(No Model.) 2 Sheets—Sheet 1.

J. H. PENDLETON.

TRACTION CABLE FOR RAILWAYS.

No. 387,913. Patented Aug. 14, 1888.

Fig. 1.

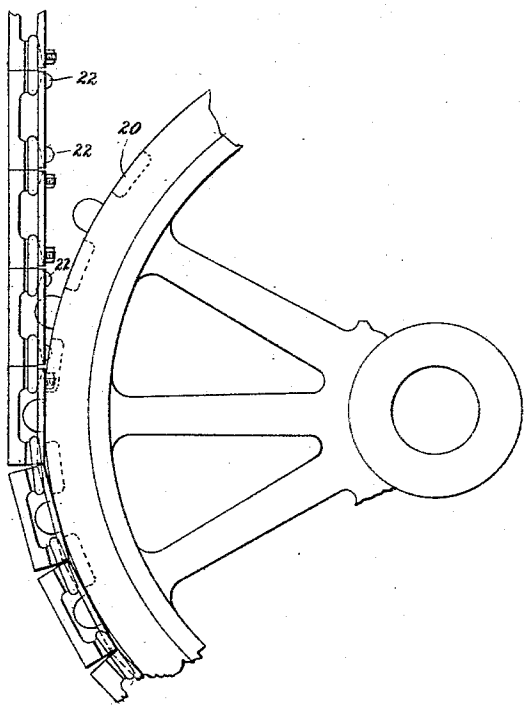
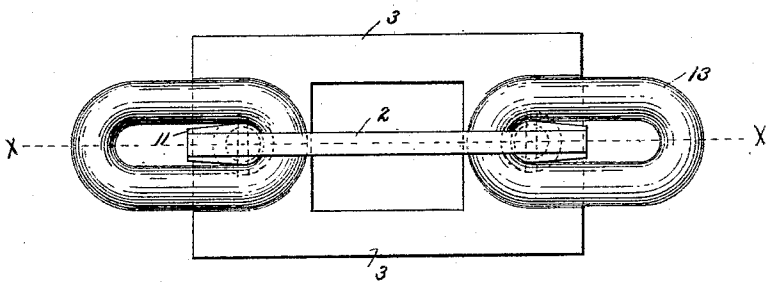


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

J. H. PENDLETON.

TRACTION CABLE FOR RAILWAYS.

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Fig. 3.

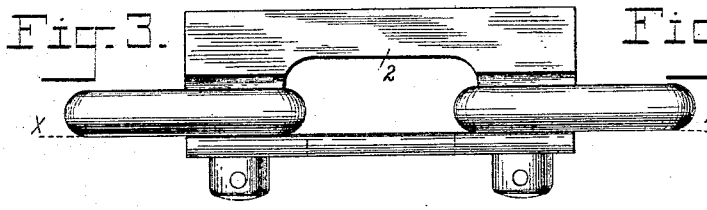


Fig. 4.

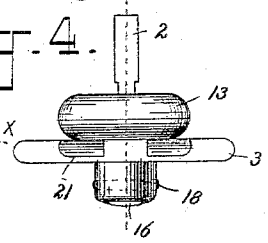


Fig. 5.

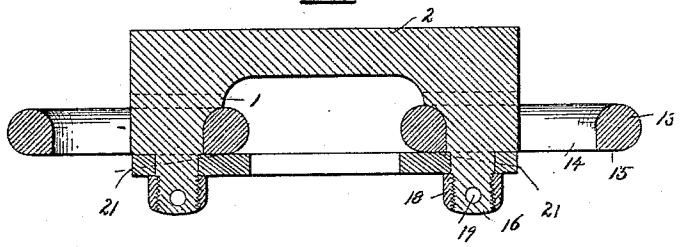


Fig. 6

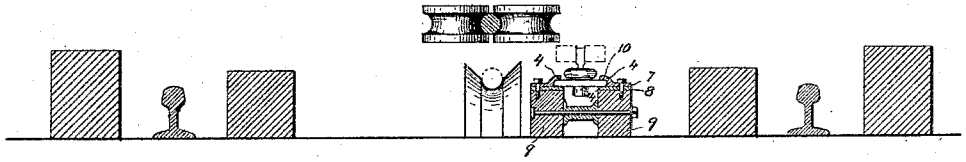
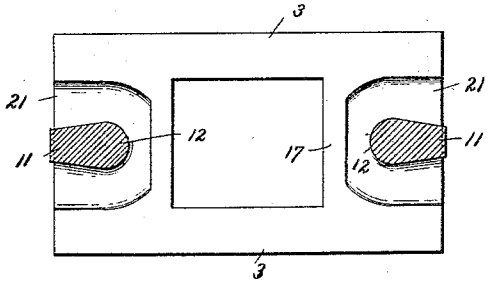


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN H. PENDLETON, OF BROOKLYN, ASSIGNOR TO THE RAPID TRANSIT CABLE COMPANY, OF NEW YORK, N. Y.

TRACTION-CABLE FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 387,913, dated August 14, 1888.

Application filed December 19, 1887. Serial No. 258,350. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. PENDLETON, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Traction-Cables for Railways, of which the following is a full, exact, and clear specification.

