Sept. 18, 1928. 1,684,519

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APPARATUS FOR AUTOMATIC REGULATION OF DIFFERENT WAVE LENGTHS FOR WIRELESS RECEIVERS

Filed Nov. 2, 1925

Fig. 2

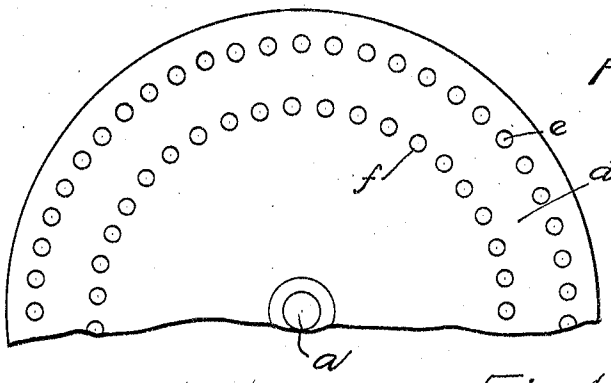


Fig. 1

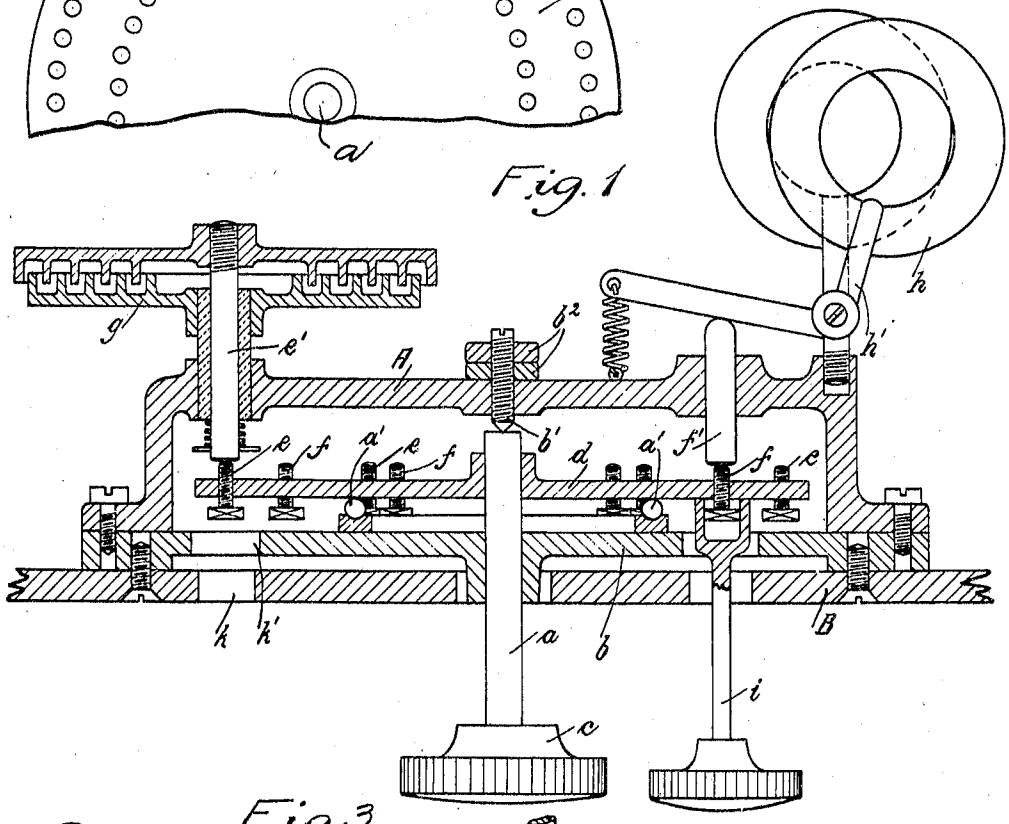
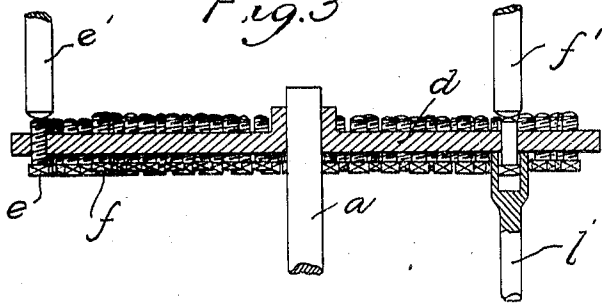


Fig. 3



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Patented Sept. 18, 1928. 1,684,519

UNITED STATES PATENT OFFICE.

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APPARATUS FOR AUTOMATIC REGULATION OF DIFFERENT WAVE LENGTHS FOR WIRELESS RECEIVERS.

