Nov. 5, 1929. D. SCHWARTZ 1,734,694

RADIO LOGGING AND INDICATING DEVICE

Filed Aug. 17, 1929 2 Sheets-Sheet 1

Fig. 1.

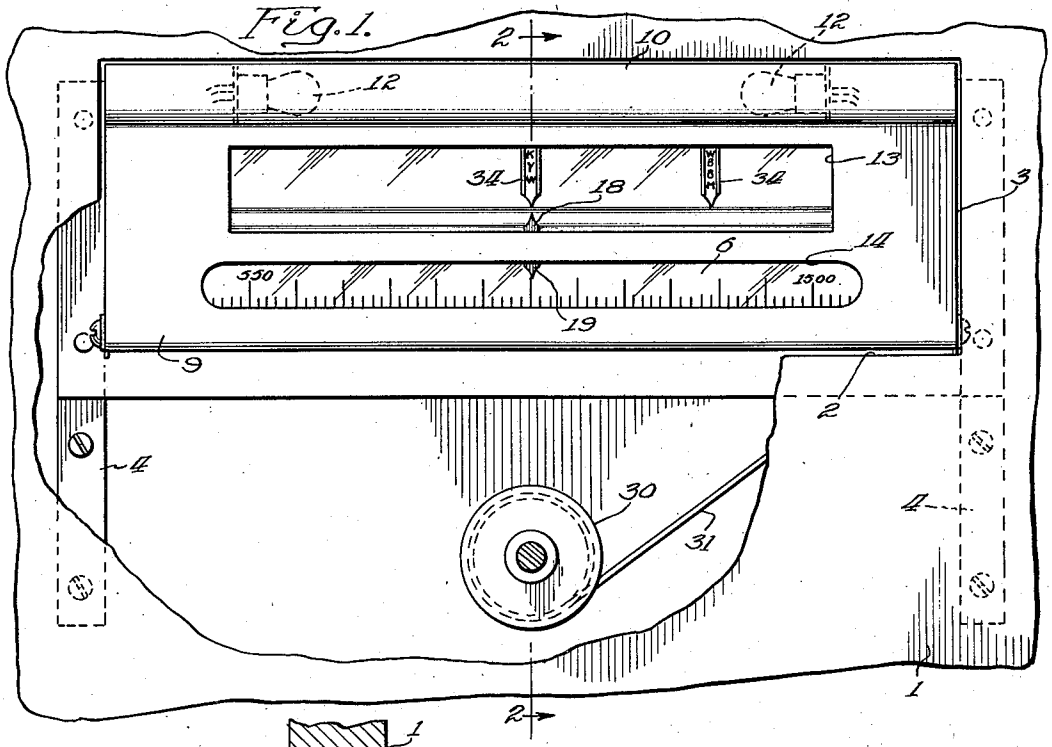


Fig. 2.

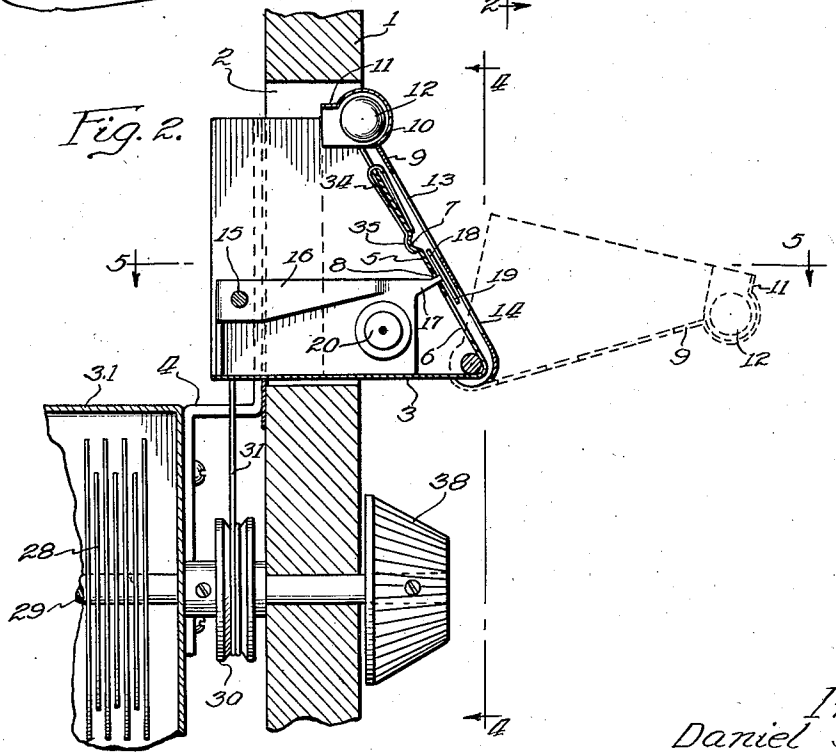
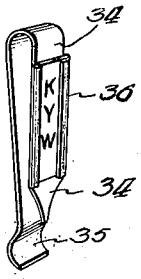


Fig. 3.



