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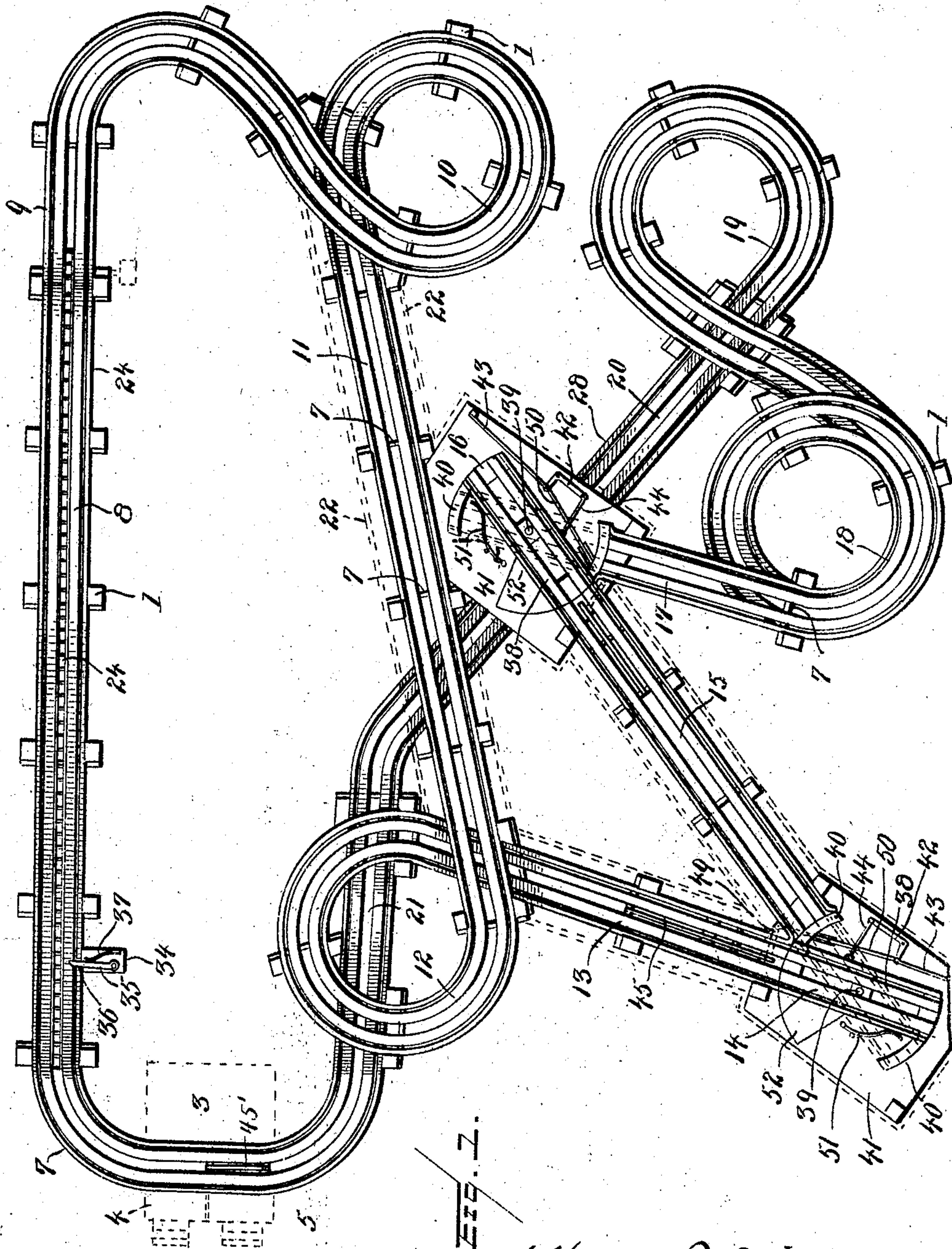
PATENTED MAR. 27, 1906.

W. P. TAYLOR & J. L. HOARD.

PLEASURE RAILWAY.

APPLICATION FILED DEC. 28, 1905.

