

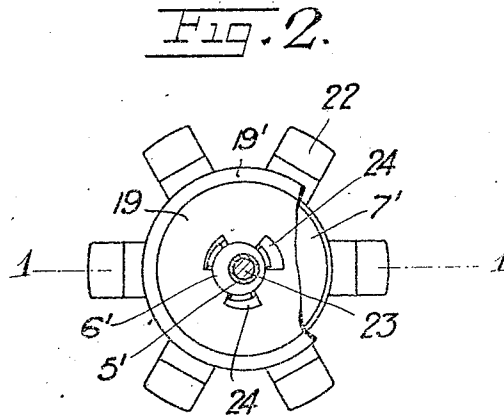
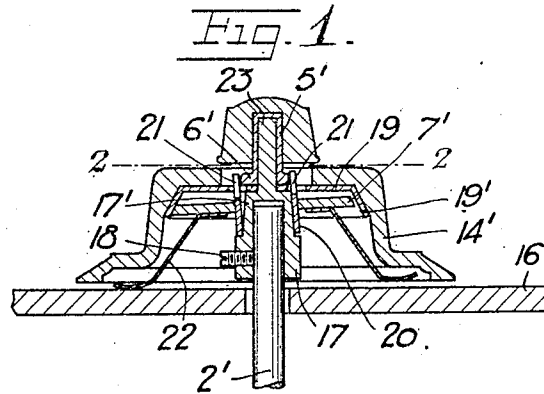
Nov. 9, 1926.

1,605,906

K. J. G. AHLSTRAND

VARIABLE CONDENSER FOR TUNING ELECTRIC OSCILLATING CIRCUITS

Filed Sept. 2, 1925



Inventor,
Karl J. G. Ahlstrand,
By *[Signature]* atty.

UNITED STATES PATENT OFFICE.

KARL JOHAN GERHARD AHLSTRAND, OF STOCKHOLM, SWEDEN.

VARIABLE CONDENSER FOR TUNING ELECTRIC OSCILLATING CIRCUITS.

Application filed September 2, 1925. Serial No. 54,022, and in Sweden May 27, 1925.

Variable condensers used for tuning electric oscillating circuits consist as is well known of a system of fixed plates and a system of movable plates, the latter usually being provided on a rotatable axle so that they may be turned into the spaces between the fixed plates. As an accurate adjustment of the two systems in relation to each other is of great importance it is usual to provide the condenser with a special device for this purpose, a so called fine tuning mechanism. It is desirable to be able to control the final adjustment by means of a member that is located centrally in relation to the hand wheel on the axle of the condenser supporting the movable system of plates. The object of my present invention is to provide a device which renders it possible to make a very accurate final adjustment of the condenser by means of a fine tuning axle or spindle having the same axis of rotation as the axle or spindle supporting the movable system of plates. The invention consists in the combinations and arrangements of parts described hereinbelow with reference to the accompanying drawings and pointed out in the claim.

Fig. 1 of the drawing shows an axial cross section of an embodiment of my invention on line 1—1 of Fig. 2, and Fig. 2 shows a section on line 2—2 of Fig. 1, the hand wheel being removed.

Referring to the drawing 2¹ designates an axle adapted to support the movable plates of a condenser (not shown) and protruding through a wall 16 serving as a base plate for said condenser. On the axle 2¹ is provided a sleeve 17 which is secured to the axle by means of a set screw 18 or in any other suitable manner. To the sleeve 17 is rigidly secured a disc 19 having a conical flange 19¹. A hand wheel 14¹ is in its turn rigidly secured to said disc 19. On a conical portion 17¹ of the sleeve 17 is journalled a sleeve 20 formed at its outer or upper end with fingers 21 extending through corresponding openings 24 in the disc 19. The said fingers engage an eccentric 6¹ formed on the hollow axle 5¹ which is rotatably journalled on a pin 23 extending from the sleeve 17. On the sleeve 20 is rotatably

mounted a wheel 7¹ to which are rigidly secured a number of yielding arms 22 of which always one or more are in frictional engagement with the wall 16 and force the wheel 7¹ into engagement with the flange 19¹ of the disc 19.

The device now described works as follows. When the eccentric is rotated by means of the knob 15¹ the upper end of the sleeve 20 will make a circling movement and bring the circumference of the wheel 7¹ in successive engagement with the flange 19¹. The arm or arms 22 nearest to the point of engagement between the wheel 7¹ and the flange 19¹ are pressed against the wall while the other arms 22 are lifted therefrom owing to the inclined position of the wheel 7¹. The latter will thus to some extent be prevented from rotating and will on account thereof impart a slow rotating movement to the disc 19, the axle 2¹ and By adjusting the sleeve 17 on the axle 2¹ may however also be rotated direct by means of the hand wheel 14¹, the wheel 7¹ being capable of sliding on the flange 19¹ while the arms 22 can slide on the wall 16. By adjusting the sleeve 17 on the axle 2¹ the strength of friction between the wheel 7¹ and the flange 19¹ as well as between the arms 22 and the wall 16 may be regulated.

Having now described my invention, what I claim is:

In a condenser for tuning oscillating circuits, the combination of two axles having a common axis of rotation, a friction member on one of said axles in centric relation thereto, a hand wheel rigidly secured to and enclosing said friction member, an eccentric and a knob on the other axle, a rocking sleeve engaging said eccentric, a second friction member rotatably journalled on said rocking sleeve, a stationary member, and yielding arms rigidly secured to the said second friction member and in frictional engagement with said stationary member, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

KARL JOHAN GERHARD AHLSTRAND.