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Fig. 4.

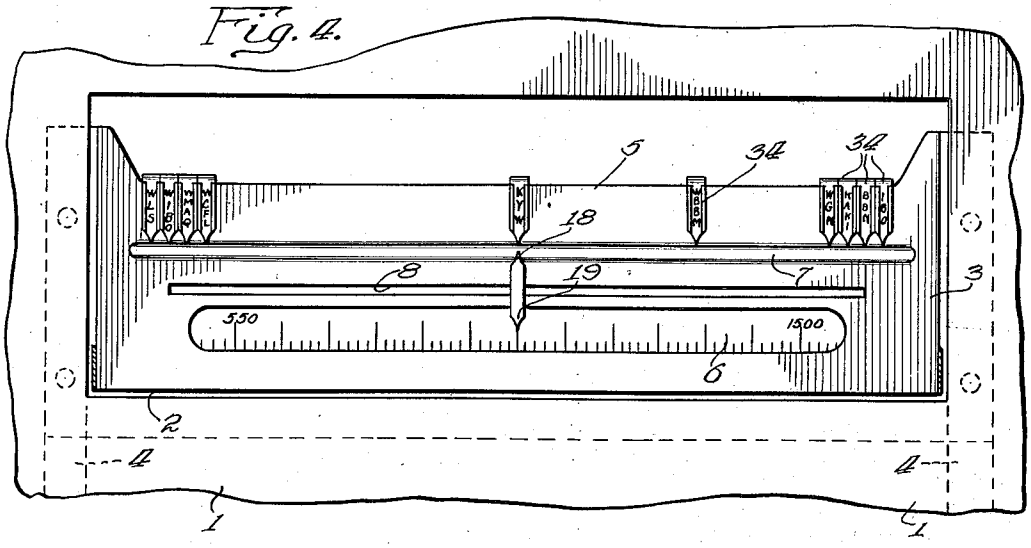
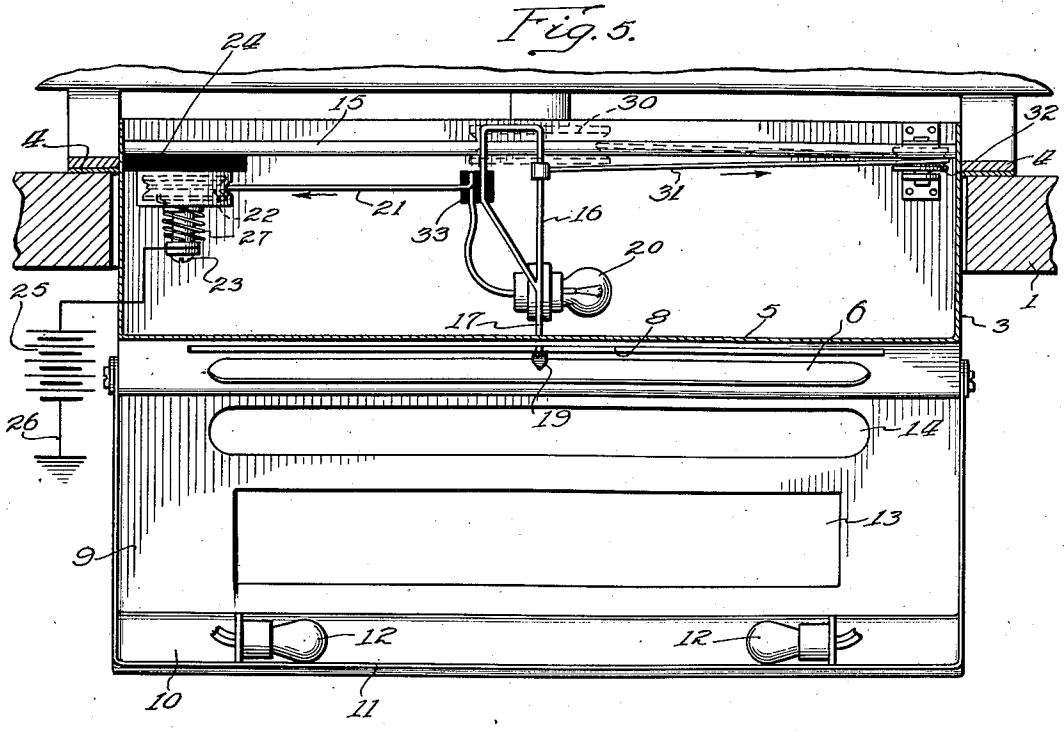


Fig. 5.