4 SHEETS—SHEET 1.



WITNESSES:

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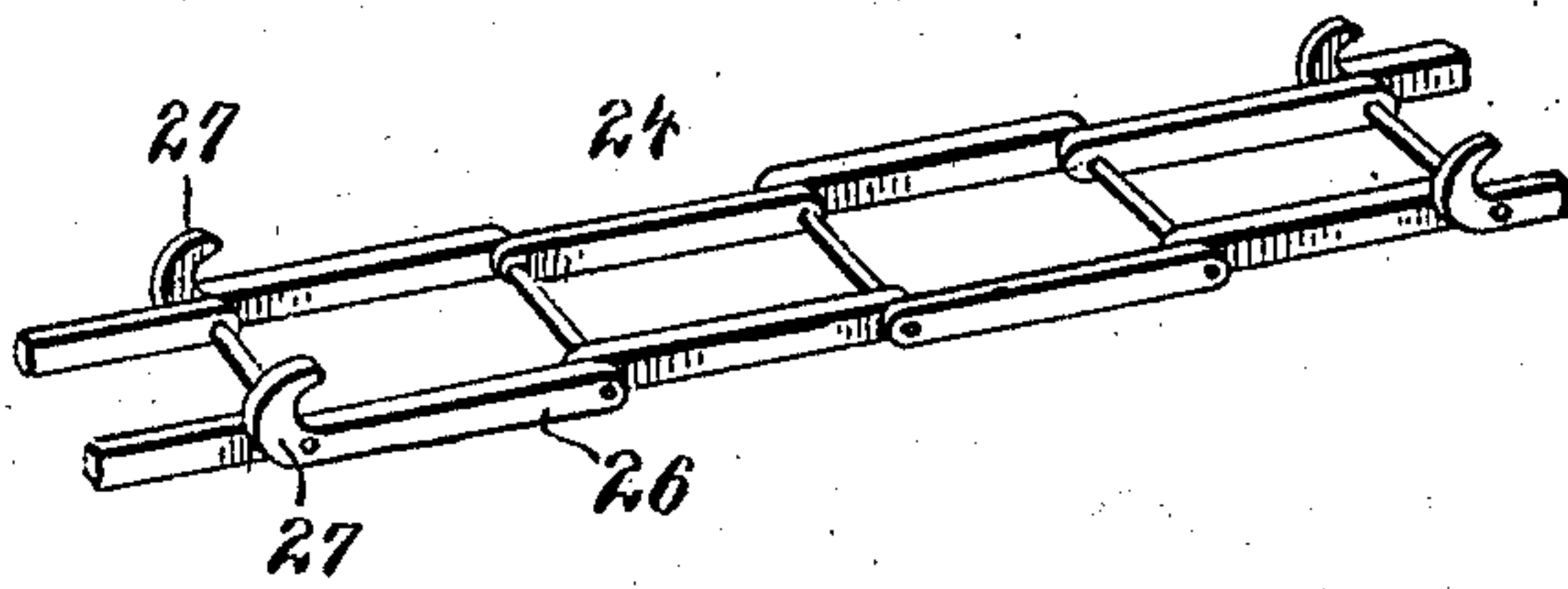
