Dec. 22, 1936. W. E. LANGTON 2,065,336

VIBRATION ABSORBER FOR TRANSMISSION LINE CONDUCTORS

Original Filed May 24, 1932

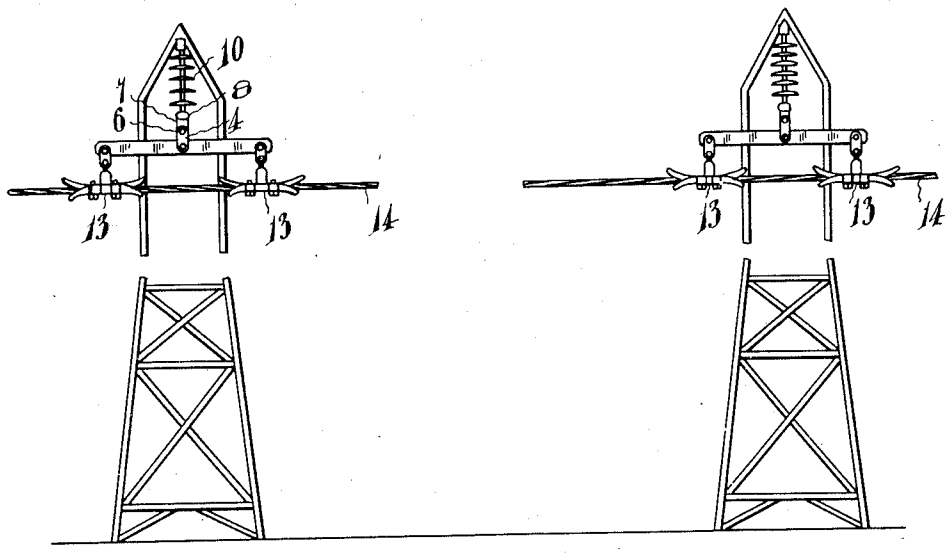


Fig. 1.

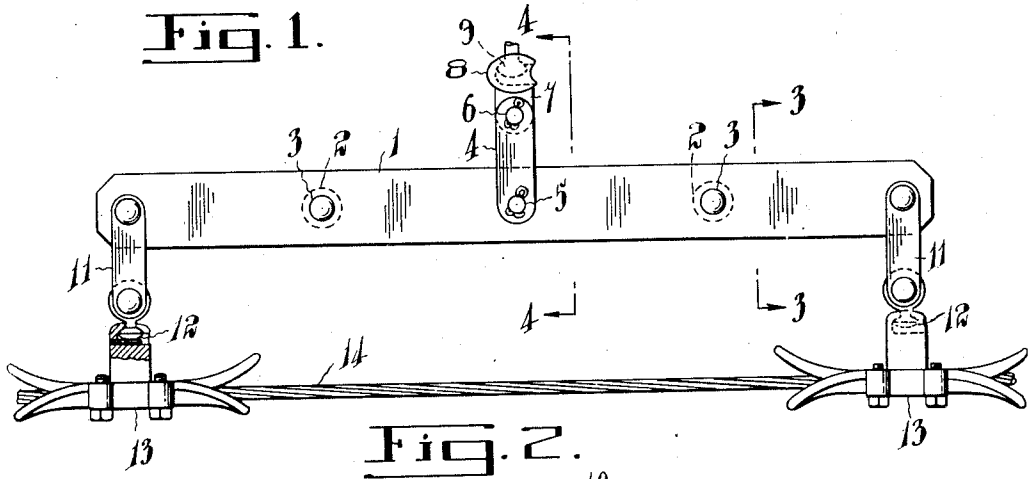


Fig. 2.

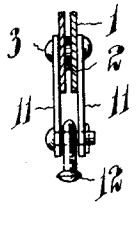


Fig. 3.

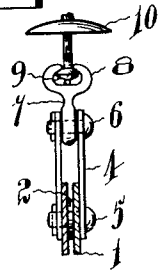


Fig. 4.