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UNITED STATES PATENT OFFICE

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RADIO LOGGING AND INDICATING DEVICE

Application filed August 17, 1929. Serial No. 386,634.

The main objects of this invention are to provide an improved logging and indicating device for radio receiving sets, to provide improved markers in a device of this kind for appropriately indicating settings for receiving from various broadcasting stations respectively, to provide an improved front cover for a logging device, to provide means on such cover for projecting indirect light upon the indicia of the device, to provide an instrument of this kind which may be conveniently installed in a radio cabinet of standard construction and which is accessible from the exterior of the cabinet for permitting adjustment of the markers, and to provide improved actuation mechanism for moving an indicator and lamp in correspondence with the movements of the tuning apparatus of a radio.

An illustrative embodiment of this invention is shown in the accompanying drawings, wherein:

Figure 1 is a fragmentary elevation of a radio panel showing parts cut away and disclosing underlying structure.

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1.

Fig. 3 is a perspective detail of a station marker.

Fig. 4 is a fragmentary vertical section taken on the line 4—4 of Fig. 2 with the cover in an opened position.

Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 2.

In the form shown, the improved indicating and logging device includes a casing which is mounted in an opening of a radio cabinet panel, and which comprises an interior wall or panel having a translucent wave length chart and a plurality of markers mounted thereon. A movable indicating member is slidably mounted in the casing and operatively connected with the tuning apparatus of the radio.

Hinged on the front of the casing is a cover which has a tubular housing on its top edge, wherein light bulbs are held for projecting light into the interior of the casing and upon the interior panel. The movable indicator carries a bulb for illuminating the translucent chart.

In the construction shown, the radio cabinet panel 1 is provided with an opening 2, in which the casing 3 is mounted. This casing is rigidly secured to the instrument housing 3.1 of the radio by angle brackets 4.

The casing 3 preferably comprises sheet metal and includes an inclined front panel 5 having a slot therein in which is mounted a translucent wave length chart 6. Formed in the panel 5 is a rib 7 and between the rib 7 and the chart 6 is provided a longitudinally extending slot 8.

Pivotally mounted on the lower front edge of the casing 3 is a cover 9 which includes a tubular housing 10, having a lip 11. The tubular housing 10 is provided with a pair of electric light bulbs 12 for projecting light into the interior of the casing and upon the outer side of panel 5. The cover 9 has a pair of spaced sight openings 13 and 14 through which the top portion of the panel 5 and the wave length chart 6 may be observed.

A bar or track 15 extends longitudinally through the case 3, and is secured at its ends to the end walls of the casing. Slidably mounted on the track 15 is a carriage 16 comprising a metal band having registering openings in its opposite sides respectively for receiving the bar 15. Extending forwardly from the carriage is an arm 17 which projects through the slot 8 in the panel 5. The arm 17 carries an indicator having a pair of pointed extremities 17 and 18, one projecting downwardly over the station chart 6 and the other extending upwardly in the direction of the upper portion of the interior panel 5.

Mounted on the carriage 16 is an electric light bulb 20 which travels with the indicator and projects light through the translucent chart 6 at all positions of the indicator. One terminal of the bulb 20 is grounded on the carriage 16 and the other terminal is electrically connected by a conductor 21 to a metal drum 22 which is journaled on a metal post 23. The post 23 is secured at one end to an insulating block 24 mounted on the casing 3. The post 23 is electrically con-

nected in series with one terminal of a battery 25 and the other terminal 26 of the battery is grounded, preferably on a metal wall of the casing.

The drum 22 is provided with a coil spring 27, for rewinding the cable 21 on the drum after it has been uncoiled by movement of the carriage 16 to the right as viewed in Fig. 5. This spring is mounted on the post 23 and is secured at one end to the side of the drum 22 and at its other end to the post. The position of the carriage 16 and its indicator, is predetermined by the setting of the tuning apparatus, illustrated in Fig. 2 of the drawings as a condenser 28.

