April 18, 1939. J. K. JOHNSON 2,155,050

ADJUSTABLE DUAL CONDENSER

Filed Nov. 6, 1937

Fig. 1

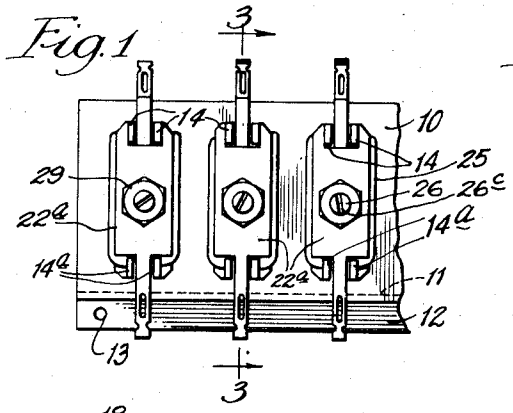


Fig. 2

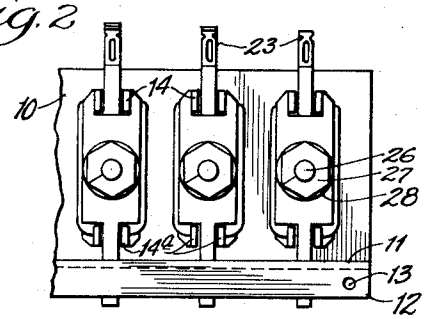


Fig. 5

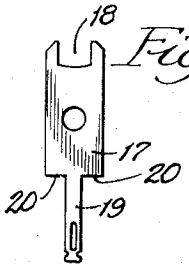


Fig. 6

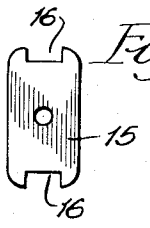
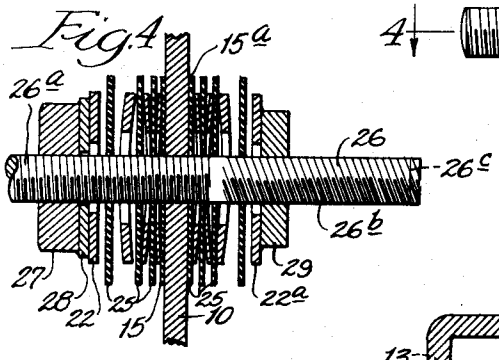


Fig. 3

Fig. 4



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Patented Apr. 18, 1939 2,155,050

UNITED STATES PATENT OFFICE

2,155,050

ADJUSTABLE DUAL CONDENSER

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Application November 6, 1937, Serial No. 173,232

2 Claims. (Cl. 175—41.5)

An object of this invention is to provide a dual condenser of the adjustable type in which there is a single adjusting member, as a screw, which is so operatively related to the condenser elements that movement of the member varies in equal degree the capacities of the two units of the dual condenser so that the two capacities are substantially equal at all positions of adjustment.

Another object is to improve generally condensers of this type.

These and other objects, as will hereinafter appear, are accomplished by this invention, which is fully described in the following specification and shown in the accompanying drawing, in which—

Figure 1 is a front elevation of a block of condensers embodying my invention;

Fig. 2 is a rear elevation of the same;

Fig. 3 is an enlarged section on the line 3—3 of Fig. 1;

Fig. 4 is a partial transverse section on the line 4—4 of Fig. 3;

Fig. 5 is an elevation of one of the plates of the condenser; and

Fig. 6 is an elevation of one of the insulating spacers.

The embodiment illustrated comprises a metal mounting plate or frame 10 which for convenience in mounting may have a ledge 11 and a foot 12, the latter preferably being provided with two or more holes 13 by means of which the plate may be mounted.

Two pairs of spaced insulating strips 14, 14a pass through the plate 10 and are firmly set at four spaced points therein, as shown in Figs. 1 and 3, for each condenser. These serve as guides for both the plates and the dielectric spacers, as will presently be seen. Insulating spacers 15, 15a are placed on each side of the mounting plate, and these have notches 16 (Fig. 6) which overlie the insulating strips so as to be positioned thereby.

Outer or negative plates 17, 17a (Fig. 5) are provided which have slotted openings 18 at one end by means of which they fit over the guides 14a. They are guided at the opposite end by means of tongues 19 which pass between the guides 14 and are positioned against endwise movement by shoulders 20 which engage the inner sides of the guides 14.

Positive plates 21, 22 similar to the plate 17 are then inserted, but their terminals extend in the opposite direction with a negative plate 23, all these plates being separated by dielectric spacers 25 similar to the spacers 15.

A screw 26 passes through the plate 10 and is provided with a single pitch thread 26a at the left hand end which is threaded through a hole in the plate 10 having a single pitch thread. A lock nut 27 is adjustably set on the threaded portion 26a and has a washer 28 between this nut and the outer plate 22.

The opposite end of the screw is provided with a double pitch thread 26b which is threaded through a nut 29 which is secured as by brazing to the outer plate 22a. The screw may be turned by any convenient means (not shown) such as a shaft with a tongue in the slot 26c.

Thus, by carefully adjusting the nut 27 while the screw 26 is held, the capacity of the two condenser units may be rendered substantially equal. Then any rotary movement of the screw 26 will move the nuts 27, 29 toward or from the frame 10 in equal amounts, and since the two condensers are made substantial duplicates, the capacities remain substantially equal for all settings. This permits these condensers to be used in two tuned stages of a radio receiving set so that when the tuning is done even by an inexperienced operator the two stages will be substantially in resonance for all positions of the screw 26.

I claim:

1. In a dual condenser, a mounting plate, substantially identical condenser units having resilient plates disposed on each side of said mounting plate, and a screw passing through said units and screwed through an opening in the mounting plate and operably connected to said units for simultaneously varying the pressure exerted on the two condenser units equally so that the capacities of the two condensers remain substantially equal for all settings.

2. In a dual condenser, a mounting plate, substantially identical condenser units having resilient plates disposed on each side of said mounting plate, and means for varying the pressure exerted on the two condenser units equally so that the capacities of the two condensers remain substantially equal for all settings, said means including a screw passing through both condensers and through the mounting plate, a portion of the screw threaded through the mounting plate and secured to a nut on one condenser unit and having a thread of a given pitch while the portion of the screw threaded through a nut non-rotatably mounted on the other unit has twice the pitch of the first-mentioned portion whereby a rotary movement of the screw moves the two nuts toward or from the mounting plate in equal amounts.

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