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A. M. TROGNER

ANTENNA SAFETY LINK

Filed July 30, 1920

FIG. 1

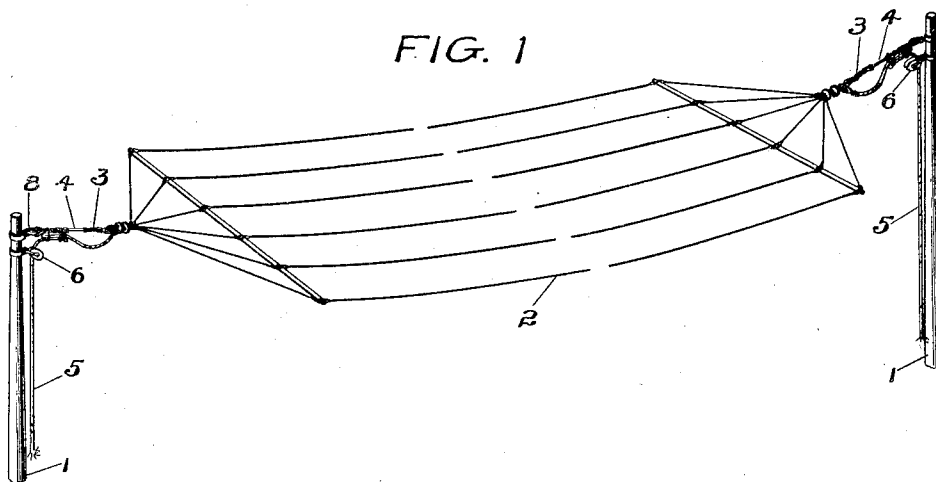


FIG. 2

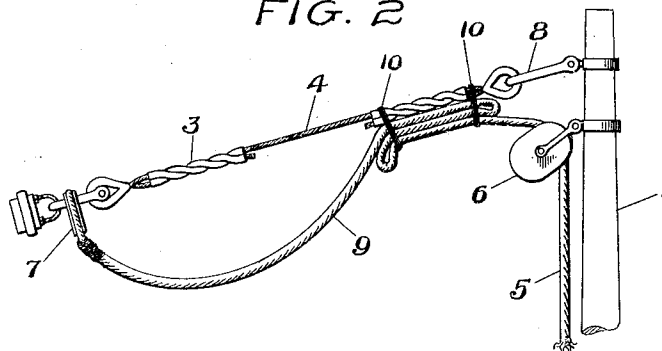
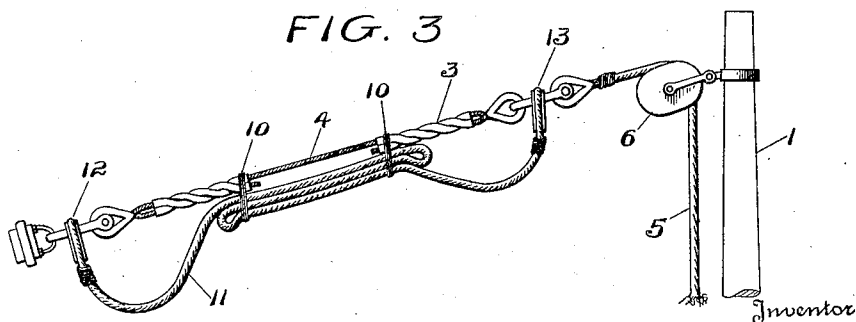


FIG. 3



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By

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UNITED STATES PATENT OFFICE.

ARTHUR M. TROGNER, OF TAKOMA PARK, MARYLAND.

ANTENNA SAFETY LINK.

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To all whom it may concern:

Be it known that I, ARTHUR M. TROGNER, a citizen of the United States, residing at Takoma Park, in the county of Montgomery and State of Maryland, have invented certain new and useful Improvements in Antenna Safety Links, of which the following is a specification.

My invention relates to antenna safety links and has for an object to prevent the carrying away of the antenna as the result of an abnormal "whipping" of the masts, such as happens in cases of collision, torpedoing, grounding, etc.

A further object of my invention is to provide means whereby the antenna will be automatically slacked off upon receiving an excessive stress.

A still further object of my invention is to provide means by which the antenna, after having been automatically slacked off, may be easily and quickly returned to its normal position.