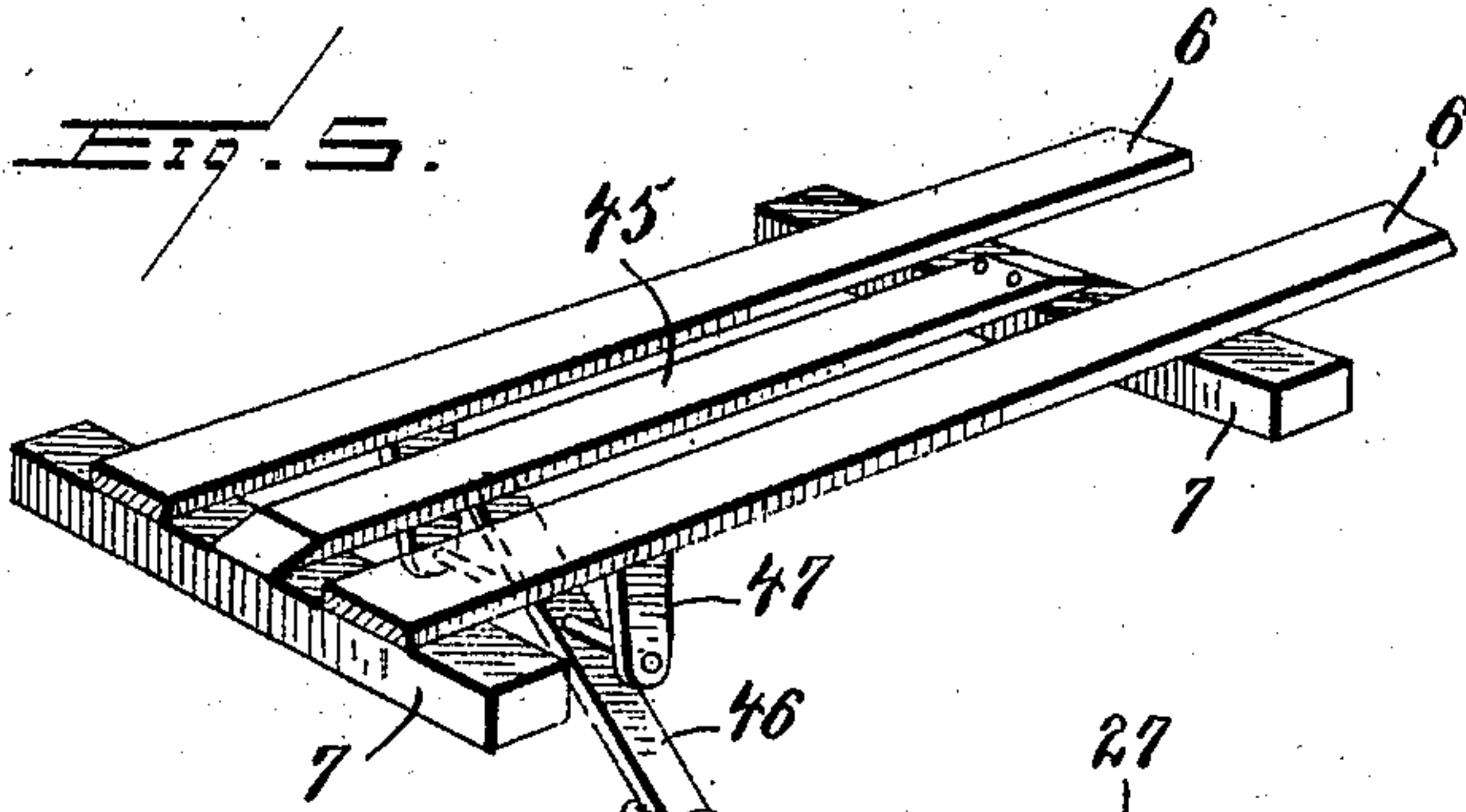
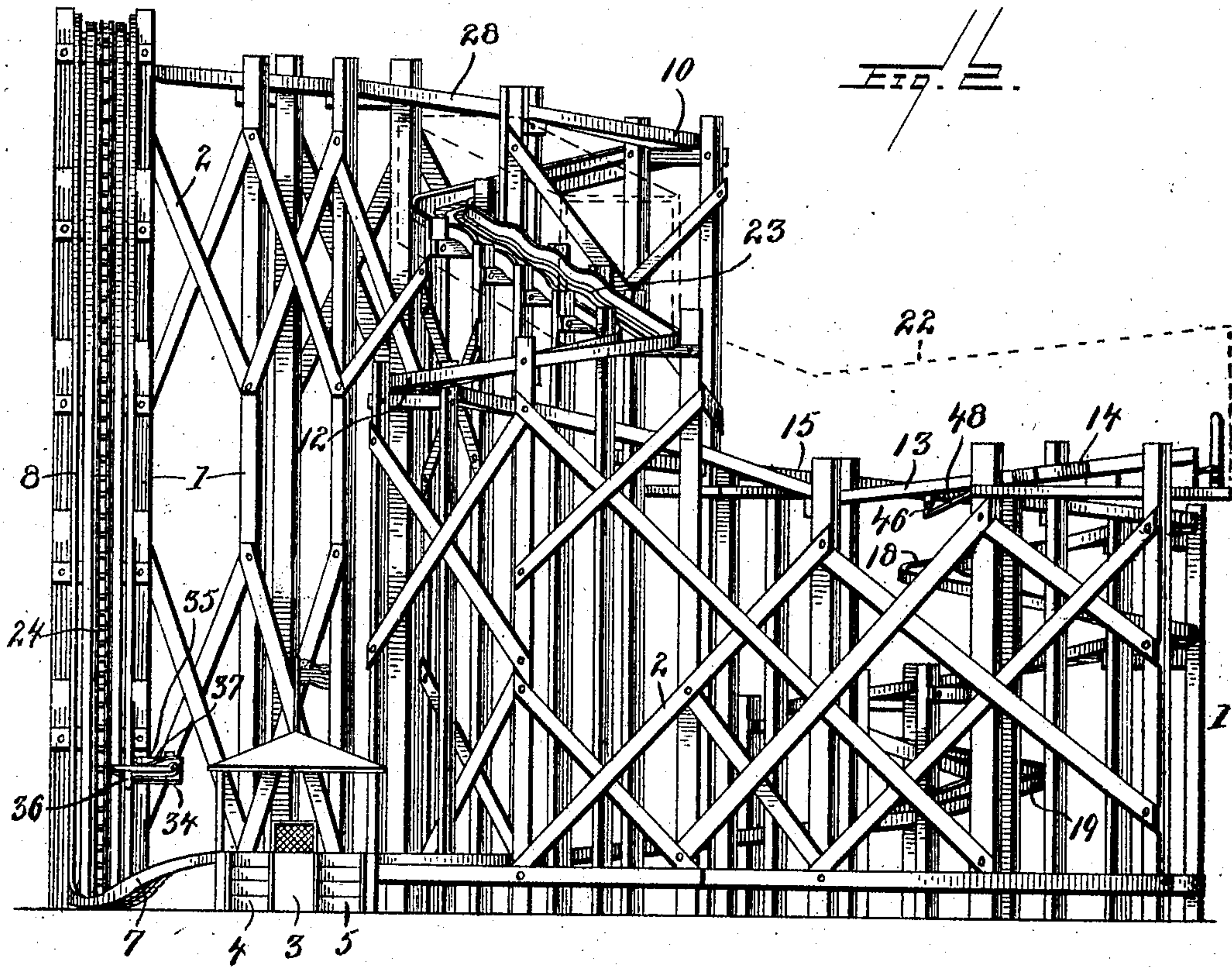
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