Jan. 4, 1927. 1,613,333

J. McW. STONE

LOOP AERIAL

Filed Oct. 31, 1923 2 Sheets-Sheet 1

Fig. 1.

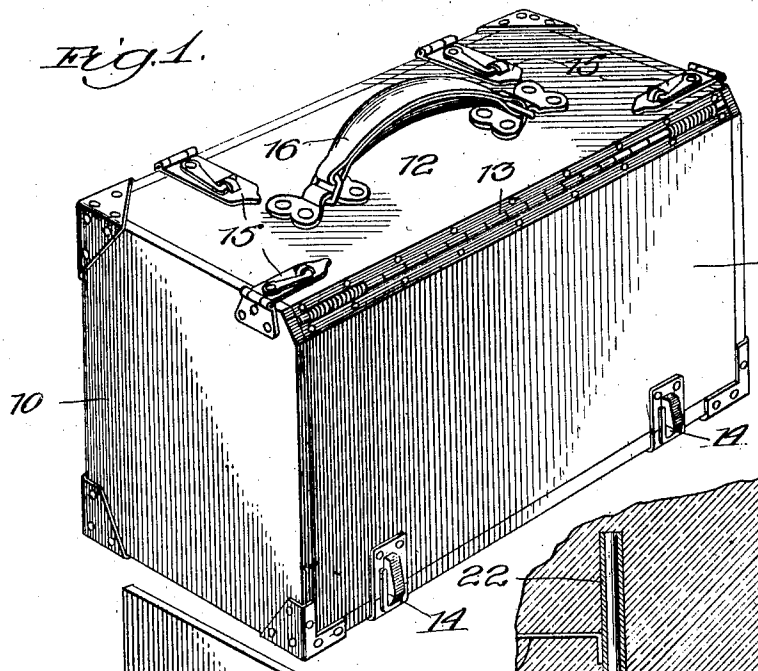


Fig. 3.

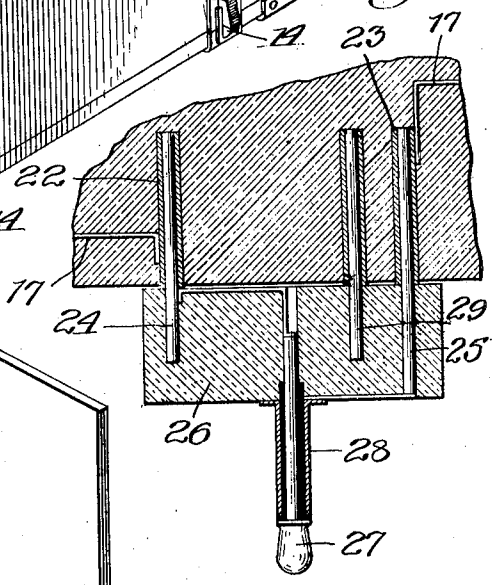
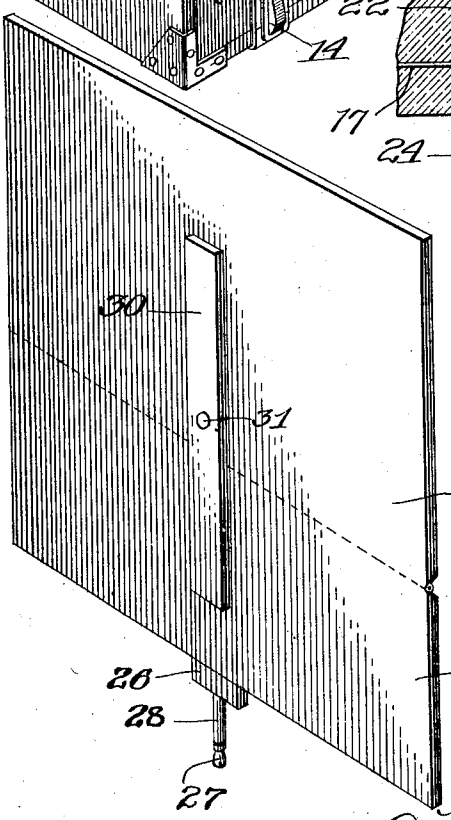


Fig. 2.



Inventor:
John McWilliams Stone,
By Dyrenforth, Lee, Christy & Wells,
Attys.

