

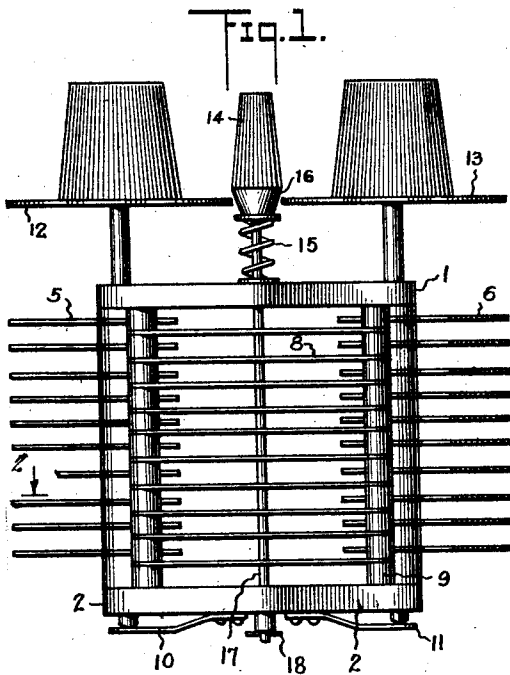
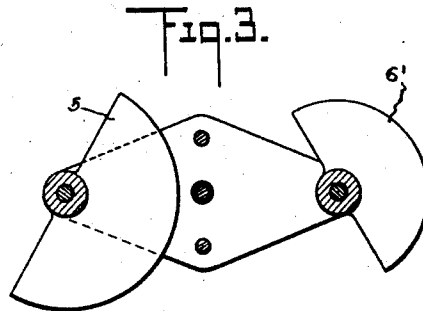
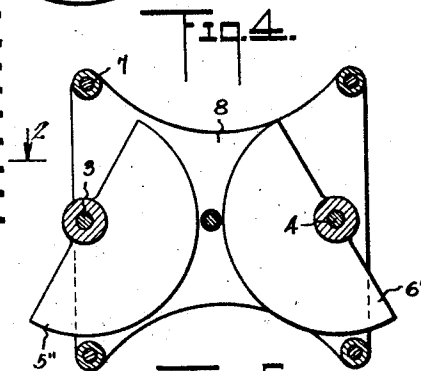
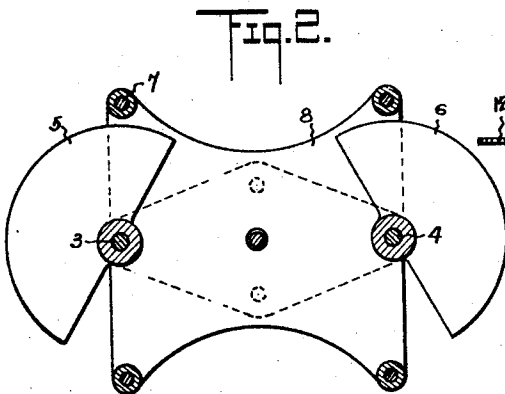
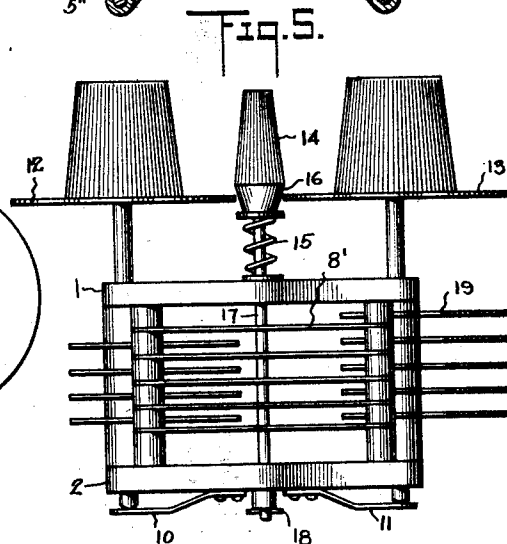
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VARIABLE CONDENSER

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WITNESSES

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VARIABLE CONDENSER.

