

G. H. WEBER.
OVERHEAD CARRIER.
APPLICATION FILED NOV. 13, 1913.

Patented Apr. 27, 1915.
7 SHEETS—SHEET 1.

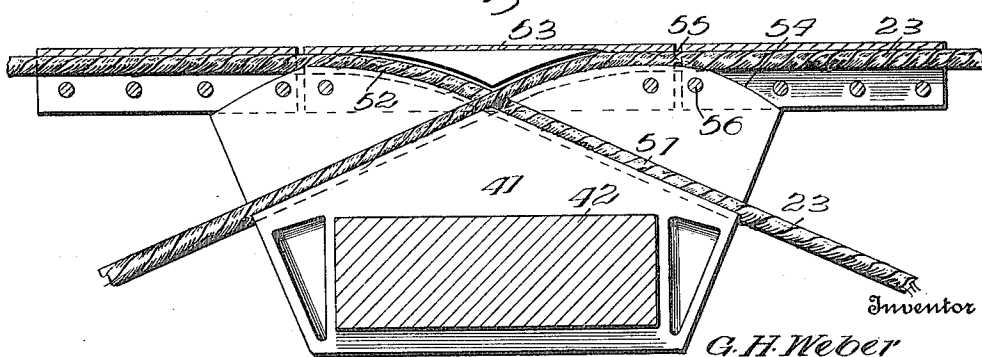
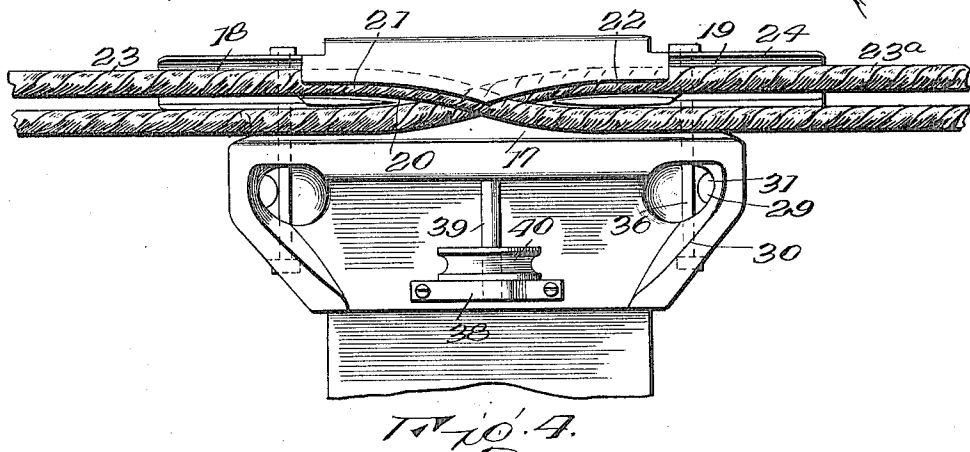
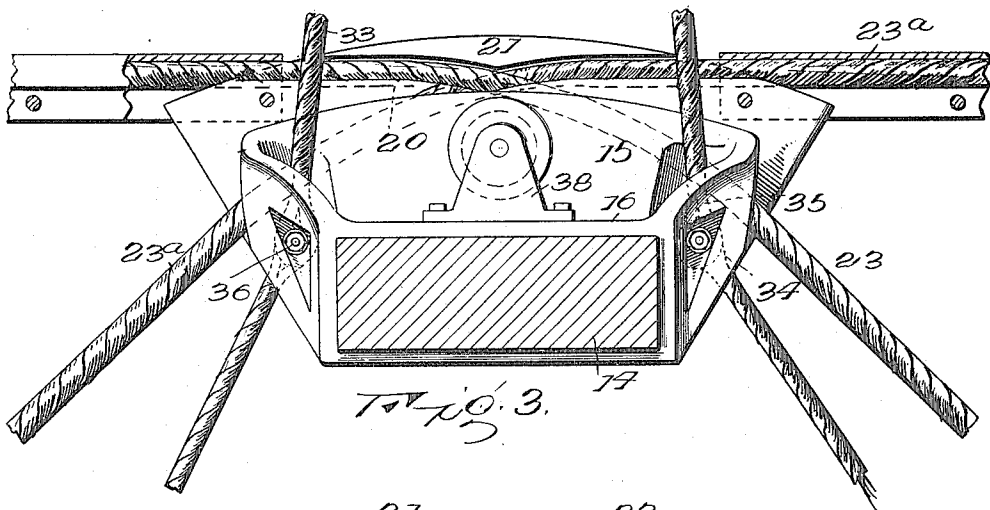
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Witnesses

