

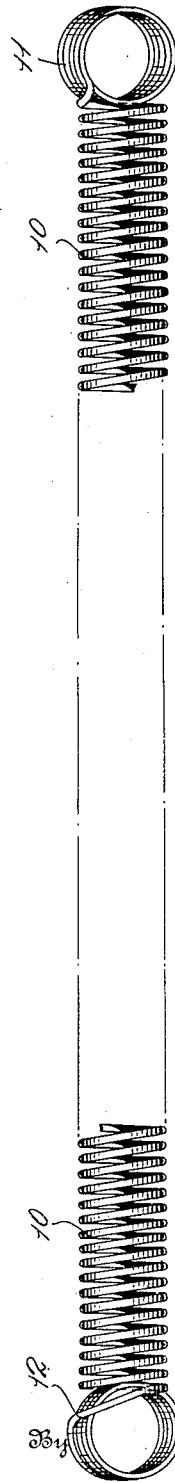
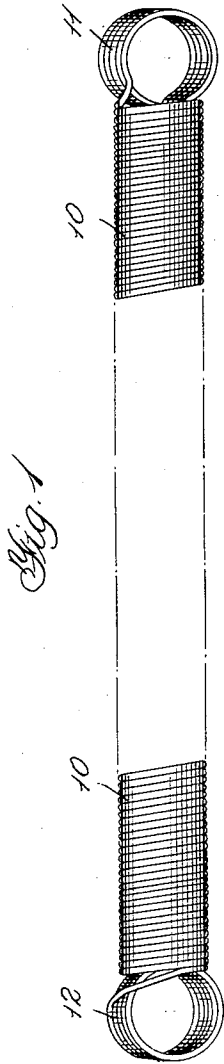
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RADIOAERIAL

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RADIOAERIAL.

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To all whom it may concern:

Be it known that I, FRANKLIN H. MACKENZIE, a citizen of the United States of America, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Radioaerials, of which the following is a specification.

The invention relates to radio aerials and has for its object to provide a self sustaining expansible antenna or aerial comprising a coil of wire suspended at its ends. The aerial when contracted, may be carried anywhere in the pocket, or may be erected in a few minutes. It is equally effective when used indoors as when used as an outdoor aerial.

The aerial may be expanded to many times its original length and is readily applied at any desired position. So far as the inventor is aware, the present device is the only aerial that will give the proper capacity of a full length aerial in a short space.

Due to its spiral construction, the improved aerial has been found to cut down "static" to a very considerable degree.

An illustrative embodiment of the invention is shown in the accompanying drawings in which:—

Fig. 1 shows the spring aerial in its collapsed form, and

Fig. 2 shows the aerial partially extended.

Each spring aerial unit comprises a spiral spring element 10 which may be of any expansible metal, suitable for use as an aerial. As shown, the ends of the spiral are coiled to form suspension loops 11 and 12 by means of which the unit may be suspended from any desired support. For example, the aerial, when hung diagonally in a small room is practically as efficient, as the best long outdoor aerial. The device may also be used as an outside aerial in connection with specially constructed towers if desired, or hung from limbs of trees, proper insulating means being, of course, provided.

For best results it has been found that the aerial should be stretched from twenty to one hundred feet and should be well insulated at both ends and clear of all surrounding objects, if possible. The effective length of the aerial is, of course, equal to the entire length of the wire composing the spiral.

The self inductive action of the spiral cuts down static to a very large extent.

A number of the aerial units may be used,

if desired. To use as a counterpoise, for best results two of the spiral units should be used in the form of a V from six to ten feet below the aerial and as far as possible from all grounded objects. The use of a counterpoise increases the selectivity of any set and practically eliminates the generator hum of nearby broadcasting stations and also helps to cut out interference of nearby high tension, power and trolley wires, and is a decided help in eliminating static and all forms of local interference.

It is obvious that the details of the device may be modified without departing from the scope of the invention. For example, while the present spiral is shown as formed of a single strand of wire, it is obvious that a plurality of strands may be employed without departing from the spirit of the invention.

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

1. A portable antenna comprising a coil of spring wire which, when not in use as an aerial, is adapted to be contracted under its own tension to a convenient size for transportation, but when in use as an antenna is adapted to be expanded and suspended under tension from a suitable hanger or support.

2. A portable antenna comprising a coil of spring wire having suspension loops at its ends, said antenna, when not in use being adapted to be contracted under its own tension to convenient size for transportation and which, when in use as an antenna, is adapted to be expanded and suspended adjacent its ends from a suitable hanger or support.

3. A portable antenna comprising a coil of resilient conducting material which when not in use as an antenna is normally contracted under its own tension and when expanded is adapted to be suspended under its own tension from a suitable hanger or support.

4. An expansible antenna comprising a coil of resilient conducting material, which when not in use as an antenna is normally contracted under its own tension, but when expanded is adapted to be suspended under its own tension from suitable hangers or supports whose distance apart may be varied.

In testimony whereof I affix my signature.
FRANKLIN H. MACKENZIE.