Feb. 3, 1931. R. HORN 1,791,131

ILLUMINATED DIAL

Filed Sept. 7, 1928

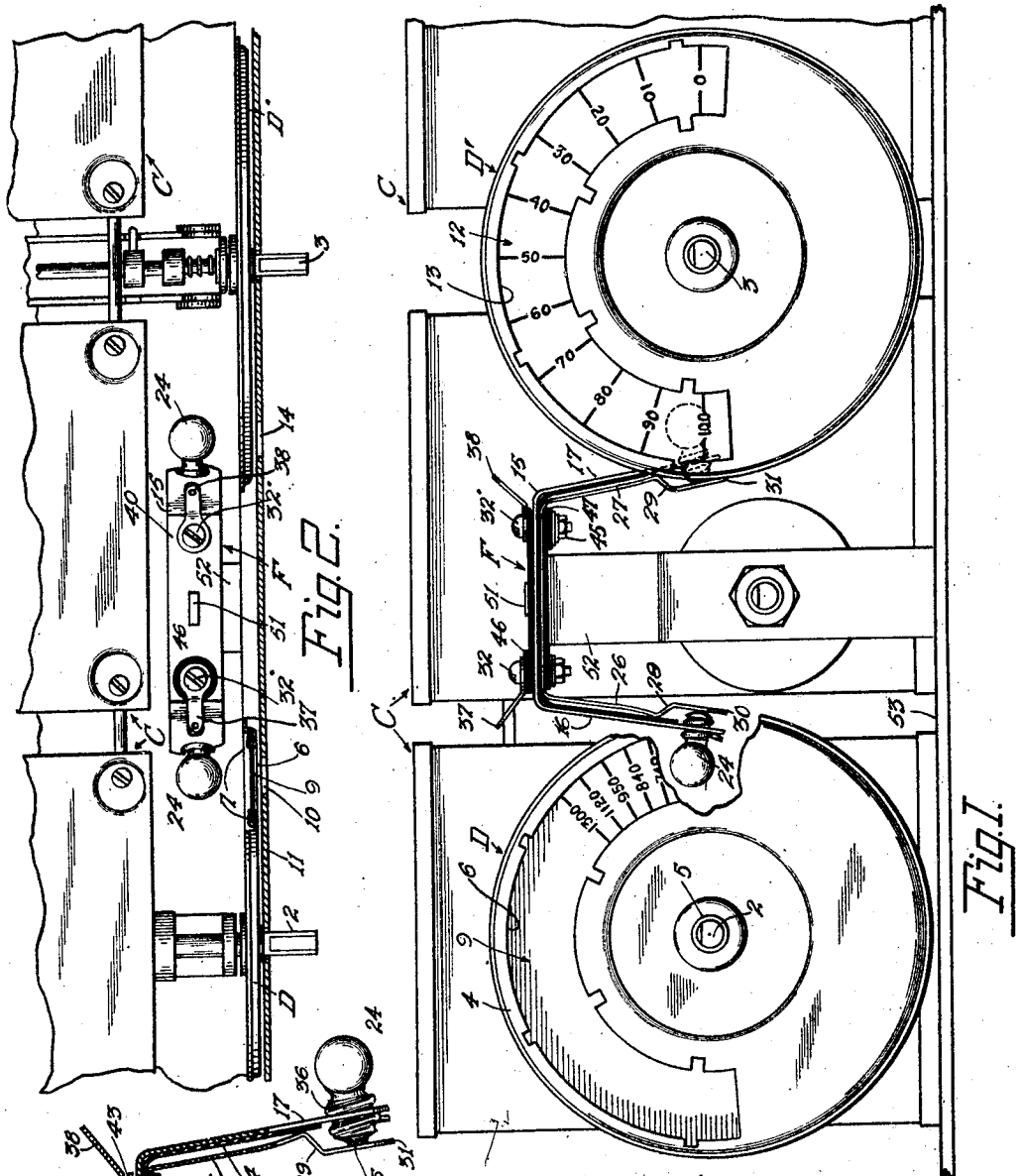

Fig. 1.

Fig. 2.

