July 22, 1941. G. R. WHITTUM 2,250,339

HANGER FOR AERIAL TRAMWAYS

Filed April 13, 1940

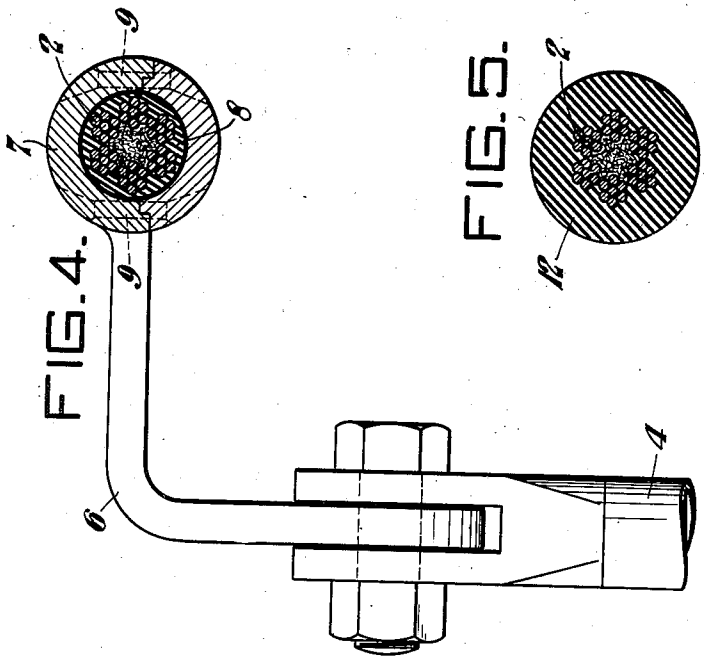


FIG. 4.

FIG. 6.

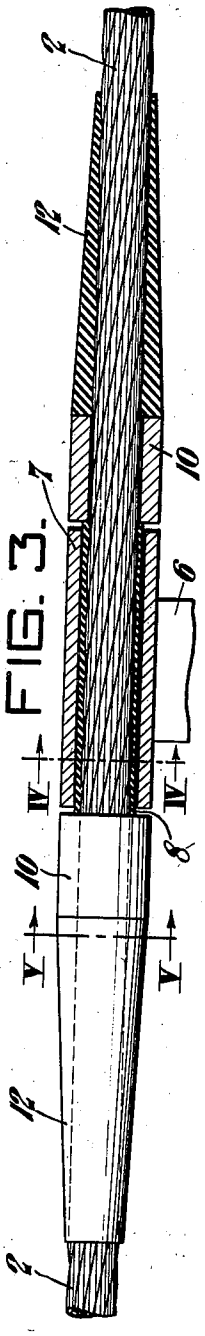


FIG. 3.

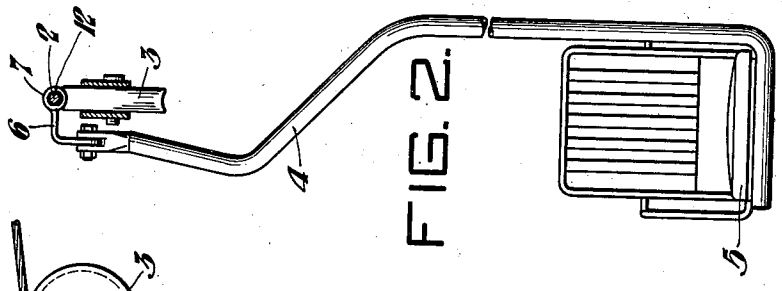


FIG. 2.

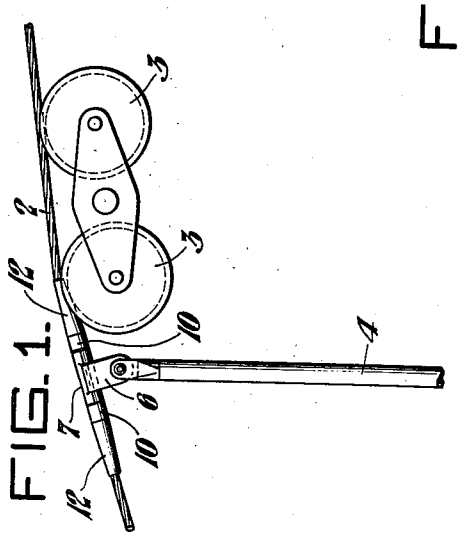


FIG. 1.

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HANGER FOR AERIAL TRAMWAYS

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1 Claim. (Cl. 104—200)

This invention relates to aerial tramways such as are used to convey freight or passengers. One example of aerial tramways of the class described is wherein skiers are conveyed from the bottom of snowy hills to the tops thereof in order that they may enjoy the pleasures of skiing without expending considerable physical effort in returning to the departing point. Such a tramway is disclosed and claimed in Patent No. 2,152,235, dated March 28, 1939, to Bannerman Curran and Trout, and entitled "Aerial ski tramway."

In aerial tramways of the type referred to, and more particularly that type which is disclosed and claimed in the patent identified immediately hereinbefore, the hangers supporting the passengers or freight are subjected to considerable shock when those portions which are attached to the driving cable or traction rope pass over a traction rope roller, as in a tower.

It is among the objects of the present invention to provide a hanger for aerial tramways in which the shock and noise are materially reduced.