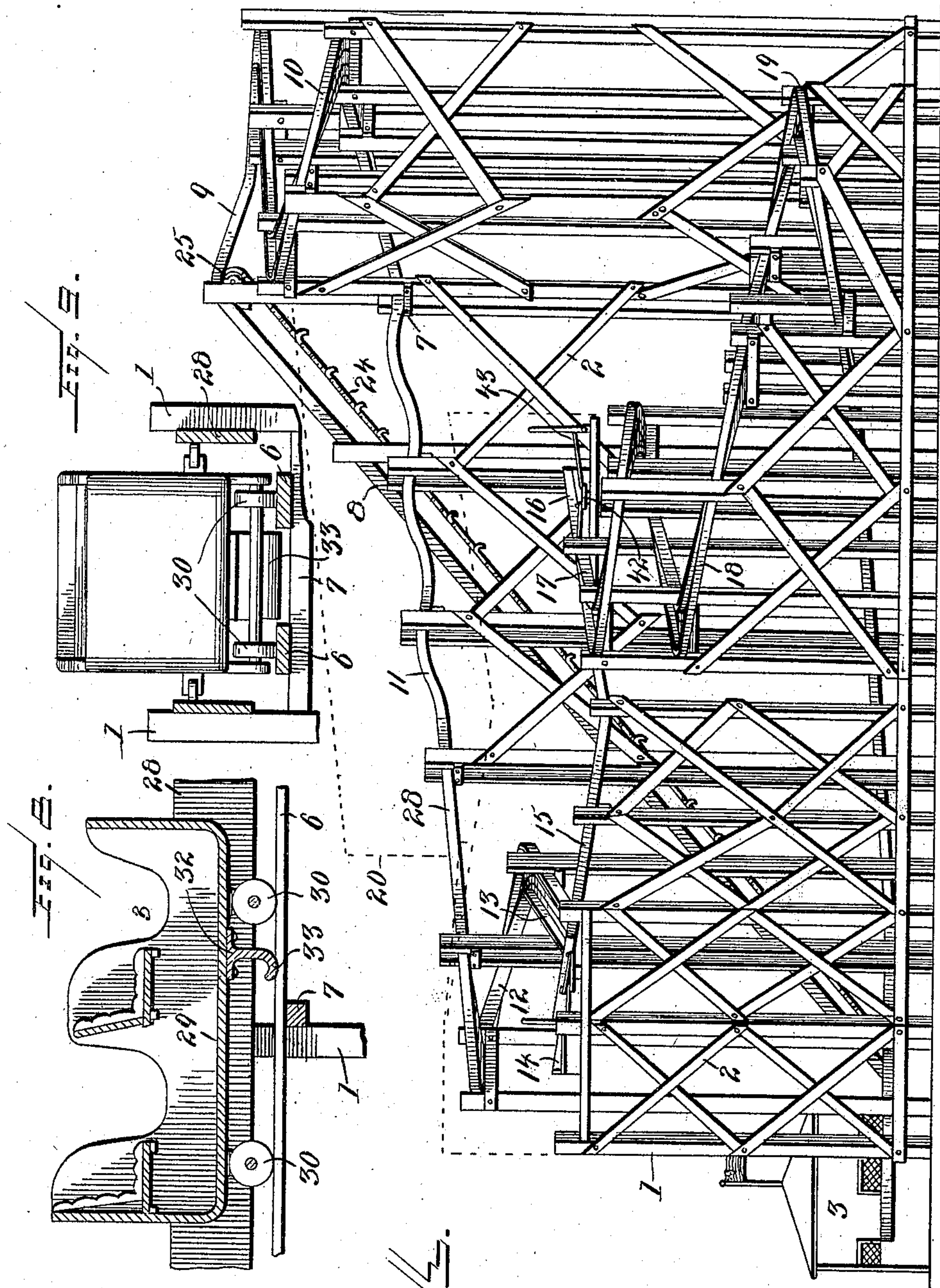
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