(No Model.) 2 Sheets—Sheet 1.

W. R. HEYLMUN.

ELEVATED CABLE RAILROAD.

No. 493,500. Patented Mar. 14, 1893.

Fig. 1

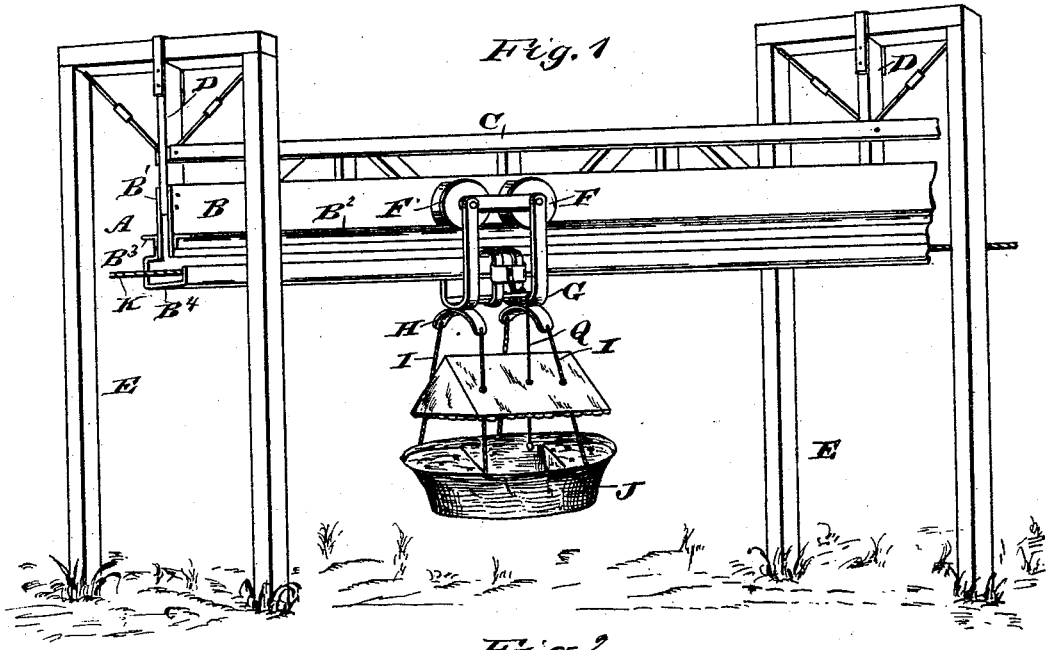


Fig. 2.

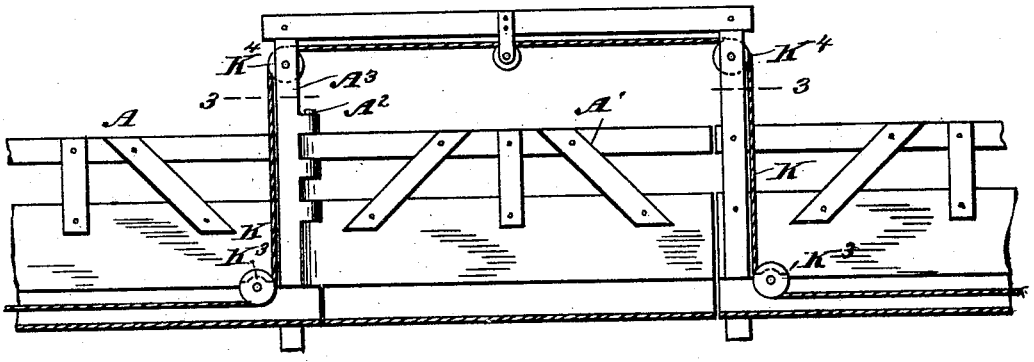


Fig. 3.

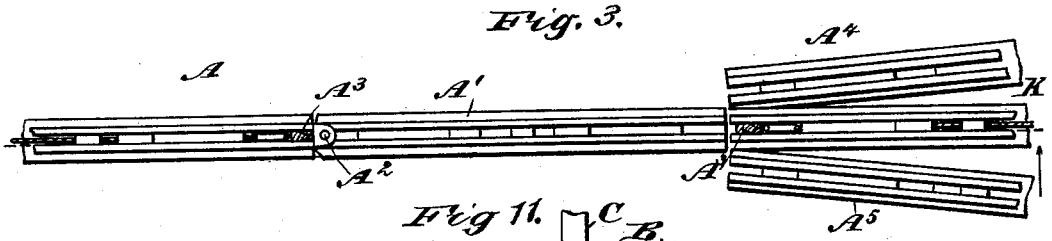
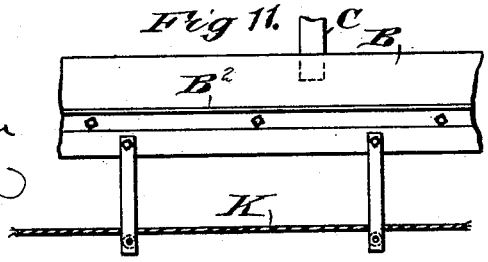


Fig 11.



WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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ELEVATED CABLE RAILROAD.

No. 493,500. Patented Mar. 14, 1893.

Fig. 4.

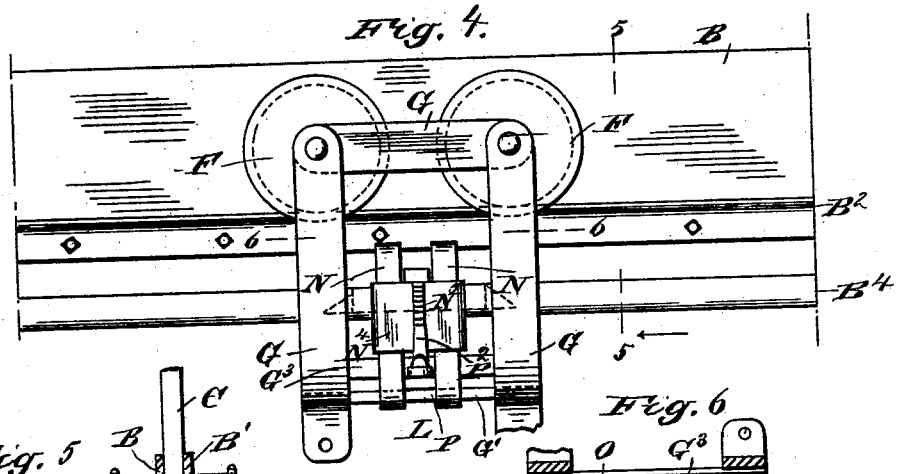


Fig. 5

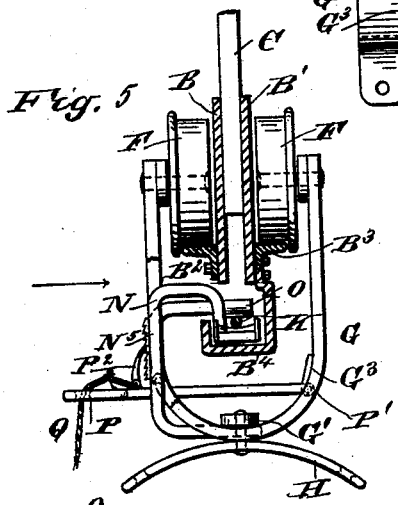


Fig. 6

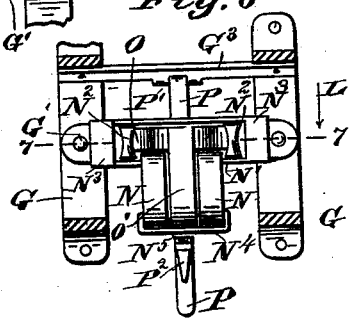


Fig. 7

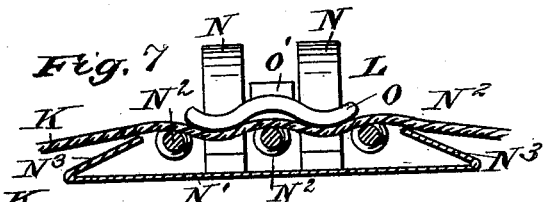


Fig. 8

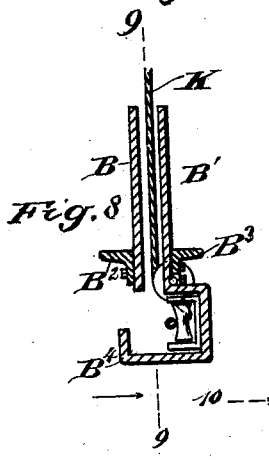


Fig. 9

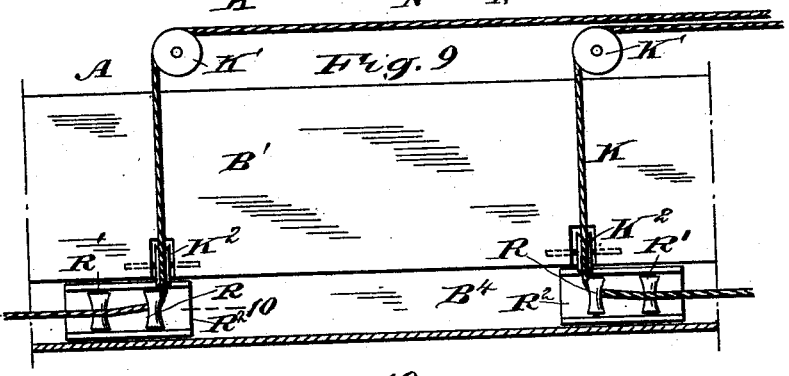
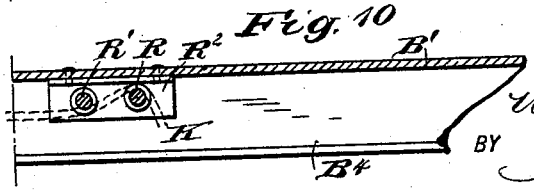


Fig. 10



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM RILEY HEYLMUN, OF RICH HILL, MISSOURI.

ELEVATED CABLE RAILROAD.

SPECIFICATION forming part of Letters Patent No. 493,500, dated March 14, 1893.

Application filed July 27, 1892. Serial No. 441,369. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RILEY HEYLMUN, of Rich Hill, in the county of Bates and State of Missouri, have invented a new and Improved Elevated Cable Railroad, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved elevated cable railroad, which is simple and durable in construction and extremely safe.

The invention consists of suspended track rails on which are adapted to travel the wheels of the car suspended below the track rails, the latter forming a duct for the cable for propelling the car.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement. Fig. 2 is a sectional side elevation of part of the improvement as arranged on a switch. Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 2. Fig. 4 is an enlarged side elevation of the track rails and running gear for the car. Fig. 5 is a transverse section of the same on the line 5—5 of Fig. 4. Fig. 6 is a sectional plan view of the same on the line 6—6 of Fig. 4. Fig. 7 is an enlarged longitudinal section of the same on the line 7—7 of Fig. 6. Fig. 8 is a transverse section of the track rails as arranged near the power house. Fig. 9 is a sectional side elevation of the same on the line 9—9 of Fig. 8; and Fig. 10 is a sectional plan view of the same on line 10—10 of Fig. 9. Fig. 11 is a side elevation of a modified form of support for the cable.

