Nov. 17, 1925. 1,561,487

E. RYDER

RADIO DIAL TURNER

Filed May 5, 1924

Fig. 1

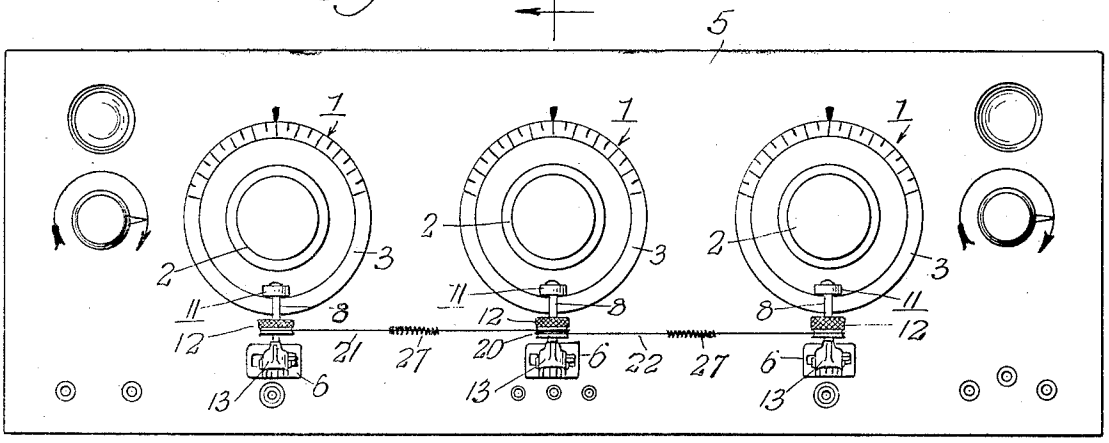


Fig. 2.

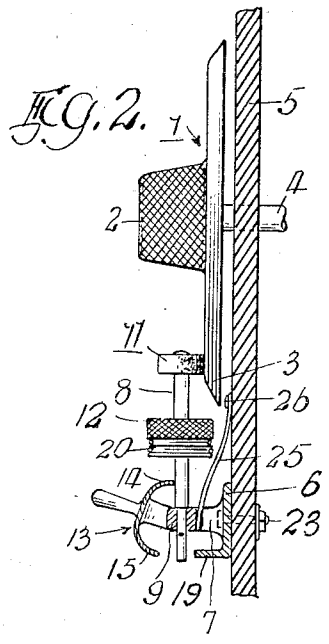


Fig. 3.

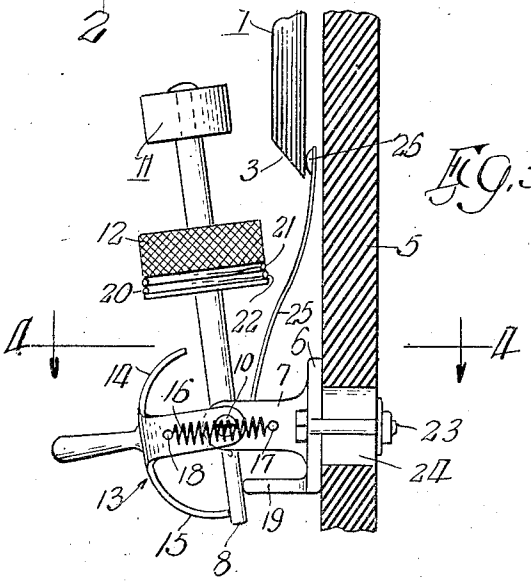


Fig. 4.

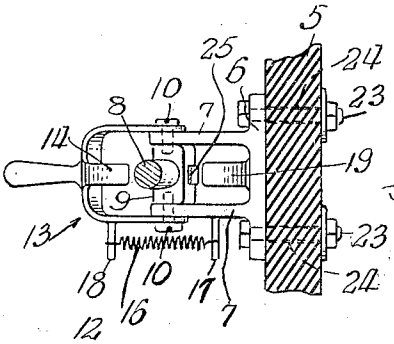
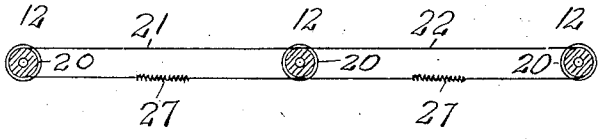


Fig. 5.