Rigidly secured to the shaft 29 of the condenser is a drum 30 to which one end of a cord 31 is attached. The cord 31 extends upwardly and around a pulley 32 located at the rear right hand corner of the casing 3. The other end of the cord 31 is attached to the carriage 16 so that when the condenser is turned in a clockwise direction, the carriage is moved to the right. When the condenser is turned in an anti-clockwise direction the spring urged drum 22 moves the carriage to the left by the conductor 21 which is attached to the carriage by an insulator 33.

A plurality of station markers each comprising a resilient clip 34 are slidably mounted on the upper portion of the interior panel 5. These clips are substantially U-shaped in form, and comprise a rear side having a concaved bearing member 35 at its extremity, which embraces the rib 7 of the panel 5 and resiliently holds the markers against displacement.

The edge portions of the front side of each marker are provided with flanges 36, which form a socket for removably holding appropriately marked cards. These markers may be shifted longitudinally along the upper portion of the panel 5 into registration with the upper pointed end 18 of the indicator and allowed to remain in such an adjusted position. When the markers are not in use, they may be positioned near the ends of the panel 5, where they are concealed by the cover 9.

In operation, when the knob 37 of the condenser 28 is turned in a clockwise direction the cord 31 is wound upon the drum 30 and the carriage is moved to the right as viewed in Fig. 5. After the tuning apparatus has been adjusted to receive from a certain station, the lower pointed end 19 of the indicator designates the wave length of the impulses being broadcast by that station. The station may be logged by appropriately marking a card 37 and inserting it between the flanges 36 of the marker. This marker is then shifted until its pointed extremity registers with the upper pointed end 18 of the indicator. The marker may be left in the adjusted position and when it is desired to receive from this particular station, it is only necessary to turn the knob 38 until the indicator again registers with the pointed end of the marker.

Any desired number of stations may be logged in this manner, by employing additional markers and when a particular station changes its wave length, the position of the marker may be conveniently changed.

Light from the bulb 20 projects directly through the translucent wave length chart 6, and definitely discloses the markings thereon and the lower pointed end 19 of the indicator. Part of the light from the bulbs 12 which are carried by the cover 9 is projected behind the panel 5, and part of it is projected between the panel and the cover, thereby illuminating the upper portion of the panel 5 and the faces of the lettered cards 34.

The cover 9 may be rotated to the dotted line open position shown in Fig. 2 to permit adjustment of the markers and access to those markers which are stored at the end portions of the panel 5 beyond the ends of the sight opening 13. When the cover is in open position, the lip 11 directs the light from the bulbs 12 upon the front face of the panel.

Although but one specific embodiment of this invention is herein shown and described, it will be understood that various details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims:

1. A device of the class described comprising a casing, indicating apparatus in said casing, a cover hinged on said casing having sight openings therein, a reflector on said cover, and illuminating means mounted on said cover within said reflector for projecting indirect light on said indicating apparatus.

2. A device of the class described comprising a casing, indicating apparatus in said casing, a cover hinged on said casing having sight openings therein, a tubular housing formed on the upper edge of said cover, and illuminating means mounted within said housing for projecting light on the inner side of said indicating apparatus.

3. A device of the class described comprising a casing, indicating apparatus in said casing, a cover hinged on said casing having sight openings therein, a tubular housing formed on the upper edge of said cover, illuminating means mounted within said housing for projecting light on the inner side of said indicating apparatus when said cover is closed, and a lip on the outer edge of said bead for directing light upon the outer side of said indicating apparatus when said cover is open.

4. A device of the class described compris-

ing a casing, a cover hinged at its lower edge in said casing and having sight openings therein, the upper edge portions of said cover being bulged outwardly, indicating means in said casing in registration with said sight openings, and illuminating means in the outwardly bulged portions of said cover for illuminating the interior of said casing and the indicating means therein.

5. A device of the class described comprising a casing, a station indicating chart in said casing, a carriage mounted in said casing comprising an indicator, said indicator being shiftable along said station chart, and a light bulb mounted on said carriage for illuminating said chart.

6. A device of the class described comprising a casing, a station indicating chart in said casing, a carriage mounted in said casing comprising an indicator, said indicator being shiftable along said station chart; an electric bulb mounted on said carriage for illuminating said indicator in its various positions, a cover hinged on said casing having sight openings therein in registration with said station chart, a housing on said cover, and electric light bulbs in said housing for illuminating the interior of said casing and said indicator.

7. In a radio receiving set comprising tuning apparatus and a cabinet having an opening in one wall, a casing mounted in said opening, a stationary indicating member in said cabinet, a shiftable indicating member in said cabinet, means connecting said shiftable member with said tuning apparatus for moving said shiftable member relative to said stationary member to indicate the setting of said tuning apparatus, and illuminating means mounted on said shiftable indicating member for projecting light upon said stationary and shiftable members at all positions of said shiftable member.