[Signature]
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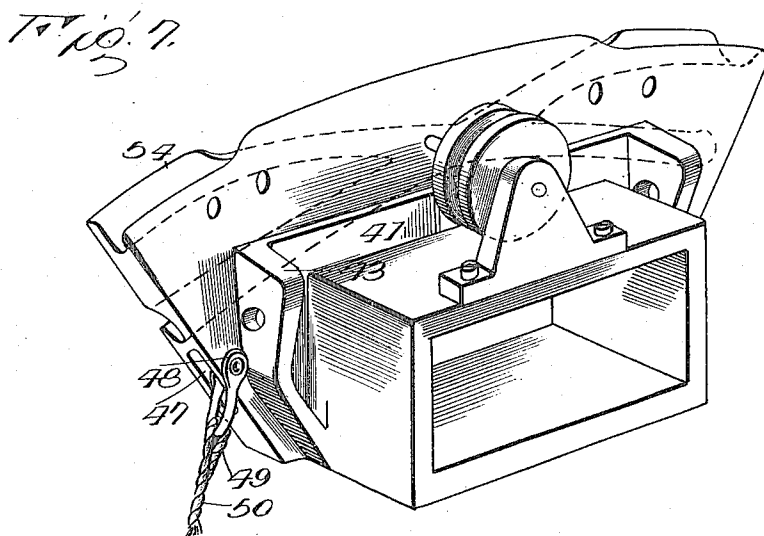
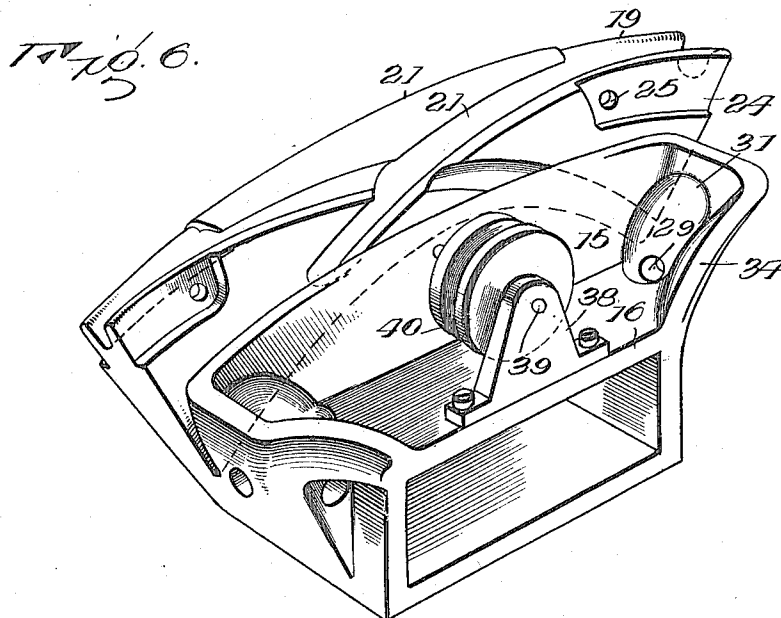
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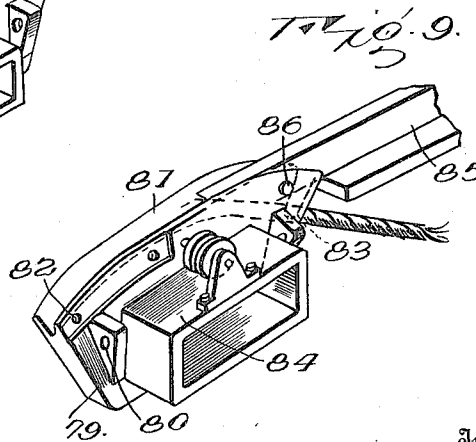
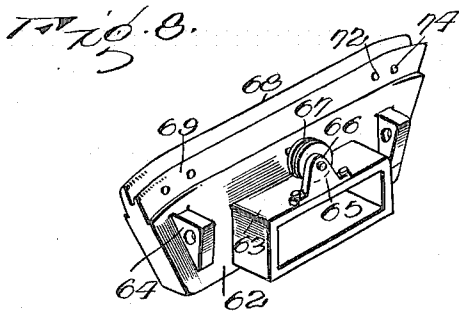
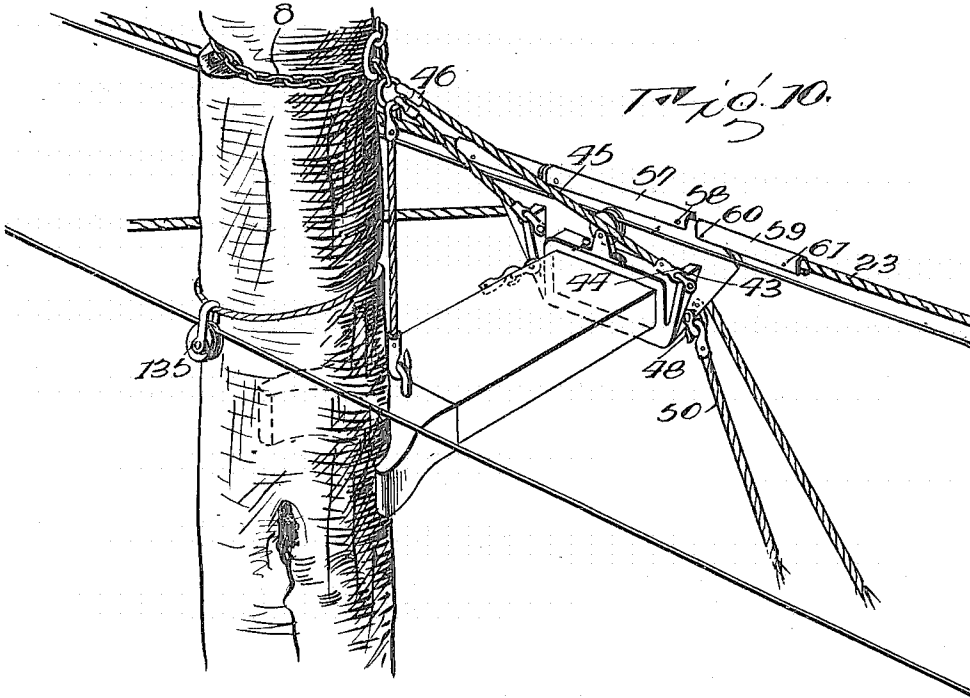
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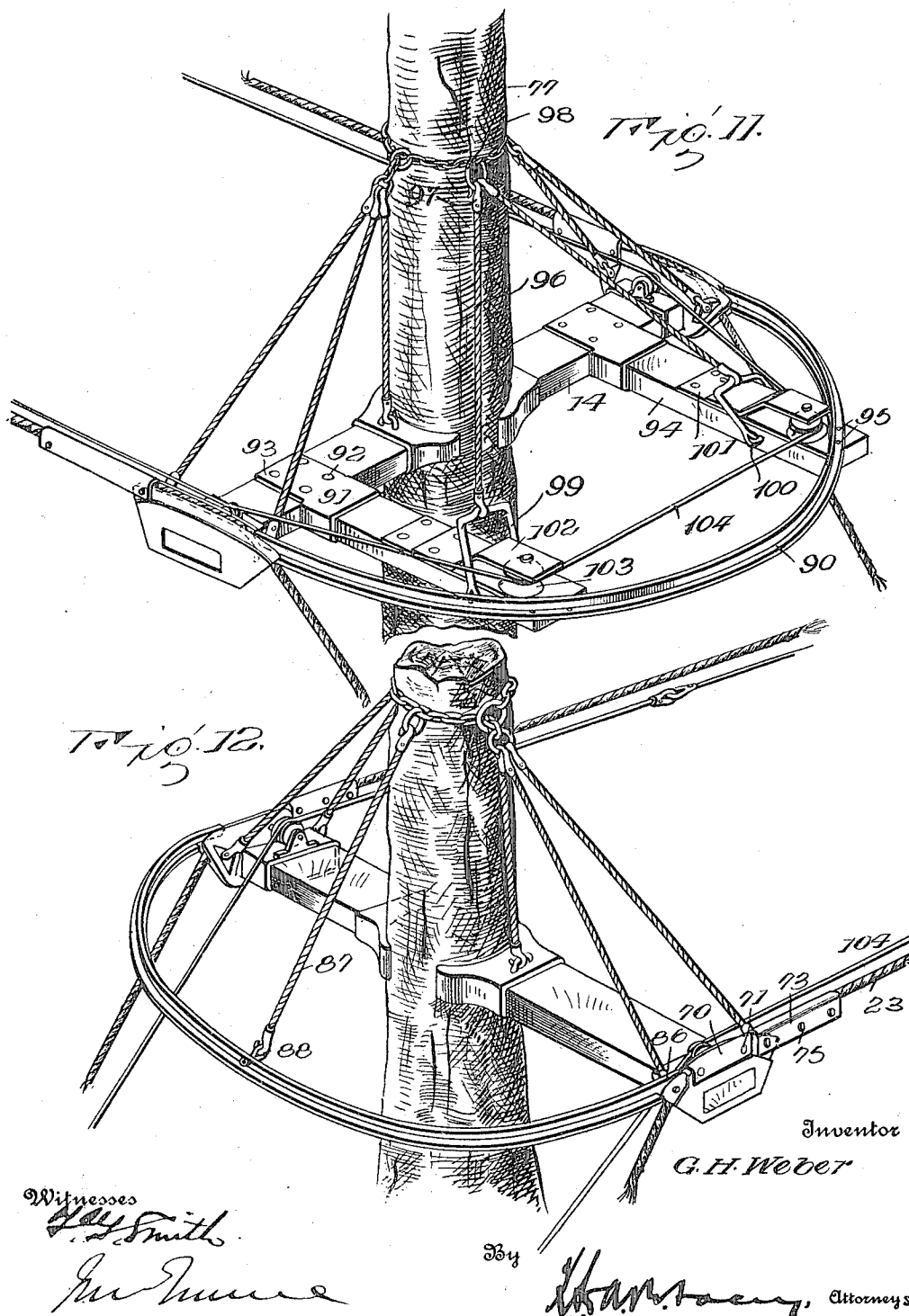
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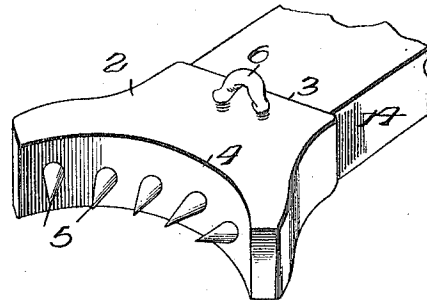
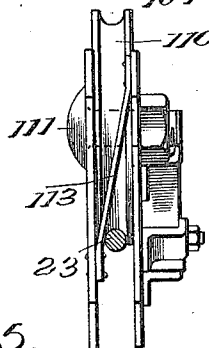
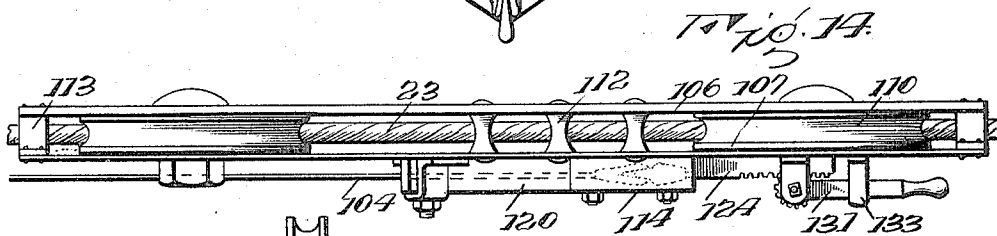
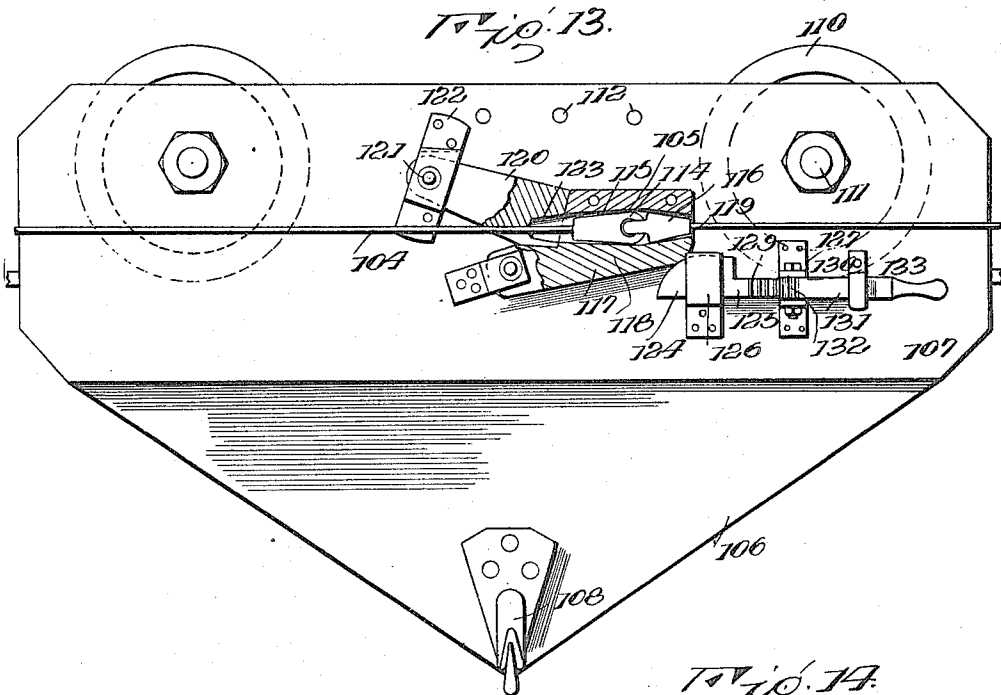
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7 SHEETS—SHEET 7.



