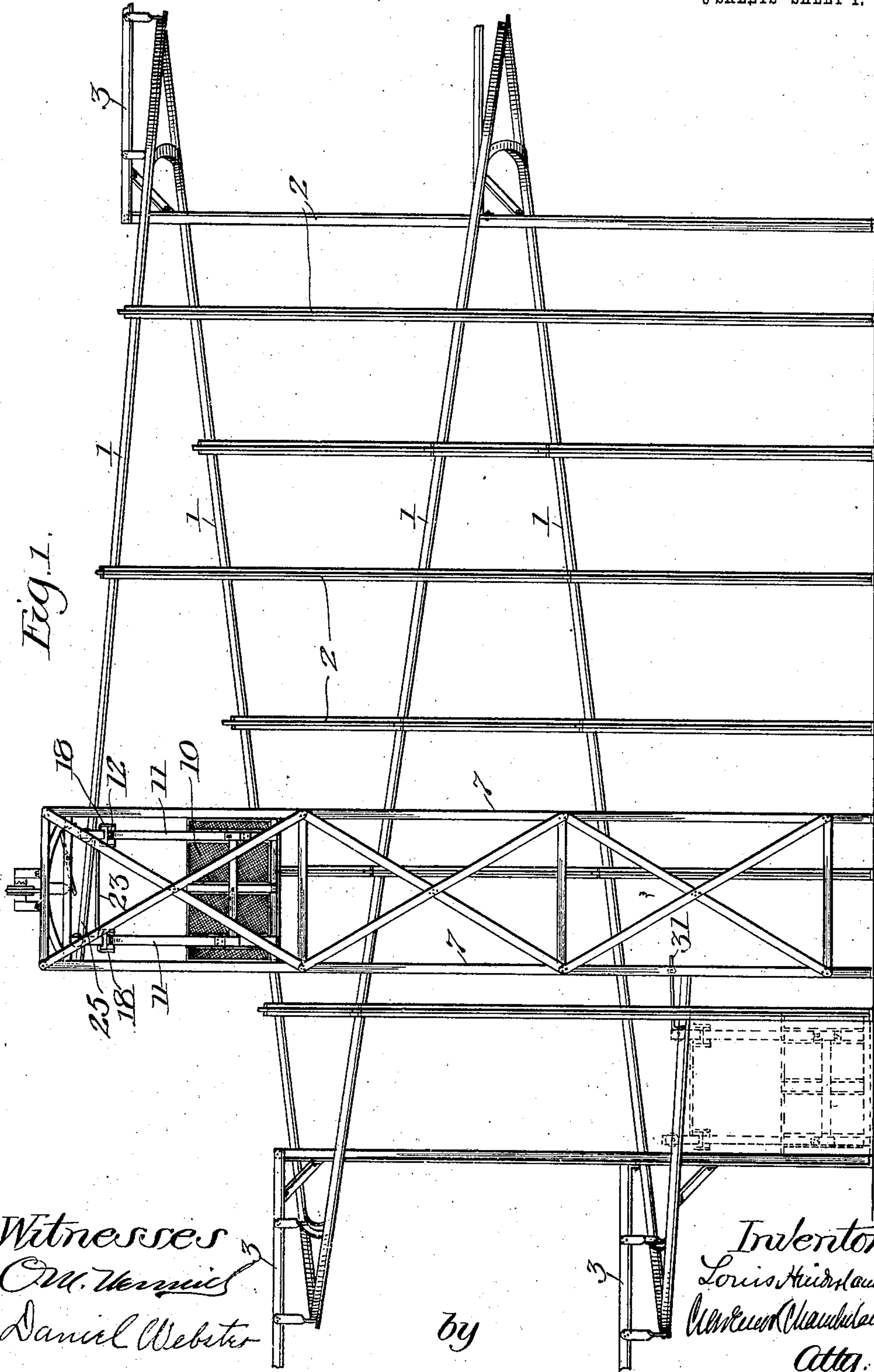


L. HINDERLAND.
SUSPENDED RAILWAY.
APPLICATION FILED JUNE 10, 1908.

919,352.

