Aug. 17, 1926. 1,596,391

R. BELL

REGENERATION RADIO TRANSFORMER

Filed Sept. 6, 1924

Fig. 1.

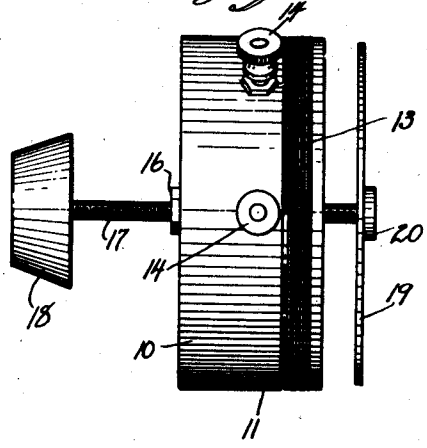



Fig. 2.

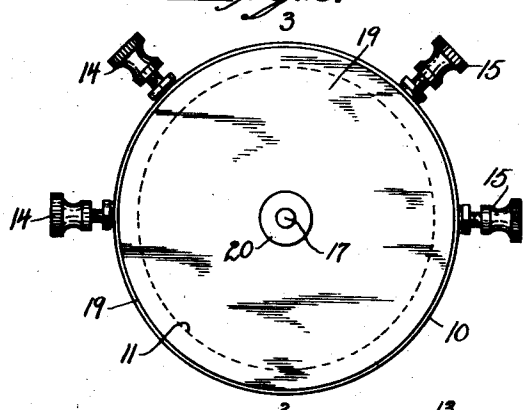



Fig. 3.

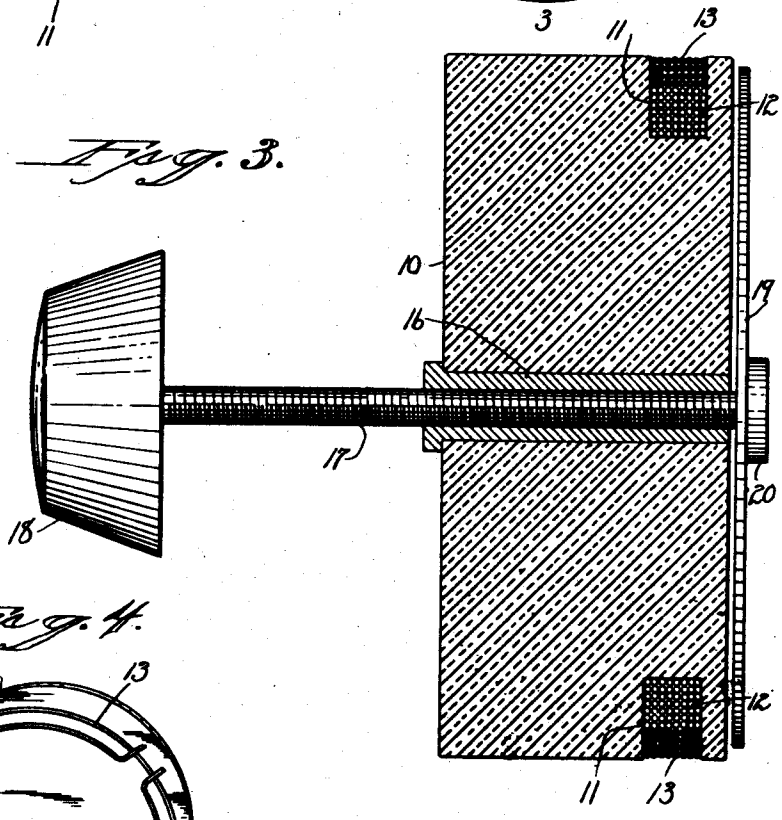
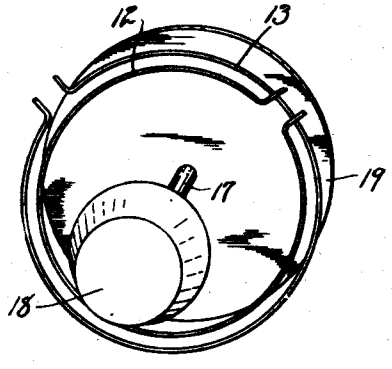



Fig. 4.




Inventor
Robert Bell
by Seymour Pearce
Atty

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# UNITED STATES PATENT OFFICE.

ROBERT BELL, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE FARADAY CO., OF NEW HAVEN, CONNECTICUT.

## REGENERATION RADIOTRANSFORMER.

Application filed September 6, 1924. Serial No. 736,266.

I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Fig. 1 a side view of a regeneration radio transformer constructed in accordance with my invention.

Fig. 2 a rear view of the same.

Fig. 3 a sectional view on the line 3—3 of Fig. 2 on an enlarged scale.

Fig. 4 a schematic perspective view illustrating the relative position of the coils and disk.

In radio sets, a transformer is employed having two coils having inductive effect one upon the other, but such devices do not produce the desired clearness. The object of this invention is to control the inductive effect of one coil upon the other coil of a tuning apparatus from zero to its full capacity, and the invention consists in the construction as hereinafter described and particularly recited in the claim.

In carrying out my invention, I employ a block 10 of insulating material, preferably formed with an annular groove 11 which contains a secondary coil 12 and a primary coil 13, each being connected with two binding-posts 14—14 and 15—15 mounted on the periphery of the block 10. In the block is an internally-threaded bushing 16 through which extends a screw-stem 17 carrying a knurled finger-piece 18. Fixed to the inner end of the stem 17 is a metallic disk 19 corresponding substantially in diameter to the diameter of the block, the disk being secured to the stem by a flange 20. By turning the stem outward, the disk is drawn toward the insulating block and consequently toward the coils 11 and 12, in which position, as shown in Fig. 3 of the drawings, the tendency of the disk is to completely nullify the inductive effect of the primary 11 upon the secondary 12. The reverse movement of the stem 17 moves the disk 19 away from the block 10 with gradually decreasing nullifying effect upon the inductive action between the primary and the secondary, until, in its extreme retired position, its nullifying effect is practically nil.

While I have referred to the coils as "primary" and "secondary," this is for the purpose of description only, as in some cases both may be primary or both secondary. In any event, I control the coupling effect between two coils, where circuits known as tuned anodes are used.

I claim:

A transformer, comprising a block of insulating material carrying two coils, an internally-threaded bushing mounted in the block, a screw-stem extending through said bushing, and a metal disk mounted on the inner end of the stem and adapted to be moved toward and from the said block, whereby the inductive effect of one coil upon the other may be varied.

In testimony whereof, I have signed this specification.

ROBERT BELL.