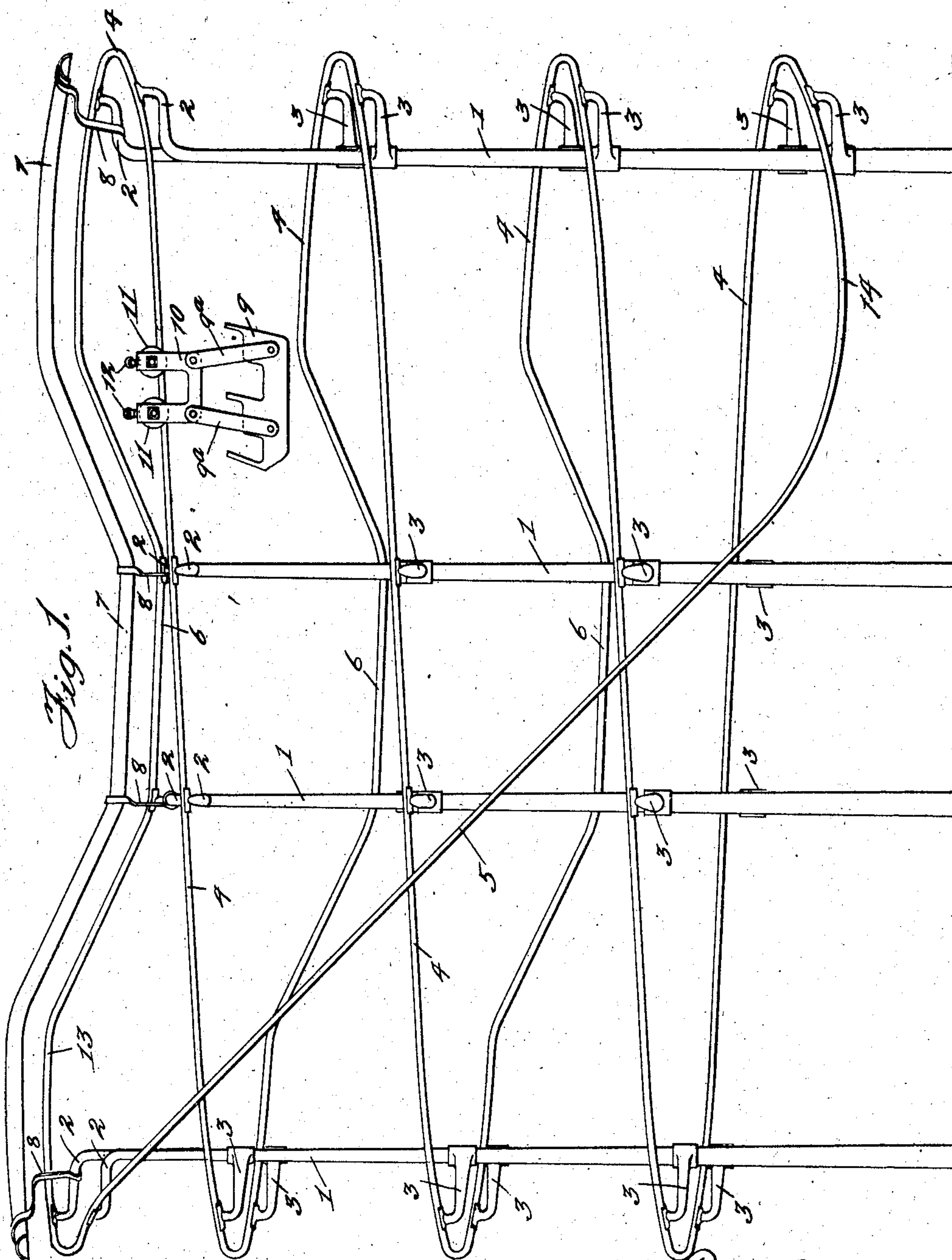


No. 833,835.

PATENTED OCT. 23, 1906.