Patented Apr. 27, 1909.

3 SHEETS—SHEET 1.

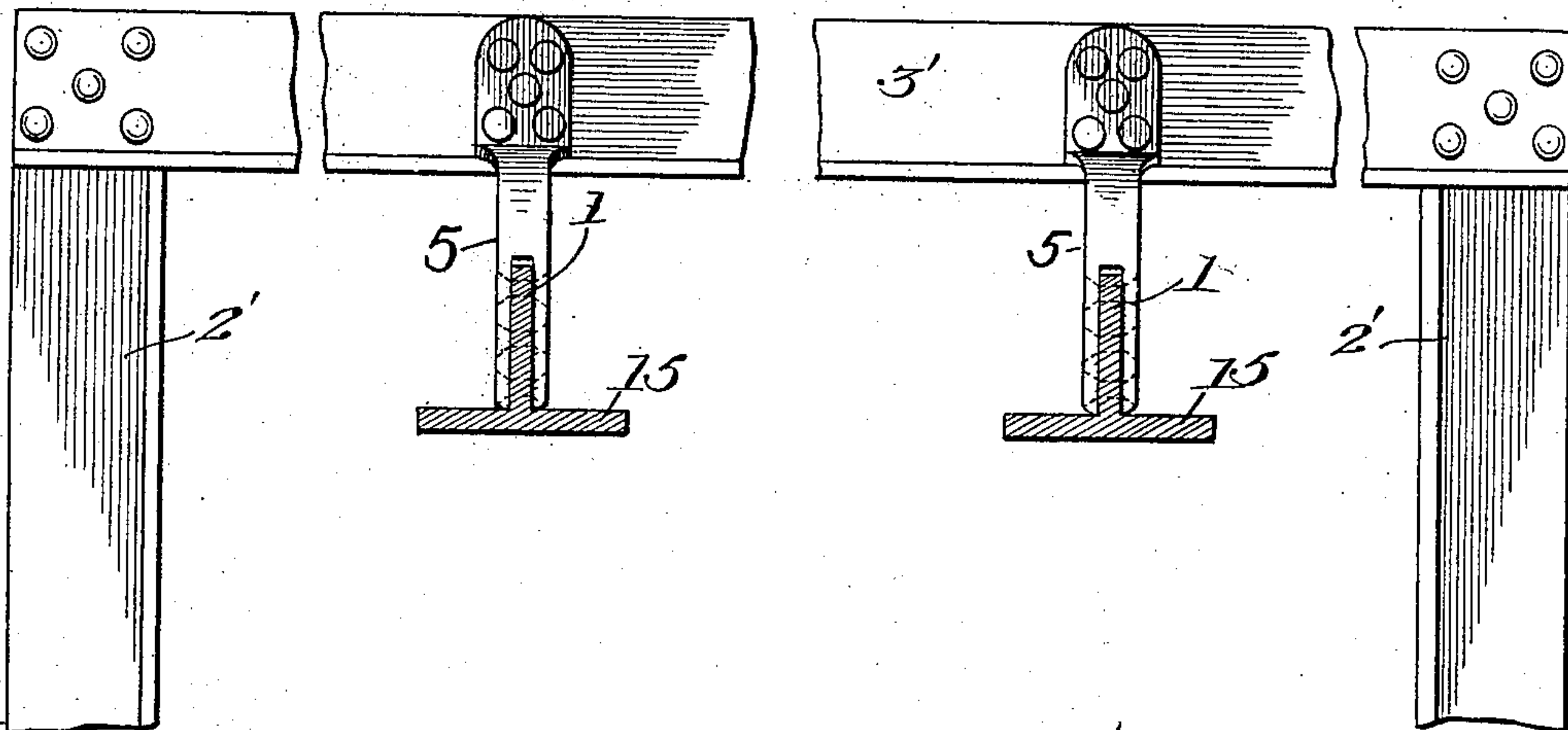