8. In a radio receiving set comprising tuning apparatus and a cabinet having an opening in one wall, logging and indicating means mounted in said opening, comprising a casing, a panel in said casing comprising a graduated wave length chart and a rack, station markers shiftably mounted on said rack, a track extending longitudinally of said casing, a carriage mounted on said track comprising an indicator for designating the station from which said set is receiving and the wave length of the impulses being received, illuminating means on said carriage for projecting light on said indicator chart and markers, and means connected with said carriage and tuning apparatus for shifting said indicator as the setting of said tuning apparatus is varied.

9. In a radio receiving set comprising tuning apparatus and a cabinet having an opening in one wall, logging and indicating means mounted in said opening comprising a casing, a panel in said casing comprising a rack and having a rib formed in its intermediate portions, station markers shiftably mounted on said rack comprising resilient clips, flanges on one side of said clips for removably holding appropriately marked cards, a bearing member on the other side of said clips for receiving said rib and yieldably retaining said clip on said rack, an indicator shiftably mounted in said casing, and actuating mechanism for said indicator operatively connected with said tuning apparatus for shifting said indicator from one station marker to another when said tuning apparatus is adjusted for receiving from the respective broadcasting stations.

10. A device of the class described comprising a casing, a panel in said casing having a longitudinal slot and comprising a rack, a longitudinal rib on said panel, station markers shiftably mounted on said rack comprising resilient clips, flanges on one side of said clips for holding cards, a bearing member on the other side of said clips for receiving said rib to yieldably retain said markers in an adjusted position, a shiftable indicator extending through said slot and located in close proximity to said rack, and a cover on said casing having a sight opening therein for disclosing said markers and said indicator.

11. In a radio receiving set comprising a cabinet and tuning apparatus, logging and indicating means mounted in said cabinet comprising a casing, a plurality of station markers adjustably mounted in said casing, an indicator comprising a carriage, actuating means for said indicator comprising a drum on said tuning apparatus, a cord secured at one end to said drum and at the other end to said carriage for shifting said indicator in one direction, a drum mounted on said casing comprising a driving spring, and a cord secured at one end to said spring driven drum and at the other end to said carriage for shifting said indicator in the opposite direction.

12. In a radio receiving set comprising a cabinet and tuning apparatus, logging and indicating means mounted in said cabinet comprising a casing, an indicator comprising a carriage, actuating means for said indicator comprising a drum on said tuning apparatus, a cord secured at one end to said drum and at the other end to said carriage for shifting said indicator in one direction, a drum mounted on said casing comprising a driving spring, and a cord secured at one end to said spring driven drum and at the other end to said carriage for shifting said indicator in the opposite direction.

13. In a radio receiving set comprising a cabinet and tuning apparatus, logging and indicating means mounted in said cabinet comprising a casing, a carriage comprising

an indicator slidably mounted in said casing, an electric bulb on said carriage, means for sliding said carriage and indicator in one direction when said tuning apparatus is rotated comprising a drum on said tuning apparatus and a cord secured thereto and to said carriage, a drum comprising a driving member rotatably mounted on said casing and insulated therefrom, and an electrical conductor secured at one end to said carriage and at the other end to said last mentioned drum for moving said carriage and indicator in an opposite direction, said conductor being electrically connected with one terminal of said bulb.

14. A logging and indicating device for radio receiving sets comprising a casing, an inclined front panel on said casing comprising a rack having a pair of spaced slots therein, a translucent wave length chart in one of said slots, an indicator extending through the other slot, station markers shiftably mounted on said panel, a cover hinged on said panel having sight openings therein for disclosing said markers and said chart respectively, a housing on said cover, and illuminating means in said housing for projecting light into the interior of said casing and upon that portion of said panel upon which said markers are mounted.

15. A logging and indicating device for radio receiving sets comprising a casing, an inclined front panel on said casing having a slot therein, a transparent chart mounted in said slot, an indicator slidably supported in said casing, and a light bulb in said casing mounted to move in unison with said indicator for projecting light on the inner side of said translucent member in close proximity to said indicator.

16. A device of the class described comprising a casing, a station indicating chart in said casing, a carriage mounted in said casing comprising an indicator, said indicator being shiftable along said station chart, and a light bulb mounted on said carriage for illuminating the inner side of said chart, a cover on said casing, and light bulbs on said cover for projecting light upon said indicator.

Signed at Chicago this 15th day of August, 1929.

DANIEL SCHWARTZ.