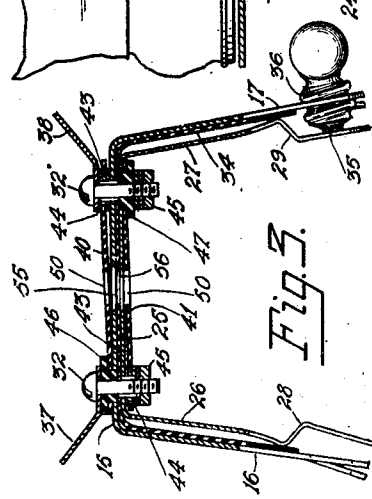

Fig. 3.

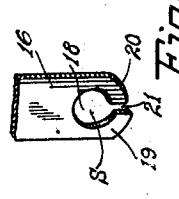

Fig. 4.

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UNITED STATES PATENT OFFICE

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ILLUMINATED DIAL

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My invention relates to a novel and improved means for illuminating the dials of a radio receiving set and an object of my invention is the provision of a fixture provided with suitable means for supporting the lamp bulbs for illuminating purposes.

A feature of my invention is the provision of a fixture carrying a supporting bracket which is provided with integrally formed sockets for supporting the lamp bulbs for illuminating the dials of a radio receiving set with which it may be associated.

Another feature is the novel means employed for conducting the current from the terminals which are connected with an external source and which are secured to the fixture to the terminals of the lamp bulbs which are supported by a bracket of the fixture.

Still another feature of my invention is the means employed for supporting the fixture of my invention in proximity to the dials of a radio receiving set.

The above features as well as others not specifically pointed out above will be more fully described in the ensuing specification.

For a more complete understanding of my invention reference may be had to the accompanying drawing in which like reference characters in the several views denote like parts and in which,

Fig. 1 is a front elevation of a portion of a radio receiving set of the two dial control type embodying the lamp supporting fixture of my invention,

Fig. 2 is a plan view of Fig. 1,

Fig. 3 is an elevation of the lamp supporting fixture of my invention with parts in section to clearly illustrate its construction, and

Fig. 4 is a perspective of a fragmentary portion of the lamp supporting fixture illustrating the socket for receiving a lamp bulb.

Referring now more in detail to the accompanying drawing, the dial illuminating lamp fixture F of my invention is shown associated with a radio receiving set of a well known type provided with a two dial control arrangement comprising dials D and D′. The left hand dial D is associated with a multiple switching arrangement in which a plurality of switches are moved simultaneously to change or vary the inductances of the secondaries of a plurality of transformers in steps the same being housed in the metal containers C which serve as shields between the several stages. A suitable shaft 2 to which the dial D is secured controls the simultaneous movement of the switches associated with the single operating shaft 2. The right hand dial D′ is associated with the rotors of the transformers before mentioned and a shaft 3 to which the dial D′ is secured controls the simultaneous movement of the rotors through suitable mechanism associated with the shaft 3.

Referring now to the dial D it comprises a disk 4 provided with a hub 5 having a suitable orifice to receive the shaft to which it is secured in any suitable manner. An arcuate shaped slot or window 6 near the peripheral edge of the disk 4 is provided and integral angular tongue extensions 7 permit an arcuate shaper transparent designation strip 9 such as celluloid to be slipped between these angular tongue extensions 7 to support and secure the same before the arcuate window 6. The designation strip 9 is provided with suitable indicating numerals which appear successively before a small rectangular slot or window 10 in the front panel 11 of the receiving set as the dial D is rotated through the agency of a knob or suitable lever secured to the operating shaft 2.

The dial D′ located to the right of dial D is secured to the shaft 3 in a manner similar to that described in connection with the dial D and is also provided with a designation strip 12 which is supported and secured in position before an arcuate shaped window 13 in the manner before described. As the dial D′ is rotated through the agency of a suitable knob or lever secured to the shaft 3 the indicating numerals on the designation strip 12 will appear successively before a rectangular slot or window 14 in the front panel 11 of the receiving set.