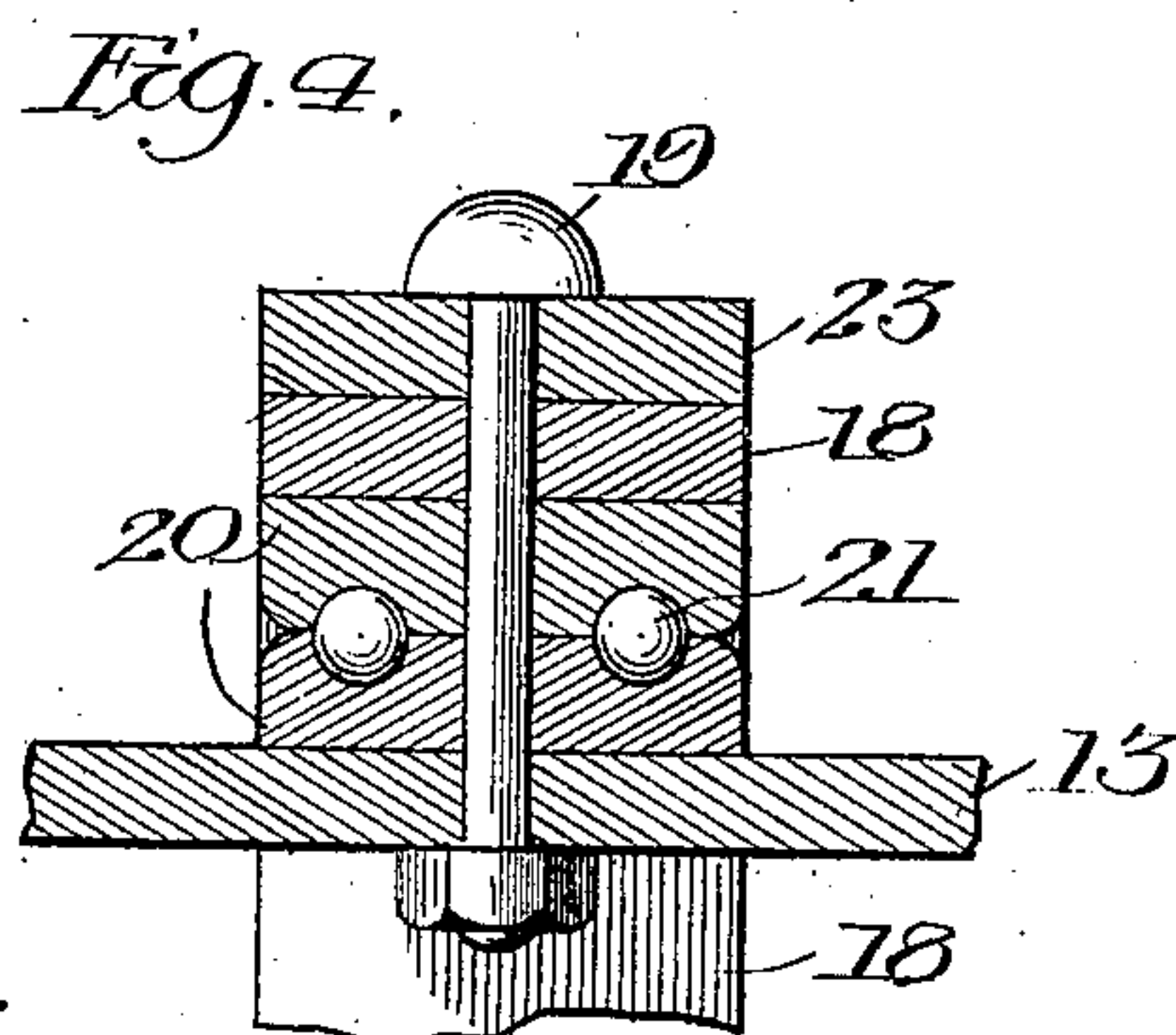
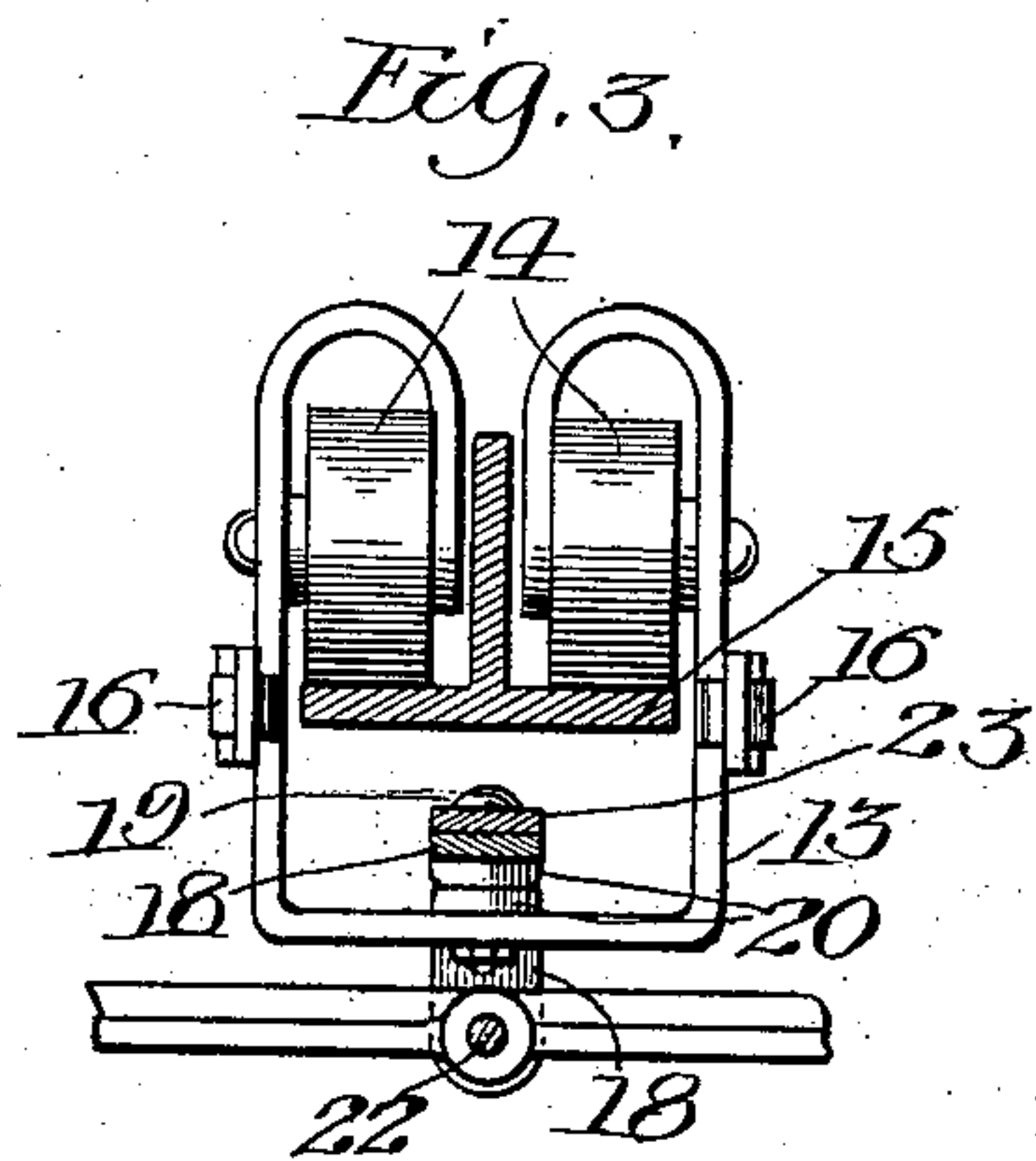
