Oct. 4, 1927. 1,644,266

F. ORNE

ANTENNA CONSTRUCTION

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Fig. 1

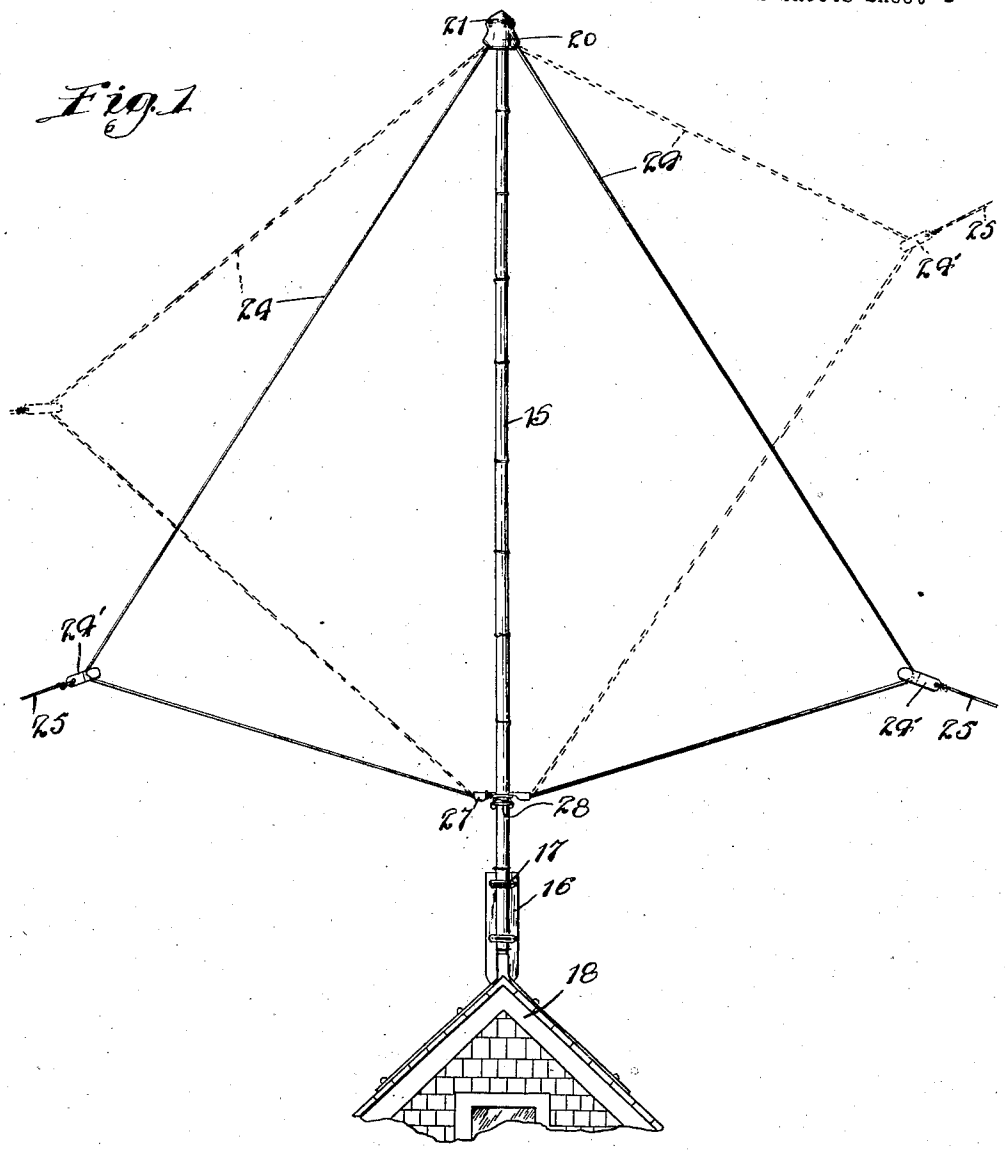
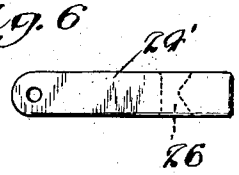


Fig. 6



Freeman Orne
Inventor

By William L. Symmons
his Attorney

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Fig. 2.

