

July 5, 1932.

L. F. CROFT ET AL

1,865,840

RADIO TRANSFORMER

Original Filed Oct. 24, 1928

Fig. 1.

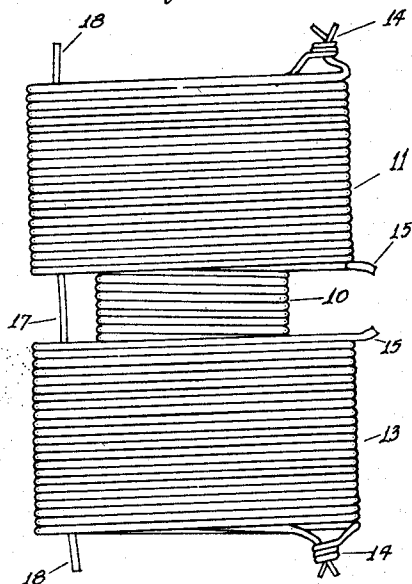


Fig. 2.

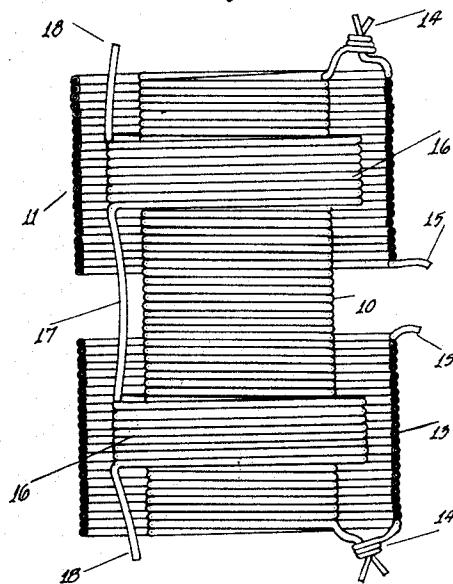


Fig. 4.

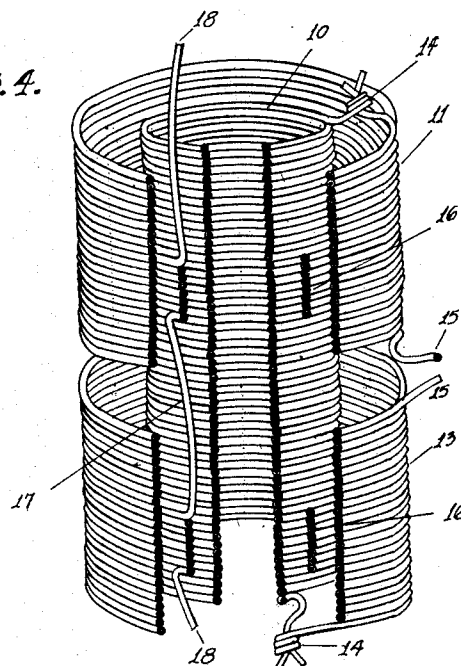
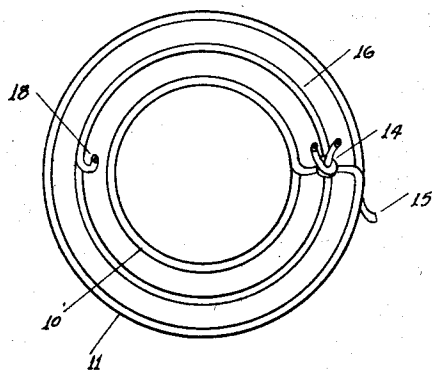


Fig. 3.



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RADIO TRANSFORMER

Application filed October 24, 1928, Serial No. 314,725. Renewed November 19, 1931.

This invention relates to transformers especially adapted for use in radio frequency circuits, an object being to provide a transformer or coupling of this type in which the primary coil or coils are shielded by the secondary.

Another object of the invention is the provision of a transformer in which any lines of force due to changes in the secondary circuit will cut the primary equally in opposite directions, giving no transfer of energy from the secondary to the primary, while any disturbance in the primary will provide a double influence in the secondary, as the lines of force of the primary cut the secondary twice, and in one direction only.

Another object of the invention is the provision of a transformer in which the coils are so wound and connected that any local influence not received in a radio receiving set by an antenna, will cut the secondary equally in opposite directions and provide an inductance whereby a set will not pick up local stations readily without an antenna or other pick-up system, even when the coils are without shields and signals are unusually free from interfering noises.

Another object of the invention is the provision of a transformer in which the secondary winding is in two or more sections and so placed and spaced that the primary windings, (which may also be made up of one or more sections or coils) may be placed in such a position between the secondary windings that the primary windings are shielded by the windings of the secondary.

A further object of the invention is the provision of a transformer in which the coils are so wound and connected that they form a complete inductance suitable for use as a radio frequency transformer, or for other purposes in connection with radio apparatus.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawing and pointed out in the appended claims.

In the drawing:—

Figure 1 is an elevation of the invention.

Figure 2 is a vertical sectional view with parts in elevation.

Figure 3 is an end view.

Figure 4 is a perspective view partly in section.

Referring to the drawing in detail wherein like characters of reference denote corresponding parts, the invention as shown comprises a secondary winding which includes an inner coil 10 and an outer coil 11 suitably spaced apart. The inner coil is shown as continuous from end to end while the outer coil is made up of separate coils or sections 13. The opposite ends of the coils or sections 13 are connected to the opposite ends of the inner coil 10 as shown at 14, while the adjacent ends of the coils or sections 13 are provided with leads 15 for connection in a circuit.

The primary winding is made up of separate coils or sections 16 which are positioned between the inner and outer coils 10 and 11 of the secondary so that the latter provide shields for the primary windings. The coils or sections 16 have their adjacent ends connected as shown at 17 while their opposite ends are provided with leads 18 for suitable connection in a circuit.

From the foregoing description and accompanying drawing it will be seen that the invention provides a radio frequency transformer or coupling wherein the primary winding or windings are shielded by the secondary and due to the construction of the same, lines of force due to changes in the secondary circuit will cut the primary equally in opposite directions, giving no transfer of energy from secondary to primary, yet any disturbance in the primary has a double influence in the secondary as its lines of force cut the secondary circuit twice and in one direction only.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:

1. In a transformer, a primary coil and a secondary coil, said secondary coil compris-

ing an inner coil located within the primary coil, and an outer sectional coil located upon the outside of the primary coil and connected with the inner coil.

- 5 2. In a transformer, a primary coil comprising spaced electrically connected sections, and a secondary coil, said secondary coil comprising an inner coil located within the primary coil, and an outer coil located
10 upon the outside of the primary coil and connected with the inner coil.

In testimony whereof we affix our signatures.

15 LAWRENCE FLOYD CROFT.
GEORGE KEARNEY BARGER.

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