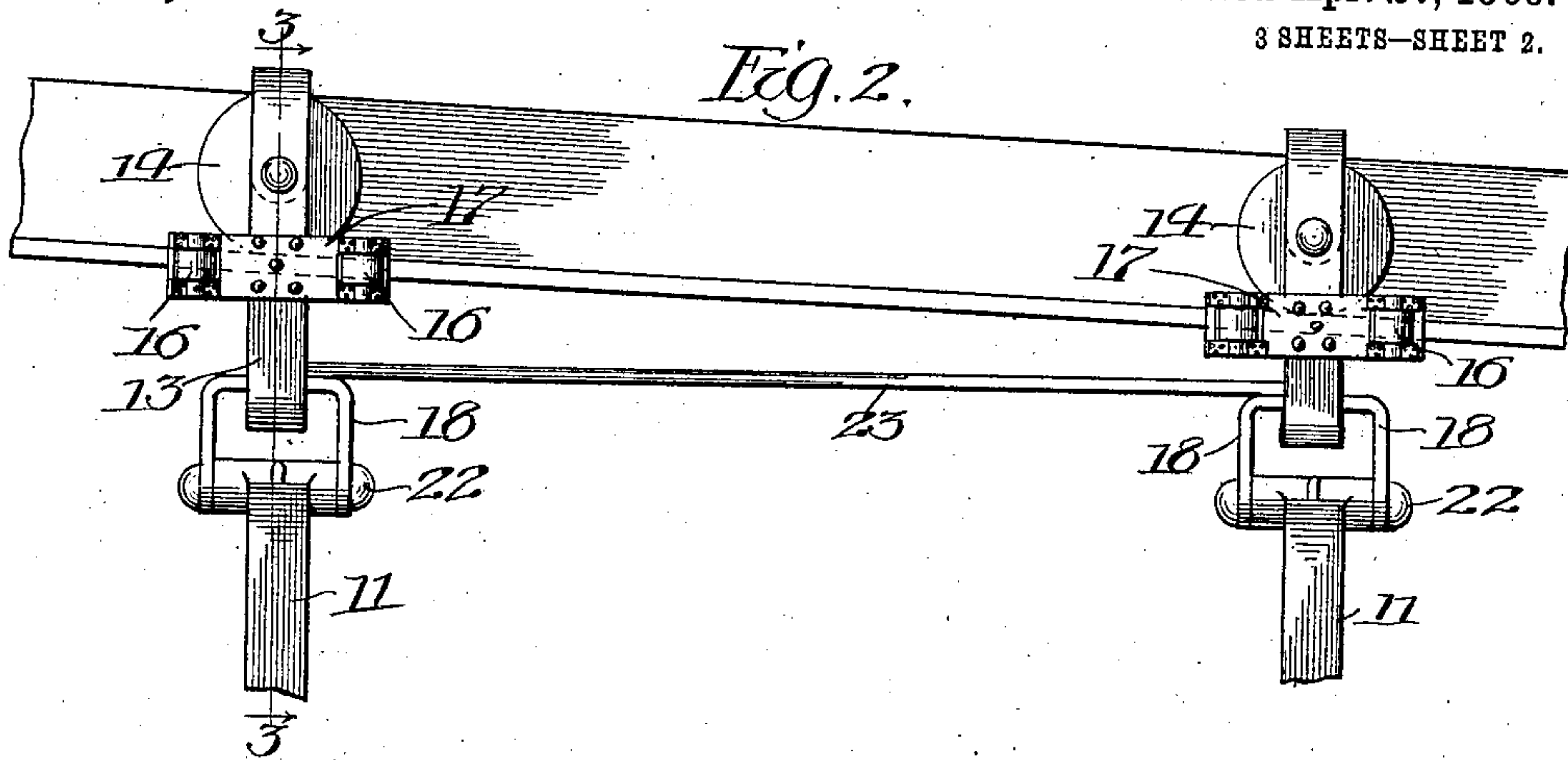


