May 22, 1928.

1,670,553

L. E. SHARP

WIRELESS ANTENNA

Filed Jan. 7, 1927

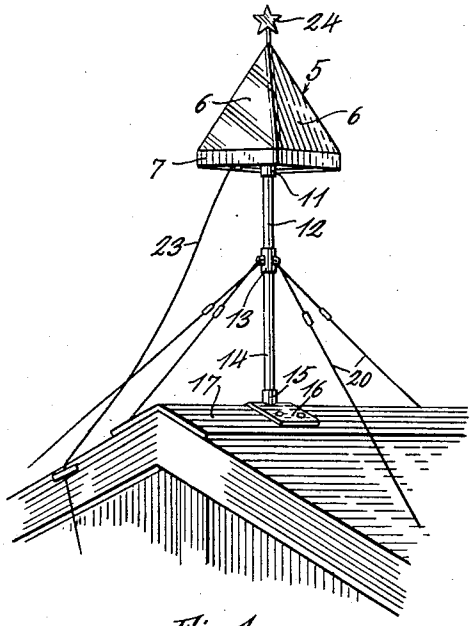


Fig. 1.

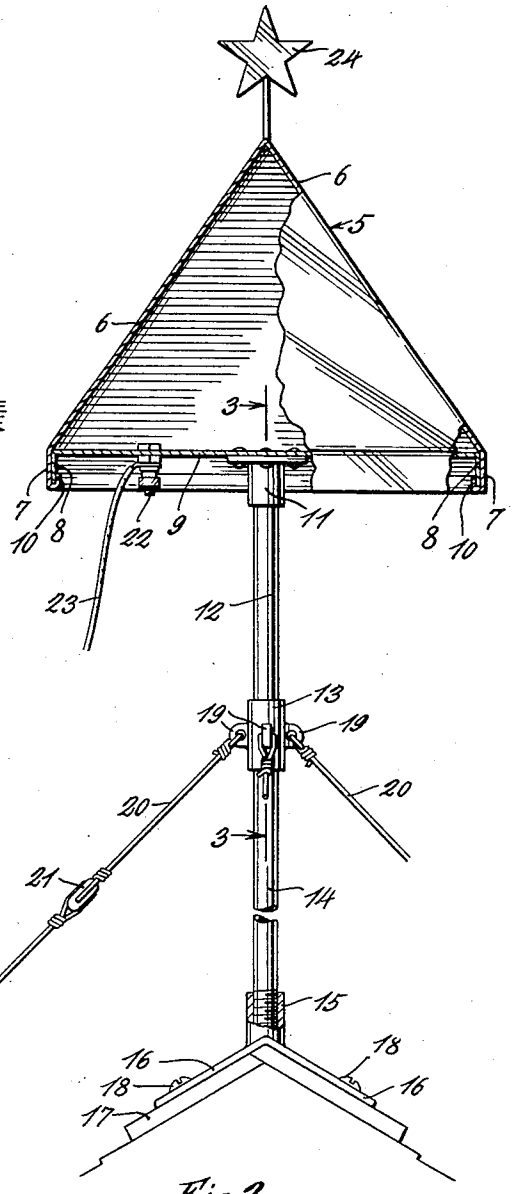


Fig. 2.

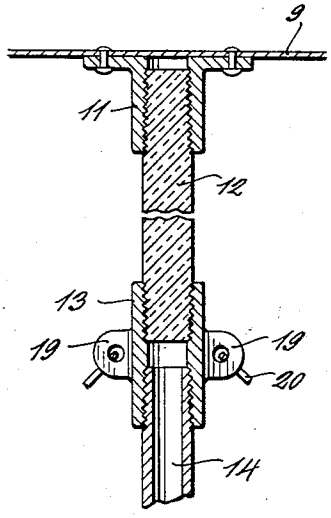


Fig. 3.

Inventor

Louis E. Sharp.

By A. J. O'Brien

Attorney

Patented May 22, 1928. 1,670,553

UNITED STATES PATENT OFFICE.

LOUIS E. SHARP, OF DENVER, COLORADO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO SHARP AND COMBS, INC., OF DENVER, COLORADO, A CORPORATION OF COLORADO.

WIRELESS ANTENNA.

Application filed January 7, 1927. Serial No. 159,547.

This invention relates to improvements in wireless antenna.