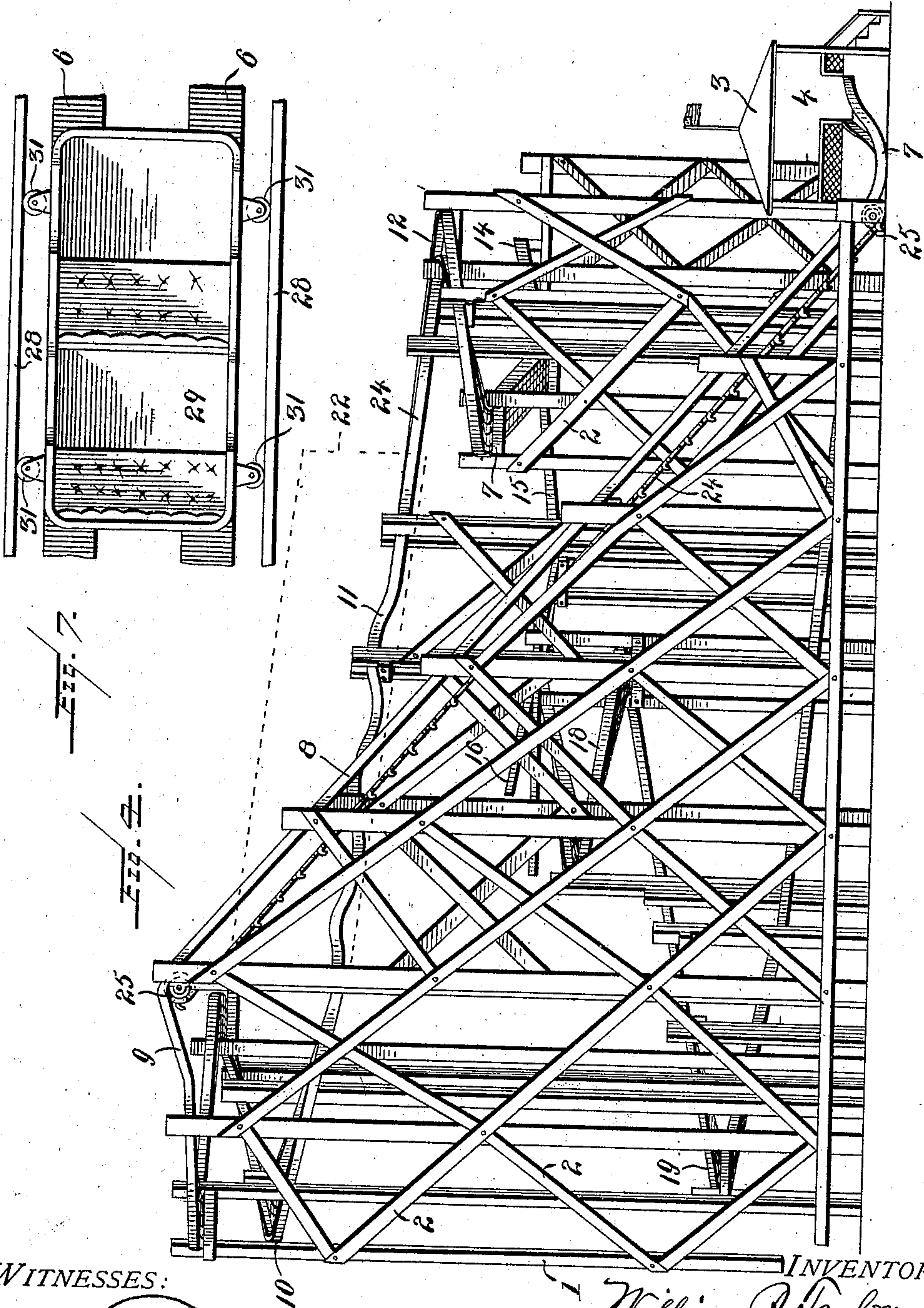
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# UNITED STATES PATENT OFFICE.