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UNITED STATES PATENT OFFICE.

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OVERHEAD CARRIER.

1,137,040.

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Application filed November 12, 1913. Serial No. 800,794.

To all whom it may concern:

Be it known that I, GEORGE H. WEBER, citizen of the United States, residing at Carlton, in the county of Yamhill and State of Oregon, have invented certain new and useful Improvements in Overhead Carriers, of which the following is a specification.

This invention relates to overhead log carriers.

10 It is one object of the present invention to provide an overhead carrier of the class mentioned which may be set up in sections and may consequently have its length added to as found necessary.

15 It is another aim of the invention to provide an overhead carrier consisting of a number of sections, the track cable consisting also of a number of sections and the sections of the cable being so stretched between the spars at the ends of the sections of the carrier, that the entire weight of the carriage and its load when the carriage is traveling on any one section will be borne solely by that one section of the track cable, 25 the other sections comprising the cable being relieved of strain. By reason of such construction the full carrying capacity of each section of the track cable may be utilized which would obviously be impossible if the 30 track cable were continuous and merely supported at intervals in its length. Furthermore, by forming the track cable in sections and so arranging the sections that each individual section is adapted to support the 35 weight of one of the carriages of the device and the load carried thereby, the carriages may be caused to travel at suitably spaced intervals over the track cable and consequently a considerable number may be employed at a time. The invention therefore 40 aims to provide the traction rope of the carrier with means whereby a number of carriages may be connected thereto at suitable intervals.

45 Another aim of the invention is to so construct the means provided for connecting the carriages with the traction cable as to permit of ready connection and disconnection and the carriages themselves are so constructed that they may be readily mounted 50 upon or removed from the track cable.

It is another aim of the invention to provide a carrier so constructed that it may be set up to extend along other than a straight 55 line if found necessary and which may, fur-

thermore, be employed regardless of the hilly nature of the land over which the logs are to be conveyed.

A further object of the invention is to so construct the carrier at the tail spar that the 60 traction cable may draw the carriages around the spar and return them to the head spar on a return track cable without the necessity of the attendant at the tail spar dismounting the carriage and placing 65 it manually upon the return track cable.

Further the invention aims to provide a novel supporting means for the track cable which means may be readily mounted upon a standing tree trunk and readily dismounted and which may be adapted to extend a 70 greater or less distance from the trunk so as to position the track cable sections in a straight line even though the several trunks or spars themselves be out of alinement. 75

Another object of the invention is to construct the shoes of the cable supports in such manner that the sections of the track cable will be firmly supported thereby and held 80 against displacement and a practically continuous track will be afforded the carriages.

The invention also aims to so construct the carriage that it may be readily disposed upon the track cable and may readily have 85 the traction cable connected to or disconnected from it.

