April 19, 1927.

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H. E. REPPERT

ELECTRIC CONDENSER

Filed June 24, 1922

FIG. 1

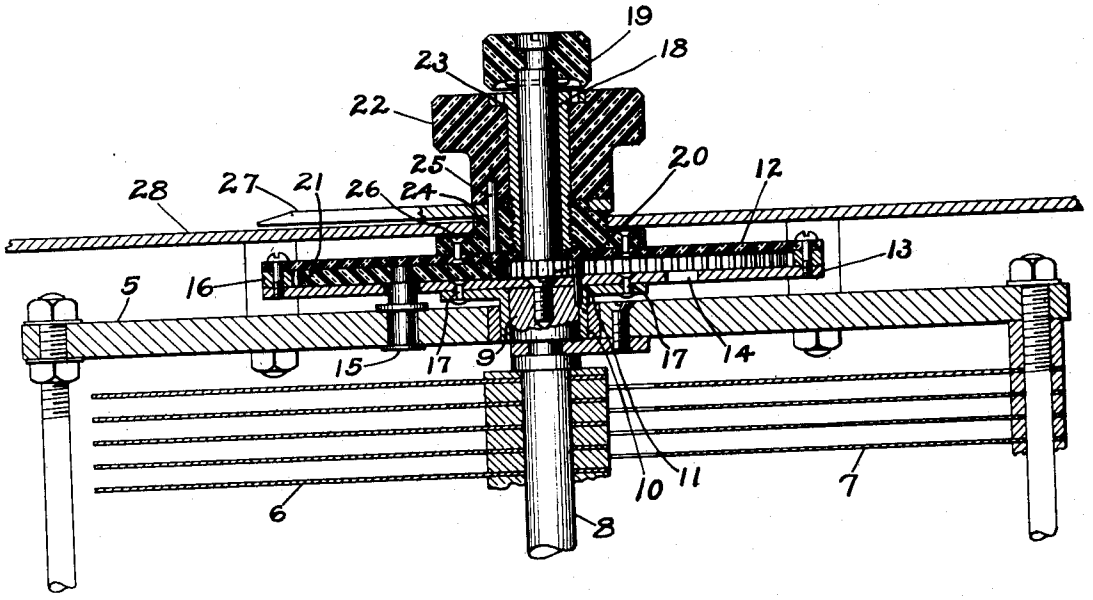
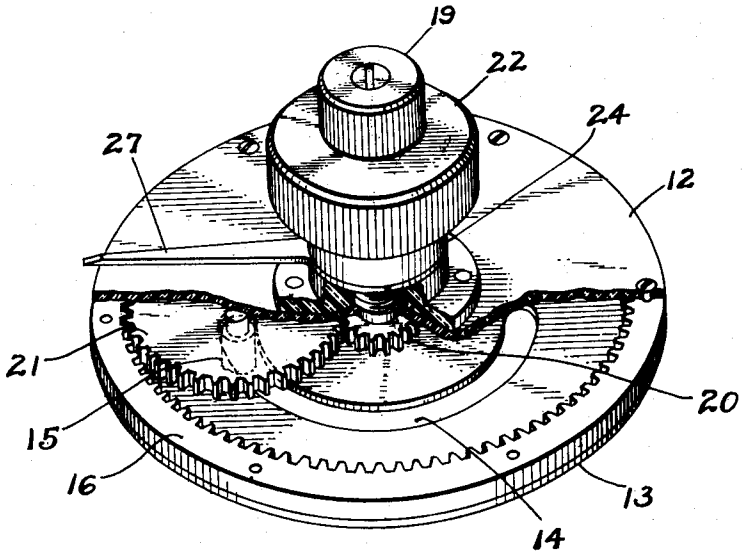


FIG. 2



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UNITED STATES PATENT OFFICE.

HUGH E. REPPERT, OF WASHINGTON, DISTRICT OF COLUMBIA.

ELECTRIC CONDENSER.

Application filed June 24, 1922. Serial No. 570,735.

My invention pertains generally to condensers and more particularly to variable electric condensers.

The invention contemplates as a feature a condenser in which the main and fine adjustment control knobs are concentrically mounted thereby economizing space on a panel board or condenser case.

Another object of the invention provides for a dual control of the movable plate assembly of an electric condenser, one directly through the movable plate spindle and one through a concentrically mounted sleeve which transmits motion to the said plates through a series of gearing.

With the above and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which like reference characters indicate corresponding parts throughout the several views, and in which—

Figure 1 is a sectional view partly broken away of my invention, and

Fig. 2 is a perspective view of the gear housing partly broken away to show the gear arrangement.

Referring more particularly to the drawings, 5 indicates the top of a condenser case in which the usual movable plate assembly 6 and fixed plates 7 are located. A spindle 8 to which the movable plate assembly is attached is enlarged as at 9, a flanged ring 10 being connected to said enlargement by a key 11. It is to be understood, however, that any desirable means may be substituted for this key for securing these parts together. A gear housing, comprising a top 12 of insulating material, a bottom 13 which is provided with a slot 14 in which a stud 15 is slidably engaged, and an internal gear 16 forming the wall is fixedly connected to the ring 10 in any suitable manner, such as by bolts 17 or the like. A shaft 18, having a control knob 19 at one end and a gear 20 at the other, controls the fine adjustment of the condenser plates.

This fine adjustment is accomplished by rotating the control knob 19 causing motion to be imparted to the gear housing through the gear 20 and an intermediate gear 21 meshing with the internal gear 16 forming a part of said housing. The intermediate gear 21 is rotatably connected to the stud 15 which is fastened in the condenser case top 5 and which limits the extent of rotation of the gear housing to the length of the slot. The gear housing being fastened to the spindle 8 by the flanged ring 10 imparts motion to the movable plate assembly 6 at a ratio depending upon the ratio of the gearing.

The main adjustment may be had by manipulating the knob 22 which is fastened to a sleeve 23 concentrically mounted about the shaft 18. The lower portion of the sleeve is screw-threaded and has mounted thereon an insulating member 24 which is secured to the knob 22 by a dowel pin 25 and to the gear housing 12 by bolts 26. It will be understood, also, that I do not desire to limit myself to this particular fastening means as other ways may be as expediently employed. A pointer 27 operating over a dial on the panel board 28 is fastened between the knob 22 and member 24.

It will be understood that the above description and accompanying drawings comprehend only the general and preferred embodiment of my invention and that various minor changes in details of construction, proportion and arrangement of parts may be made within the scope of the appended claim and without sacrificing any of the advantages of my invention.

Having fully described my invention, what I desire to secure by Letters Patent is:

In a control mechanism for adjusting the rotor plates about the axis of the rotor shaft of a condenser, consisting of a housing, means rigidly affixed thereto for directly rotating the housing, and means for rigidly

affixing the housing to the rotor shaft, the combination of an annular gear race within the housing and rigidly affixed thereto, a gear fixed at a distance from the shaft of the condenser and enmeshed with the gear race with its axis of rotation parallel to the axis of rotation of the shaft, a spindle extending through the housing, a gear upon the end of the spindle and enmeshed with the fixed gear and means upon the outer end of the spindle for imparting rotation to the spindle, housing and shaft of the rotor plates for slow movement of rotation of the rotor plates of the condenser.

HUGH E. REPPERT.