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R. M. CRAIG

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RADIO COLOR ORGAN

Filed Sept. 23, 1929

Fig. 1.

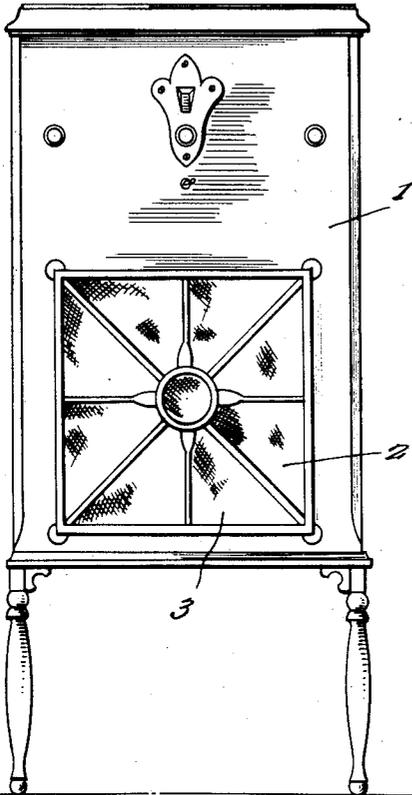


Fig. 2.

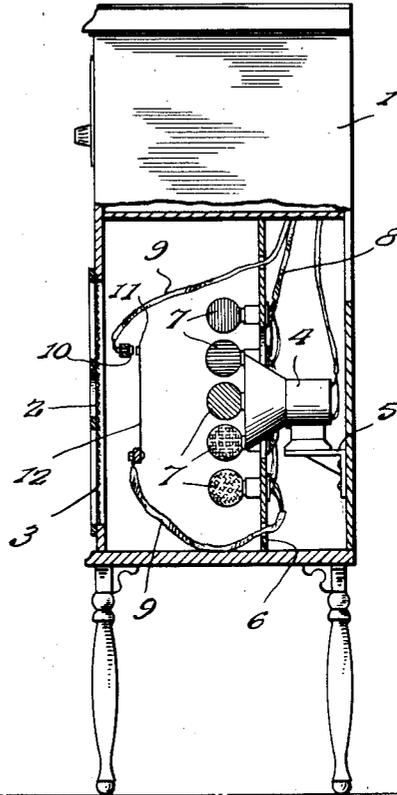
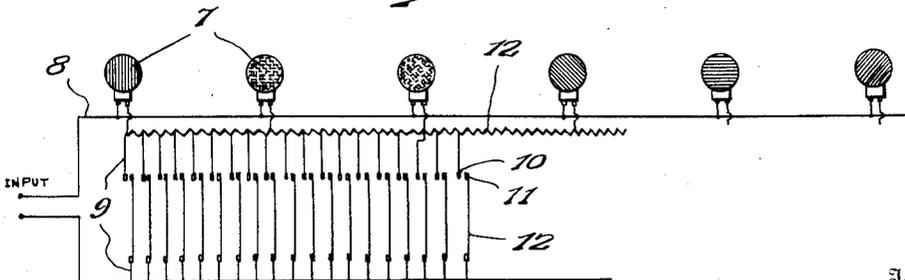


Fig. 3.



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RADIO COLOR ORGAN

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It has long been recognized that there is more or less affinity between musical tones and color, and organs and pianos have been heretofore built which linked color and sound in such a manner that when certain keys were struck and the corresponding notes sounded certain colors would be displayed so that an audience would be entertained visually as well as orally. These pianos and organs, however, were costly to build and install and could be operated only by a skilled musician. The present invention seeks to provide an inexpensive device which may be installed upon a radio receiving set and so arranged that when musical tones are emitted by the loud speaker correspondingly colored lights will be displayed to the entertainment of the listeners. One embodiment of the invention is illustrated in the accompanying drawing and will be hereinafter fully set forth and particularly defined.

In the drawing:

Figure 1 is a front elevation of a radio receiving cabinet having my invention installed therein,

Figure 2 is a side elevation, with parts broken away and in section, showing the invention, and

Figure 3 is a diagrammatic illustration of the operating mechanism.

In the illustrated form of the invention, the reference numeral 1 indicates a radio receiving cabinet having a sound outlet opening 2 in its front side which opening may be covered by a screen 3 of translucent material. A practical arrangement is a white translucent glass in front of which is a wire screen or piece of bolting cloth having a dark tapestry pattern which will not detract from the appearance of the cabinet. When the interior of the cabinet is dark, the white glass will not be seen but when a lamp behind the glass is lit, the color may be easily seen. Within the cabinet there is shown a loud speaker 4 which may be of any preferred form and is supported within the cabinet upon a bracket 5 secured to the rear wall of the cabinet. In accordance with the present invention, a partition 6 is erected within the cabinet in spaced relation to the rear wall and adjacent the

front of the loud speaker, and upon this partition I mount electric lamps 7 having their globes colored, as indicated. Current for illuminating the lamps may be supplied over wires 8 in the usual manner and shunted from the said wires are other wires 9 which extend to a switch consisting of a fixed contact 10 supported in any convenient manner within the cabinet and a movable member 11 which is intended to be vibrated through sympathy with the vibrations of the sounds issuing from the loud speaker. By referring to Fig. 3 particularly, it will be noted that the switch elements are interposed between the terminals of the wires 9 and that a series of said switch elements are provided to extend across the entire front of the cabinet, the wires extending from the fixed switch elements leading into a resistance coil 12' which extends along the entire series of lamps and is connected at intervals with the several lamps. The movable switch member 11 may be of any material or constructed in any preferred manner to accomplish the desired results. In the particular form illustrated, reeds 12, such as are employed in harmonicas, were used but violin strings or piano strings may be employed successfully. The several reeds are each tuned to a different note or half note of the musical scale and when the radio is operating the several reeds will vibrate in sympathy with the vibrations of the particular note or sound to which they are respectively tuned and when so vibrated will impinge against the fixed contact member and close a circuit through one or more lamps. Upon reference to Fig. 3, it will be noted that the reed at the extreme left of the figure when in contact with its mating switch member will establish a path for the current leading directly into the corresponding lamp so that said lamp will be illuminated to its full brilliancy. The lamp next to the right also has a direct path to a reed and between the two lamps there are other reeds which connect into the resistance coil at successively greater distances from one lamp and successively lesser distances from the other lamp. Now, when a sound wave issues from the loud speaker having a wave length or wave motion