In the accompanying drawings: Figure 1 is a perspective view of the carrier embodying the present invention. Fig. 2 is a perspective view illustrating one of the track cable supports. Fig. 3 is a rear elevation of the shoe of the support shown in Fig. 2, the arm of the support being shown in section. Fig. 4 is a top plan view of the shoe shown in Fig. 3. Fig. 5 is a view similar to Fig. 3, 95 illustrating a slightly modified form of shoe. Fig. 6 is a perspective view of the shoe shown in Figs. 2, 3 and 4. Fig. 7 is a perspective view of the shoe shown in Fig. 5. Fig. 8 is a perspective view illustrating another form of shoe. Fig. 9 is a similar view illustrating a modification of the shoe shown in Fig. 8. Fig. 10 is a perspective view illustrating another form of support. Fig. 11 is a perspective view of the track arrangement 105 at the tail spar. Fig. 12 is a view similar to Fig. 11 illustrating the track arrangement at the head spar. Fig. 13 is a side elevation of one of the carriages. Fig. 14 is a top plan view thereof. Fig. 15 is an end eleva- 110

tion of the carriage. Fig. 16 is a perspective view of the box of one of the track cable supporting members.

As before stated, the carrier embodying the present invention includes a number of supporting devices for the track cable sections which devices are to be arranged upon tree trunks, spars or towers, at suitable intervals and each of these supporting devices consists, briefly stated, of a box or socket member designed to be disposed against the tree trunk or spar, a supporting beam which is fitted at one end into the box, and a cable supporting shoe which is fitted at the other end of the beam and of these several parts the boxes and beams are of counterpart form although the form of shoe may be varied as will be hereinafter made apparent.

Referring more specifically to the drawings, the numeral 1 indicates a tree trunk or spar upon which the cable supporting devices are to be arranged and 2 indicates the box member of the supporting device. The member 2 is provided in its body portion with a socket 3 which opens at the forward end of the said body portion and the rear side of the member 2 is transversely concave as indicated at 4 and provided upon its concave surface with a number of rearwardly projecting spurs 5. Upon its upper side the member is formed with an eye 6 with which may be engaged a supporting cable as will be presently explained. By reference to Fig. 2 of the drawings it will be observed that the member is to be disposed with its rear or concave side against the tree trunk or spar, the spurs 5 entering the trunk and assisting in supporting the member against downward movement. At a point a suitable distance above the box 2 the tree trunk or spar is notched as at 7 in that side opposite the side against which the box is disposed and a chain 8 is passed about the spar or tree trunk and engaged in the notch 7 and this chain is provided at one end with a ring 9 and has its other end inserted through the ring, the chain being then drawn tight about the spar. At its last-mentioned end the chain is also provided with a ring indicated by the numeral 10 which, however, is smaller than the ring 9 so that it may be passed therethrough. The cable above mentioned as provided for supporting the box is indicated by the numeral 11 and is provided at one end with a hook 12 which is engaged with the ring 10 and at its other end with a hook 13 engaged with the eye 6. At this point it will be apparent that the box 2 is securely supported against downward displacement. The beam above referred to as comprising an element of the supporting device is indicated by the numeral 14 and is fitted at one end into the socket 3 in the manner shown in Fig. 2, the beam extending horizontally

from the trunk or spar 1 and being supported at its said end by the box.

The shoe which is illustrated in Fig. 2 as supported by the beam 14, is illustrated in detail in Figs. 3, 4 and 6 of the drawings and this shoe comprises a body portion 15 provided upon its rear side with a socket portion 16 into which is fitted the outer end of the beam 14. The body portion of the shoe is substantially of segmental form, its upper side being its convex side and the body portion of the shoe is formed in its said convex side with a groove 17 extending from side to side of the said body portion and increasing in depth from a point substantially midway between its ends to its said ends. It is preferable that the bottom of the groove be arcuate or curved upwardly from end to end and that the side walls thereof be substantially parallel to each other and to the forward face of the body portion of the shoe. By reference to Fig. 4 it will be observed that the groove 17 is located between the inner end of the socket portion 16 and the forward face of the body portion 15. That portion of the body 15 which is located between the groove and the forward face of the body is formed with cable receiving grooves 18 and 19. The groove 18 extends for a portion of its length along the upper edge of the said portion of the body and is thence curved downwardly and toward the groove 17 as at 20 until it opens through the adjacent wall of the said groove substantially at the bottom thereof and in so extending the groove an overhanging edge portion 21 results and this edge portion partly closes the portion 20 of the groove as will be apparent by reference to Figs. 4 and 6. The groove 19 is in a like manner extended for a portion of its length along the upper edge of that portion of the body in which it is formed and for the remainder of its length is extended downwardly and curved inwardly as at 22 until it substantially merges with the bottom of the groove 17, intersecting the lower end of the portion 20 of the groove 18. By reference to the said Fig. 6 it will be noted that the portion 22 of the groove 19 is deeper than the portion 20 of the groove 18 and it will, therefore, be apparent that when the track cable sections are laid within the grooves that one disposed within the groove 18 will extend over or overlap the cable laid in the groove 19. The traction cable sections are indicated by the numeral 23 and it will be observed by reference to Fig. 4 that the cable section which is laid within the groove 18 extends beneath the overhanging portion 21 and beyond this point is laid in that end of the groove 17 which is next adjacent the groove 19. The cable is then led downwardly as clearly shown in Fig. 2 and connected to a

stump or any other suitable and convenient object. The other cable section, which for the sake of convenience is indicated in Figs. 3 and 4 by the numeral 23^a, is first laid in the groove 19 and then in the portion 22 of this groove, extending beneath the overhanging portion 21 beyond which portion it is laid in that end of the groove 17 next adjacent the groove 18. The cable 23^a is then led downwardly and connected also to a stump or other convenient object.

By reference to Figs. 3, 4 and 6 it will be observed that that portion of the body in which the grooves 18 and 19 are formed is reduced in thickness at the sides of the shoe by recessing the opposite faces of the said portion as indicated by 24, the recesses extending from the ends of the portion to the ends of the overhanging portion 21 and each reduced portion is formed with an opening 25. In order that the unbroken or overhanging portion 21 and the track cables 23 and 23^a may present a substantially continuous track surface, open sleeves 26 are provided, these sleeves being substantially of inverted U-shape in cross section and each being disposed at one end to straddle the respective reduced portion of the shoe. A bolt 27 is fitted through the sides of each sleeve at its said end and through the respective opening 25 and the sleeves are in this manner pivotally connected to the shoe to extend beyond each side thereof. As will be apparent by reference to Figs. 3 and 4 the sleeves straddle or inclose the portions of the cables 23 and 23^a located immediately beyond the ends of the grooves 18 and 19 and it is preferable that bolts or other suitable fastening devices 28 be secured through the sides of each sleeve beneath the respective cable so as to hold the sleeve in position upon the cable. It will now be apparent that the wheels of the carriage which travel upon the track cable sections will pass without interference from one of the cable sections on to the respective sleeve 26, and then on to the unbroken upper surface portion 21 of the shoe, after which the wheel will pass on to the sleeve assembled with the other cable section and finally on to the last-mentioned cable section.

