March 5, 1929. P. G. ANDRES 1,704,380

RADIO RECEIVING SET

Filed Jan. 17, 1923

Fig. 1

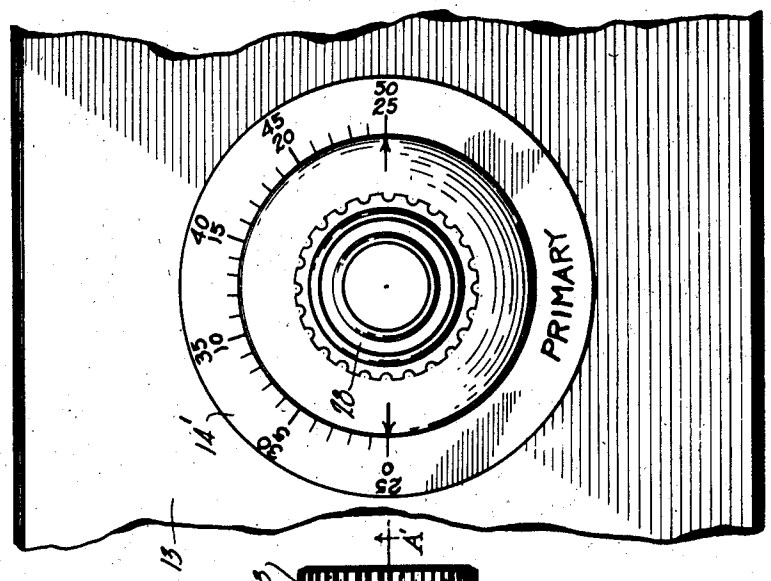


Fig. 2

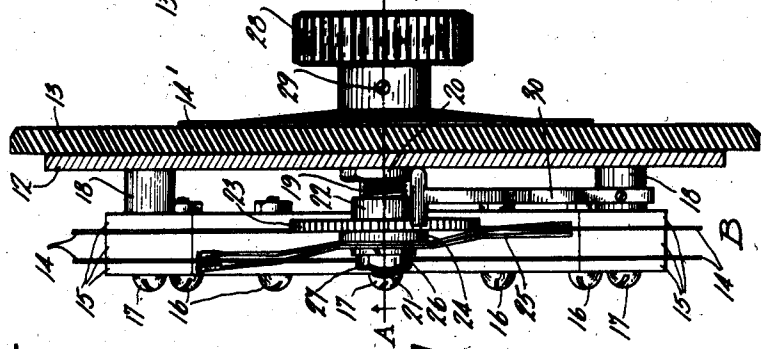


Fig. 3.

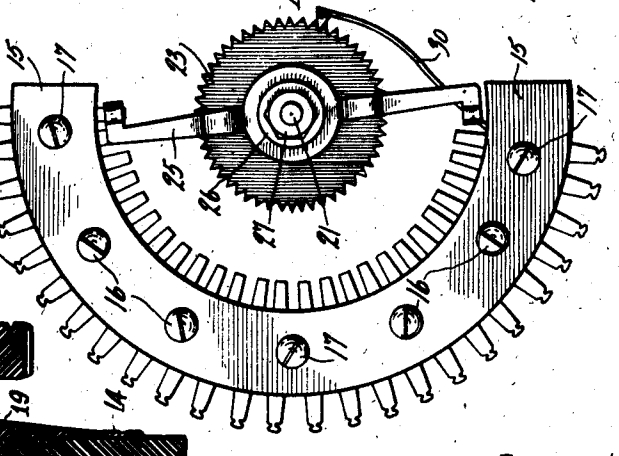
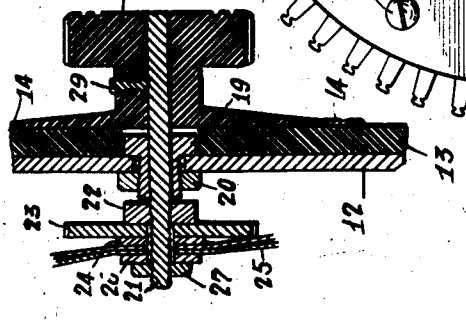


Fig. 4.



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UNITED STATES PATENT OFFICE.

PAUL G. ANDRES, OF RIVER FOREST, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AUTOMATIC ELECTRIC INC., OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

RADIO RECEIVING SET.

Application filed January 17, 1923. Serial No. 613,090.

The present invention relates in general to radio receiving sets; and has for its principal object, the provision of a new and improved switching mechanism for varying the primary inductance.