My invention has for its object to provide a chain or cable which is suitable for use in connection with my improved devices for conveying cars around curves and for stopping and starting cars at stations by, in the first instance, engaging with an appropriate grip appended to the car or truck while said cable or chain is in motion, and in the second instance by engaging with such grip while the car or train is in motion, thus causing the cable to travel and operate a suitable pump or any suitable power-generating mechanism, stopping the momentum of the train, and at the same time compressing enough fluid or generating enough power, as the case may be, at the station to start the train, when the stationman will manipulate the proper mechanism, as fully described in my applications Serial Nos. 258,345 and 258,352, (the latter being for an electric device,) filed of even date with this.

My invention also has for its object to provide a chain or cable which may be readily lengthened or shortened when it is desired so to do.

With these ends in view my invention consists of a link having a fin or rib projecting up from one side and extending longitudinally therewith and a lug having screw-threaded portions on the lower side and at each end, a short plain link for engaging with said lugs, a plate for fitting over said link for holding them to their proper bearings on said lugs, and a tap or nut for holding said plate in position.

It consists, also, of various valuable features of novelty, which, together with those briefly described, will now be specifically described with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my chain, showing it in conjunction with the sprocket-wheel. Fig. 2 is a plan view of the two links. Fig. 3 is a side elevation. Fig. 4 is an end view of the same. Fig. 5 is a section of the same, taken on the line X X, Fig. 2. Fig. 6 is an end view of the link, showing the form of track employed for guiding the chain, also showing the shoes of an appropriate grip applied to the fin of the chain and the relation of the arrangement to the wheel-tracks and traction cable. Fig. 7 is a plan of the "fin link," partly in section, (the fin not being shown,) taken on the line X X, Fig. 3.

1 represents the body of the link, carrying the fin 2.

17 is a plate having projecting edges 3 3, which rest in the grooves 4 4 of the guide-track. This track is composed of two or more plates, 7 8, bolted together and to the longitudinal beams 9 9, the plate 8 having an upturned portion or flange, 10, which overlaps the edge 3, and thus holds the link in place. As shown in Fig. 7, the body of the main link has at each end an upwardly-projecting lug, 11, whose inner faces, 12, are rounded, the whole being approximately wedge-shaped, for the purpose of allowing the plain connecting-links 13, which fit over said lugs, a slight play sidewise.

It is found that in chains of this character the links wear so rapidly, by reason of their comparatively small bearing-surfaces with one another, that the chain soon becomes so slack that it is necessary to take out a link or two in order to reduce it to the requisite length; and then, too, the links are very apt to break when worn to such a degree. To avoid in a measure this evil, I form the inner and under surfaces of the connecting-link 13 with broad bearing-surfaces 14 15, respectively; and to facilitate the ready removal of a link or two I provide the lugs 11 with downwardly-projecting bolts 16, which are preferably made integral therewith, and which have their extremities screw-threaded. The links 13 being placed over the lugs 11, the plate 17, having the projecting edges 3 3 and a hole in each end, is slipped on over the bolts 16, and a cap or tap, 18, is screwed on the latter by means of a pipe-wrench or the like, and locked against rotation by a pin, 19, inserted through the tap and bolt. The plate 17 has a cut-away portion in its center for the reception of the sprockets on the wheel, and the periphery of

the wheel has cavities 20, for the reception of the ends of the bolts 16 and taps 18.

In order that the links may conform to the shape of the wheel, I provide the ends of the plate 17 with inclined faces 21, which permit the outer ends of the links 13 to oscillate vertically.

It will be seen that it is not necessary to compose the chain entirely of detachable links; hence every alternate link has the plate 17 riveted on by rivets 22, instead of being secured by bolt and tap, as described.

As before mentioned, the particular use to which I put this chain is fully set forth in my aforesaid applications. It may be stated, however, that the fin 2 is for the brake-shoes or grip-jaws, as the case may be, to engage with. These fins project up above the other parts of the chain, and form a continuous ridge along the chain, and this ridge is the medium through which motion is imparted to the chain or the chain imparts motion to the grip, as the case may be.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination, with the link 13, of a link consisting of the fin 2 and lugs 11, substantially as and for the purpose set forth.

2. The combination, with the link 13, of a link consisting of the fin 2, lugs 11, made integral with said fin, and the plate 17, connected with said lugs, substantially as described.

3. The combination, with the lugs 11 and links 13, of flat bearing-surfaces 14 15 on said link, substantially as and for the purposes set forth.

4. The combination, with the links 13, of the fin 2, lugs for engaging with said links at each end of said fin, a projection from each of said lugs, and a plate having a cut-away portion fitted over said projections, substantially as and for the purposes set forth.

5. The combination, with the links 13, having flat bearing-surfaces 14 15, of a fin, 2, a lug at each end of said fin for engaging with links 13, bolts 16, projecting from said lugs, and having screw-threaded extremities with a hole therethrough, a plate, 17, having its central portion cut away, and holes for fitting over the bolts 16, and a tap, 18, and pin 16, for holding said plate in position, substantially as described.

6. The combination, with the grooved tracks, of a chain whose links have projecting edges for engaging in said grooves, and fins forming a continuous ridge along said chain, substantially as and for the purposes set forth.

7. The combination, with the links 13, of the wedge-shaped lugs 11, having rounded surfaces 12, a fin, 2, connecting said lugs together and made integral therewith, a bolt having a perforation and a screw-threaded portion projecting from said lug, a plate having its central portion cut away, a hole in each end of said plate for the reception of said bolts, nuts or taps on said bolts, edges 3 3 on said plate, projecting beyond the sides of the links 13, and inclined surfaces 21 on the ends of said plate, substantially as and for the purposes set forth.

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