

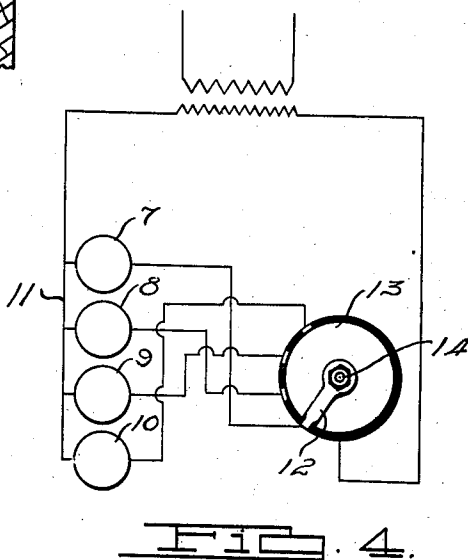
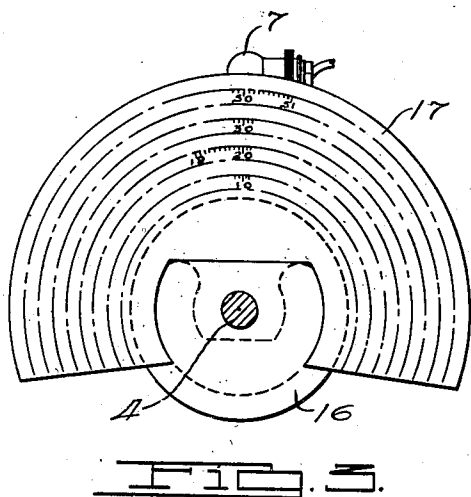
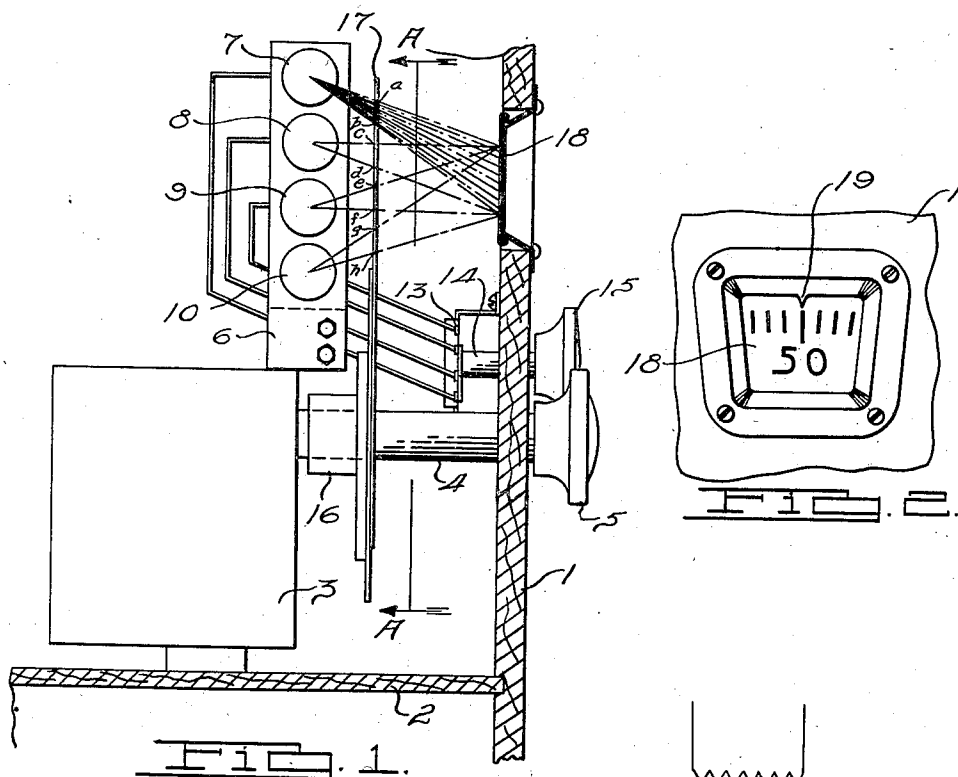
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DIAL FOR MULTIRANGE RADIORECEIVERS

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DIAL FOR MULTIRANGE RADIORECEIVERS

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This invention relates to dials for multi-range radio receivers and the object of the invention is to provide a dial having a series of reference scales and provided with a means for projecting any reference scale onto a screen.

