Sept. 25, 1928. 1,685,720

G. NELSON

FLOATING TENSION FOR CABLEWAYS

Filed Nov. 9, 1927

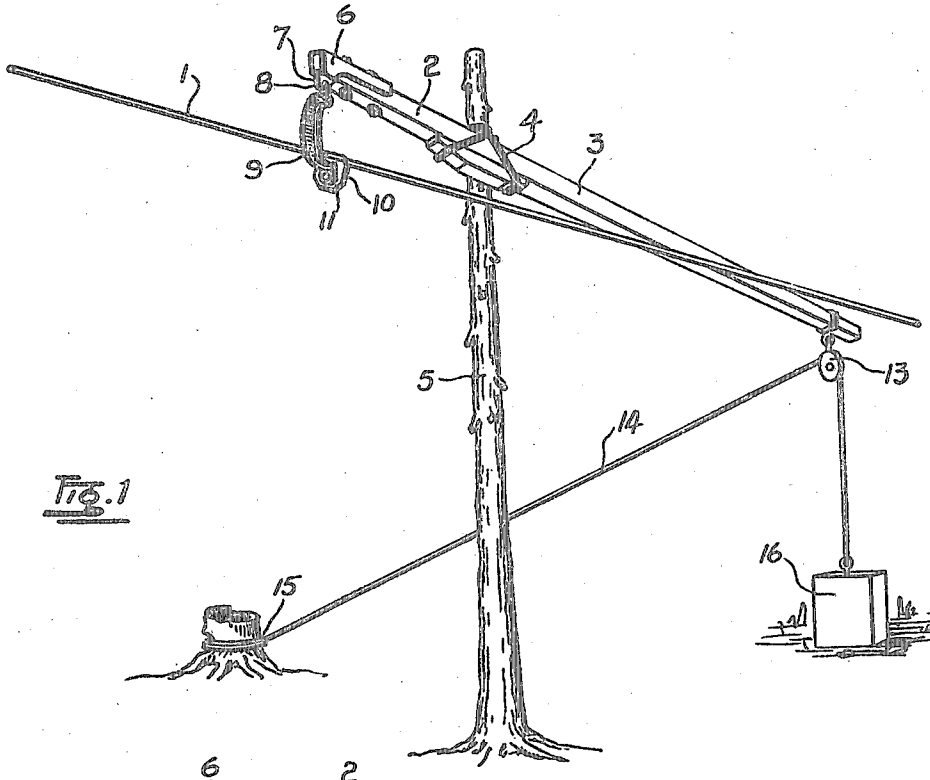


Fig. 1

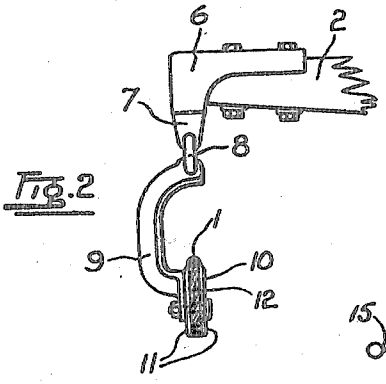


Fig. 2

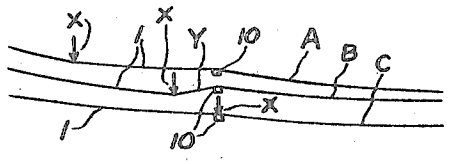


Fig. 3

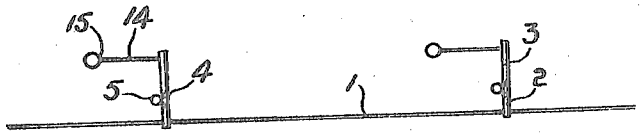


Fig. 4

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UNITED STATES PATENT OFFICE.

GUST NELSON, OF VANCOUVER, BRITISH COLUMBIA, CANADA, ASSIGNOR OF ONE-HALF TO FRANK R. PENDLETON, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

FLOATING TENSION FOR CABLEWAYS.

Application filed November 9, 1927. Serial No. 232,143.

My invention relates to improvements in floating tensions for cableways, which are particularly adapted for use in connection with what is known as skyline logging operations where a cable is stretched from one support to another, upon which cable log supporting carriages are run. In a cableway of this kind, the loads transported vary considerably and frequently when passing a station or support, will impose so severe a strain both on the support and the cable adjacent thereto that frequent repairs are required. Damage due to the acute flexing of the cable adjacent a station is particularly frequent where the cable is inclined and the load caused to travel thereon by gravity. The object of the invention is to overcome the above noted defects, which object is accomplished by providing a floating tension to one end of a pivotally mounted arm and providing a hanger at the other, upon which the cable is mounted, as will be more fully described in the following specification, and shown in the acompanying drawings, in which:—

Fig. 1 is a general view of the invention.