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VIBRATION ABSORBER FOR TRANSMISSION-LINE CONDUCTORS

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2 Claims. (Cl. 248—63)

This invention relates to apparatus for absorbing vibrations of conductors of a power transmission line. It is well known that such conductors vibrate between their points of suspension and that the vibrations result in the conductors breaking prematurely at said points. This objectionable feature has been found to increase in proportion to the length of span and weight of the conductor and my object is to provide simple means for lengthening the life of such conductors without decreasing the length of span nor the weight of the conductor.

I attain my object by providing a rigid bar which is suspended intermediate its ends by an insulator and fittings. At the opposite ends of the bar are suspended clamps of any well known construction which are secured to the conductor.

The constructions are hereinafter more fully illustrated in the accompanying drawing in which

Fig. 1 is a diagrammatic view of part of a transmission line;

Fig. 2 a side elevation, on an enlarged scale, of my suspension apparatus;

Fig. 3 a cross-section on the line 3—3 in Fig. 2; and

Fig. 4 a cross-section on the line 4—4 in Fig. 2.

In the drawing like numerals of reference indicate corresponding parts in the different figures.

1 is a rigid bar which may be formed of two strips of metal spaced apart by washers 2 and suitably secured together by rivets 3. A strap 4 pivotally connected at 5 with the bar 1 intermediate its ends is also pivotally connected at 6 with an eye bolt 7 having a socket 8 for connection with a suspension eye 9 carried by an insulator 10.

On straps 11, pivotally connected with the bar 1 at opposite ends thereof, are pivotally mounted suspension eyes 12. Clamps 13 are detachably carried on these eyes and are firmly clamped, in spaced relationship to one another, to the conductor 14. The clamps 13, eyes 12, and the ball and socket parts 7, 8, and 9 may be of any known construction.

Heretofore it has been the general practice to secure a clamp to the suspension eye 9 carried by the insulator in which case each clamp carried the weight of one span of conductor and when the latter vibrates the reversal in stress at the clamps is very great which results in the conductor breaking at these points. With my apparatus, while the weight on the suspension eye 9 is substantially the same as heretofore, each clamp carries only the weight of half a span of conductor. The bar 1 not only serves to carry the spaced clamps 13 but on account of its whiffletree construction, it will rock whereby it will absorb part of the vibrations and allow the remainder to pass through to the next absorber with a minimum of strain on the conductor. In other words, when the spans at the opposite ends of one clamp are vibrating and the clamp is carrying the whole load, the conductor quickly breaks at the ends of the clamps whereas in my device, if both spans of the cable begin to vibrate simultaneously, the vibrations of one span cause the bar to move against the vibrations of the other span and thus the vibrations in each span are dampened before they can build up to any appreciable extent. Further, as the load on each clamp in my device is reduced, any conductor fatigue at these points of support would be correspondingly reduced.

What I claim as my invention is:

1. A hanger for suspending a conducting cable comprising a member having a socket for connection with a ball on an insulator; a strap pivotally carried on said member to swing in a direction longitudinally of the cable; a rigid bar pivotally connected with said strap intermediate the ends of the bar to swing in a vertical plane parallel to that in which the strap lies; straps pivotally mounted at the ends of the bar to swing in the same direction as the first mentioned strap; suspension eyes pivotally mounted on the last mentioned straps to swing in the same direction thereas; and clamps having sockets for connection with the said eyes adapted to support the cable at two points distant from one another.

2. A hanger for suspending a conducting cable comprising a suspension member pivotally connected with an insulator; a rigid horizontal bar positively pivoted on the suspension member intermediate of the ends of the bar and above the cable to swing in a vertical plane parallel to the vertical plane in which the cable lies; straps pivotally mounted at the ends of the bar and depending therefrom substantially parallel to one another to swing simultaneously in the same direction longitudinally of the cable and in the same direction as the suspension member; and clamps pivotally mounted on the said straps beneath the bar to swing in a direction longitudinally of the cable and forming the sole support for the cable at two points distant from one another to divide the weight of the cable at each hanger between the said clamps.

WILLIAM E. LANGTON.