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LOOP ANTENNA

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Fig. 1

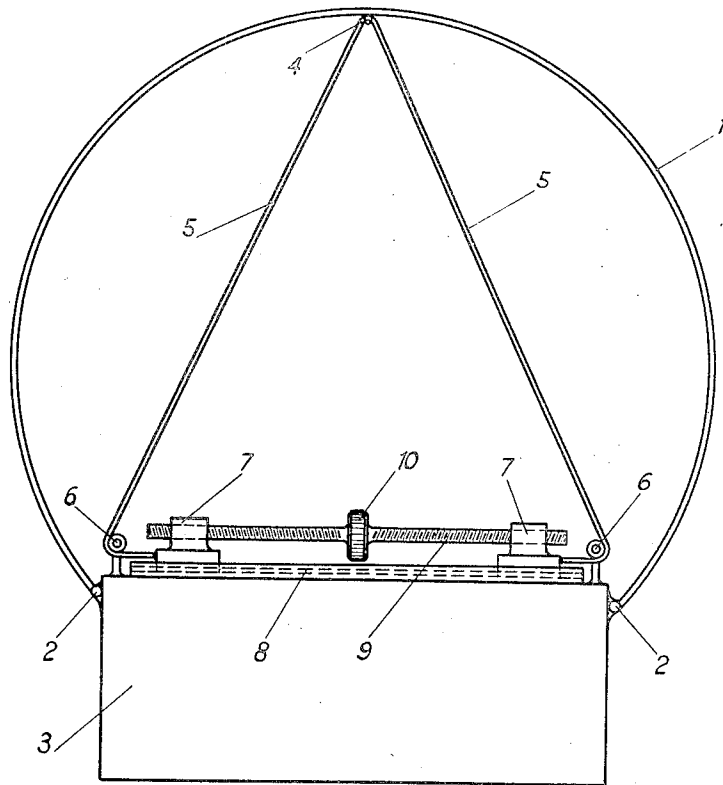
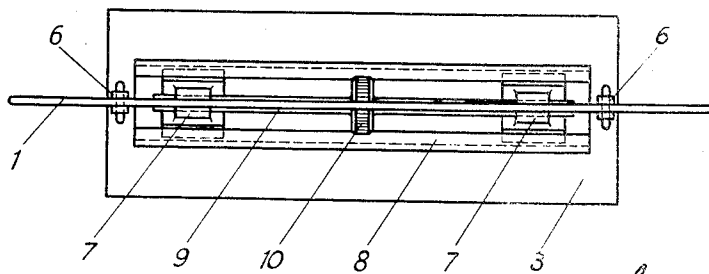


Fig. 2



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LOOP ANTENNA

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2 Claims. (Cl. 250—33)

This invention relates to loop antennae for radiocommunication sets and particularly for movable radiocommunication sets and has for its object a loop antenna which consists of a self-sustaining wire loop having means for stiffening it under operative conditions for the purpose of preventing it from undergoing variations in its inductance as an effect of variations in shape which said loop may undergo under the effect of vibrations; in the antenna of this invention the antenna loop stiffening means are also operative to adjust the configuration of the antenna loop when in operative position and accordingly to impart to it a desired inductance within certain ranges.

More particularly in a preferred embodiment thereof the antenna of this invention is provided with tensionable tie members connected with the self-sustaining loop in proper locations thereof and also with normally stationary parts which may be located on the set with which said antenna cooperates, and said tensionable tie members provide for applying to the loop such actions as may be necessary to hold it in a predetermined configuration; on the other hand by said tensionable tie members the configuration of the antenna loop and the flux interlinking with said antenna may be modified, with consequent variation in the magnitude of the inductance thereof.

An embodiment of this invention is illustrated by way of example on the annexed drawing and Fig. 1 is an elevation of the antenna in cooperation with a radiocommunication set; Fig. 2 is a plan view thereof.

In the illustrated embodiment the antenna includes a self-sustaining wire loop 1 having a substantially circular configuration; the ends of said loop 1 are engaged at 2 with a stationary stand, this stand being the top of a radio-set case 3 in the illustrated embodiment.

Tie members 5 have one of their ends attached to the loop 1 at a suitable location thereof, as shown at 4, and the other ends of said tie members are connected with the stand or case 3 by tensioning means as hereinafter described; said tie members 5 thus operate to stiffen the loop 1 and to keep it in the desired configuration and they maintain the magnitude of the loop inductance unaffected irrespective of the impacts and vibrations which may act thereon.

Said tie members 5 and the cooperating tensioning means may also be used to alter the configuration of the loop 1 and consequently the magnitude of the flux interlinking therewith and the loop inductance; for such a purpose the tie

members 5 are operated by said tensioning members to develop on the loop 1 an action sufficient to modify its configuration and consequently the area it circumscribes.

In the illustrated embodiment the ends of the tie members 5 opposed to their ends by which they are attached at 4 to the loop 1, extend over guide sheaves 6 mounted on the loop stand 3 and are connected with sliders 7 arranged to move along dove-tail guide means 8 also arranged on said stand. Said sliders 7 are actuated by a screw rod 9 having its end portions screw-threaded in opposite directions and engaging similarly screw threaded holes of the respective sliders 7 and an intermediate finger knob 10 is provided on said rod 9 for its manipulation to shift the sliders 7 in order to adjust the action imparted by the tie members 5 to the antenna loop 1 at the point 4 thereof, the loop configuration and its inductance being thus adjusted.

Of course the present invention is not restricted to the details of the described embodiment and the means suggested for adjusting the loop configuration and inductance may be altered through wide ranges within the spirit of appended claims.

What I claim as my invention and desire to secure by United States Letters Patent is:

1. A loop antenna for radiocommunication sets comprising a stand, a self-sustaining flexible conductor of arcuate configuration, means fastening the ends of said arcuate conductor on said stand, and ties each having one of its ends connected with said arcuate conductor, slidable members on said stand, each of said ties having the other one of its ends connected with one of said slidable members, and means for adjusting said members for stiffening said arcuate conductor and imparting a predetermined configuration thereto.

2. A loop antenna for radio communication sets comprising a stand, a self sustaining flexible conductor of arcuate configuration, means fastening the ends of said arcuate conductor on said stand, and two ties each having one of its ends connected with an intermediate point of said arcuate conductor, slidable members mounted on said stand near said fastening means, each of said ties having the other one of its ends connected with one of said slidable members, and manipulating means acting on said slidable members for their actuation in opposite directions for stiffening said arcuate conductor and imparting to the same a predetermined configuration.