A further object of the invention is to provide suitable means by which the antenna may be originally hoisted into position without subjecting the safety link to stress.

In cases where a vessel is torpedoed, is in collision, or is otherwise subjected to a severe shock, there often results a whipping of the masts to such a degree that the antenna is carried away, thereby putting the radio apparatus out of operation at a time when it is most needed. My invention, generally stated, consists in inserting a safety link between the antenna and the mast at one or both ends; the link being so constructed that upon receiving a severe stress it will give away and automatically slack off the antenna thereby relieving the stress and preventing the carrying away of the antenna.

I will now proceed to describe in detail the construction by which the above and other objects are attained, reference being had to the accompanying drawings in which:

Fig. 1 is a perspective view of the complete apparatus assembled, showing a safety link at each end of the antenna.

Fig. 2 is a side elevation, on an enlarged scale, of the safety link shown in Fig. 1, and

Fig. 3 is a side elevation of a modified form of safety link.

Between the masts 1, the usual antenna 2 extends, which antenna is attached to the masts in any suitable manner through a safety link referred to generally by the numeral 3.

The link 3 has a weakened portion 4 therein, which is of sufficient strength to support the antenna under normal conditions but which will give away when subjected to abnormal stresses. The weakened portion is here shown as a single antenna wire but it will be obvious, of course, that any other equivalent means may be substituted for that which I have shown, it being merely necessary to provide some means by which the antenna is normally supported and which will automatically release the antenna when subjected to any undue stress.

As shown in Figures 1 and 2, halliards 5 pass over blocks 6 and are secured to the antenna by means of thimbles 7 or any other desired means. The antenna is hoisted into position by these halliards and it is then shackled to the masts by means of shackles 8. After shackling the antenna bight 9 of suitable length is taken in the halliard, which bight, if desired, may be lightly seized to the safety link as indicated at 10, 10. The halliards are now made fast on deck. It will be obvious that in this construction the safety link will not receive any stress when the antenna is originally hoisted into position.

The operation of the apparatus disclosed in Figures 1 and 2 is as follows:

The antenna is normally carried as shown. Now, if the vessel receives any sudden shock which causes a whipping of the masts, the antenna will not be brought down but one or both of the weakened portions 4 may be ruptured as a result of the stress on the antenna. When this happens the weight of the antenna will be received by the halliard 5, the seizing will carry away and the antenna will be slacked off to the extent of one or both bights depending upon whether one or both safety links are ruptured. By means of the halliard or halliards the antenna may be immediately hoisted back to its normal position so that there will be no decrease in the signalling range.

In the modified form of the invention shown in Figure 3, the halliard 5 after passing over the block 6 is secured to the safety link instead of being secured to the antenna as in Figures 1 and 2.

A rope or cable 11 of the desired length is secured at one end, 12, to the antenna, and at the other end, 13 to the halliard. The intermediate portion may be coiled and
5 seized as previously described.

The operation of this form of the apparatus is similar to that of the preferred form previously described. In this case, however, it is impossible to immediately
10 hoist the antenna back to its normal position after the safety link has been ruptured.

While I have shown a safety link at both ends of the antenna this is not essential and I may prefer to use only one link.

15 Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A radio antenna having a safety link with a weakened portion therein attached to one end, a halliard attached to the same
20 end said link being adapted for suspending the antenna from its masts but independent of the halliard.

2. A radio antenna, a safety link for attaching the antenna to a mast, said link adapted to be ruptured when subjected to

an unusual stress, and a halliard attached to the antenna, said halliard having a bight therein, whereby the antenna is slacked off after said link has been ruptured.

3. A radio antenna, means attaching the antenna to its support, said means adapted to release the antenna when subjected to an abnormal stress, and a halliard for supporting the antenna after it has been released by
35 the first named means, and for returning the antenna to its normal position.

4. A radio antenna, a safety link having a weakened portion therein adapted for rupture connected to the antenna and a
40 mast, and a halliard also connected to the antenna and the mast adjacent to the points of connection of the link to maintain the antenna in operative position when the weakened portion is ruptured.

5. An antenna, a rupturable means for attaching the antenna to a mast and a means for receiving the weight upon rupture of the first said means and by which the antenna is restored to its original position.

ARTHUR M. TROGNER.