Fig. 2 is a detail view of the hanger.

Fig. 3 is a diagrammatic view of a portion of the cable showing the progressive deflection as the load approaches a hanger.

Fig. 4 is a plan view showing the disposition of the floating tension anchorage.

In the drawings like characters of reference indicate corresponding parts in each figure.

The numeral 1 indicates generally a cable or aerial track which extends from a suitable support (not shown) adjacent which the loading is done to a further support adjacent the point of delivery. In logging operations the loading point is usually at a considerably greater elevation than at the point of delivery and the cable track is run from one support to another along a substantially regular gradient in such a manner that the load carriage and its load will move towards the point of delivery, either by gravity or by the expenditure of a minimum of effort, and the unloaded carriage moved back therealong with a haul back line.

The intermediate supports for the aerial track 1, which form the basis of the invention are generally indicated by the numeral 2, and consist of a cantilever 3 swingingly suspended by a piece of cable 4 or other suitable means from a convenient tree 5 to one side of the track. The cantilever is arranged at a right angle to the track as shown in Figure 4 and is fitted at one end with a shoe 6 having an eye 7 on its underside for supporting a link 8 and from this link a hanger generally indicated by the numeral 9 is suspended. The hanger is of any suitable shape and is fitted at its lower end with a pivotally mounted saddle 10, which saddle is provided with a pair of plates 11 having a block of wood or other compressible material 12 therebetween, upon which the cable 1 is secured. The weight of the cable track on opposite sides of the hanger produces a bend at the saddle which cannot be accurately calculated and by providing a compressible support to the track, the support adjusts its curvature to conform exactly to the desired bend, hence no pinching or flattening of the strands of the cable develops. To the opposite end of the cantilever 3 a pulley block 13 is secured, through which a rope 14 is reeved, one end of which is anchored, as at 15, at a point to one side of the cantilever in the direction of the loading point or the upper end of the track 1. A suitable weight 16 is suspended from the free end of the rope 14. The offset position of the anchorage 15 depends upon the maximum weight to be carried on the track and the approximate speed of travel therealong. The function of the floating tension thus provided with an offset anchorage is shown in Figure 3, in which diagram A represents the position of the cable track 1 when the load X is approaching the saddle 10, which is also diagrammactically shown at its normal elevation, As the load X approaches closer to the saddle, as shown on diagram B, and a relatively angular catenary develops due to the proximity of the load thereto, which angularity is exaggerated in the figure to emphasize its function, forming an incline in the track. This tendency is counteracted as the saddle end of the cantilever 3 is lowered by the offset or side pull on the rope 14 which is maintained at a constant by the weight 16, thus keeping the upper stretch of the line taut and enabling the incline Y to be reduced and finally removed as the load reaches the saddle as indicated in diagram C. As the load leaves the saddle and enters upon the lower stretch of cable track, the weight 16 restores

the cantilever 3 and the track 1 to normal position, which it retains until approached by a further load. In situations where this type of floating tension is desirable, no return load is transported other than the weight of the carriage, so that the track is not materially depressed and the function thus provided is not required.

It will thus be seen that I have invented a floating tensional device for a skyline or aerial track which automatically adjusts itself to an oncoming load and prevents the development of sharp inclines adjacent its points of intermediate support.

What I claim as my invention is:

1. An intermediate support for an aerial cable track comprising a pivotally mounted cantilever having a hanger at one end by which the cable is supported, and means at the other end for applying a yielding downward tension thereon.

2. An intermediate support for an aerial cable track comprising a pivotally mounted cantilever having a hanger at one end by which the cable is supported, a sheave at the opposite end about which a rope is passed, one end of said rope being suitably anchored, and the other being provided with a weight capable of supporting the cable track and of yielding to it when a superposed load is passing therealong.

3. An intermediate support for an aerial cable track comprising a pivotally mounted cantilever having a hanger at one end by which the cable is supported, a sheave at the opposite end about which a rope is passed, one end of said rope being suitably anchored to one side of the cantilever, and the other being provided with a weight capable of supporting the cable track and of yielding to it when a superposed load is passing therealong.

4. An intermediate support for an aerial cable track comprising a pivotally mounted cantilever having a hanger at one end by which the cable is supported, upon which cable a loaded carriage is adapted to travel in one direction, means for applying a yielding downward tension upon the other end of the cantilever, and means for applying an endwise tension to the cable through the cantilever as the loaded carriage approaches the hanger.

Dated at Port Alberni, B. C., this 24 day of October, 1927.

GUST NELSON.