The lamp supporting fixture F of my invention comprises a substantially U-shaped supporting bracket 15, the depending legs 16 and 17 of which are provided with circu-

lar orifices 18 near their lower extremities. The ends of the legs 16 and 17 are bifurcated and the two sections 19 and 20 of the same are formed to diverge into two branches to form angular openings or gaps 21. Thus the edges of the diverging sections 19 and 20 about the orifices 18 in the ends of the legs 16 and 17 form one complete turn of a screw thread to form sockets S into which may be screwed the threaded caps of the miniature lamp bulbs 24 such as is illustrated in Fig. 3. A substantially U-shaped conducting member 25 has depending legs 26 and 27 which are provided with offset portions 28 and 29 to space the respective ends 30 and 31 thereof from the respective ends of the legs 16 and 17 of the bracket 15. The U-shaped conducting member 25 as well as other parts hereinafter described is secured to the bracket 15 by screws 32 and 32′ and nuts 45 but insulated therefrom by the U-shaped insulating strip 34. The respective legs 26 and 27 of the member 25 are so formed as to be placed under tension when secured as just described and as the lamp bulbs 24 are screwed into the respective sockets S the terminals 35 of the lamps 24 engage the free ends of the legs 26 and 27 and force them out against their normal tension. The tension under which the legs 26 and 27 are placed by the insertion of a lamp bulb 24 in the sockets S insures a positive contact between the terminals 35 of the lamps 24 and the respective ends 30 and 31 and also provides means for maintaining the lamps 24 in position in the respective sockets S. It also insures a positive contact between the screw terminals 36 of the lamps 24 and the sockets S. The bracket 15 and member 25 serve as conducting elements for carrying current to the terminals 35 and 36 of the lamp bulbs 24. The means employed for connecting these conducting elements with the respective terminals 37 and 38 will now be described.

A pair of insulating strips 40 and 41 associated respectively with the bracket 15 and conducting member 25 are provided with pairs of orifices 43. An orifice 43 in each of the insulating strips 40 and 41 is adapted to receive a metal bushing 44 which is secured thereto in a suitable manner and these bushings 44 engage respectively the bracket 15 and member 25. Screws 32 and 32′ extend through suitable orifices in the bracket 15, insulating member 34 and conducting member 25 and orifices 43 and bushings 44 in the respective strips 40 and 41 and nuts 45 having threaded engagement with the screws 32 and 32′ secure these parts to the bracket 15. The screw 32 passes through a suitable insulating bushing 46 to insulate it from the bracket 15 and maintains the metal bushing 44 in the strip 41 in contactual engagement with the conducting member 25. The terminal 37 to which an external conductor is secured, rests between the head of the screw 32 and the insulating bushing 46 and through the medium of the screw 32 and metal bushing 44 in the insulating strip 41 current is extended to the conducting member 25. The terminal 38 rests between the head of the screw 32′ and the metal bushing 44 which is maintained in contactual engagement with the bracket 15 by the screw. The conducting member 25 is insulated from the screw 32′ by the bushing 47. With the lamp bulb 24 in the socket S of the leg 17 of the bracket 15 the electrical circuit extends from the terminal 38 through the bushing 44 in the strip 40, the bracket 15, the screw terminal 36 of the lamp bulb 24, the filament of the lamp, the terminal 35, the conducting member 25, the bushing 44 in the strip 41, the screw 32 to the other terminal 37. The current for a lamp bulb as 24 in the socket S in the leg 16 of the bracket 15, may be readily traced from the above description. This arrangement of parts just described places the lamp bulbs 24 in the sockets S in the respective legs 16 and 17 of the bracket 15 in multiple circuit and the lighting of these lamps 24 may be controlled by means of a suitable switch.

The strips 40 and 41 and insulating member 34 are provided with rectangular shaped orifices 50 and the reduced end 51 of the bracket 52 secured to the sub-base 53 of the receiving set extends through these orifices to support the fixture F as a whole with the lamp bulbs 24 in the sockets S in respective legs 16 and 17 of the bracket 15 positioned behind the disks D and D′ in proximity to the transparent designation strips 9 and 12 secured to the dials D and D′ as before described. The respective orifices 55 and 56 in the bracket 15 and member 25 are enlarged to prevent engagement of the bracket 52 with the bracket 15 and member 25 when the fixture F is positioned on the same as just described to prevent short circuiting.

While I have illustrated and described a particular embodiment of my invention, it is readily understood that the fixture of my invention is applicable to uses other than that described. Also changes and modifications will readily suggest themselves to those skilled in the art. Therefore, the invention should be construed to cover all such changes and modifications as come within the spirit and scope of the appended claims.

