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160 Meter Flat Top

Not all of us are blessed with large, rambling estates. In fact, most of us are short on real estate and do not have room to erect a full size antenna. This was my problem at one time, and I believe many more hams are faced with the same perplexity. This article describes a long antenna for use on a short lot.

For many years I have had transmitters and receivers with 160 Meter coverage. Due to the limited size of my lot I was unable to erect a suitable antenna to allow full use of the equipment. My lot measured 150 feet by 50 feet, and, according to the formula, $\frac{468}{f\ MHz}$, I needed a wire 260 feet long.

Desperately wanting to operate on 160 Meter band, I gave the problem considerable thought. Before running out of ideas, I remembered the old 'flat top' antenna used in the days of 'wireless' and decided to do some experimenting.

The experimental antenna, as constructed, consisted of three wires, each 66'8" long, spaced about 16" apart, and supported by two end spreaders. The three wires were connected in series to make a length of 200 feet. One free end was connected to a 60 foot lead-in which gave a total length of 260 feet. In making the series connections, one end of the center wire was connected, with a jumper, to the end of one outside wire, and the other end connected in similar fashion to the other outside wire. Essentially, the antenna is a wire 260 feet long with part of it folded back on itself two times. The details of construction are given in **Fig. 1.** If a longer or shorter lead-in is required, the length of each of the three wires should be altered accordingly.

As an alternate, the wire could be folded back on itself three times instead of two to obtain a still shorter antenna. This arrangement was not tried, however.

The wire used in the project was No. 23 cotton covered wire. The use of No. 12, 14, or 16 bare wire, solid or stranded, would undoubtedly have given much better results.

The construction of the antenna was quite simple and the results were very gratifying. Using about 65 watts on phone, solid contacts were made (from my former QTH in Philadelphia) with stations in Michigan, Ohio, and Vermont, as well as with many local stations.

If you have a similar real estate problem, try this antenna. If your results equal mine you will be well pleased.

I have a new problem. My present lot is less than 50 feet long. What do I do now?

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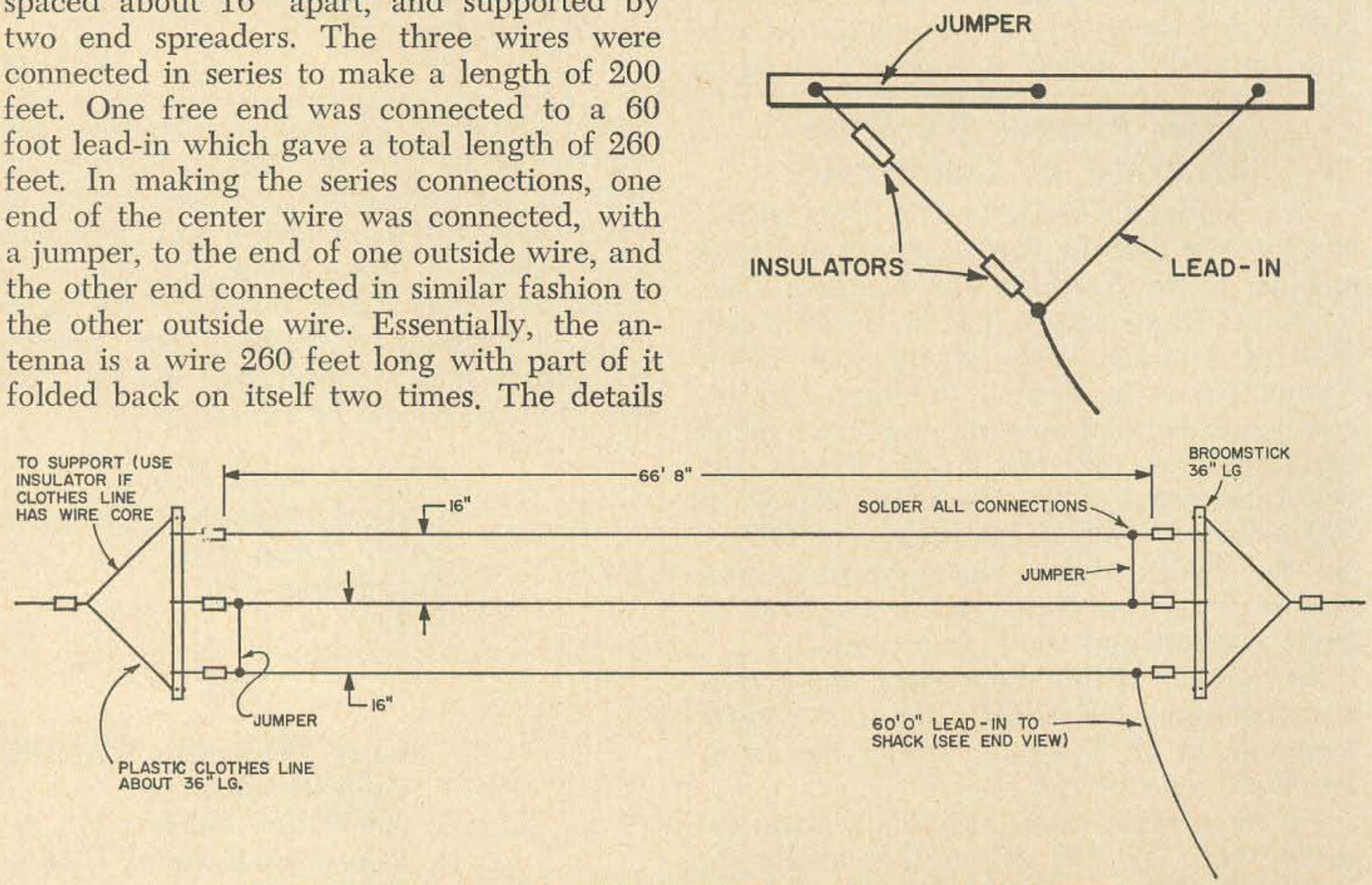

Fig. 1. Construction of the 160-meter flat top antenna used by W3WPV.