In order that the shoe as well as that end of the beam 14 upon which it is fitted, may be braced with respect to the spar or trunk 1, guy ropes or cables are connected with the shoe in a manner which will now be explained. The upper side of the body of the shoe at each side of the socket portion 16 is formed with a recess 29 and said body is formed through the walls of each recess with openings 30, located in front to rear alignment, each side of the body being formed in the wall of the respective recess with an opening 31. Two of the guy cables employed are indicated by the numeral 32 and

the other two cables are indicated at 33. The cables 32 are provided at their upper ends with loops 34 and the lower ends of the guy cables 33 are provided with loops 35. The loop of each guy cable 32 is inserted through the opening 31 at the respective side of the shoe and the loops 35 at the lower ends of the cables 33 are inserted into the respective recesses 29 and bolts 36 are secured through the openings 30 and through the matching loops of the cables. The guy cables 32 are led downwardly and are secured to stumps or other available objects and the cables 33 are led upwardly and are provided at their upper ends with hooks 37 which are engaged with the ring 10 as shown in Fig. 2. For a purpose to be presently explained, a bearing bracket 38 is secured upon the upper side of the socket portion 16 of the shoe and upstands in spaced relation to the rear or adjacent face of the body of the shoe and a spindle 39 is mounted at one end of the body of the shoe and at its other end in the bracket and has fixed upon it a pulley 40.

If desired, a shoe such as shown in Figs. 5 and 7 may be employed in place of the shoe previously described and the same comprises a body 41 provided with a socket 42 to receive the outer end of the beam 14. The body 41 is formed upon its face which is presented toward the spar or trunk with apertured lugs 43 located one at each side of the socket portion 42 and connected to each of these lugs is a clevis 44 to which is attached one end of a guy cable 45. The cables 45 are provided at their upper ends with hooks 46 which are engaged with the ring 10. Each side of the body 41 is formed with a recess 47 through one wall of which is formed an opening for the passage of the pin 48 of the clevis 49, the legs of the clevis straddling the edge of the said wall. Guy cables 50 are connected to the clevises 49 and to stumps or other convenient objects. The other face of the body 41 is formed with grooves 51 which are inclined upwardly from the sides or ends of the body portion and intersect adjacent their upper ends and these grooves throughout their lengths extend downwardly at an angle into the body in the direction of the opposite face thereof so that the track cables laid in the grooves will be retained therein by the lower and forward walls of the grooves. Above their point of intersection the grooves 51 are curved as at 52 in the direction of the sides of the body and open at their upper ends at the upper edge of the said body. The said upper edge of the body between the upper ends of the grooves extends in substantially a straight line as indicated at 53 whereas the other portions of the said edge are curved downwardly as at 54. The body 41 is formed beneath the upper end of each of

the grooves 51 with an opening 55 and between this opening and each side of the body with an opening 56. In order that the cables laid within the grooves 51 may be retained within the grooves and in order that the upper edge portion 53 of the body may be practically continuous with the stretch of the cables, a sleeve 57 of substantially inverted U-shape in cross section is disposed to straddle the said upper edge portion of the body and bolts or other fastening devices 58 are passed through the ends of the sleeve and through the openings 55. Other sleeves 59 of the same cross-sectional shape as the sleeve 57 are pivotally secured, preferably by means of bolts 60 fastening through their inner ends and through the openings 56, bolts 61 being passed through the other ends of the sleeves 59 beneath the cables 23.

That form of shoe shown in Fig. 8 comprises a body portion 62 having a socket portion 63 projecting from one side thereof and provided upon its said side and at the ends of the socket portion with apertured lugs 64 corresponding to the lugs 43 of the shoe shown in Fig. 7. A bearing bracket 65 is mounted upon the socket portion 63 and supports one end of a spindle 66, the other end of which is journaled in the body portion 62. A grooved pulley 67 is mounted upon the spindle. The upper edge portion of the body 62 is straight for the greater portion of its length, its ends being slightly curved downwardly and the said edge is formed with a groove 68 which extends the entire length thereof and follows the line of extent of the said edge of the body. The opposite sides of the body along its edge portion are recessed as at 69 and disposed to straddle the straight portion of the upper edge of the body is a sleeve 70 secured at its ends by means of bolts 71 passed through the sides of the sleeve and through openings 72 formed in the reduced edge portion of the body. It will be understood that the sleeve 70 covers that portion of the track cable lying within the straight portion of the groove 68 and in order that the adjacent portion of the stretch of the cable may be covered and a practically continuous track surface be presented, other sleeves 73 are provided and are pivotally secured at their ends as at 74 to the end portions of the body and are secured by means of bolts 75 to the cable 23.

In constructing the carrier embodying the present invention the same is set up upon a number of tree trunks or spars which are selected with a view to having the system extend in a straight line and one of these spars, indicated in Fig. 1 by the numeral 76, is the head spar and another, indicated by the numeral 77, is the tail spar. The intermediate spars are indicated by the numeral

78 and while, for the sake of convenience, only one has been illustrated in Fig. 1 of the drawings, it will be understood that there may be any number of the intermediate spars depending, of course, upon the length of the carrier system and the approximate length of each individual section of the system. Either the form of shoe shown in Figs. 3, 4 and 6 of the drawings or the form shown in Figs. 5 and 7, or that shown in Fig. 8, may be employed in connection with the supporting devices mounted upon the intermediate spars. The shoe shown in Fig. 9 is employed in the supporting devices which are mounted upon the head and tail spars for the return track cable. When the spars have been selected and prepared for the application of the supporting devices, these devices are mounted upon the spars in the manner heretofore described and when they have been fixed in place the track cable sections are stretched over the shoes in the manner explained and are anchored at their ends.

The shoe shown in Fig. 9 comprises a body portion 79 provided upon one face with lugs 80 corresponding to the lugs 64 shown in Fig. 8, and the upper edge of this shoe is formed with a groove 81 and the said edge is straight from one end to a point adjacent its other end, from which point it is curved slightly downward as at 82. In this form of shoe the groove 81 at the first-mentioned end of the body is increased in depth as at 83 for the purpose to be presently made apparent. The body 79 is provided with a socket 84 which corresponds to the socket 63.

The principles of the invention may be embodied in a double trackway or return track system such as shown in Fig. 1 or in a single trackway system as shown in Fig. 10, as will be apparent from a comparison of these figures and when the return track system is employed the supporting beams upon the head and tail spars at that side of the system at which the main track cable sections are located, are equipped with shoes shown in Figs. 3, 4 and 6 of the drawings, the supporting devices at the opposite sides of the spars or, in other words, at that side at which the return track cable is located, being equipped with the shoes shown in Fig. 9 and just described, and the shoes at the head and tail spars are designed to support transfer track sections as will now be explained. The transfer track section at the head end of the system consists of an angle iron curved track 85, the upstanding flange or wing of the track being fitted at one end into the deepened portion 83 of the groove 81 and at the other end being fitted in one end of the groove 18 in the shoe 15, this said groove being deepened in the same manner

as the groove 81 so as to receive the end of the track. The ends of the track are secured in the grooves in the shoes by means of bolts 86 and the intermediate portion of the track is braced by means of a guy cable 87 connected at one end to an eye bolt 88 secured through the track and provided at its upper end with a hook 89 to engage with that one of the chains 8 which is fitted about the head spar. It will be observed by reference to Fig. 12 that the track cables are passed beneath the ends of the track which are secured in the grooves in the shoes and that the upper edge of the upstanding flange of the track constitutes a continuation of the portions of the cables lying in the straight portions of the grooves.