The invention is particularly adapted for use with multi-range radio receivers utilized in combination with a range changing switch whereby the changing of the range by means of the switch causes the reference scale pertaining to that range to be projected onto a screen.

Another object of the invention is to provide a dial of the character described in which the dial is semi-circular in form and is preferably of translucent or transparent material and provided with a series of reference scales, the dial extending between a series of lamps and a screen whereby upon energization of any of the lamps the corresponding reference scale is projected onto the screen.

Another object of the invention is to provide a device of the character described including a range changing switch and a series of lamps each having a point source of light and adapted to be lighted in accordance with the range being utilized and arranged to project a reference scale corresponding to the range utilized onto a screen.

These objects and the several novel features of the invention are hereinafter more fully described and claimed and the preferred form of construction by which these objects are attained is shown in the accompanying drawing in which—

Fig. 1 is a section through a portion of a radio cabinet showing the assembled parts.

Fig. 2 is a front elevation of the screen.

Fig. 3 is a section taken on line A—A of Fig. 1.

Fig. 4 is a schematic diagram of the lamp circuits.

In Fig. 1, a portion of a radio cabinet is shown including a front panel 1 and a horizontal partition 2. Mounted on this partition 2 is a tuning condenser indicated by the numeral 3 and the shaft 4 of this tuning condenser extends through the panel 1 and is provided with a knob 5 secured thereto. Supported on the tuning condenser 3 is an insulating strip 6 in which the sockets for the lamps 7, 8, 9 and 10 are mounted. These electric lamps are preferably each provided with a closely coiled filament in order to give substantially a point source of light. As shown in Fig. 4, these lamps have a common return wire 11 leading to the movable arm 12 of a switch 13 and the leads for the four different lamps are connected to the four contacts provided as shown on the stationary switch member 13. The source of current sup-

ply may be through a transformer indicated in Fig. 4 or through a battery or other source as desired. The switch 13 is preferably connected to the transformers of the radio receiving circuit so that upon movement of the arm 12 over the contacts the range or wave band which is received is changed. This may be accomplished by connecting the transformer leads into the circuits for the lamps or the shaft 14 to which the arm 12 is secured may be extended and provided with a switch arrangement which automatically connects the parts of the transformer into the radio receiving circuit as the lamps are lighted. The switch shaft 14 is controlled by a knob 15 which is secured to the end of the shaft 14 extending through the panel 1, as will be understood from Fig. 1.

By means of this knob 15 the shaft 14 may be turned to light the different lights in accordance with the position of the switch arm 12, and in accordance with the wave band being received by the receiver. As the knob 15 is also arranged to control the wave band being received, after this knob has been turned to the desired wave band, the knob 5 may be turned to vary the tuning condenser and tune the circuit. Secured to the shaft 4 of the tuning condenser is a bracket 16 shown in Figs. 1 and 3 and a semi-circular dial 17 is secured to the bracket 16 as shown in Fig. 3. This dial is preferably transparent or translucent and is provided with a series of reference scales according to the different wave bands receivable by the receiver. In the form of receiver illustrated, the range change switch may be arranged to receive four different wave bands and for this purpose four different sets of reference scales are arranged in concentric relation on the dial 7 as shown in Fig. 3. This dial, as shown in Fig. 1, extends between the lamps and a translucent screen 18 provided in an opening in the panel 1 and the frame for this translucent screen as shown in Fig. 2 is provided with a pointer 19 for exact tuning. With the switch arm 12 in the position shown in Fig. 4 the lamp 7 is lighted and the rays from the lamp are projected through the dial to project a section of the outer reference scale onto the screen 18. As the knob 5 is turned the calibrations on the outer reference scale are moved through the rays of the lamp 7 so that the calibrations of the outer reference scale between the points *a* and *b* shown in Fig. 1, are projected onto the screen 18 while the circuit is being tuned by means of the tuning condenser which is turned by the knob 5.