Application filed November 2, 1925, Serial No. 66,351, and in Germany November 21, 1924.

The invention relates to an apparatus for wireless receivers, by which a great variety of wave-lengths from one place or point can be automatically adjusted to allow any one of a number of transmitters being heard without having the trouble of seeking the best adjustment every time by regulating the tuning means.

The apparatus consists preferably of a horizontal movable plate or rotary disk provided with a number of abutments adjustable as to length and arranged in two or more parallel rows or concentric circular rows. One abutment in every row effects together with an abutment of another row or with abutments of other rows the adjustment of the tuning members for the determined length of wave. Any kind of tuning implement may be used thus one tuning member may consist of a variable condenser having two disks with concentric vanes or rings, the rings of one disk projecting into those of the other disk so that when the two disks approach one another or move away from one another the capacity of the condenser is increased or decreased. The relative adjustment of the disks will be carried out by the aid of said abutments of one row adjusted to various heights, while the adjustment of the other tuning means is carried out by the corresponding abutments of the other parallel or concentric row.

In the drawing by way of example an apparatus is shown in a vertical section, by which the invention can be carried out, Figure 1 is a diametrical section through the apparatus, Figure 2 is a plan view of the disk d, and

Figure 3 is a diametrical cross section of the disk d showing the close arrangement of the abutments, some of which are omitted from Figure 1 for the sake of clearness.

In the construction shown a vertical spindle a bearing in a fixed plate b and provided with a knob or handle c is firmly attached a disk d into which adjustable abutments e and f are screwed from below. The abutments e and f are distributed in concentric circular rows. By way of example two circular rows of abutments e and f are shown. The disk d is supported by balls a' so as to facilitate rotation of the disk. It may be found convenient to accurately guide the shaft a by a centering pin b', which may be screwed into the casing A and secured in position by nuts b^2. Vertically guided in the top of the casing A are thrust pins e' and f' in a position to coincide with the abutments e and f respectively. By raising or lowering these thrust pins e' and f' the regulation of various positions of the tuning means will be ascertained, the movable parts of such tuning means resting on or bearing against said thrust pins. The abutments e and f are adjusted by suitably shaped keys i fitting to correspondingly shaped heads of the abutments. The fixed plate b forming the bottom of the casing A and the base plate or table B on which the casing A may be mounted are provided with apertures k and k' to allow the key i to be introduced.

As explained the thrust pins e' and f' are adapted to operate the movable part of the tuning means. In the construction shown on the lefthand side the tuning means is formed by a variable condenser g, and on the righthand side a coupling h is mounted on the casing A.

The movable part of the condenser g is directly attached to the thrust pin e', while the movable part of the coupling is mounted on a spring pressed bell-crank h' the horizontal arm of which is supported by or bears against the thrust pin f'. By regulating the length of the projecting parts of the abutments e of the outer row and the corresponding abutments f of the inner circular row the apparatus will be set to a corresponding number of desired wave lengths, each pair of abutments e and the corresponding abutments f thus being regulated to a certain wave length. When it is desired to receive from a different transmitter the handle c is turned rotating the disk d to such an extent that that pair of abutments e and f come in line with the thrust pins e' and f' that are adjusted to the desired wave-length. It is evident that the number of parallel or concentric circular rows of abutments depends on the number of tuning means used in the receiver and the number of abutments in the rows depends on the number of different wave-lengths to which the apparatus should be adjustable.

I claim:

1. Apparatus for automatic simultaneous tuning of a plurality of tuning devices, comprising a rotatable dial, a plurality of circular series of abutments mounted on said dial, the number of said series corresponding to the number of tuning units, said abutments

being independently adjustable in a direction perpendicular to the plane of rotation of said dial, each series forming a circular cam track of variable contour, each adjusted abutment in one series corresponding to a corelatively adjusted abutment in another series, and a plurality of rods connecting said tuning devices with the respective series of abutments, adapted to ride the said cam tracks and positioned so as to contact simultaneously with the correlated adjusted abutments.

2. Apparatus for automatic simultaneous tuning of a plurality of tuning devices, comprising a rotatable dial, a plurality of series of abutments mounted on said dial the number of said series corresponding to the number of tuning units, said abutments being independently adjustable to vary their elevation from said dial in a direction perpendicular to the plane of rotation to said dial, each series forming an endless cam track of variable contour, each adjusted abutment in one series corresponding to a co-relatively adjusted abutment in another series and means for operably relating said tuning device to the respective series of abutments, said means being adapted to ride upon the said cam tracks, and being positioned so as to engage simultaneously with the correlated adjusted abutments.

In testimony whereof I have signed my name to this specification.

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