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3 SHEETS—SHEET 2.



Witnesses
O. M. Hennich
Daniel Webster

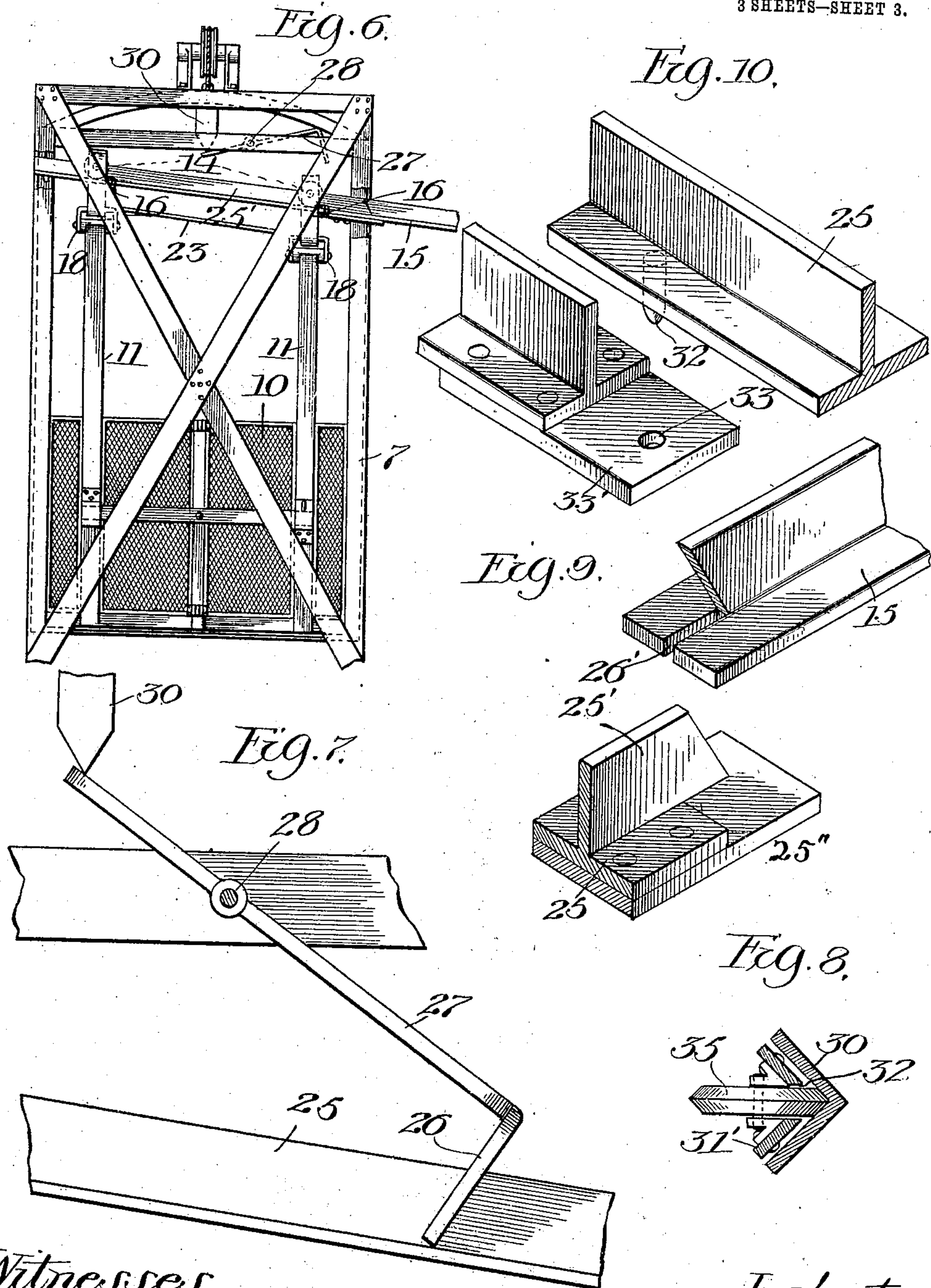
by

Inventor
Louis Hinderland
Clarence H. Hinderland
att'y

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3 SHEETS—SHEET 3.



Witnesses
C. M. Munnich
Daniel Webster

by

Inventor
Louis Hinderland
Charles H. Hinderland
Atty

UNITED STATES PATENT OFFICE.