L. F. HUNTLEY.  
GRAVITY RAILWAY.  
APPLICATION FILED OCT. 21, 1905.

3 SHEETS—SHEET 1.



Witnesses:

*Ed Perry*  
*W Weir*

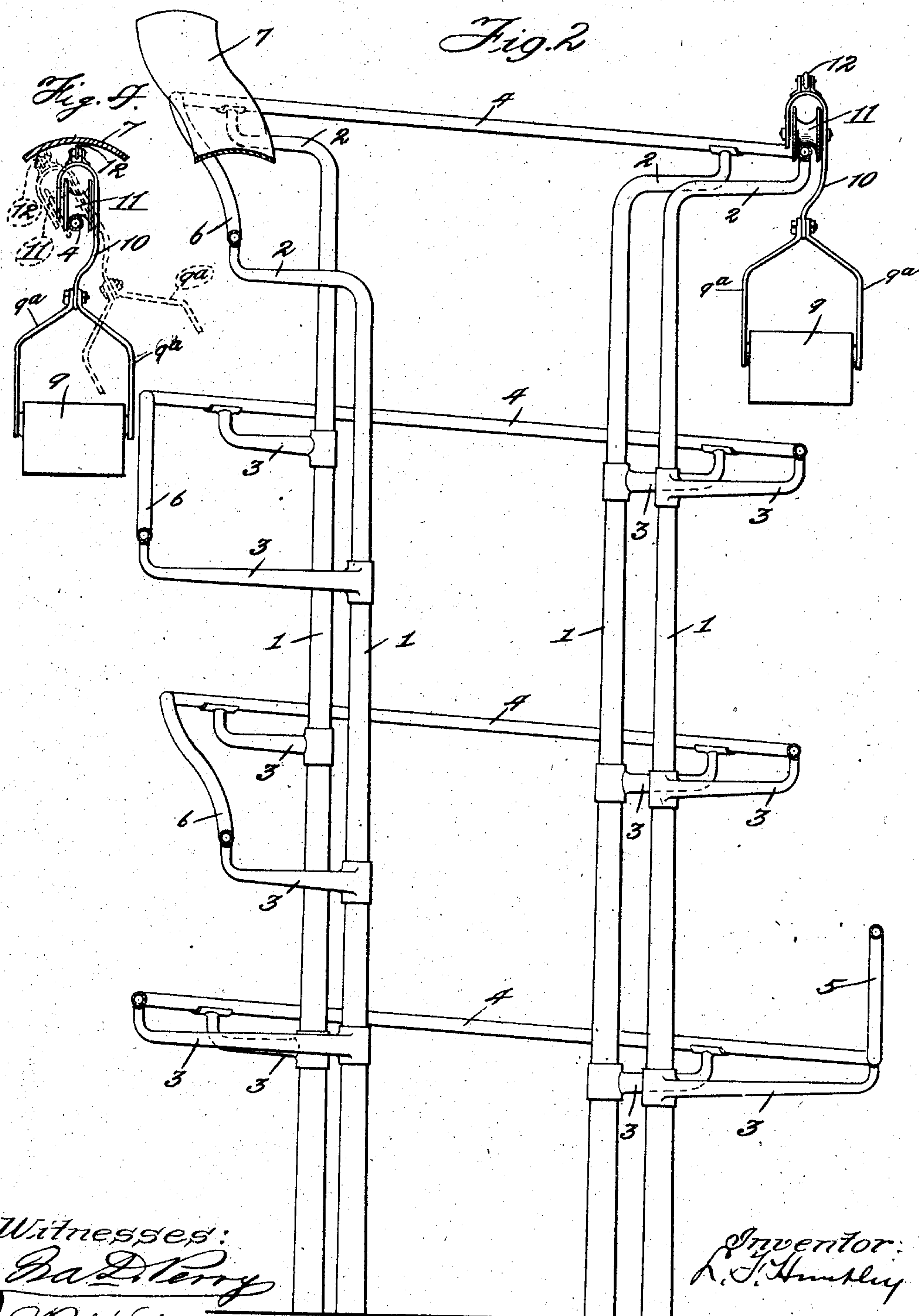
*L. F. Huntley*  
*Atty*

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3 SHEETS—SHEET 2.