WILLIAM PLAYFORD TAYLOR AND JAMES LUTHER HOARD, OF  
McKEESPORT, PENNSYLVANIA.

## PLEASURE-RAILWAY.

No. 815,986.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed December 28, 1905. Serial No. 293,665.

*To all whom it may concern:*

Be it known that we, WILLIAM PLAYFORD TAYLOR and JAMES LUTHER HOARD, citizens of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Pleasure-Railways, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates generally to an improvement in amusement devices, and primarily to a pleasure-railway adapted to be operated by gravity.

The main object of the present invention is the production of a railway of the class described so constructed and arranged that the car during the travel thereon is subjected to certain irregular and unexpected deviations from the normal travel, whereby the novelty in the use of the railway is materially increased.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which—

Figure 1 is a plan of a railway constructed in accordance with our invention. Fig. 2 is a front elevation of the same. Fig. 3 is a side elevation of the same. Fig. 4 is a similar view taken opposite to Fig. 3. Fig. 5 is a detail perspective showing the braking mechanism arranged at the switching. Fig. 6 is a detail perspective of a portion of the elevating-chain. Fig. 7 is a plan of the car, a portion of the track being illustrated. Fig. 8 is a longitudinal central section of the same. Fig. 9 is a front elevation of the same.

Referring particularly to the drawings, wherein like reference-numerals indicate like parts throughout the several views, our improved pleasure-railway comprises a framework formed principally of a series of standards 1, which may be of the length necessary to support the track at the proper elevation, and a series of struts or braces 2, interlacing throughout the framework and serving to solidly and fixedly secure the uprights in proper relative positions.

It is to be understood that the framework above referred to, and hereinafter termed the "main" frame, constitutes the only necessary support for the railway; but our invention also contemplates the covering of said sup-

port with any desired material or in any desired configuration to provide a pleasing effect, if such may be found desirable.

At a determinate point of the framework, at the lowest point thereof, is arranged the station 3, divided to provide an entrance-pavilion 4 and an exit-pavilion 5, the track of the railway starting at the former and terminating at the latter.

