

Jan. 10, 1928.

B. E. COLBURN

1,655,892

INSULATOR

Filed June 30, 1926

Fig. 1.

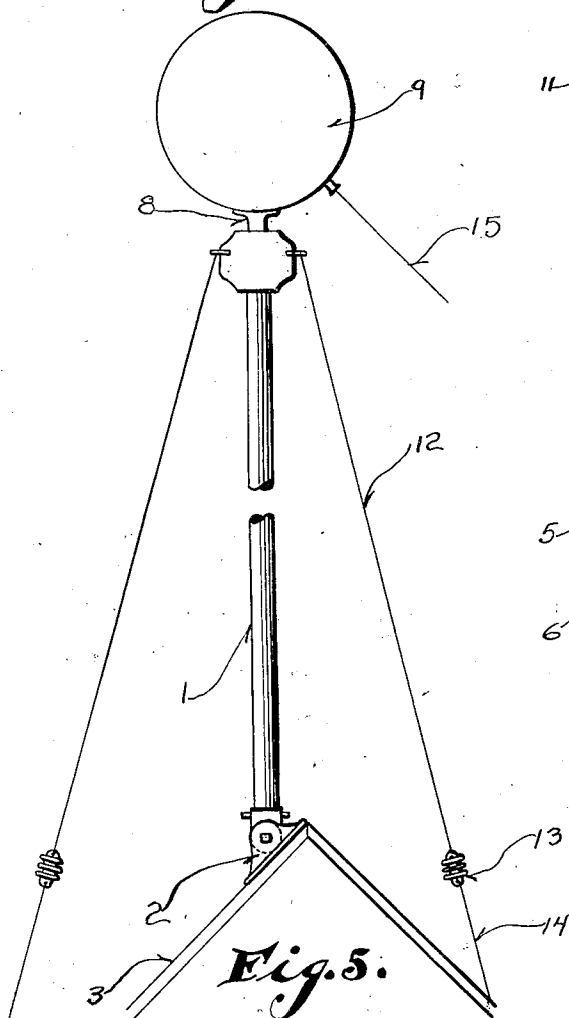


Fig. 2.

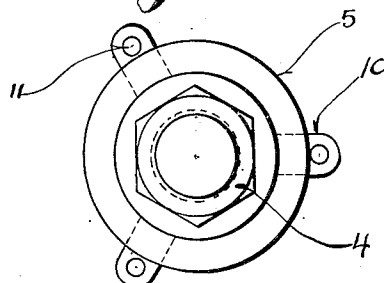


Fig. 3.

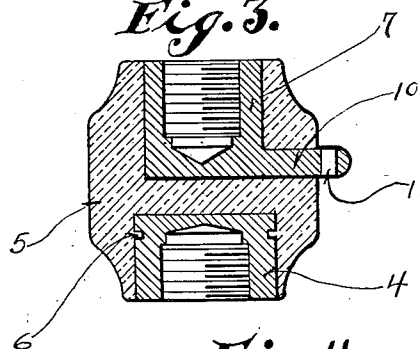


Fig. 4.

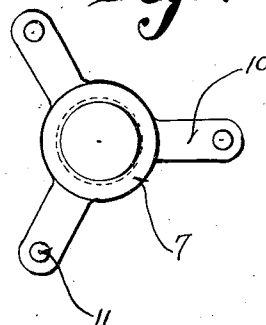


Fig. 5.

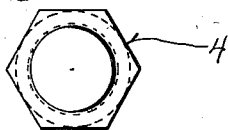
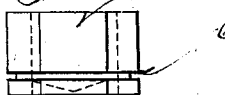


Fig. 6.



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UNITED STATES PATENT OFFICE.

BEARL ELMER COLBURN, OF GREEN BAY, WISCONSIN.

INSULATOR.

Application filed June 30, 1926. Serial No. 119,583.

This invention relates to antennæ for radio apparatus, and to insulators employed in such antennæ.

In antennæ as heretofore constructed, it has been the usual practice to provide guy wires for the poles, such guy wires being universally formed of metal. The net result of this is that a portion of the energy is absorbed by these guy wires due to the fact that they also pick up high frequency radiations and conduct them to the ground. Further than this, the guy wires are closely adjacent the usual antennæ and detract from the efficacy of the antenna by induction.

This invention is designed to overcome the defects noted above, and objects of such invention are to provide a novel form of antenna in which the guy wires themselves form an active part of the antenna and, instead of detracting from the efficiency of the antenna, aids in such efficiency.

Further objects are to provide a novel form of insulator for the antenna proper, such insulator being adapted to receive an antenna having lumped capacity and connecting this antenna with the guy wires, such guy wires being in turn insulated at their lower ends.

Further objects are to provide a very simple and neat construction which does not detract from the appearance of the antenna but, nevertheless, increases its efficiency as set forth above.

An embodiment of the invention is shown in the accompanying drawings in which:
Figure 1 is a side elevation of an antenna constructed in accordance with this invention;

Figure 2 is a plan view of the complete insulator removed from other portions of the apparatus;

Figure 3 is a vertical sectional view through the insulator;

Figure 4 is a view of the upper metal insert of the insulator;

Figure 5 is a face view of the lower metal insert;

Figure 6 is a side elevation of the lower metal insert.

Referring to the drawings, it will be seen that the antenna is carried by means of a vertical metal pole 1, which is swivelly joined to a foot 2, such foot being rigidly attached to a roof or other support 3. The upper end of this pole is threaded and is received in the threaded lower metal insert 4

of the insulator. This metal insert is carried within an insulated body portion 5, and is preferably made hexagonal to prevent its turning when it is being screwed on the pole. Further, it is provided with a groove 6 into which the insulating material passes during moulding or forming of the insulator. This prevents the insert from slipping from the insulating body.

The upper metal insert is indicated by the reference character 7, and is similarly provided with a threaded aperture for the reception of the stem 8 of the ball antenna 9, although, obviously, it may receive the stem of other types of antennæ. This metal insert is provided with a plurality of outwardly extending arms, such as indicated by the reference character 10, which project outwardly through the insulating body portion 5, as shown in Figures 2 and 3. These arms are preferably three in number, as this will provide for the requisite number of guy wires. They are apertured at their outer ends, as indicated at 11, for the reception of such guy wires.

The guy wires 12 are directly connected to the metal arms 10, as indicated in Figure 1, and their lower ends are provided with insulators 13 which join short wires 14. In this manner, the guy wires are insulated from the ground and are directly connected to the antenna body so that they form a portion of the antenna and thus increase its receptivity and capacity.

Preferably, a lead-in wire 15 extends from the ball 9, to the set.

It will be seen that this insulator permits the use of the guy wires themselves as a portion of the antenna without loss due to absorption by the guy wires. Instead, the guy wires increase the efficiency of the antenna and increase the distance of reception.

It will be seen that a novel form of antenna has been provided which is of finished and attractive appearance, which is effective, and which is so constructed that the guy wires themselves form an active portion of the antenna.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

An insulator for radio antennæ, compris-

ing a body portion of an insulating material, a lower metal insert having a threaded aperture for the reception of a support, an upper metal insert having a threaded aperture through its upper end, said upper metal insert having a plurality of integral arms projecting outwardly through the said body portion and having apertured extremities

said upper metal insert being completely insulated from said lower metal insert.

In testimony that I claim the foregoing I have hereunto set my hand at Green Bay, in the county of Brown and State of Wisconsin.

BEARL ELMER COLBURN.