Witnesses:  
*Ed. Perry*  
*J. B. Weir*

Inventor:  
*L. F. Huntley*

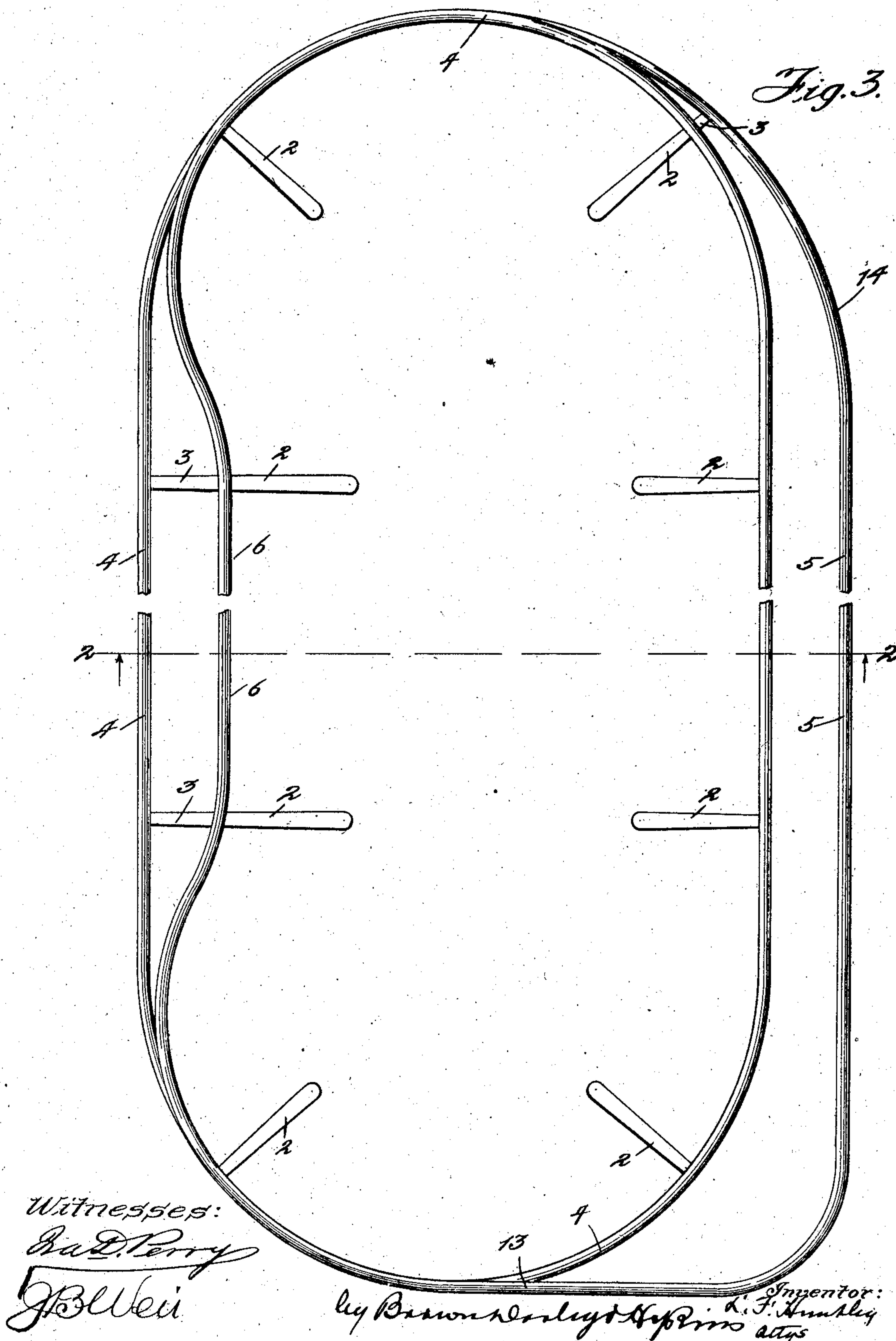
*by Brown & Co. Attys*

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3 SHEETS—SHEET 3.