In a radio receiving set it is highly desirable that the primary inductance may be varied by single turns. Previous to the present invention, this has been accomplished by providing two switching mechanisms, the first varying the whole inductance in steps of ten turns, while the second was adapted to vary a part of the inductance in steps of one turn. Thus, the desired result was accomplished, but only by the introduction of two switching mechanisms and the operating difficulties incident thereto. The invention herein set forth provides a single switching mechanism of novel design capable of varying the entire primary inductance in steps of a single turn each.

Further objects are to provide various other details of improvement in an apparatus of the character described, all of which will be fully explained hereinafter and pointed out in the claims.

In the drawings illustrating this invention:

Figure 1 is a front view of a portion of a radio receiving set embodying the invention and showing the knob 28 by means of which the switching mechanism is controlled, as well as a stationary designation strip 14.

Figure 2 is an end view of the parts shown in Fig. 1, showing the switching mechanism consisting of a stationary bank B, and a movable wiper 25 controlled by the knob 28.

Figure 3 is a rear view of the switching mechanism shown in Fig. 2.

Figure 4 is a sectional view along the line A—A′, Fig. 2, showing the movable wiper 25 and the knob 28 in relation to the supporting plate 12.

In the following detailed description of this invention, reference will first be made to the metallic member 12, Fig. 2, which serves a mounting plate to support the remaining apparatus. A panel 13 of suitable insulating material is attached by means of screws to the front side of the plate 12. A designation strip 14′, bearing certain reference marks, is attached to the outside of panel 13. In Fig. 4 it will be seen that the panel 13 is counter sunk to receive the beaded edge of the designation strip 14′, the assembly being a driving fit.

Referring to the stationary bank B, as shown in Figs. 2 and 3, the reference characters 14 designate a plurality of contacts arranged in two rows or levels, and held in place by the insulating members 15, the whole assembly being clamped together by means of the screws 16 and 17, the latter screws also serving to mount the bank B on the plate 12, the metallic spacers 18 determining the relative position of the two members.

Referring to Fig. 4, it will be seen that a metallic bushing 19 is fitted in a hole in the plate 12, the bushing being held in place by the lock nut 20. The bushing 19 serves as a bearing for the shaft 21, the said shaft being threaded for a portion of its length, and having mounted thereon the threaded lug 22. The assembly is further built up by the ratchet wheel 23, washer 24, wiper 25, and lock washer 26; the whole assembly being tightly clamped by the nut 27.

The knob 28 is attached to the shaft 21 by means of the set screw 29 as shown in Fig. 4; the lug 22 bearing against the end of the bushing 19, while the inner side of the knob 28 bears against the panel 13.

From the foregoing, it will be seen that a rotation of the knob 28 will cause a corresponding rotation of the wiper 25. Referring to Figs. 2 and 3, it will be seen that the wiper 25 is doubled ended, the ends being offset so that one end is in a plane with the outside set of contacts, while the other end is in a plane with the inside set of contacts. The structure of the wiper is such that, when rotated, one end or the other will at all times be in engagement with a bank contact. The ratchet spring 30 engages the ratchet wheel 23 in such a way that the wiper may be brought to rest centrally located upon a bank contact, at which time it is in engagement with only that contact upon which it is standing.

As shown in Fig. 1, the knob 28 carries two arrows, each arrow referring to those characters on the designation strip 14, whose color corresponds to that of the arrow.

The object and scope of the invention having been described, what is considered to be

new and what it is desired to have protected by Letters Patent will be pointed out more specifically in the appended claims.

I claim—

1. In a radio receiving set, a front panel of insulating material, a grounded metal plate behind said panel, a row of switch contacts entirely in the rear of said ground plate and insulated therefrom, a contact maker for engaging said contacts, a rotatable metallic shaft supporting said contact maker, and a metallic bearing extending through said ground plate for supporting said shaft, whereby the said contact maker is conductively connected direct to ground through said shaft, bearing, and ground plate.

2. In a radio receiving set, an insulating panel associated with a grounded metal plate, a plurality of stationary contacts mounted insulated from said grounded plate, movable wipers for engaging said contacts, a metallic shaft for supporting said wipers, and a metallic bearing for said shaft extending through and maintaining contact with said grounded plate.

3. In a radio receiving set, an insulating front panel associated with a grounded metal plate, a plurality of stationary contacts arranged in semi-circular rows mounted insulated from said grounded plate, movable wipers, and means, including a metallic shaft extending through and maintaining contact with said grounded plate, for progressively moving said wipers to engage said contacts.

In witness whereof, I hereunto subscribe my name this 12th day of January, A. D. 1923.

PAUL G. ANDRES.