LOUIS HINDERLAND, OF CHICAGO, ILLINOIS.

SUSPENDED RAILWAY.

No. 919,352.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 10, 1908. Serial No. 437,724.

To all whom it may concern:

Be it known that I, LOUIS HINDERLAND, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Suspended Railways, of which the following is a specification.

My invention relates to devices for aerial locomotion whereby a car for carrying passengers or for other purposes may be transported from point to point and, as illustrated, the car may be propelled by the action of gravity. It is especially adapted for amusement purposes whereby passengers may be transported from point to point and through such convolutions of route as may be desired until they are finally returned to the initial point from which the car may be started to repeat the journey.

The cars are so arranged that they swing free from overhead tracks, the construction of which is such that derailment is impossible. And when the cars are propelled by gravity, the starting point may be from the top of an elevator shaft to the bottom of which the cars are returned at the end of the journey. A suitable elevator car with connecting rails thereon receives the passenger car and carries it to the upper and starting point of the track where the new journey is begun.

The principles of my invention are illustrated in the drawings in which—

Figure 1 represents an elevation of my device somewhat diagrammatic in character. Fig. 2 is a side view of hangers forming a truck by which a car is suspended. Fig. 3 is an end view of Fig. 2 taken on the dotted line 3—3. Fig. 4 is a detail of an anti-friction device in said hanger. Fig. 5 represents a cross section of the rails upon which a car is swung, the same being supported by double posts and cross bar. Fig. 6 represents an elevator with a car thereon at top of the shaft preparatory to beginning the downward journey. Fig. 7 is a detail of the car lock and tripping device. Fig. 8 is a detail of an anti-friction guide for the elevator car in its shaft. Fig. 9 shows the interlocking connection between the sections of track at the starting point. Fig. 10 shows a connection for a similar purpose at termination of the track.

Further describing my invention with reference to my drawings in which like characters of reference denote like parts through-

cut: 1 is a track of inverted T section which may be conducted as desired upon a gradual slant and supported by the posts 2 from which project the cross arms or brackets 3 or, if preferred, such brackets may be replaced by cross arms 3', supported at either end by posts 2' as illustrated in Fig. 5. Said figure further illustrates the hangers 5 by which the inverted T bars 1 forming the track may be suspended. The drawings illustrate two such tracks or rails, suspended side by side but as may be preferred, one or more tracks may be used.

An elevator shaft having corner posts 7 as illustrated in Fig. 1 should be so placed that the car thereof shall be in substantial alignment with the track 1 at the point of highest elevation. Any suitable or convenient means for raising such car may be adopted. A passenger car 10 is suspended by rods 11 from the hangers 12 shown in detail in Figs. 2, 3 and 4. The head of said hanger may consist of a strap 13 centrally pivoted as hereinafter described and having the ends passed upwardly and inwardly to inclose the rollers 14 which are journaled thereto and which rest upon arms 15 the flange of the T bar constituting the track 1. The vertical portions of said hanger are protected and free movement thereof given by rollers 16 journaled on the ends of the cross strap 17 and so arranged that such rollers engage the outer edges of the arms 15. Links 18 in the form of an inverted U are passed through the dependent portion of the hanger head 13 before described and held in proper relative position thereto by the pivot bolts 19. The anti-friction device consisting of the plates 20 having suitable circular grooves in their adjacent faces to hold anti-friction balls 21 are placed between the hanger head and said link. The lower ends of said link are perforated and secured by a pivot 22 so as to make a hinged connection between the link and the passenger car suspending straps 11. The hangers described should be arranged in pairs connected together by a tie-bar 23 thus together forming a truck or support for each passenger car. Such a car and its action may be described by considering it initially as mounted on the short section of track 25 carried by the elevator car.