The track comprises parallel-spaced rails 6, properly supported on beams 7, arranged at the upper end of the framework. From the entrance-pavilion 4 the track inclines downwardly at 7 and thence upwardly to the highest point of the framework to provide the main incline 8. From the extreme terminal of the incline 8 the track inclines downwardly for the remainder of its length, whereby to provide for the travel of the cars solely by gravity. In order, however, to enhance the pleasure of travel on the railway, the track from the top of the main incline follows an irregular course, inclining downwardly for a short distance and at a comparatively sharp angle from the top of the main incline, as at 9, thence forming a complete circle at 10, the exit-path of which passes beneath the entrance-path. From the loop 10 the track extends in a straight gradually-inclined path 11 to a second loop 12 and from this loop to a straight section 13, preferably arranged at an angle to the straight section 11 and terminating abruptly in a switch 14 of a particular construction hereinafter to be described. The switch 14 is arranged for coöperation with a short straight section of the track 15, terminating in a second switch 16, which is also designed for coöperation with a short straight section or track 17, terminating in a loop 18. From the loop 18 the track extends to a second adjacent loop 19, from which the track gradually inclines toward the exit-pavilion 5, being preferably arranged between the loop 19 and the exit-pavilion to provide two straight sections 20 and 21, arranged at an angle to each other with the latter section approximately parallel in direction with the main incline 8.

In order to increase the pleasure and excitement during travel on the railway, the straight section 11 thereof, the section 13, switch 14, section 15, and switch 16 are preferably housed by a suitable inclosure 22, which may be utilized as a tunnel or the walls



of which may carry desirable scenic effects, as is customary in devices of this character. The track of the section 11 is preferably arranged in an undulatory plane, as at 23, whereby the car in travel thereon is subjected to a series of irregular movements, as will be obvious.

As the main incline 8 extends from the lowest to the highest point of the structure, some means must be provided for elevating the cars to the top of said incline, and for this purpose we arrange an endless chain 24 directly beneath the track-rails on said incline, which chain is adapted for travel over driving rolls or sprockets 25, mounted at the respective ends of the inclines and adapted to be operated from any suitable source of power. As shown particularly in Fig. 6, the chain is of the open-link variety, determinate links 26 throughout its length being formed at their rear ends with upwardly-extending hook members 27, preferably formed integral with said links. The chain is so supported during its travel immediately beneath the track-rails that the hooks 27 thereof project upwardly between and beyond the plane of said rails.

The track of the railway throughout its length is provided with guard-plates 28, arranged slightly above and beyond the planes of the respective rails, providing, in effect, a wall on each side of the track for a purpose hereinafter described.

The car adapted for use with the railway comprises a car-body 29, arranged to seat any desired number of passengers and supported upon track-wheels 30, arranged for co-operation with and travel upon track-rails 6. The car-body is provided on opposite sides with guide-wheels 31, extending at right angles to the body and adapted to bear against the respective guard-plates 28, thereby steadying the car in movement and guarding against its accidental disengagement from the track. Depending from the body 29 immediately in rear of the forward truck-wheels is a centrally-arranged bracket 32, extending transverse the length of the car and terminating in a hook 33, arranged to be engaged by the hooks 27 on the chain, whereby the car may be forced up the main incline 8 and automatically released from the chain at the extreme upper end of said incline.

To guard against the accidental return of the car down the incline 8 in the event of breakage of the chain or other accident, we arrange a series of stops 34, adapted to automatically engage and limit the downward movement of the car in the event described. These stops comprise pivoted arms 35, spring-pressed in a rearward direction and limited in movement in such rearward direction by a stop 36, the forward movement of the arm being unrestricted except by the tension of the spring 37. These stops 34 may be ar-

ranged at appropriate points throughout the main incline, their operation being obvious, it being understood that the car in its upward travel moves the stop-arms 35 from the path of travel; but upon a return movement through accident or otherwise said arms project into the path of the car and prevent movement of said car beyond the stops.

It will be noted that sections 13 and 17 of the track are practically parallel and that the section 15 is arranged at an angle to each of said parallel sections. The section 15 is designed to impart a novelty to the travel of the car in that said section is arranged to cause a rearward or backward travel of the car. The switches 14 and 16 are identical in construction, each comprising a track-section 38, mounted upon a pivot or fulcrum 39 and moving in its travel upon the usual arcuate guide-track 40. The switches are each supported upon suitable platforms 41, on which is mounted a bell-crank lever 42, one arm of which is connected to an operating-rod 43, through the medium of which the operator properly positions the switch, it being understood that the opposite end of the bell-crank lever is connected, through the medium of a link 44, to the switch proper.