The improved elevated cable railroad is provided with a track A composed of two rails B, B′, attached at their upper edges to a truss C secured on arms D suspended from a suitable framework E, preferably made of an inverted **U**-shape, that is, comprising two posts and a cross piece on top of the same and from which cross piece extends downward the arm D, as plainly shown in Fig. 1. On the sides of the rails B, B′ are riveted or othewise secured the outwardly extending flanges B^2 and B^3, respectively, on which are mounted to travel the pairs of wheels F, journaled in a suitably constructed frame G preferably made **U**-shaped, so as to extend with its middle part around the lower part of the track A. The frame G supports, on its under side, transversely extending curved bars H from the ends of which extend ropes I supporting the car or gondola J of any approved construction.

It is understood that the track A is located a sufficient distance above the ground so that the suspended car J does not touch the ground and can readily pass between the posts of the framework E. On the lower edge of the rail B′ is riveted or otherwise secured a **U**-shaped beam extending under the other rail B and forming a duct B^4 for the cable K which serves to propel the car J, the said cable being adapted to be gripped by a suitable gripping device L, arranged on the frame G supporting the car. This gripping of clamping device L is shown in detail in Figs. 4, 5, 6 and 7, and is provided with curved arms N attached to a longitudinal bar G′ arranged on the frame G, the upper ends of the said arms N being curved inwardly and downwardly to extend into the duct B^4 directly below the lower edge of the track rail B. The arms N support within the duct, a casing N′, in which are journaled the transversely extending rollers N^2, preferably three in number, as plainly shown in Fig. 7. The cable K passes over the said three rollers N^2 and is clamped on top by a clamping plate O curved so as to pass with its ends, onto the rope between the end rollers and the center roller N^2. The cable K passes to the end rollers N^2 over the inclined ends N^3 of the casing N′. The clamping plate O is attached to an arm O′ projecting between the arms N and fitted to slide vertically in a bearing N^4, arranged on the front vertical part of the arms N. The lower end of the clamping arm O′ is pivotally connected with a lever P fulcrumed at P′ on a cross bar G^3 of the frame G. The free end of the lever P is connected with a rope Q which extends downward into the car J, so as to be under control of the operator or passengers occupying the car. On the free end of the lever P is also pivoted a pawl P^2 adapted