Jan. 4, 1927. 1,613,333

J. McW. STONE

LOOP AERIAL

Filed Oct. 31, 1923 2 Sheets-Sheet 2

Fig. 4.

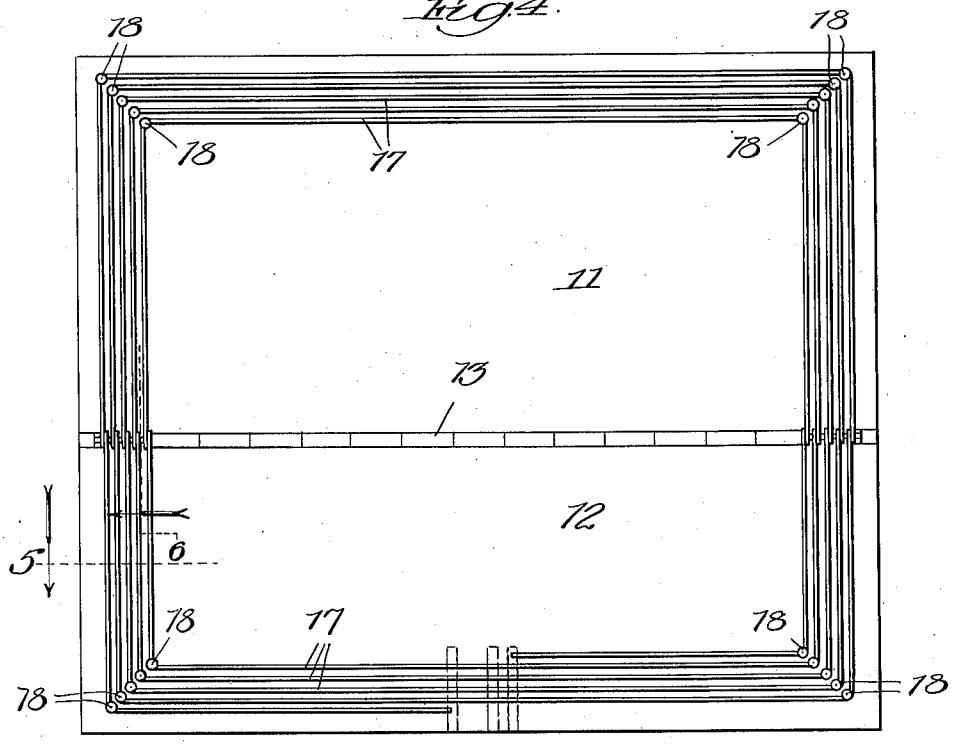


Fig. 5.

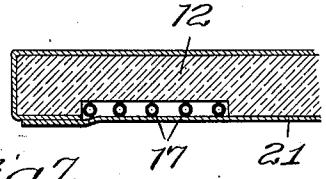


Fig. 6.

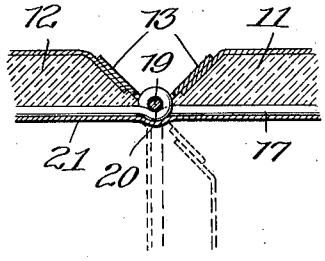
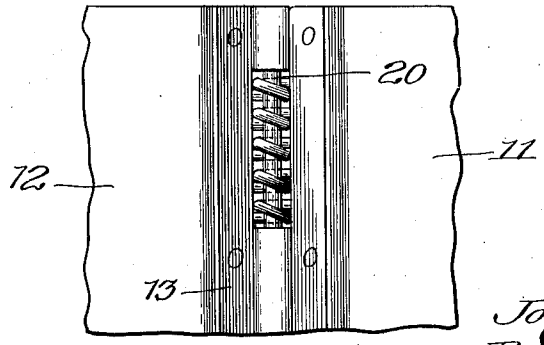


Fig. 7.



Inventor:
John McWilliams Stone,
By Dyrenforth, Lee, Chritton & Wiles,
Attys.

Patented Jan. 4, 1927. 1,613,333

UNITED STATES PATENT OFFICE.

JOHN McWILLIAMS STONE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE OPERADIO CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

LOOP AERIAL.

Application filed October 31, 1923. Serial No. 671,931.

This invention relates to loop aerials for radio receiving apparatus and is particularly adapted to be used in connection with small portable sets.