Having described my invention, what I claim is new and desire to secure by United States Letters Patent is:

1. In a fixture of the character described, a supporting bracket, a U-shaped conducting strips parallel with said bracket but insulated therefrom, terminals associated with said bracket and said conducting strip, insulating members associated with said conducting strip and current conducting mem-

bers secured to said insulating members joining said bracket and said strip to said terminals, respectively, a socket formed by splitting and deforming the end of said bracket and a lamp bulb secured in said socket the terminals of which engage respectively said bracket and said strip.

2. In a fixture of the character described, a supporting bracket, a U-shaped conducting strip associated therewith but insulated therefrom, terminals associated with said bracket and said conducting strip, insulating members associated with said bracket and said conducting strip and current conducting members secured to said insulating members electrically connecting said bracket and said strip to said terminals, respectively, a socket formed by splitting and deforming the end of said brackets and a lamp bulb secured in said socket, the terminals of which engage respectively said bracket and said strip.

3. In a fixture of the character described, a U-shaped supporting bracket, a U-shaped conducting strip associated therewith but insulated from said bracket, terminals associated with said bracket, insulating members associated with said bracket and said conducting strip and current conducting members secured to said insulating members, engaging respectively said bracket and said conducting strip, means for securing said strip, said insulating members and said terminals to said bracket and means for insulating said securing means respectively from said bracket and said strip, said current conducting members electrically joining said terminals with said bracket and said conducting strip, respectively.

4. In a fixture of the character described, a bracket provided with integrally formed sockets, a conducting strip associated with said bracket but insulated therefrom, incandescent lamps supported in said sockets, the terminals of said lamps engaging, respectively, said bracket and said strip, terminals associated with said bracket and said strip and conducting members engaging said bracket and said strip to connect the same to said terminals, respectively, a pair of rotatable dials and means for supporting said fixture to position said lamps adjacent to said dials to illuminate the same.

5. In a fixture of the character described, a bracket provided with integrally formed sockets, a conducting strip associated with said bracket but insulated therefrom, incandescent lamps supported in said sockets, terminals associated with said bracket and said strip, insulating means and conducting members secured thereto engaging respectively said bracket and said strip to connect the same to said terminals, a pair of rotatable dials provided with arcuate shaped transparent designation strips and means for supporting said fixture to position said lamps adjacent said designation strips to illuminate the same.

6. In a fixture of the character described, a pair of conducting strips arranged in generally parallel relation but insulated from each other, a screw-threaded socket formed by splitting and deforming one of said strips to receive the base screw terminal of an electric light bulb, the other of said strips being arranged to engage the tip contact of the light bulb, and means for securing said strips on either side of a strip of insulation and electrically connecting said strips to terminal means respectively.

7. In a fixture of the character described, a pair of conducting strips arranged in spaced relation, a strip of insulation, a screw socket formed by splitting and deforming one of said strips to receive the base screw terminal of an electric light bulb, the other said strip being arranged to engage the tip contact of the bulb and terminals joined respectively to said strips, and means for securing said conducting strips on opposite sides of said strip of insulation.

8. In a fixture of the character described, a pair of conducting strips arranged in spaced relation, one of said strips having an orifice therein, the edge of the material surrounding said orifice being split and deformed into a spiral or screw turn to receive the screw base terminal of an electric light bulb, the other said strip being arranged to engage the tip contact of said bulb, and a pair of terminals electrically joined to said strips, respectively, and means for securing said strips together but insulated from each other.

9. In a fixture of the character described, a pair of U-shaped conducting strips arranged in generally parallel relation but insulated from each other, a screw threaded socket formed in each leg of one of said strips, each socket being adapted to receive the base screw terminal of an electric light bulb, the other one of said strips being arranged to engage the tip contact of the light bulb.

10. In a fixture of the character described, a pair of U-shaped conducting strips arranged in generally parallel but spaced relation, a screw socket formed in each leg of one of said strips, each socket being arranged to receive the base screw terminal of an electric light bulb, the other said strip being arranged to engage the tip contact of the bulb and terminals joined respectively to said strips.

11. In a fixture of the character described, a pair of U-shaped conducting strips arranged in spaced relation, one of said strips having an orifice in each of its legs, the edge of the material surrounding each said orifice being formed into a spiral or screw turn to receive the screw base terminal of an electric

light bulb, the other said strip being arranged to engage the tip contact of said bulb, and a pair of terminals electrically joined to said strips, respectively.

Signed by me at Chicago, in the county of Cook and State of Illinois, this 4th day of September, 1928.

ROYAL HORN.