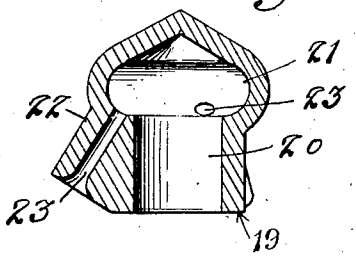


Fig. 3.

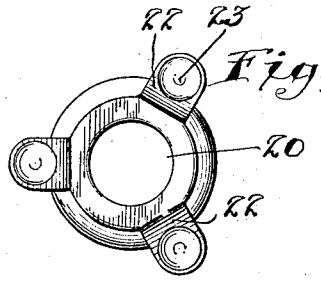


Fig. 4.

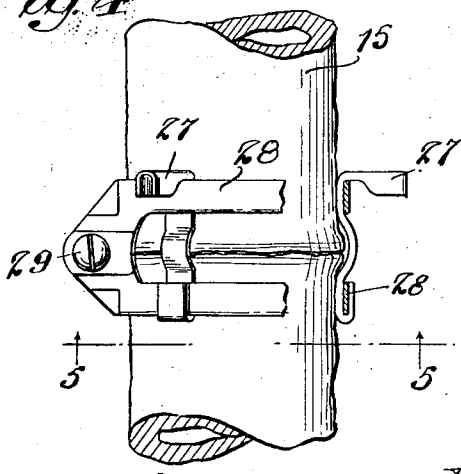


Fig. 7.

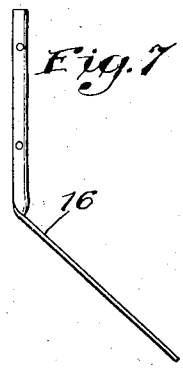
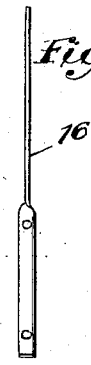


Fig. 8.



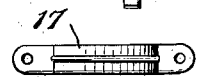


Fig. 9.

Fig. 10.

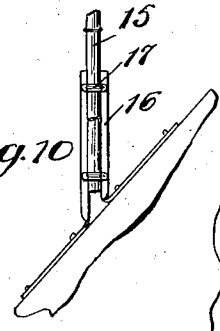
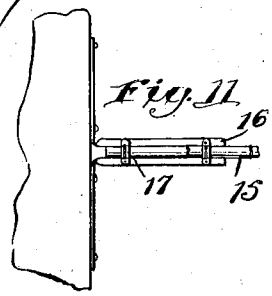


Fig. 11.



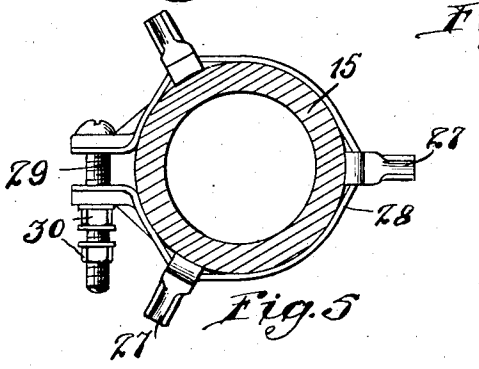


Fig. 5.

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UNITED STATES PATENT OFFICE.

FREEMAN ORNE, OF DUBUQUE, IOWA.

ANTENNA CONSTRUCTION.

Application filed December 21, 1925. Serial No. 76,938.

My invention relates to improvements in antennæ for radios or the like.

An important object of my invention is the provision of an antenna which is multi-directional.

Another object of my invention is to provide a device of the above mentioned character which is capable of being readily mounted upon any type of roof or upon any kind of support.

A further object of my invention is to provide improved means for guying the antenna.

Yet another object of my invention is to provide an improved mast for an antenna.

Still another object of my invention is to provide a device of this character which will be of simple construction, inexpensive to manufacture, yet strong and durable in use.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawings which form a part of this specification and wherein like characters of reference denote like or corresponding parts throughout the same,

Figure 1 is a front elevation of an antenna embodying my invention,

Figure 2 is a vertical section through the mast cap or connecting knob,

Figure 3 is a bottom plan view thereof,

Figure 4 is a side elevation of the lower clamp and connector, parts being broken away,