to engage ratchet teeth N^5 formed or secured on the front face of the bearing N^4 so that when the operator pulls the lever P downward so as to clamp the rope between the rollers N^2 and the clamping plate O, then the said pawl engages the ratchet teeth N^5 and thereby locks the lever P in a lowermost position, thus holding the clamping device in position, even after the operator releases the pull on the rope or cord Q. The rope Q is also connected with an arm on the spring-pressed pawl P^2 so that when the operator desires to release the clamping plate O, he pulls on the rope so as to disengage the same from the ratchet teeth N^5 to permit the lever P to swing upward, whereby the clamping plate O is moved upward out of contact with the endless cable K, and the latter is thus released. The cable K receives a traveling motion from a suitable station, where it passes over a suitable wheel set in motion by the usual mechanism. In order to conveniently bring the cable K into one end of the circular track A and again out of the same near the power house, I provide the track A with the device shown in detail in Figs. 8, 9 and 10.

The cable passes over pulleys K′ arranged above the track A, the cable then extending downward, and passing over a transversely arranged pulley K^2 located near the entrance to the duct B^4, see Figs. 9 and 10. From this pulley K^2 the cable passes under a vertically disposed roller R and then over a similarly arranged roller R′, both journaled in a bearing R^2, secured to the duct B^4 at the back thereof.

It is understood that one strand or portion of the cable enters the duct B^4 and moves in one direction, while the other strand leaves the track in close proximity to that portion of the cable passing into the duct, as will be readily understood by reference to Fig. 9. In order to switch a car J onto side tracks or from side tracks to the main line, I provide the switch illustrated in Figs. 2 and 3, in which the track A is provided with a sectional part A′ hinged at A^2 to a framework A^3 supported on the adjacent ends of the track. This section A′, when standing in the position shown in Fig. 3, makes a continuous main track, but when swung to the left or right connects with either side tracks A^4 or A^5. The latter, as well as the section A′, are composed of the rails B, B′, and the duct B^4, previously described.

In order to carry the cable K past the movable section A′, I provide pulleys K^3 at the entrance to the section on the main track, as plainly shown in Figs. 2 and 3. The cable from the duct B^4 passes under the said pulleys and upward over the pulleys K^4 and then across the same, the said pulleys being journaled in the elevated framework A^3. The pulleys K^4 are located sufficiently high, so that the upper part of the cable extending from one pulley K^4 to the other is above the pivoted section A′ so that the latter can be swung to connect with the side tracks as above explained. Each of the side tracks A^4 and A^5 is provided with an independent cable arranged similar to the cable K of the main track.

It will be seen that an elevated cable railroad of the construction above described can be readily set up, on tracks, on beaches or other places, and is more especially designed for pleasure trips, but can be readily arranged to carry freight from one place to another.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In an elevated cable railroad, the suspended track, composed of two rails having laterally extending flanges for the car wheels to travel on, and the cable-duct or channel secured to and suspended from one of said rails, as shown and described.

2. An elevated cable railroad provided with a track comprising two vertically disposed rails, each having an outwardly extending horizontal flange for the car wheels to travel on, and a duct or channel secured to and suspended from one of the said rails below the said flanges, and guide rollers and pulleys arranged on one of the said rails for passing the cable to and from the said duct to the power house, substantially as shown and described.

3. In an elevated cable railroad, the combination with a track formed with flanges for the car wheels to travel on and also with a duct for the cable, which is suspended from said track, of a car provided with a frame carrying wheels mounted to travel on the said flanges, and a cable grip held on the said frame and extending into the said duct to grip the cable therein, substantially as shown and described.

4. In an elevated cable railroad, the combination with a track formed with flanges for the car wheels to travel on and also with a suspended duct for the cable, of a car provided with a frame carrying wheels mounted to travel on the said flanges, a cable grip held on the said frame and extending into the said duct to grip the cable therein, and means, substantially as described, for actuating the said grip so as to engage or release the cable, as set forth.

5. The combination with the fixed car track A, fixed cable duct or channel, and fixed side tracks A^4 A^5, of the intermediate pivoted switch track and duct section A′, and elevated frame section spanning the pivoted track section and having guide pulleys for the cable, as shown and described.

WILLIAM RILEY HEYLMUN.

Witnesses:
H. G. COOK,
LARRIS CAIN.