It has been the usual practice in wireless reception to employ as an antenna a wire which is stretched between two spaced supports, and properly insulated from the ground. Such antennæ are quite difficult to erect because they require posts, towers or other elevated spaced supports, the provision of which oftentimes entails a large amount of labor and expense. Where such straight wire antennæ are used, it is found that they are highly susceptible to static disturbances and to influence from adjacent power transmission lines with which they are in inductive relation. In addition to these objections a straight wire antenna gives its best results only with stations located at right angles to its length and gives very poor results when the station is located in the direction of its length. In addition to the above objectionable features, the usual wire antennæ readily become grounded during storms and are rendered very ineffective at such times.

It is the object of this invention to produce an antenna that shall be so constructed that it can readily be put in place on the roof of a house and braced so as to withstand the strains due to storms and high winds.

Another object of this invention is to produce an antenna of such construction that those parts that are depended on for insulation will be protected from the rains and the snows and which will therefore retain their effectiveness during storms of ordinary intensity.

A further object of this invention is to produce an antenna that will be equally effective with respect to all surrounding stations.

A still further object of this invention is to produce an antenna that shall have an ornamental appearance so as to add to instead of detracting from the appearance of the house to which it is attached.

The above and other objects which may appear as the description proceeds are attained by means of a construction and arrangement of parts that will now be described in detail, reference for this purpose being had to the accompanying drawing in which the preferred embodiment has been shown and in which:

Fig. 1 is a perspective view showing my improved antenna in place on a roof;

Fig. 2 is a view showing my antenna partly in elevation and partly in section, portions being broken away to better disclose the construction; and

Fig. 3 is a detail view with parts shown in section.

My improved antenna consists of a pyramidal part 5 formed from sheet metal. This is usually constructed from sheet copper and has four inclined sides 6 of triangular shape which are connected together so as to form a pyramid. The lower edges 7 of the sides 6 extend downwardly parallel with the axes of the pyramid and cooperate with the flanges 8 of the bottom 9. The lower edges of the parts 7 are turned back over the flanges 8 in the manner indicated by numeral 10. The bottom 9 is therefore held securely in place between the inclined sides 6 and the parts 10. Secured to the underside of the bottom 9 at its center point is a flange coupling 11, which is provided with a threaded opening for the reception of the threaded end of the rod 12, which is of insulating material and which is preferably made of fiber but which may be made of hard rubber, bakelite or any other suitable insulating material. The lower end of rod 12 is threadedly connected with the coupling 13 which is attached to the upper end of the galvanized iron pipe 14, whose lower end is threaded to the upwardly extending hub 15 of the special support which is provided with two angularly related sides 16. The sides 16 are adapted to fit against the upper surface of the ridge boards 17 to which they are secured by means of screws 18.

The coupling 13 is provided with four lugs or ears 19, to which the guy wires 20 are attached. These guy wires may be provided with strain insulators 21, if desired, although this is not necessary since the antenna 5 is insulated by means of the bar 12.

A binding post 22 is secured to the bottom 9 and serves as a means for attaching the wire 23 that leads down to the receiving device.

A star 24 or other ornament is secured to

the apex of the pyramid 5 so as to add to its appearance.

The sides 7 may be made as wide as desired so as to afford the necessary protection for the insulator 12. It is evident that the antenna 5 protects the insulator from rain and snow that falls vertically or at a moderate incline. When the rain or snow is accompanied by heavy winds the insulating bar may become wet but as such storms are rare, this is not of great importance.

From the above, it will be apparent that I have produced a wireless antenna that is suitable for receiving sets of any size and which can readily be attached to the ridge boards of a house and braced against sidewise movement. The insulating member, by means of which the antenna is supported, is attached underneath and within the sides thereof so that it will be protected against moisture which would otherwise ground the same.

Having now described the invention what is claimed as new is:

1. An antenna for wireless reception comprising a hollow pyramidal shaped member of sheet metal provided with a bottom located above the base and extending at right angles to the axes of the pyramid, a support for holding the antenna in elevated position with its apex at the top, said means comprising a bar of insulating material and means for securing the upper end of the bar to the underside of the bottom member.

2. An antenna for wireless reception, comprising a hollow pyramidal shaped member of sheet metal, said member having a bottom formed from a sheet of metal which is located above the base of the pyramid and which extends in a plane perpendicular to the axis of the pyramid, a coupling member secured to the underside of the bottom, substantially centrally thereof, said coupling having an opening whose axis is perpendicular to the plane of the bottom and a bar of insulating material having its upper end threaded to the coupling member.

In testimony whereof I affix my signature.

LOUIS E. SHARP.