half-way between the wave lengths or sounds to which the previously specifically mentioned reeds are tuned, the reed midway between the two lamps will be vibrated and the current will flow in both directions equally through the resistance coil to the lamps. Consequently, both lamps will be illuminated but only to about one-half of their full brilliancy. Likewise, if the second reed in the series be vibrated, the first lamp will be illuminated almost to full brilliancy while the second lamp will be slightly illuminated. The rays passing from the lamps will, of course, blend and will be thrown upon the screen 2 so that the observer will see a color which is a blend of the colors of the two lamps and which will more closely approach the color of the lamp closer to the reed which is vibrated.

Obviously, my color attachment can be mounted within any radio cabinet at very slight expense and will prove a highly attractive addition. The results of the installation will not only be entertaining and curiosity creating but will cultivate a fine sense of color as well as teach through indirection an association of color and sound which will be gratifying to artistic sensibilities.

While I have shown and described a plurality of lamps, if desired a single lamp or luminescent tube may be used and the color thereof changed or varied at will by varying the resistance.

Having thus described the invention, I claim:

1. A color attachment for radio receiving sets comprising colored lights, means for mounting the lights adjacent the sound-emitting element of a radio receiving set, and means whereby the lamps will be selectively energized through sympathetic vibrations.

2. A color attachment for radio receiving sets comprising a series of colored lights adapted to be arranged adjacent the sound-emitting element of the radio receiving set, and vibratory elements in circuit with the lights and arranged to be operated through sympathy with the vibrations of the sounds issuing from the receiving set.

3. A color attachment for radio receiving sets comprising a plurality of various colored lamps adapted to be arranged adjacent the sound-emitting element of the radio receiving set, and switches in circuit with the lamps and comprising a fixed member and a vibratory member each tuned to a different sound whereby to vibrate in sympathy with a corresponding sound wave issuing from the receiving set.

4. A color attachment for radio receiving sets comprising a plurality of various colored lamps, an electric circuit for illuminating the lamps, the lamps being arranged adjacent the sound-emitting element of the receiving set, a resistance coil in the lamp lighting circuit connected with one side of each

lamp in the series, and a plurality of switch members each including a fixed member connected to the resistance coil, and a movable switch member connected to the opposite side of the electric circuit and consisting of a vibratory member tuned to vibrate in sympathy with a single sound wave issuing from the radio receiving set.

5. A color attachment for radio receiving sets comprising a plurality of electric lamps, means for mounting the lamps adjacent the sound-emitting element of a radio receiving set, and means whereby the lamps will be selectively energized through sympathetic vibrations, certain of said lamps being lighted brighter than others according to the tones of the sound-emitting element.

6. A color attachment for radio receiving sets comprising colored electric lamps, means for mounting the lamps adjacent the sound-emitting element of a radio receiving set, vibratory elements in circuit with the lamps and responsive to different tone variations of the sound-emitting element, certain of said vibratory elements being operated to cause some of the lamps to be brilliantly lighted, and other of the vibratory elements being operable to cause other of the lamps to be dimly lighted.

7. A color attachment for radio receiving sets comprising colored electric lamps adapted to be arranged adjacent the sound-emitting element of a radio receiving set, vibratory elements in circuit with the lamps and responsive to different tone variations of the sound-emitting element, certain of said vibratory elements being responsive to certain tones of the sound-producing element to cause some of the lamps to be brilliantly lighted, and other of the vibratory elements being responsive to other tones to cause the lighting of adjacent lamps and the blending of the colors thereof.

8. A color attachment for radio receiving sets comprising a plurality of vari-colored electric lamps adapted to be arranged adjacent the sound-emitting element of a radio receiving set, switches in circuit with the lamps and each comprising a fixed member and a vibratory member, the vibratory members being tuned to different tones of the sound-emitting element whereby to vibrate in sympathy with a corresponding sound wave issuing from the receiving set, certain of the vibratory members being actuated to cause some of the lamps to be brilliantly lighted and other of said vibratory members being actuated to cause the blending of the light of adjacent lamps.

9. The combination with a radio receiving set including a sound chamber and loud speaker, a partition disposed within the sound chamber and surrounding the loud speaker, a plurality of different colored electric lamps mounted on the partition, switches

disposed in advance of the loud speaker and included in the circuit with the lamps, each switch comprising a fixed member and a vibratory member, the vibratory members being tuned to different sounds whereby to vibrate in sympathy with a corresponding sound wave of the loud speaker.

10. The combination with a radio receiving set including a sound chamber and loud speaker, a partition disposed within the sound chamber and surrounding the loud speaker, said partition having openings formed therein, a plurality of different colored electric lamps secured to the front of the partition, a support arranged in front of the lamps, switches carried by the support and each comprising a fixed member and a vibratory member, electric conductors extending through the openings in the partition and operatively connected with the switches and lamps respectively, said vibratory elements being operable through sympathy with the vibrations of sounds issuing from the loud speaker to close the switches and light the lamps.

In testimony whereof I affix my signature.

RICHARD M. CRAIG. [L. s.]

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