As in the instance of the supporting devices at the head spar, the shoes of the said devices at the tail spar 77 are arranged so that one of the shoes shown in Figs. 3, 4 and 6 will be employed at the load carrying side of the system and one of the shoes shown in Fig. 9 will be employed at the return side thereof. The transfer track or rail at the tail end of the system is clearly shown in Fig. 11 of the drawings and is indicated by the numeral 90 and inasmuch as its ends are secured in the grooves in the shoes in the same manner as described for the head transfer track, a specific description of this arrangement need not be here given. The track 90 is, however, supported in a different manner from the track at the head spar. In supporting the track 90, boxes 91 are secured upon the beams 14 of the supporting devices mounted upon the tail spar 77, by having bolts 92 secured through attaching flanges 93 which project rearwardly from the boxes and extend above and below the said beams, the bolts passing also through the beams, as will be understood, and supporting beams 94 are fitted at their inner ends into the boxes 91 and at their outer ends support the track 90, the track being secured to the said beams as at 95. The supporting beams 94 extend rearwardly from their respective beams 14 and they are braced by means of guy cables 96 provided at their upper ends with hooks 97 engaging a ring 98 upon that one of the chains 8 which is passed about the tail spar 77, and the lower ends of these guy cables are connected to bridles 99 the arms of which are pivoted at their lower ends as at 100 to the sides of the supporting beams 94, the bridles straddling the said beams. For a purpose to be presently explained, a plate 101 is secured upon the upper side of each supporting beam 94 and bearing bracket plates 102 are secured upon the plates 101 and have their bearing portions spaced above the said plates. A pulley 103 is journaled beneath each bearing bracket.

From the foregoing it will be understood that the track cables are to be formed in sections and that each section is supported between two of the shoes of the supporting devices upon the intermediate spars or between one of such shoes and the related shoe of the supporting device upon the head or tail spar so that the carriage traveling upon the track cables will be successively supported by the cable sections, the weight of the carriage and the load supported thereby being borne solely by that cable section upon which the carriage is traveling and the supporting devices between which the section is stretched. The carriages are to be drawn along the track cables by means of a traction cable, a description of the arrangement of which will, however, be deferred until the structure of the carriage itself has been made clear. It may be stated, however, that the traction cable, which is indicated by the numeral 104, is formed in sections and these sections are connected by means of rope sockets 105, the sockets being located at intervals at which it is desired the carriages shall be spaced apart when traveling upon the main and return track cables.

The carriage mentioned above includes spaced side plates, one of which is indicated by the numeral 106 and the other by the numeral 107. The upper portion of the plate 106 and the plate 107 are preferably of counterpart outline, but the lower portion of the plate 106 projects a considerable distance below the lower edge of the plate 107 and secured upon the inner face thereof is a hook 108 to which is to be attached the drag chain to which the logs are to be connected. By reference to Fig. 15 of the drawings, it will be observed that the hook 108 is so located that when the drag chain 109 is connected thereto and weight is imposed upon the chain the carriage will not be tilted. Grooved wheels 110 are mounted upon bolts secured through and connecting the plates 106 and 107 and these plates are held in proper spaced relation by means of bolts or rivets 112 and also by means of braces each consisting of a bar 113 secured at its upper end to the plate 107 near the upper edge of the latter and located one adjacent each end, and at its lower end to the plate 106, the brace bars extending in inclined relation between the plates, as shown by Fig. 15. It will be apparent that the bracing members serve to strengthen the pins or bolts and prevent their bending under the weight of a load supported by the drag chain. It will be observed that the space between the plates 106 and 107 below the wheels 110 is unobstructed so that the carriage may be readily disposed with its said wheels resting upon the track cables 23. Each of the carriages carries mechanism adapted to cooperate with

the rope sockets 105 connecting the sections of the traction cable 104 and this mechanism includes a block 114 which is bolted or otherwise secured upon the outer face of the plate 107 and which is formed in its under side with a recess 115 which at its forward end is substantially of semi-conical form as indicated at 116. This block constitutes the fixed member of an abutment for the rope sockets and the other or movable member of the abutment is in the form of a block 117 pivotally mounted in a bracket secured upon the outer face of the plate 107.

The block 117 is formed in its upper side with a recess 118 which at its forward end is of semi-conical form as indicated at 119 and the block is so mounted that when elevated it will engage with the under side of the block 114 and the recesses 116 and 119 will match to form a substantially conical socket of dimensions to receive snugly one of the members of the rope socket 105. The recesses 115 and 118 of the blocks 114 and 117 also register or match so that the abutment, when the blocks are in contact, has a socket open at its rear end. This open end of the socket is adapted to be closed by means of a block 120 pivotally mounted as at 121 in a bracket 122 secured upon the said plate 107. This block 120 is formed with a recess 123 which is approximately frusto-conical and of dimensions to receive the other member of the rope socket should the traction cable 104 be reversed in its direction of travel or should it become slack. In order that the abutment block 117 may be raised into engagement with the block 114 and held in such position, an elevating device comprising a cam head 124 and a shank 125, has its head and shank mounted for sliding movement in brackets 126 and 127 respectively and the cam face 128 of the head 124 is arranged to ride beneath the free end of the block 117 in the manner shown in Fig. 13. The outer side of the shank is of rack formation as indicated at 129 and pivotally mounted between ears 130 projecting from the bracket 127 is a hand lever 131 having its pivoted end of gear formation as indicated at 132, the teeth meshing with the rack 129. A latch 133 is swiveled upon the plate 107 and when the lever is swung to position to lie against the face of the plate the latch is dropped so as to engage with the lever and prevent outward swinging movement thereof. It will be apparent, however, that after the latch has been swung upwardly the lever may be grasped and swung outwardly from the plate, in doing which the cam head 124 will be retracted and the block 117 will be allowed to drop so as to open the socket of the abutment member and allow the rope socket 105 to pass from between the blocks 114 and 117.