# UNITED STATES PATENT OFFICE.

LUCIAN F. HUNTLEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD  
TO CHARLES McMAHON AND ONE-THIRD TO OSCAR B. DANNER, OF  
CHICAGO, ILLINOIS.

## GRAVITY-RAILWAY.

No. 833,835.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed October 21, 1905. Serial No. 283,742.

*To all whom it may concern:*

Be it known that I, LUCIAN F. HUNTLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Gravity-Railways, particularly adapted for pleasure or amusement, of which the following is a specification.

The object of the invention is to produce an improved device of this character in which the car or carrier will be suspended from an overhead track and in which the centrifugal force of the carrier shifts the point of bearing of the hanger upon the track.

A further object is to produce an improved machine of this character in which the track is supported by the ends of projecting brackets or arms, which are so arranged as to be located entirely out of the path of the centrifugal movement of the car.

A further object is to provide a guard or shield at certain points to prevent the accidental displacement of the hanger; and a further object is to construct a device of this character which will be simple in construction and cheap to manufacture.

To these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in certain features of novelty in the construction and arrangement of the several parts, as hereinafter more fully described and claimed, and shown in the accompanying drawings, illustrating an exemplification of the invention, in which—

Figure 1 is a side elevation of my improved apparatus. Fig. 2 is a section on line 2 2 of Fig. 3. Fig. 3 is a top plan view of the track, showing the supporting-brackets; and Fig. 4 is a detail view showing the different relative positions of the hanger and guard or shield.

Referring to the drawings, in which the same reference characters designate similar parts throughout the several views, the numeral 1 designates suitable standards or supports, the upper ends of which are bent to form arms or brackets 2, and 3 designates additional brackets or arms suitably secured to the standards or supports 1 in any desired manner. A continuous spiral track 4 is arranged around the supports or standards 1 and rests upon and is secured to the brackets 2 and 3 in any desired manner. The

brackets 3 are so located that the track 4 engaging the same will be disposed in an inclined plane, and the end 5 extends from the lowest point of the track 4 to approximately the highest or starting point thereof.

Along the course of the track 4 are suitably-depressed portions 6, which may be constructed in any manner to accomplish the desired end. Adjacent these depressed portions 6 may be arranged suitable guards or shields 7, held in position by supports 8, one end of which may be secured to the arms or brackets 2 and 3. There may be any number of these shields or guards 7 used, one over each of the depressed portions 6, if desired; but I have only illustrated one shield as being located over the depressions in the upper part of the track.

A carriage or car 9 is rigidly suspended by means of the connection 9<sup>a</sup> from a hanger 10, and said hanger is provided with grooved wheels or rollers 11, which are adapted to rest and travel upon the track 4. These wheels or rollers may be mounted in any suitable bearings, and carried by the top of the hanger 10 are antifriction-rollers 12, located, preferably, over the wheels or rollers 11.

All of the parts of the apparatus may be constructed of any desired material; but I have preferably shown the same as being made of metal, and the standards or supports 1 may be so arranged as to cause any desired configuration.