When the switch has been turned to register with the section 15, it is obvious that means must be provided for preventing a second car, in the event such may be too closely following the first, from riding off the open end of the section 13, and to this end we arrange a brake-beam 45 intermediate the track-rails 6 at the ends of sections 13 and 15, the remote end of which beam in the direction of travel of the car is free of connection with the framework, while the opposite end is hinged thereto. The brake-beam is operated through a lever 46, pivoted for a vertical swinging movement on a frame 47, secured to the under side of the track-rails, the upper end of said lever bearing beneath the brake-beam, while the lower end thereof is connected by a link 48 to a horizontally-arranged lever 49, pivotally supported on the framework and connected by a link or rod 50 to one arm of the bell-crank lever 42. By this construction when the operator moves the rod 43 to cause the switch or track section to move into alinement with the adjacent section of the track the lever 46 is moved into an approximately vertical position, with the effect to elevate the free end of the brake-beam 45, which provides an effective brake and stop for the next car, the brake-beam remaining set as long as the switch is out of coöperation with the section of the track carrying the brake-beam.

By preference the section 13 and the section 15 incline slightly outward from a point somewhat in advance of the switch, whereby to gradually retard the momentum of the car as it rides upon the switch.



While we prefer that the switch be returned to normal position through manual manipulation by the operator, it is obvious that such return movement may be readily effected through the medium of a spring 51, suitably mounted and bearing at its free end upon the switch-section.

The travel of the car throughout the gravity-road of our construction is in a forward direction for the greater portion of its path, but its direction of travel on the section 15 of the track is backward, thereby imparting a decided novelty in operation and effect.

It is to be further understood that the terminal of the track may be connected by a short section with the beginning or entrance-point of the track, so that the cars after discharging their passengers may be moved by hand into a position to receive other passengers for the next trip.

For convenience in stopping the car or in slacking its speed, so that it may be stopped by hand at any point in the station 3, we provide a track-brake 45', which may either be placed in the station or near the entrance thereto, said brake being similar to the one shown in Fig. 5.

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

30 1. A gravity-railway comprising a main track on which cars are adapted to travel in a forward direction, a track-section on which the cars are adapted to travel in a rearward direction, movable track-sections for switching the cars, and braking means carried by the first-mentioned track-section to prevent passage of the cars thereon during the operation of the switch-sections, said braking means being automatically operated in the movement of the switch-sections.

2. In a gravity-railway, the combination, with a track on which cars are adapted to travel in a forward direction, and a separate track on which the cars will gravitate in a rearward direction, of switch-sections for transferring the cars from one track to the other, braking means carried by one of the tracks to prevent passage of the cars during the operation of the switch-sections, and stop-blocks carried by the switch-sections to provide abutments transverse the track-rails when the switch-sections are out of alinement therewith.

3. A gravity-railway comprising a main track on which cars are adapted to travel in a

forward direction, a track-section on which the cars are adapted to travel in a rearward direction, movable track-sections for switching the cars from one track-section to the other, braking means to prevent passage of the cars on one of the track-sections during the operation of the switch-sections, said braking means being operated in the movement of the switch-sections, a series of loops in the track-sections, and a main incline for the return of the cars to the starting-point.

4. A gravity-railway comprising a main track, a track-section on which the cars are adapted for travel in a direction opposite to that on the main track, switch-sections for transferring the cars from the main track to the track-section, and braking means carried by the main track to prevent passage of the cars thereon during operation of the switch-sections, said braking means being automatically operated in the movement of the switch-sections.

5. A gravity-railway comprising a main track, a track-section on which the cars are adapted for travel in a direction opposite to that on the main track, switch-sections for transferring the cars from the main track to the track-section, braking means carried by the main track to prevent passage of the cars thereon during operation of the switch-sections, and stop-blocks carried by the switch-sections to provide abutments transverse the track-rails when the switch-sections are out of alinement therewith.

6. A gravity-railway comprising a track-section including a main incline, a series of loops, and a series of intermediate straight sections, a car adapted to travel on said track in the forward direction, one of the sections of the track being adapted to direct the travel of the car in a rearward direction, a continuously-moving chain arranged adjacent the main incline of the track, a series of hooks carried on said chain and projecting above the plane of the track, and a hook member carried on the car-body and adapted to be engaged by the hooks on the chain.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

WILLIAM PLAYFORD TAYLOR.  
JAMES LUTHER HOARD.

Witnesses:

LIZZIE HASSON.  
IRA L. MITIGNY.