The invention is fully described in the following specification and shown in the accompanying drawings in which:

Figure 1 is a perspective view of a case enclosing a complete radio receiving set having a removable cover which encloses the loop aerial;

Fig. 2 shows the cover removed and assembled for use as the aerial of the set;

Fig. 3 is an enlarged partial section showing the connection for mounting said aerial on the set;

Fig. 4 is a back view of the cover with the inner coating removed showing the wiring of the loop;

Figs. 5 and 6 are enlarged partial views on the lines 5 and 6 of Fig. 4; and

Fig. 7 is a partial front elevation of the hinge shown in Fig. 6.

The embodiment shown comprises a set of radio receiving apparatus consisting of a box 10 closed on four sides, but having a removable front 11 and top 12 which are connected together throughout the greater part of their length by means of a piano hinge 13. When used as a cover for the set it is secured to the box 10 by means of suitable fasteners 14 and 15, the top 12 being supplied by a handle 16 so that the case may be readily carried.

Upon the back of this cover is wound a number of turns of suitable flexible insulated wire 17 upon corner pins 18 or the like. The hinge 13 is cut away near the ends at that portion where these wires cross it. The wire 19 forming the pivot of the hinge 13 continues through this space and is enclosed at this point by a tube 20 of insulating material. As each wire passes this tube it is given one turn about it as shown in Figs. 4 and 7, the wire then continuing on in substantially a straight line to the next corner pin.

This arrangement provides a very flexible mounting for the wires so that they will readily permit the sections 11 and 12 to be bent at right angles to each other as shown in Fig. 1, or the tube straightened into the form shown in Fig. 2. The inside of these sections is then covered with a liner 21 of a suitable material as cloth, care being taken, however, that it does not have any material which will have any substantial amount of electrical capacity.

The two ends of the wire tube 17 are connected to tubular terminals 22 and 23 which are adapted to receive the pins 24 and 25 of the connector 26. The pins 24 and 25 are connected to the metal pin 27 and tube 28 respectively which are of a well known plug construction. A dowel pin 29 on the connector 26 insures the pins of the connector connecting the plug holes to the same terminals of the loop.

A cleat 30 is mounted upon the inner face of the front 11 by means of a pin 31. When the pin is turned to the portion shown in Fig. 2 it retains the cover members in the open position, and when it is desired to turn it at right angles as in Fig. 1, the cleat 30 is turned about the pin 31 to an angle of 90 degrees.

When used as an aerial, it is assembled as shown in Fig. 2, the plug 28 being inserted in a suitable socket (not shown) in the top of the set which is hidden in Fig. 1, by the cover 12.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes therefore in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible in view of the prior art.

I claim:

1. A loop aerial comprising two rigid sections hingedly connected together, and a plurality of turns of a loop aerial mounted on said sections whereby said loop may be flexed about said hinge when not used as an aerial, and means for holding said sections in flat relation when used as an aerial.

2. A loop aerial comprising two rigid sections hingedly connected together, and a plurality of turns of a loop aerial mounted on said sections, the wires of each turn being coiled about the axis of the hinge, whereby said loop may be flexed about said hinge when not used as an aerial.

3. A loop aerial comprising two rigid sections hingedly connected together, a plurality of turns of a loop aerial mounted on said sections whereby said loop may be flexed

about said hinge when not used as an aerial, the ends of the loop being connected to terminals adapted to receive a plug by which the aerial is mounted, and means for holding said sections in flat relation.

4. A loop aerial comprising two rigid sections hingedly connected together, a plurality of turns of a loop aerial mounted on said sections whereby said loop may be flexed about said hinge when not used as an aerial, the ends of the loop being connected to terminals adapted to receive a plug by which the aerial is mounted, and a cleat pivotally mounted on the inside of sections and adapted to be turned to hold said sections in flat relation.

5. A removable cover for a radio receiving set case comprising two sections covering one side and the top of the case, said sections being hingedly connected together whereby to adapt the same to be used as a cover and to be swung to vertical position on their hinge, a loop aerial secured to said sections and foldable therewith, and means for mounting said aerial in vertical extended position on the case.

6. A cover for a radio receiving set case, a loop aerial carried by said cover, and coacting means on said case and cover whereby the cover may be mounted on the case for free revolution thereon and in vertical relation thereto with said loop aerial in electrical connection with the radio receiving set within the case.

JOHN McWILLIAMS STONE