Referring now to Fig. 1 of the drawings,

it will be observed that the traction cable 104 has its stretches passed over the pulleys which are mounted upon the several shoes as before described and about the pulleys 103 at the tail spar 77. The ends of the cable are wound upon one of the drums 134 of a stationary engine which is shown in a general manner in the said Fig. 1 and it will be apparent that as the drum is rotated that stretch of the cable at the load carrying side of the system will travel toward the head spar whereas the stretch at the return side of the system will travel toward the tail spar. Assuming that the operator of the apparatus wishes to send one of the carriages from his position at the head spar to the attendant at the tail spar and that the traction cable 104 is in motion, the carriage is disposed upon the return track cable with the block 117 in lowered position and the traction cable is allowed to engage between this block and the block 114. The elevating device is then operated to raise the block 117 and the carriage is released by the operator. That rope socket next in order upon the traction cable will eventually ride beneath the block 120 elevating this block until the socket has passed beneath it whereupon the block will drop to close the open end of the socket formed by the matching recesses in the blocks 114 and 117. One member of the rope socket will engage snugly in the frusto-conical socket formed by the recesses 116 and 119 whereupon the carriage will be connected for travel with the traction cable. The carriage will, of course, be carried around the transfer track at the tail spar and may there be released by the attendant until one of the drag chains has been connected with it or a log has been connected with the drag chain suspended from the block, if it be provided with such a chain before leaving the head end of the system. The attendant at the tail spar then replaces the carriage upon the main track cable and operates the lever 131 so as to close the socket in the abutment members and releases the carriage so that when engaged by the next rope socket in order it will be carried toward the head spar at which point, of course, the drag chain is disconnected and the log is released and the carriage is moved around upon the transfer track at this end of the system. It will, of course, be apparent that if the traction cable is traveling relatively slow and the rope sockets are few in number or located a considerable distance apart, the operator or attendant at the tail spar need not dismount the carriage but may merely hook the drag chain on to the hook 108, having first swung the lever 131 so as to allow the rope socket which has engaged the carriage on its return trip to the tail spar to move out of engagement with the carriage, subsequently, of

course, swinging the lever to closed position so that the coupling device will be operative for the next rope socket.

Where but a single trackway is provided as for example, as shown in Fig. 10 of the drawings, the traction cable has one end wound upon one of the drums of the stationary engine and its other end portion wound upon the other drum of the engine and one stretch of the traction cable travels beside the single stretch of the track cable and the return stretch of the traction cable is led around pulleys at the tail spar and through pulleys 135 located upon the intermediate spars. In this arrangement, of course, the direction of travel of the traction cable must be reversed when it is desired to return the carriage to the tail spar for the connection of another load.

It will, of course, be understood from the foregoing that while the track cable is formed in sections and it is not absolutely essential that the cable as an entity extend in a straight line, it is, of course, desirable that it should have such extent and should any of the intermediate spars be out of alinement with the other spars this may be corrected by employing longer or shorter supporting beams 14.

Having thus described my invention, what I claim as new is:

1. In an overhead carrier, a continuous track cable comprising a plurality of independent sections, supporting devices arranged at intervals and each including a shoe having intersecting grooves in which the adjacent ends of related ones of the sections of the track cable are laid, the ends of the cable sections being anchored and the said shoes supporting each section independent of the other sections.

2. In an overhead carrier, a continuous track cable comprising a plurality of independent sections, and means for supporting the sections independently of each other, said means comprising shoes arranged at intervals in the length of the cable, each shoe having an edge portion grooved at its ends and between the grooves formed to constitute a track surface substantially a continuation of the stretches of the cable sections supported by the shoe, one side of each shoe being formed with intersecting grooves extending downwardly from the inner ends of the first mentioned grooves, and the respective track cable sections being laid within grooves and led downwardly from the shoe in opposite directions and anchored.

3. In an overhead carrier, a continuous track cable comprising a plurality of independent sections, means supporting the sections of the cable, said means including shoes arranged at intervals in the length of the cable, the sections supported by each shoe being led over the shoe in crossed rela-

tion and anchored, and means upon the shoes extending between the adjacent ends of the stretches proper of the sections and constituting a continuation thereof.

4. In an overhead carrier including a continuous track cable consisting of a plurality of independent sections, supporting means for each two adjacent sections including a member disposed against a support and having a socket, a supporting beam fitted at one end in the socket, a shoe supported by the beam, the shoe being constructed to receive the related sections in crossed relation and the ends of the said sections of the cable being anchored below the shoe, and means connected to the shoe and to the said support for supporting the shoe and beam.

5. In an overhead carrier, a track cable support including a member designed to be disposed against a spar and having a socket, a supporting beam fitted at one end in the socket, a shoe supported upon the other end of the beam, anchoring guy cables connected to the shoe, and supporting guy cables connected to the shoe and extending upwardly and connected to the spar.

6. In an overhead carrier system, a main track cable, a return track cable, means supporting the cables and including supporting members disposed against opposite sides of spars in the line of the system, and each supporting device including a cable supporting shoe, the main track cable being supported by the shoes of the devices at one side of the line of spars and the return track cable being supported by the shoes of the supporting devices at the other side of the line of spars, the ends of each cable being anchored, a transfer track at the tail end of the system connecting the stretches of the said cables and constituting a continuation thereof, a carriage supported for travel upon the cables, and a traction cable extending along the main track cable, along the transfer track, and along the return track cable, means for moving the traction cable, and connection between the cable and the carriage.

7. In an overhead carrier system mounted upon a line of spars, and including a track cable, means for supporting the stretch of the track cable comprising a supporting device positioned upon each of the spars and including each a member disposed directly against the respective spar, a supporting guy cable connected to the member and to the spar above the said member, a supporting beam fitted at one end in a socket in the said member and projecting from the spar, a cable supporting shoe mounted upon the other end of the beam, supporting guy cables connected to the shoe and to the said spar, and anchoring guy cables connected to the shoe and anchored below the shoe.

8. In an overhead carrier system mounted

upon a line of spars and including a track cable, supporting means for the track cable comprising supporting devices mounted upon the spars and each including a member
 5 having a side disposed against the respective spar and partly embracing the same and provided with spurs entering the spar, the opposite side of the member being socketed, a beam removably fitted at one end in the socket in the member and projecting from the spar, a cable supporting shoe removably fitted to the other end of the beam and supporting the cable, a chain fastened about the spar above the member, a supporting
 10 guy cable connected to the chain and to the said member, and supporting guy cables connected to the shoe and to the said chain.

9. In an overhead carrier system including a track cable, supporting means for the cable including shoes arranged at intervals in the length of the cable, the cable being formed in sections, each of the shoes comprising a body provided upon its upper edge with a track surface and formed in its
 20 upper edge at the ends of the said surface with cable receiving grooves in which the adjacent ends of the sections of the cable are laid, one side of the said body being formed with intersecting grooves communicating with the first mentioned grooves and receiving the said ends of the cable in
 25 crossed relation, the ends of the cable sections being anchored below the shoe, and means movably connected with the said body and extending over the portions of the cable sections received in the first mentioned grooves and over the portions of the stretches of the said cable sections adjacent to the first mentioned portions and constituting continuations of the said surface of
 30 the body and of the stretches of the cable sections.

10. In an overhead carrier system including a track cable, supporting means for the cable including shoes arranged at intervals in the length of the cable, the cable being formed in sections, each of the shoes comprising a body provided upon its upper edge with a track surface and formed in its
 40 upper edge at the ends of the said surface with cable receiving grooves in which the adjacent ends of the sections of the cable are laid, one side of the said body being formed with intersecting grooves communicating with the first mentioned grooves and receiving the said ends of the cable in
 45 crossed relation, the ends of the cable sections being anchored below the shoe, and means movably connected with the said body and extending over the portions of the cable sections received in the first mentioned grooves and over the portions of the stretches of the said cable sections adjacent to the first mentioned portions and con-

stituting continuations of the said surface of the body and of the stretches of the cable sections, the said surface portion of the body overhanging the portions of the cable sections laid within the upper ends of the second mentioned grooves.

