

the compact high inductance, low-distributed capacity type such as the honey comb or lattice work coil. Preferably I completely enclose the coil in paraffin 21 or other moisture-proof insulating material and bring both ends to the surface of the ground, either end being connected to my receiving circuit.

In Figs. 3 and 4 I show another excellent form of aerial for use in my circuit. This antenna is made in the form of an X, with wires 25 and 26 joined at the top by wire 27 and crossed through separated holes 28 and 29 in an insulator 30. It is shown as supported at the top by "A" frame 31 and insulators 33, 33 and 34 and at the bottom by a similar frame 35 and insulators, and is normally supported vertically on brackets 36.

In accordance with the provisions of the patent statutes, I have herein described the principle and operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by other means. Also, while it is designed to use the various features and elements in the combination and relations described, some of these may be altered and others omitted without interfering with the more general results outlined, and the invention extends to such use.

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

1. A radio receiving circuit comprising the combination with an aerial, a coupler, and an inductance, of a plurality of electron tubes having the grids thereof connected to one side of the coupler, the plate of one tube connected to the aerial and the plate of the other tube connected to a tap in said inductance, said inductance being connected at one end to the secondary of said coupler and at the other end to the ground and to the output.

2. A radio receiving circuit comprising the combination with an aerial, a coupler, and an inductance, of a plurality of electron tubes having the grids thereof connected to one side of the coupler, the plate of one tube connected to the aerial and the plate of the other tube connected to a tap in said inductance, said inductance being connected at one end to the secondary of said coupler and at the other end to the ground and to the output, and a crystal also in circuit between said inductance and the output.

3. A radio receiving circuit comprising the combination with a honey comb coil aerial buried in the ground, a coupler, and an inductance, of a plurality of electron tubes having the grids thereof connected to one side of the coupler, the plate of one tube connected to the aerial and the plate of the other tube connected to a tap in said inductance, said inductance being connected at one end to the sec-

ondary of said coupler and at the other end to the ground and to the output.

4. A radio receiving circuit comprising the combination with an aerial, a coupler, and an inductance, of a plurality of three element electron tubes having the grid of each connected to one side of the coupler, the plate of one tube connected to the aerial, and the plate of the other tube connected to a tap in said inductance, said inductance being connected at one end to the secondary of said coupler and at the other end to the ground and to the output.

5. In a radio receiving circuit, the combination with the aerial, a plurality of thermionic tubes having the grids thereof connected to the input, a tapped self-inductance coil connected at a midpoint to the plate of one tube, a coupler connected to one end of said coil, an output circuit connected to said coupler, and a crystal connected between the other end of said coil and the output.

In testimony whereof I have affixed my signature

EARL W. DAVIDSON.

5	70
10	75
15	80
20	85
25	90
30	95
35	100
40	105
45	110
50	115
55	120
60	125
65	130