a car adapted for a single rail track, of pivoted axle-supports pivotally connected together, substantially as specified.

7. The combination with a car, of vertically disposed rods extended above the same, axle supports pivotally held near their outer ends on pivots held in said rods and having their adjacent ends pivotally connected together, substantially as specified.

8. The combination with an elevated track having rails in different vertical planes, of a car having wheels above and below the same in different vertical planes and adjustable connections for varying the distance between the upper and lower wheels, substantially as specified.

9. In an elevated railway, the combination with a track having rails in different vertical planes, of a car having wheels above and below the same in different vertical planes and carried by horizontal axles and adjustable connections on the car for vertically adjusting the upper wheels, substantially as specified.

10. The combination with a track having a single rail for each set of wheels in different

vertical planes and a car adapted to travel upon said track, of a turn table at one end of the track for receiving the car from one track and placing it in position for its return upon the other track, and an arched brace having one end pivoted at the center of the turntable substantially as specified.

11. The combination of rails in different vertical planes, a car having wheels in corresponding planes and adjustable connec-

tions on the car for vertical adjustment of one set of wheels with relation to the other to distribute the weight upon the upper and lower rails, substantially as specified.

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

LEE ANDERSON.

Witnesses:

HEATH SUTHERLAND,

E. H. BOND.