When at the bottom of the shaft and until the securing device is tripped the car is held in place by a detent consisting of the dog 26 on the lever 27 pivoted at 28 to the top of the

elevator car. As the elevator car is raised, carrying the passenger car suspended therein and secured by said dog, the lower end of said rail interlocks with the end of main track, and, simultaneously therewith, the short arm of lever 27 coming in contact with the stationary projection 30, the car is released, permitting it to start down said track under the action of gravity. It will then pass over the tracks until it reaches the stopping point as illustrated in the lower left-hand corner of Fig. 1 where it may be held by the detent 31 until it is desired to run it on the elevator. The tracks should be so arranged that the action of gravity will be substantially overcome at such predetermined point at which the loading and unloading takes place. Meanwhile, the elevator car will have descended to the starting point, the rearward and highest point of the rail 25 thereon engaging with the end of the stationary rail, the pin 32 being adapted to make proper alinement with the opening 33 in the bottom plate 33' and locking the rails together. When the passenger car is loaded it is released from the detent 31 and run into proper position on the elevator car. The latter is then raised whereupon the upper part or web 25' of the rail 25 engages within the groove or slot 26' in the flange of the main track, alinement being further secured by the bottom plate 25". At the same time, by proper relative adjustment, the short arm of the detent 27 engages the stationary projection 30 whereby the dog 26 is disengaged and the car automatically started on its descending trip.

The general construction of the device described takes advantage of commercial forms of metal such as angles and T bars. The elevator shaft may have the corner posts 7 of angle iron and when so constructed they will form guides for the car moving vertically therein and form a runway in which the angle faced rollers 35, as shown in Fig. 8, attached to the car may pass and prevent friction in movement. The vertical frame of the elevator car may be of angle iron also, and the anti-friction wheels may be mounted therein as shown in Fig. 8 by being pivoted within the inner angles of the corner parts 31' and having their faces projecting through slots 32 in the corners to engage the inner angles of the corner posts of the elevator shaft.

I claim:

1. In an overhead railway: a main track, means for suspending the same, an elevator having a sectional track, a truck suspended on said track, a car adapted to be suspended from the truck, means for detaining the truck on said sectional track, and means for releasing the truck when said track is brought into alinement with the main track.
2. In a car suspending device, the combi-

nation with an inverted T bar of a track hanger having duplicate heads and rollers adapted to ride on the horizontal arms forming the flange of said T bar, and a link of inverted U shape passed through the dependent portion of said heads and pivoted thereto.

3. In a car suspending device, the combination with an inverted T bar of a track hanger having duplicate heads and rollers adapted to ride on the horizontal arms forming the flange of said T bar, a link of inverted U shape passed through the dependent portion of said heads and pivoted thereto, and an anti-friction device between said link and said heads.

4. In a car suspending device, the combination with an inverted T bar of a track hanger having duplicate heads and rollers adapted to ride on the horizontal arms forming the flange of the T bar, a link of inverted U shape passed through the dependent portion of said heads and pivoted thereto, and a car suspending strap pivoted to said link.

5. In an overhead railway; a main track of inverted T shape in cross section, means for suspending the same, an elevator provided with a track of similar section the ends of said tracks being adapted to interlock when brought into alinement, a truck provided with a head and rollers journaled thereto so as to roll on the horizontally projecting arms of the track, a car suspended from said hanger, means for detaining the hanger in the sectional track, and means for releasing the truck when said track is brought into alinement with the main track.

6. In an overhead railway; a main track of inverted T shape in cross section, means for inclinedly suspending the same, an elevator provided with a track of similar section and inclination to the main track the ends of said tracks being adapted to interlock when brought into alinement, a truck provided with a head and rollers journaled thereto so as to roll on the horizontally projecting arms of the track, a car suspended from said hanger, and means for detaining the hanger in the sectional track until said track is brought into alinement with the main track.

7. In an overhead railway; an interrupted track of inverted T shape in cross-section, one end of the adjacent parts having a portion of the web removed together with that part of the flange alined therewith to form a slot, and the other part having a portion of the flange removed so that the projecting web may engage within the aforesaid slot.

In witness whereof I have hereunto set my hand at Chicago, Illinois this 4th day of June 1908.

LOUIS HINDERLAND.

Witnesses:

DANIEL WEBSTER,

OTTO J. HINDERLAND.