The lamp 8 is arranged so that when lighted

by movement of the switch arm 12 it will project the calibrations in the second reference scale between the points *c* and *d* onto the screen, while the lamp 9 will project the calibrations in the third reference scale between the points *e* and *f* on to the screen and the lamp 10 will project the calibrations on the inner reference scale between the points *g* and *h* onto the screen. As the knob 5 is turned, the calibrations are moved consecutively over the screen 18 to give readings in accordance with the tuning of the receiving circuit.

I have described the dial 7 as being of transparent or translucent material. However, this dial may be made of opaque material in which case, the calibrations would be cut through the opaque material to allow the rays from the various lamps to pass through the dial and project the calibrations onto the screen. As hereinbefore described the lamp switch is preferably arranged to operate in conjunction with a range changing switch so that as any range is selected by actuating the switch the proper scale is projected on the screen.

From the foregoing description it becomes evident that the device is very simple and efficient in operation, will not easily get out of order, will automatically project the desired scale onto the screen in conjunction with a range changing switch and provides a device which accomplishes the objects described.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is—

1. In a dial for a multi-range radio receiver, a rotatable tuning shaft, a dial secured to the tuning shaft and provided with a series of reference scales, a translucent screen on one side of the dial, a series of lamps mounted on the opposite side of the dial and arranged in position so that each lamp will project a portion of one reference scale onto the screen, a range changing switch adapted to be turned to a series of positions to change the wave band received by the receiver, one of the lights being arranged to be energized at each position of the range changing switch to project a portion of the proper reference scale onto the screen and the complete reference scale being readable by turning of the tuning shaft and dial.

2. In a dial for multi-range radio receivers, a series of lamps, a circuit for each lamp, a range

changing switch, the circuits for the lamps being controlled by operation of the range changing switch, a screen, a dial extending between the lamps and screen and carrying a series of reference scales, the arrangement being such that upon operation of the range changing switch the proper lamp is lighted to project the proper reference scale onto the screen and means for turning the reference scale through the projected light rays.

3. In a dial for multi-range radio receivers having a tuning condenser and a range changing switch, a shaft for turning the tuning condenser, a reference scale secured to rotate with the shaft and arranged to allow projection of light there-through, a screen on one side of the reference scale, a series of lamps on the opposite side of the reference scale and a series of circuits to the lamps operated in conjunction with the range changing switch to project a portion of the dial onto the screen in accordance with the position of the range changing switch.

4. In a dial for multi-range radio receivers, a transparent dial provided with a series of reference scales, a translucent screen on one side of the dial, a series of electric lamps each having substantially a point source of light and arranged so that upon the lighting of any light a portion of the respective reference scale is thrown onto the screen, a rotatable shaft to which the dial is secured, the arrangement being such that as the shaft and dial are turned the successive portions of the respective reference scale are projected onto the screen.

5. In a dial for multi-range radio receivers having a tuning condenser and a range changing switch, a shaft for operating the tuning condenser, a dial secured to the shaft, a translucent screen on one side of the dial, a series of lamps mounted on the other side of the dial and means for lighting the lamps to project different portions of the dial onto the screen, said means operating in conjunction with the range changing switch.

6. In a dial for multi-range radio receivers, a range changing switch, a shaft, a dial having a series of reference scales and secured to the shaft, a screen on one side of the dial, a series of lamps mounted on the other side of the dial and means for lighting the lamps in relation to the position of the range changing switch to project the respective reference scale onto the screen.

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