Application filed January 12, 1924. Serial No. 685,835.

This invention relates to variable condensers for radio apparatus, and has for an object to provide an improved construction wherein a double capacity apparatus is presented in a single unit.

Another object of the invention is to provide a double capacity variable condenser wherein the parts may be adjusted independently for roughly tuning and then adjusted simultaneously for very fine tuning.

A still further object of the invention is to provide a variable condenser in which means are presented for inserting and removing simultaneously capacity plates.

In the accompanying drawings—

Figure 1 is a plan view of a variable condenser disclosing an embodiment of the invention;

Fig. 2 is a sectional view through Fig. 1, approximately on the line 2—2;

Fig. 3 is a view similar to Fig. 2 but disclosing a slightly modified construction;

Fig. 4 is a view similar to Fig. 2, but showing another form of the invention;

Fig. 5 is a top plan view similar to Fig. 1, but disclosing a further modified form of the invention.

Referring to the accompanying drawing by numeral, 1 and 2 indicate frame plates which may be of insulating material, said frame plates connecting the respective rods 3 and 4 to which are secured the movable plates 5 and 6. Suitable clamping bolts 7 are arranged at the respective corners of the frame plates 1 and 2, as shown in Fig. 2, said bolts being formed to receive the respective stator plates 8, such plates being suitably spaced by washers 9 or other suitable members. The rods 3 and 4 project from the end plate 2 and coact with spring contacts 10 and 11, which spring contacts are designed to receive the wiring forming part of the circuit. The wiring may be connected to the stator plates through one or several of the bolts 7, as may be preferred. The respective rods 3 and 4 are provided with dials 12 and 13 formed preferably with right and left graduations. As the various plates 5 and 6 move into and out of operative position with respect to the stator plates, in opposite directions, as indicated in Fig. 2, it will be noted that either set of movable plates may be independently moved into and

out of operative position with respect to the stator plates 8 for tuning more or less roughly.

After a station has been tuned in to a certain extent in this manner, the thumb member 14 is pressed inwardly against the action of the spring 15 until the beveled surface 16 engages both the dials 12 and 13. This thumb member is then rotated and one set of movable plates is slowly inserted while the other set is moved out. Where the number of movable plates in each set is equal, as shown in Fig. 1, this vernier arrangement will not produce any other effect than slowly shifting the plates. However, when there is a small plate 6' used in connection with one set of movable plates, this adjustment will either slightly increase or decrease the capacity of the condenser, and consequently will produce a very fine tuning.

From Fig. 1, it will be noted that the thumb member 14 is connected with a rod 17 slidably mounted in the frame members 1 and 2, and limited in movement in one direction by the pin 18. The spring 15 normally holds the surface 16 out of engagement with the dials 12 and 13, whereby these dials and the movable plates connected therewith may be relatively shifted independently.

In Fig. 4 a slightly modified structure is shown in which the plates 6'' are set inwardly with respect to the stator plates 8 whereby whenever the thumb member 14 is used, a very fine vernier adjustment may be secured.

In Fig. 5 a further modified form of the invention is shown wherein an extra plate 19 is provided on one side of the movable plates. This extra plate operates exteriorly of the outside stator plate 8', whereby only half the surface of this extra plate will function, and consequently whenever the thumb member 14 is operating, a very fine tuning may be secured as the plates on both sides balance except for the plate 19.

The construction shown in the accompanying drawing illustrates four embodiments of the invention, which invention includes the use of a single set of stator plates for a plurality of sets of movable plates either of the same capacity and number or of different capacities and different numbers.

What is claimed is:

A variable condenser for radio apparatus, comprising a plurality of stator plates, a plurality of sets of movable plates coacting with the stator plates, one set of movable plates having a greater capacity than the other, means including a dial for each set of movable plates for independently shifting said plates, a thumb member having a beveled surface adapted to be moved into engagement with both of said dials for rotating the same simultaneously, and means for normally holding said thumb member out of engagement with said dials.

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