Figure 5 is a section on line 5—5 of Figure 4,

Figure 6 is a side elevation of one of the insulating runners,

Figure 7 is a front elevation of one of the base supports,

Figure 8 is a side elevation thereof,

Figure 9 is a front elevation of one of the base support clamping sections, and,

Figures 10 and 11 are fragmentary views showing various arrangements of the mast supports.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 15 designates a mast of bamboo which is not only a non-conductor but is very light and inexpensive and prevents any possible grounding, or mast interference. The lower or butt end of the mast is arranged between two support strips 16 formed from ductile material, and clamped together and to the mast by means of clamping sections 17. The support strips are twisted at a right angle and bent outwardly in such manner that when the two strips are placed together they form an inverted Y, the arms of which are adapted to fit over the peak of a roof 18 and be secured thereto, as shown in Figure 1. These strips, being ductile, are capable of being bent into different shapes and may be made to conform to different roofs and other objects as illustrated in Figures 10 and 11.

The top end of the mast is provided with a cap or knob 19 which has a cylindrical portion 20 which fits on to the top of the mast, and an enlarged portion 21 arranged thereabove, said enlarged portion being hollow, and being tapered to a point at its top, to form a substantially conically shaped dome. The knob is provided with a plurality of branches 22, three being shown, although any desired number may be used. These branches are provided with openings 23 extending therethrough and connecting with the enlarged hollow portion 21 of the dome. These openings extend diagonally downward, and form an acute angle with the mast. The antenna wires 24 are passed through these openings and secured at their inner ends by any suitable means, as by knotting the ends of the wires.

The wires are passed downwardly through insulating runners 24′ which are secured to guy wires 25. These runners are provided with openings 26 through which the antenna wires are loosely passed, the corners of the openings being rounded to prevent friction. The ends of the antenna wires are firmly secured to connectors 27, preferably of copper, which are clamped to the lower portion of the mast. The connector clamp comprises a band having its center portion cut away to form spaced bands 28 which surround the mast, the clamp being held together by the bolt 29. The spaced bands are arranged on either side of one of the enlargements on the mast to prevent slipping, and the connectors 27 are arranged behind the clamping bands, the lower ends of the connectors being bent about the lower band. The upper ends of the connectors extend outwardly in a horizontal plane and have their sides near the ends bent downwardly in such manner that the ends of the connectors are substantially inverted U-shape in cross section. The antenna wires

are passed through the U-shaped ends of the connectors and then twisted about the horizontal portions immediately behind the U-shaped portions. The portions of the connectors intermediate of the bands 28 are bowed outwardly so as to pass around the enlargement on the mast.

The end of the bolt 29 is provided with binding nuts 30 between which the lead-in connection is made.

When the guy wires are tightened the antenna wires are drawn out into the shape of an umbrella, as shown in Figure 1. It will be seen that the guy wires may be placed in any position, as shown in dotted lines in Figure 1, by reason of the insulating runners, which may be readily slid by the antenna wires.

It will be seen that I have provided an antenna construction which is very efficient, simple and durable, and which may be easily and cheaply manufactured and installed.

While I have shown and described the preferred embodiment of my invention, it is to be understood that various changes in the size, shape, and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having described my invention, what I claim and desire to protect by Letters Patent is:—

1. An antenna comprising a mast, antenna wires secured to said mast, and a pair of supporting arms secured to said mast, said arms each comprising a flat strip twisted at an angle of 90° and capable of being bent at various angles to conform to the shape of various supports, the edges of said strips being arranged against the mast to present the flat faces thereof to the means for securing the strips to the mast.

2. An antenna comprising a mast of bamboo, a branched knob arranged at one end of the mast, a plurality of connectors secured adjacent the other end of the mast by means of a clamp, said clamp comprising spaced strips adapted to straddle an enlargement on the mast, antenna wires connecting the branches of the knob with the connectors, insulating runners slidably arranged on said antenna wires, and guy wires secured to said runners.

3. An antenna comprising a bamboo mast, a branched knob arranged at one end of the mast, a plurality of connectors secured adjacent the other end of the mast by means of a clamp, said clamp comprising spaced strips adapted to straddle an enlargement on the mast, a bolt serving to tighten said clamp and adapted to form a lead-in connection, antenna wires connecting the branches of the knob with the connectors, insulating runners slidably arranged on said antenna wires, guy wires secured to said runners, and supporting arms secured to the end of the mast and capable of being bent to conform to the shape of various supports.

In testimony whereof I affix my signature.

FREEMAN ORNE.