11. In an overhead carrier system, including a track cable, supporting means for the cable including shoes arranged at intervals in the length of the cable, the cable being formed in sections, each of the shoes comprising a body provided upon its upper edge with a track surface and formed in its upper edge at the ends of the said surface with cable receiving grooves in which the adjacent ends of the sections of the cable are laid, one side of the said body being formed with intersecting grooves communicating with the first mentioned grooves and receiving the said ends of the cable in crossed relation, the ends of the cable sections being anchored below the shoe, and means movably connected with the said body and extending over the portions of the cable sections received in the first mentioned grooves and over the portions of the stretches of the said cable sections adjacent to the first mentioned portions and constituting continuations of the said surface of the body and of the stretches of the cable sections, the said surface portion of the body overhanging the cable stretches at their point of intersection and between said point and the portions laid within the first mentioned grooves.

12. In an overhead carrier system including a track cable formed in sections, means for supporting the cable comprising shoes arranged at intervals in the length of the cable, each of said shoes comprising a body provided in its upper side with grooves receiving the ends of the sections of the cable, a sleeve fitted over the said portion of the body and secured thereto and covering the portions of the cable sections laid within the grooves, and a sleeve arranged at each end of the first mentioned sleeve and embracing the upper side of the adjacent portion of the stretch of the respective cable section, the second mentioned sleeves being pivotally connected with the said body and being movable with the said stretches of the cable sections, the said sleeves constituting continuations of the stretches of the said cable sections.

13. In an overhead carrier system including a track cable, means for supporting the cable including shoes arranged at intervals in the length of the cable and each shoe comprising a body portion formed to support the cable and provided with spaced sockets, supporting guy cables having terminal loops disposed within the sockets, anchoring guy cables having terminal loops

also disposed within the sockets, and bolts fitted through the walls of the sockets and through the said loops in the said cables.

14. In an overhead carrier system mounted upon a line of spars, main and return track cables, means supporting the cables and comprising supporting devices mounted upon the said spars, the supporting devices at the tail end of the system including beams extending from opposite sides of the respective spar, cable supporting shoes at the outer ends of the beams over which the said cables are led, beams extending rearwardly from the first mentioned beams, a transfer track secured at its ends to the shoes and constituting a continuation of and connection between the said cables, the said transfer track being secured to the second mentioned beams, means supporting the first mentioned beams, bridles upon the second mentioned beams, supporting guy ropes connected to the bridles and to the said spar, pulleys upon the second mentioned beams, and a traction cable supported for travel by the said supporting devices and trained about the said pulleys, the stretches of the traction cable extending beside the stretches of the main and return cables, and a carriage mounted for travel upon the first mentioned cables and the transfer track and connected with the traction cable.

15. In an overhead carrier system mounted upon a line of spars, main and return track cables, means supporting the cables and comprising supporting devices mounted upon the said spars, the supporting devices at the tail end of the system including beams extending from opposite sides of the respective spar, cable supporting shoes at the outer ends of the beams over which the said cables are led, beams extending rearwardly from the first mentioned beams, a transfer track secured at its ends to the shoes and constituting a continuation of and connection between the said cables, the said transfer track being secured to the second mentioned beams, means supporting the first mentioned beams, bridles upon the second mentioned beams, supporting guy ropes connected to the bridles and to the said spar, pulleys upon the second mentioned beams, and a traction cable supported for travel by the said supporting devices and trained about the said pulleys, the stretches of the traction cable extending beside the stretches of the main and return cables, a carriage mounted for travel upon the first mentioned cables and the transfer track and connected with the traction cable, the supporting devices at the head end of the system including shoes over which the main and return track cables are led, a transfer rail secured at its ends to the said shoes and constituting a continuation of and a connection between

the said cables at the said end of the system, and a supporting guy cable anchored to the head spar and connected to the track between its ends.

16. In an overhead carrier, the combination with the track and traction cables, of a carriage including spaced side plates, wheels mounted between the side plates and resting upon the track cable, the traction cable being provided with a stop, an abutment device upon one of the side plates of the carriage including a fixed member and a member movable with relation thereto, the fixed and movable members having registering recesses arranged to form a socket to receive the said stop, and means arranged to hold the movable member in coöperative relation to the fixed member of the abutment and operable to permit movement of the movable member out of such relation whereby to open said socket.

17. In an overhead carrier, the combination with the track and traction cables, of a carriage including spaced side plates, wheels mounted between the side plates and resting upon the track cable, the traction cable being provided with a stop, an abutment device upon one of the side plates of the carriage including a fixed member and a member movable with relation thereto, the fixed and movable members having registering recesses arranged to form a socket to receive the said stop, a cam member slidable upon the said side plate and arranged to ride beneath the movable member of the abutment whereby to move the same into coöperative relation with respect to the fixed member and to support the same in such position, and means for moving the cam member into and out of supporting position.

18. In an overhead carrier, the combination with the track and traction cables, of a carriage including spaced side plates, wheels mounted between the side plates and resting upon the track cable, the traction cable being provided with a stop, an abutment device upon one of the side plates of the carriage including a fixed member and a member movable with relation thereto, the fixed and movable members having registering recesses arranged to form a socket to receive the said stop, a cam member slidable upon the said side plate and arranged to ride beneath the movable member of the abutment whereby to move the same into coöperative relation with respect to the fixed member and to support the same in such position, and means for moving the cam member into and out of supporting position, the cam member having a rack stem, and said means comprising a lever mounted to swing upon the said side plate and having teeth meshing with the rack teeth upon the stem.

19. In an overhead carrier, the combination with the track and traction cables, of a carriage including spaced side plates, wheels mounted between the side plates and
5 resting upon the track cable, the traction cable being provided with a stop, an abutment device upon one of the side plates of the carriage including a fixed member and a member movable with relation thereto,
10 the fixed and movable members having registering recesses arranged to form a socket to receive the said stop, a cam member slidable upon the said side plate and arranged to ride beneath the movable member
15 of the abutment whereby to move the same into coöperative relation with respect to the fixed member and to support the same in such position, means for moving the cam member into and out of supporting
20 position, the cam member having a rack stem, said means comprising a lever mounted to swing upon the said side plate and having teeth meshing with the rack teeth upon the stem, and means for holding the

lever in position when swung to move the cam member into supporting position. 25

20. In an overhead carrier, the combination with the track and traction cables, of a carriage supported for travel upon the track cable and including a side plate, the traction
30 cable being provided with a stop, and an abutment device upon the said side plate of the carriage including a relatively fixed member and a member movable into and out
of coöperative relation with respect thereto,
35 the said members being formed with recesses arranged to register to form a socket to receive the stop, and a member normally resting in position to close the said socket
40 and displaceable by the stop upon entrance of the stop into the socket.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. WEBER. [L. S.]

Witnesses:

M. M. KERR,
A. K. WEBER.

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