Aug. 26, 1930. T. J. SCOFIELD 1,774,243

RADIO APPARATUS

Filed Dec. 21, 1926

FIG. 1.

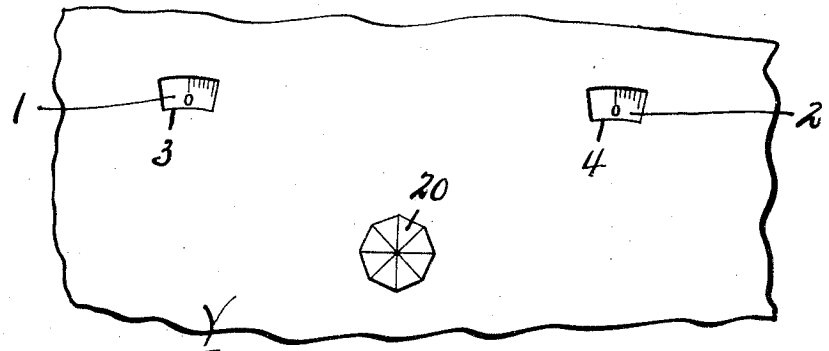


FIG. 2.

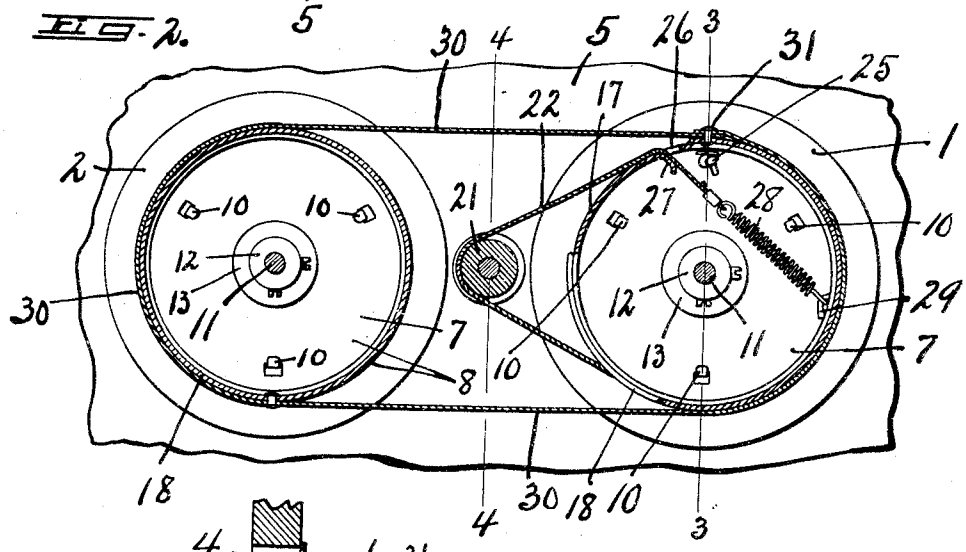


FIG. 3.

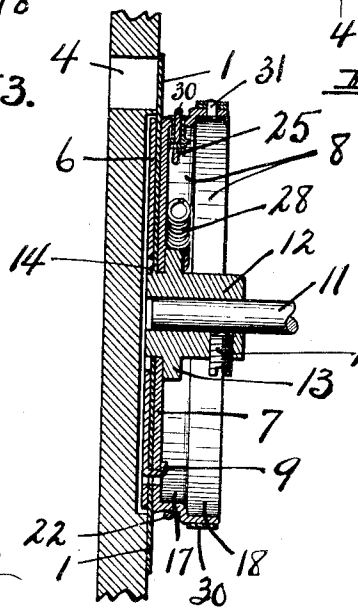
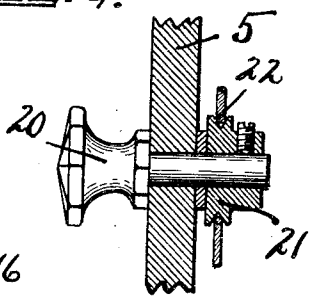


FIG. 4.



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UNITED STATES PATENT OFFICE

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RADIO APPARATUS

Application filed December 21, 1926. Serial No. 156,133.

This invention relates to certain new and useful improvements in radio apparatus.

More especially the invention pertains to an improved structure for simultaneously operating a plurality of dials for variable apparatus, such as condensers, rheostats, or the like, and to the particular structure by which such simultaneous operation is effected with a minimum chance of breaking, injuring or varying the apparatus in a manner to prevent the necessary coordination of the parts.

