

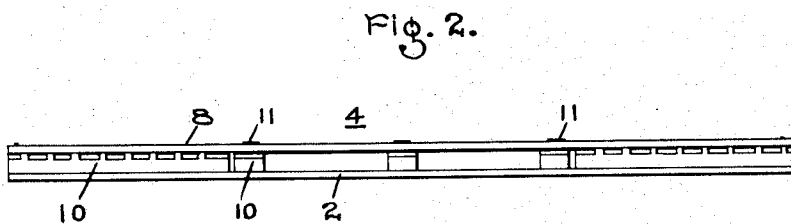
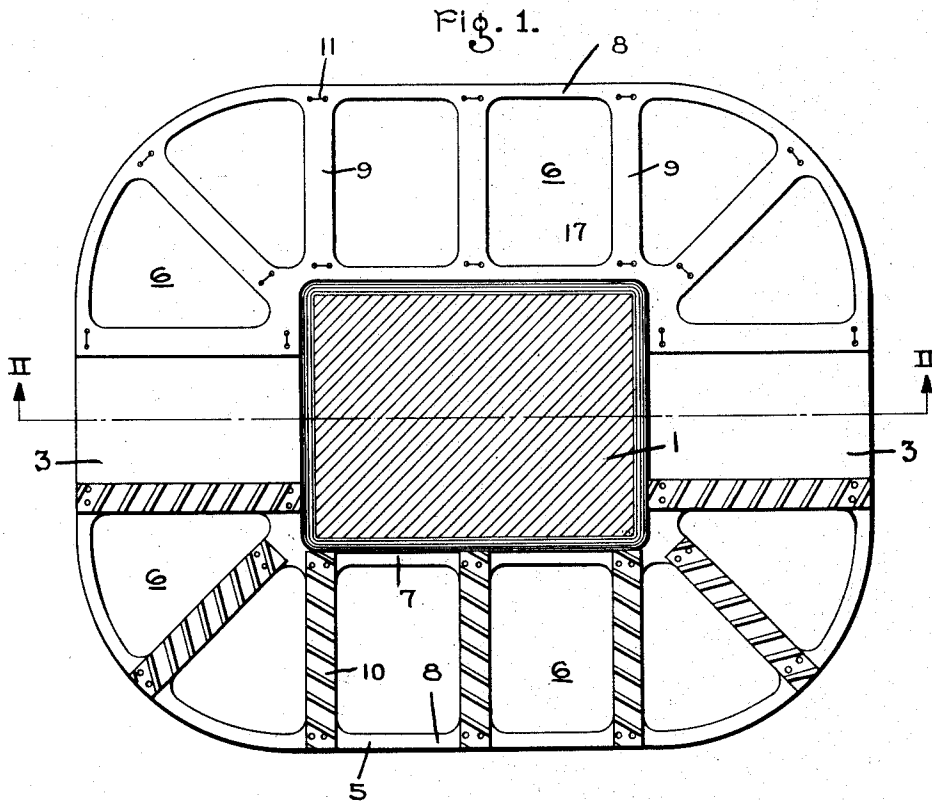
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1,624,896

A. VEITCH

TRANSFORMER COIL SPACING DEVICE

Filed June 16, 1922



WITNESSES:

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TRANSFORMER-COIL-SPACING DEVICE.

Application filed June 16, 1922. Serial No. 538,876.

My invention relates to transformer coil spacing devices and it has particular relation to spacing devices for coils of the pancake type.

5 Heretofore, in the manufacture of transformers, it has been customary to separate the different coils for cooling and insulating purposes by means of a plurality of diagonally slotted spacing members that were loosely mounted in position between the coils. 10 In transformers constructed in this manner, considerable manual labor was required to separately and accurately position each spacing member and they frequently became displaced when the next succeeding coil was disposed thereon or subsequently thereto by reason of the expansion and contraction of the parts caused by heating.

One of the objects of my invention is to 20 provide a device, of the character described, in which the various spacing members are initially secured to a common supporting element in accurately defined positions by means of which an entire layer of spacing members may be assembled with one 25 operation.

Another object of the invention is to provide a device, of the character set forth, in which the support for the spacing members 30 is provided with a plurality of openings to permit the free circulation of a cooling medium between the coils.

In the accompanying drawing,

35 Figure 1 is a horizontal sectional view through a portion of a transformer and illustrating a plurality of complementary spacing devices arranged in position, the supporting element of one of which being removed for the purpose of illustrating the 40 disposition and construction of the individual spacing members.

Fig. 2 is a vertical sectional view taken on line II—II of Fig. 1.

Referring to the drawing, a portion of a 45 transformer is illustrated as comprising a core member 1 having a plurality of pancake coils 2 inductively related thereto and insulated therefrom by means of a plurality of layers of impregnated fibrous material 3.

50 The coils 2 are spaced from each other by means of a plurality of complementary spac-

ing devices, of substantially U-shape, indicated as a whole at 4, and which are disposed on opposite sides of the core member and partially embrace the same. The spacing 55 devices 4 each comprise a supporting member 5, of insulating material such as impregnated cardboard, which is cut away at intervals to provide openings 6 through which a cooling medium is adapted to circulate. 60 The supporting member 5 is thus formed with inner and outer strips 7 and 8, respectively, and a plurality of connecting portions 9. A plurality of diagonally slotted spacing members 10 are laced to the portions 9, as indicated at 11. 65

By means of the above-described construction, the manufacture of transformers is considerably simplified, as a plurality of spacing members may be separately mounted 70 on a common support in accurately defined predetermined positions and inserted collectively from opposite sides of the transformer with a minimum of time and labor.

I claim as my invention: 75

1. A coil-spacing device comprising a supporting portion having openings therethrough for the circulation of a cooling medium, the parts of the supporting portion that defines said openings having passages 80 therein for connecting said openings.

2. A coil-spacing device comprising portions conforming to the inner and the outer boundaries of said coil, members for connecting said portions thereby defining openings and having passages therein for connecting the openings adjacent thereto. 85

3. A coil spacing device comprising a support provided with a plurality of spaced openings through which a cooling medium 90 is adapted to circulate and a plurality of spacing members secured to said support.

4. A coil spacing device comprising a support provided with a plurality of openings through which a cooling medium is adapted 95 to circulate and a plurality of slotted spacing members laced to said support.

5. A transformer comprising a core member, a plurality of coils inductively related thereto and a plurality of spacing devices 100 disposed between said coils, said devices comprising a supporting member having a

plurality of spacing members laced thereto.

6. A transformer comprising a core member, a plurality of coils inductively related thereto and a spacing device disposed between said coils, said device comprising a
5 plurality of complementary supporting members provided with openings through

which a cooling medium is adapted to circulate and a plurality of spacing members laced to said support.

In testimony whereof, I have hereunto
10 subscribed my name this 8th day of June, 1922.

ALEXANDER VEITCH.