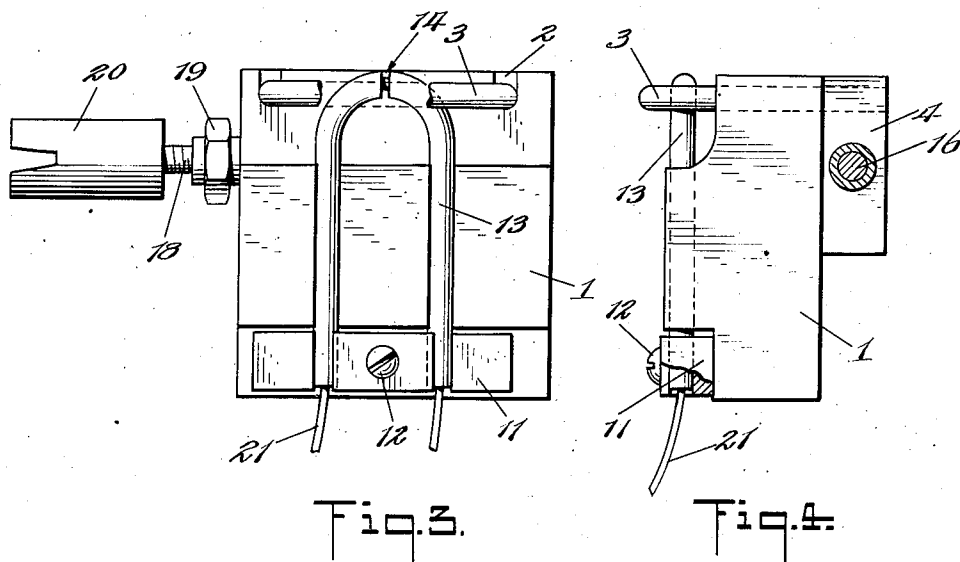
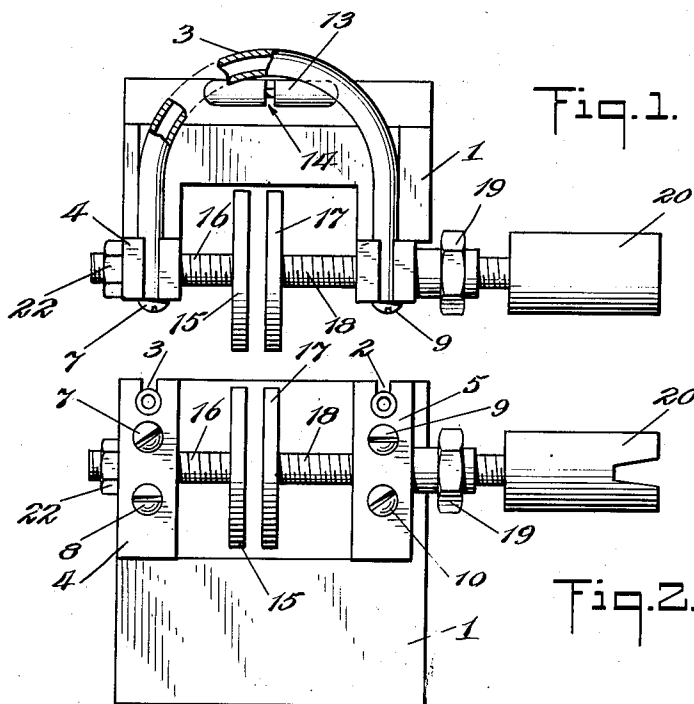


April 19, 1949.

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ULTRA HIGH FREQUENCY ANTENNA
COUPLING COIL ASSEMBLY
Filed May 24, 1945

2,467,737



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2,467,737

ULTRA HIGH FREQUENCY ANTENNA
COUPLING COIL ASSEMBLY

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Application May 24, 1945, Serial No. 595,574

3 Claims. (Cl. 250—40)

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The object of my invention is to provide a compact assembly of an antenna coil, oscillator coil and oscillator condenser which can be assembled, adjusted and tested as a unit prior to installation in a radio receiver.