Other objects and advantages relate to the details of the structure and the parts thereof, all as will more fully appear from the following description taken in connection with the accompanying drawings, in which:

Figure 1 is an elevation of a portion of the front panel of a radio-receiving apparatus.

Figure 2 is a view of the structure of Figure 1 taken from the rear.

Figure 3 is a section on line 3—3, Figure 2.

Figure 4 is a section on line 4—4, Figure 2.

The apparatus as shown comprises two properly calibrated dials —1— and —2— respectively adapted for rotary movement with their calibrated portions moving past respective openings —3— and —4— on the front panel —5— of a radio-receiving apparatus.

Each of these dials is supported in a similar manner, being clamped between a metallic disk —6— preferably of circular form, and a substantially flat circular base —7— of a drum —8—. The disk —6— is secured to the base —7— of the drum by projecting tongues —9— cut out from the disk through openings in the drum, and then bending the ends —10— of the tongues into contact with the rear face of the base —7—. In this illustration three tongues are shown which secure the disk to the drum.

The structure so far described is held in proper position with respect to the panel —5— and the respective openings —3— or —4—, as for instance by mounting the same upon a condenser shaft —11—, the condenser being rigidly secured in proper position, and for this purpose a bushing —12— is provided which extends through a central opening in the base —7—, and is rigidly secured thereto by flange —13— which lies against the rear face of the base —7—, and a plurality of welded or pressed out parts —14— which engage the front face of the base —7— to form a rigid and positive engagement, whereby rotation of base —7— will rotate the shaft —11— which may be secured to the bushing —12— in any suitable manner, as by set-screw —16—.

In order to operate two or more of these dials, and their associated parts from a single knob or handle, the drum —8— is preferably formed with two rims —17— and —18— preferably of different diameter, the forward rim —17— being in this illustration of less diameter.

This rim of lesser diameter is utilized only in connection with one of said drums —8— which is initially driven from the operating knob —20— through the medium of pulley —21— and belt —22—. This belt extends around the pulley —21— and substantially the entire distance around the rim —17— which constitutes the driving pulley for the drum. As shown, one end of belt —22— is secured to the rim —17— by projecting its end through an opening in the rim —17— and forming the belt with a stop or knot —25— sufficiently large so that it will not pass through the opening in the rim. At a point adjacent the opening through which the belt is projected and the knot or other stop is formed, the rim —17— is formed with a second opening —26—, the cut-away portion of the metal being pressed inwardly to form a rounded guide —27— and the other end of the belt —22— extends inwardly through opening —26— over the guide —27— and has its end connected to a spring —28—, the opposite end of the spring being connected to a hook or tongue —29— formed by cutting out and pressing in a portion of rim —17—.

It will be obvious that by rotation of pulley —21— the drum —8— will be rotated, and in order to rotate a second drum simultaneously with and in coordination with the drum upon which belt —22— is mounted, a belt or tape —30— which may preferably be formed of thin flexible flat sheet metal extends around the second drum —8—, which in this illlustration is associated with the dial

numbered —2— and also around the first drum —8— and has its ends overlapped and secured to the drum —8—, as for instance by rivet —31—.

It will be apparent that when the overlapped riveted ends of the tape —30— arrive at the position shown in Figure 2, no further movement of the drum —8— in an anti-clockwise direction (Figure 2) is possible without breaking of some of the parts, and in order to relieve the drums and tape —30— of strain, the spring —28— will thereafter act to permit some movement of the adjacent end of belt —22— by expansion of the spring if the operating pulley —21— is thereafter rotated further in an anti-clock-wise direction, Figure 2.

The structure described is found to be highly efficient and practical in producing a simultaneous coordinated movement of two dials which are in this instance calibrated in accordance with the movement of variable apparatus, such as condensers, rheostats and the like, and altho I have shown and described a specific structure as illustrative of a perhaps preferred embodiment of the invention, I do not desire to restrict myself to the details of the same, as various changes and modifications will be made within the scope of the appended claim.

I claim:

An apparatus of the class described comprising a pair of dial structures, each of which includes a circular rim, a tape extending around the rims of said dial structures and having a rigid connection with one of said rims, one of said dial structures including a second rim, a belt extending around the second rim and having one end secured to the rim, and its other end projected through an opening in the rim and the spring securing the said other end to the dial structure.

In witness whereof I have hereunto set my hand this 30th day of November, 1926.

THEODORE JOHNSON SCOFIELD.