Inventor

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UNITED STATES PATENT OFFICE.

ELMER RYDER, OF BERWYN, ILLINOIS.

RADIO DIAL TURNER.

Application filed May 5, 1924. Serial No. 710,958.

To all whom it may concern:

Be it known that I, ELMER RYDER, a citizen of the United States, residing at Berwyn, in the county of Cook and State of Illinois, have invented new and useful Improvements in Radio Dial Turners, of which the following is a specification.

This invention relates to dial turning devices for radio receivers.

One object of my invention is to provide means whereby a plurality of dials, as in a neutrodyne or like receiver, may be turned simultaneously.

Another object of my invention is to provide a dial turner which may be easily and conveniently actuated by the thumb of the operator while in a natural position, and thus make tuning of the receiver easy, accurate, and without discomfort by not requiring the hand to be held in the stiff and uncomfortable position as heretofore made necessary when grasping knobs of tuning and other dials on turning the same.

The invention consists further in the matters hereinafter described and claimed.

In the accompanying drawings—

Fig. 1 shows the panel of a radio receiver equipped with a dial-turning means of my invention;

Fig. 2 is an enlarged vertical sectional view with parts in elevation taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged view of one of the dial-turning devices, showing it in position disengaged from its dial;

Fig. 4 is a horizontal sectional view taken on line 4—4 of Fig. 3; and

Fig. 5 is a top plan view of the turning means.

In Fig. 1, the receiver shown has a plurality of tuning dials 1, 1, 1. Each dial has the usual turning knob 2 and beveled edge 3 on which are the usual graduations. Each dial 1 is mounted on a shaft 4 extending through the front panel 5 of the receiver, as shown in Fig. 2.

Mounted on the panel 5 under each dial 1 is a bracket 6 having outwardly extending ears or lugs 7, 7. These lugs are spaced apart and between them extends an upright spindle 8 having its reduced lower end rotatable in a block 9 or cross-member pivoted between the lugs 7 by trunnion screws 10, 10 or other suitable means.

At the upper end of the spindle 8 is a roller 11, which may be of rubber to frictionally engage the associated dial when in contact therewith, as shown in Fig. 2. Fixed to the spindle 8 below the roller 11 is a knurled turning member 12 to be engaged by the thumb of the operator for turning the spindle.

To hold the roller 11 in contact with its dial 1, I provide a handled member 13 pivoted to the lugs 7 by the screws 10 or otherwise and lying in front of the spindle 8. This member 13 has upper and lower fingers 14, 15 to alternately engage the spindle above and below the pivoted axis 10. When the member 13 is swung upward, as shown in Fig. 2, the coiled spring 16 is offset above the axis 10 and resiliently holds the spindle 8 in position with its roller 11 against the dial 1. Said spring is at one side of the bracket and is connected with the latter and the member 13 by pins 17, 18 on these parts, respectively. When it is desired to move the roller 11 from contact with its dial 1, so that the latter may be turned through its knob 2, the member 13 is swung downward, causing its lower lug 15 to engage the spindle 8 and swing the entire turning device outward from the dial. The spring 16 at this time is below the pivotal axis 10 and holds the parts in the positions described and as shown in Fig. 3. A stop lug 19 on the bracket limits the outward swing of the spindle, as shown.

I provide one of these turning devices for each of the dials of the receiver, so that each dial may be turned through the medium of my device. For simultaneous operation of all the dials, I provide each turning member 12 with a grooved sheave or pulley portion 20. This portion of the center member has two grooves, as shown in the drawings, so that the center one, as shown in Fig. 1, may receive two cords 21, 22. The cord 21 extends from the center turning device to the one at the left, while the cord 22 extends from the center device to the one at the right. This connects all of the turning devices together and, when said devices have their rollers 11 against the dials 1, an actuation of any one of the turning devices will turn them all in unison and thus simultaneously turn all the dials 1 of the set. This is especially advantageous in tuning neutrodyne receivers where all the dials must be brought to certain predetermined positions for given stations. The turners shown and described moreover

allow for fine tuning as required for high selective receivers.