In the drawings, —

Figure 1 is a plan view of such a unit;

Figure 2 is a side view of the unit of Figure 1;

Figure 3 is a side view of the unit of Figure 1 from the opposite side to Figure 2; and

Figure 4 is an end view of the unit of Figure 1.

In the drawings the same reference numerals refer to the same parts throughout.

A block of insulating material 1 such as "Bakelite" has therein a groove 2 in which is mounted a conductor 3, which in this case is a piece of copper tubing. A pair of metallic blocks 4, 5 are secured to the face of the block 1 by means of bolts 7, 8, 9, 10 and a groove within each of the blocks 4, 5 registers with the groove 2. The tubing 3 of U-shape, as shown, is placed within the groove and soldered into position. On the opposite face of the block 1 by means of bolt 12, a second U-shaped piece of copper tubing 13 which is divided at its center, as indicated at 14, is mounted within grooves in the blocks 1 and 11. The copper tubing 13 serves as an electrostatic shield for the conductor 21. A condenser plate 15 is secured to a threaded shaft 16, which is mounted within a tapped hole in the block 4 and secured with a locknut 22. A second condenser plate 17 is secured to a second threaded shaft 18 which is mounted within a tapped hole in the block 5. A nut 19 is provided for holding the condenser plate in alignment when adjusted, and a screwheaded Bakelite knob 20 is mounted upon the shaft 18 to permit the position of the condenser plate 17 to be adjusted by means of a screwdriver manipulating said knob.

In assembling this device the tubing 3, as before stated, may first be put into position and adjusted in combination with the condenser plates 15 and 17. The tubing 3 may then be soldered into position and the nut 19 tightened down to hold the condenser plate 17 in position. The tubing 3 may be the coil for an oscillator in a radio receiver and it may be connected at or near its midpoint to the cathode of an oscillator tube so that the two halves of the tubing each operate as one section of an oscillator tuning coil. The condenser plate 15 may be adjusted to a position and locked to control the range through which the receiver may be tuned while the plate 17 may be adjusted by the knob 20 to control the precise frequency to which it is tuned. An antenna and

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ground may be connected to the wire 21 so that an incoming signal is coupled into the radio receiver by the coupling between the wire 21 and the tubing 3. The tubing 13 is mounted with a loose enough fit so it may be adjusted in position to vary the coupling if desired.

Such a unit, as before stated, may be assembled, adjusted and tested as a unit prior to installation in the receiver. It may then be installed as a unit in the receiver without requiring further adjustment. My invention therefore makes possible the assembly of ultra high frequency radio receivers on an assembly line basis with the antenna coupling coil simply added as a unit at one point in the assembly line without requiring special consideration or attention for installation when it is added. My unit is compact and convenient, and therefore facilitates the assembly of such a set.

It will be understood by those skilled in the art that my invention is capable of various modifications, and I do not, therefore, desire to be restricted to the particular details shown and described, but only within the scope of the appended claims.

What is claimed is:

1. A coupling coil assembly comprising an insulating block having a pair of perpendicular faces, a rigid U-shaped conductor fastened flat against one of said faces, a pair of adjustably spaced parallel condenser plates supported by said block and each connected to a respective end of said conductor, a second U-shaped conductor, fastened to the other face of said block and having its curved portion adjacent the curved portion of said first conductor, whereby said conductors are magnetically coupled, and means for adjusting the position of said second conductor relative to said first conductor to vary the coupling between said conductors.

2. A coupling coil assembly as in claim 1 further comprising a hollow tubular conductive shield insulatedly surrounding said second conductor.

3. A coupling coil assembly as in claim 2 wherein said shield is formed as two hollow tubular conductor portions each surrounding one leg and a portion of the curved portion of said second conductor, said two hollow tubular conductor portions being closely spaced but insulated from each other.

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