The operation is as follows: A carrier is suspended from the track and started at the point indicated at 13 and traverses the track 4 until it reaches the lowest point of the track, from which point it is raised in any suitable manner to the starting-point 13. During its rapid descent the centrifugal force will throw the body of the car outward, causing the wheels or rollers 11 to change their point of bearing on the track, and as the carrier and hanger are rigidly constructed and free to swing laterally the point of bearing of the rollers or wheels 11 on the track 4 will at all times be in a direct line with the vertical axis of the carrier, and the brackets 2 and 3, which support the track, are located on the inside of the track and in such a position that the hanger will not contact therewith, and the centrifugal movement of the car will not be interfered with. The guards or shield



7 are located adjacent the depressed portions 6 to prevent the carrier from jumping the track when the hanger reaches and suddenly travels into said depressed portions. These 5 guards or shields 7 are arranged so that they will not be engaged by the antifriction-rollers 12 unless the hanger does jump the track, and the distance between the rollers 12 and the face of the guard or shield 7 is such as to 10 always hold the flanges of the rollers or wheels 11 astride the track 4. The path of the movement of the antifriction-rollers 12 is on an arc formed by the bearing of the wheels or rollers 11 on the track 4 and is controlled by the centrifugal movement of the 15 carrier 9, and for this reason the guard or shield 7 is preferably curved on said arc. The impetus of the car as it reaches the bottom of the track may be checked in any desired manner, such as by depressing the 20 track, as at 14.

It is to be understood that it is not desired to be limited to the exact sizes, proportions, and arrangement of the several parts, 25 as various changes may be made without departing from the spirit or scope of the invention.

Having thus fully described the invention, what is claimed as new is—

30 1. In a device of the class described, the combination of a track provided with depressed portions, a gravity-operated and laterally-deflectable carrier suspended from said track, and a guard or shield over the 35 track adjacent the depressed portion to prevent the car from jumping the track.

2. In a device of the class described, the combination of a spiral track, a suspended carrier provided with a hanger engaging the 40 track, the point of bearing of said hanger on the track being varied by the lateral motion of the carrier and means for preventing the carrier from leaving the track in any of its positions.

45 3. In a device of the class described, the combination of a spiral track, a suspended carrier provided with a hanger engaging the track, the point of bearing of said hanger on the track being at all times in a direct line 55 with the vertical axis of the carrier and varied with respect to the track by the centrifugal motion of said carrier and means for preventing displacement of the hanger.

55 4. In a device of the class described, the combination of a spiral track, a guard or

shield secured above the track, a carrier provided with a laterally-deflectable hanger engaging the track, and antifriction-rollers carried by the hanger, said rollers being adapted to engage the guard when the hanger starts 60 to jump the track.

5. In a device of the class described, the combination of a spiral track, a carrier provided with a hanger engaging the track, antifriction-rollers carried by the hanger, said 65 rollers being moved by the centrifugal motion of the carrier, through an arc described from the central point of the track, and a guard secured above the track adapted to be engaged by the rollers when the hanger starts 70 to leave the track in any of its positions.

6. In a device of the class described, the combination of a plurality of standards, brackets secured to the standards, a spiral 75 track carried by the brackets and surrounding the standards, and a gravity-propelled carrier rigidly suspended from said track, the point of engagement of the carrier with the track being varied by the speed of travel and centrifugal motion of the carrier. 80

7. In a device of the class described, the combination of an inclined rail, a hanger having wheels engaging said rail, and a car suspended by the hanger, the car being laterally deflectable and free to swing by centrifugal force, and the connections between the 85 car and the wheels being rigid and incapable of relative lateral deflection, whereby the lateral swinging of the car will keep the point of bearing of the wheels on the rail, always 90 in line with the perpendicular axis of the car.

8. In a device of the class described, the combination of a spiral track, a guard or shield secured above a portion of the track and spaced therefrom, said guard or shield 95 being curved on an arc described from the central point of the track, and a carrier suspended from the track and adapted to pass under the guard or shield, said carrier being also adapted to be laterally deflected through 100 an arc parallel with the guard or shield.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 19th day of October, A. D. 1905.

LUCIAN F. HUNTLEY.

Witnesses:

FRANCIS A. HOPKINS,  
CHAS. H. SEEM.