Another object is the reduction of wear on the rollers and driving cable or traction rope by preventing the usual severe impact between the hanger heads and rollers and between rollers and traction rope.

Still another object is the provision of a device of the class described which is easily and cheaply manufactured and installed, and one which is, at the same time, quite durable in service.

A further object is to reduce wear on the outside wires of the traction rope caused by friction between them and the hanger head.

A still further object is to increase the radius of curvature of the traction rope when that section of the rope embraced by the hanger head is passing over a roller or around a sheave and thus reduce the bending stress.

The invention, then, comprises the features hereinafter fully described and as particularly pointed out in the claim, the following description and the annexed drawing setting forth in detail a certain illustrative embodiment of the invention, this being indicative of but one of the number of ways in which the principles of the invention may be employed.

In said drawing:

Figure 1 is a side elevation of the hanger of the present invention;

Figure 2 is an end elevation;

Figure 3 is an enlarged elevation, partly in section;

Figure 4 is a sectional view on the line IV—IV of Figure 3; and

Figure 5 is a sectional view on the line V—V of Figure 3.

Referring more particularly to the drawing, the numeral 2 designates the traction rope of an aerial tramway wherein said rope is supported by suitably mounted rollers 3. Attached to the rope 2 is a hanger 4 to the lower end of which there is secured a platform 5 of such design as would suitably support passengers or freight. The upper end of the hanger 4 is provided with a head 6 which is attached to the rope 2. As previously pointed out, the conventional hanger head, or that portion of the hanger which is attached to the rope 2, receives considerable shock when it passes over the traction rope rollers of the type designated at 3.

According to the teachings of the present invention, the rope 2 (which is composed of steel in the manner well known in the art) is provided with a rubber sleeve 8 which is vulcanized thereto. The hanger head 6 of the hanger 4 is provided with a cylindrical portion 7 which is suitably clamped around the rubber sleeve 8 in any conventional manner, as by means of the rivets 9, the construction and arrangement being such that the clamping of the hanger head 6 about the rubber sleeve 8 permits the latter freely to turn within the said hanger head.

It is essential that the hanger head 6 be restrained from moving longitudinally along the rope 2 and in order to accomplish this, the rope 2 carries at either end of the rubber sleeve 8 a short cylindrical sleeve 10 which is adjacent to, but slightly spaced therefrom. These short cylindrical sleeves 10 may be composed of any suitable material, whether resilient or not, as will appear more fully hereinafter.

Contiguous to each of the short cylindrical sleeves 10, and at the end thereof which is remote from the rubber sleeve 8, is mounted an elongated rubber sleeve 12 which is vulcanized to the rope 2 and tapered from a diameter slightly greater than the rope 2 up to the diameter of the short cylindrical sleeves 10.

It will be noted that the cylindrical portion 7 of the hanger head 6, the cylindrical sleeves 10, and the elongated rubber sleeves 12 provide a smoothly tapered unit which will smoothly ride over traction rope rollers or the like. In addition to the foregoing, the construction and arrangement of parts result in an extremely safe mode of operation. In previous designs the hanger head was restrained from moving along

the traction rope by only one lug, which resulted in the latter being subjected to stress reversals each time the slope of the traction rope changed and altered the inclination of the hanger upon the approach and departure sides of a supporting roller. This tended to work the single lugs loose to the point where finally they would be slid longitudinally of the rope. In the construction shown, each lug is subjected to uni-directional stresses whereby their tendency to work loose is obviated. The tendency to slide longitudinally is further minimized by the pressure of the tapered rubber sleeves arranged in contiguous relation to the lugs. These sleeves are so firmly fixed to the traction rope that, even should the lug be bereft of its holding power, the hanger head would still be held firmly by the rubber sleeves and the ropeway operated with absolute safety. It will also be appreciated that the angle of deflection of the traction rope over supporting rollers is considerably larger by virtue of the stiffening effect of the rubber sleeves than is the case when they are not applied. This materially reduces the flexing stresses to which the traction rope is subjected and results in longer life and lower maintenance costs.

The use of the cylindrical sleeve **8** about which the hanger head is disposed, reduces the wear on the outside wires of the traction rope caused by friction between them and the hanger head. This sleeve will also act as a swing dampener for the hanger, preventing the latter's swinging in a sidewise direction, since the friction of the hanger head on the sleeve is greater than it would be on the bare rope.

If desired, the elongated rubber sleeves **12** may be disposed immediately adjacent the ends of the hanger head **6** thereby dispensing with the short cylindrical sleeves **10**.

While I have shown and described one specific embodiment of the present invention, it will be seen that I do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of the invention, as defined by the following claim.

I claim:

In an aerial tramway, a pulley, a traction rope in contact with said pulley, a resilient cylindrical sleeve embracing said traction rope and secured thereto, a load-carrying hanger, said hanger comprising a rigid cylindrical sleeve portion rotatably embracing said resilient cylindrical sleeve and substantially coextensive therewith, and a frusto-conical resilient sleeve embracing said rope at either end of the rigid cylindrical sleeve portion of said hanger, each of said frusto-conical resilient sleeves being tapered away from said hanger, the largest diameter of said frusto-conical resilient sleeves being approximately the same as the diameter of the rigid cylindrical sleeve portion of said hanger.

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