To vary the rate of speed at which a dial may be turned, I have the fastening bolts 23 of the bracket 6 pass through vertically elongated slots 24 in the panel 5 so that by adjusting the turner up and down, its roller 11 may be moved toward and from the center of the dial to vary its speed of rotation.

When operating the dials simultaneously, it may be found advisable to loosen the parts so that they run freely. When engaged by the rollers 11 they will not turn except when the rollers are revolved. To hold these dials against accidental turning by the overweight of the condenser plates or otherwise, when the rollers 11 are moved out of engagement therewith, I provide each turner with a spring finger 25 carried by the block 9 and extending behind the associated dial, as shown in Figs. 2 and 3. This finger may carry a friction pad 26 at its free end to engage the dial when the roller 11 is moved away from the dial. This pad holds the dial from accidental turning. To keep the cords or cables taut, each cable has a spiral spring 27 connecting its ends.

I claim as my invention:

1. In a radio receiver, the combination with a panel, of a plurality of dials in front of the same, dial turning devices, one for each dial and mounted on the panel at their respective dials, and means connecting said devices together for turning the dials simultaneously and in unison from one of the same.

2. In a radio receiver, the combination with a panel, of a plurality of dials in front of the same, dial turning devices, one for each dial and mounted on the panel at their respective dials, said devices having grooved turning members, and cables connecting said members together for turning the dials simultaneously.

3. In a radio receiver, the combination with a panel, of a plurality of dials in front of the same, dial turning devices, one for each dial and pivotally mounted on the panel at their respective dials for independent movement into and out of operative engagement with the dials, spring means included in the dial turners for holding the same either in or out of engagement with their respective dials, and means connecting the dial turners together for turning the dials simultaneously when all the turners engage the dials.

4. In a radio receiver, the combination with a plurality of dials, of means carried by the receiver and movable into and out of engagement with the dials for turning the dials either independently or simultaneously, and means brought into engagement with said dials when the turning means is moved out of engagement therewith for holding the dials against accidental turning.

5. In a radio receiver, the combination with a plurality of dials, of means carried by the receiver and movable into and out of engagement with the dials for turning the same either separately or simultaneously.

6. In a radio receiver, the combination with a plurality of dials, of a dial turner at each dial for turning the same, means connecting said turners for simultaneous operation, and means enabling said turners to be adjusted independently toward and from the center of the dials.

7. In a radio receiver, the combination with a dial, of a dial turner, comprising a bracket mounted on the panel of the receiver, a spindle pivoted on the bracket, a friction roller carried by said spindle to engage said dial for turning the same, a turning member on said spindle for turning said roller, and a spring controlled member pivoted on the bracket and having parts to be brought alternately into and out of engagement with said spindle on opposite sides of its pivot for holding the roller either in or out of contact with the dial.

8. In a radio receiver, the combination with a dial, of a dial turner, comprising a bracket, a spindle pivoted thereto and carrying a friction roller to engage the front face of the dial for turning the same, a turning member carried by said spindle for turning said roller, and means attaching the bracket to the panel in a manner permitting adjustment of the roller toward and from the center of the dial.

9. In a radio receiver, the combination with a dial, of a dial turner, comprising a bracket, a spindle pivoted thereto and carrying a friction roller to engage the front face of the dial for turning the same, a turning member carried by the spindle for turning said roller, and means including elongated slots in the panel for adjusting the roller toward and from the center of the dial.

10. In a radio receiver, the combination with a dial, of a dial turner, comprising a bracket on the panel of the receiver, a spindle pivoted to said bracket and carrying a friction roller for engagement with the front face of said dial for turning the same, a turning member carried by said spindle for turning said roller, and a spring finger carried by said spindle and extending back of the dial for movement into and out of engagement therewith on swinging the roller into and out of contact with said dial.

In testimony that I claim the foregoing as my invention, I affix my signature this 3rd day of May, 1924.

ELMER RYDER.