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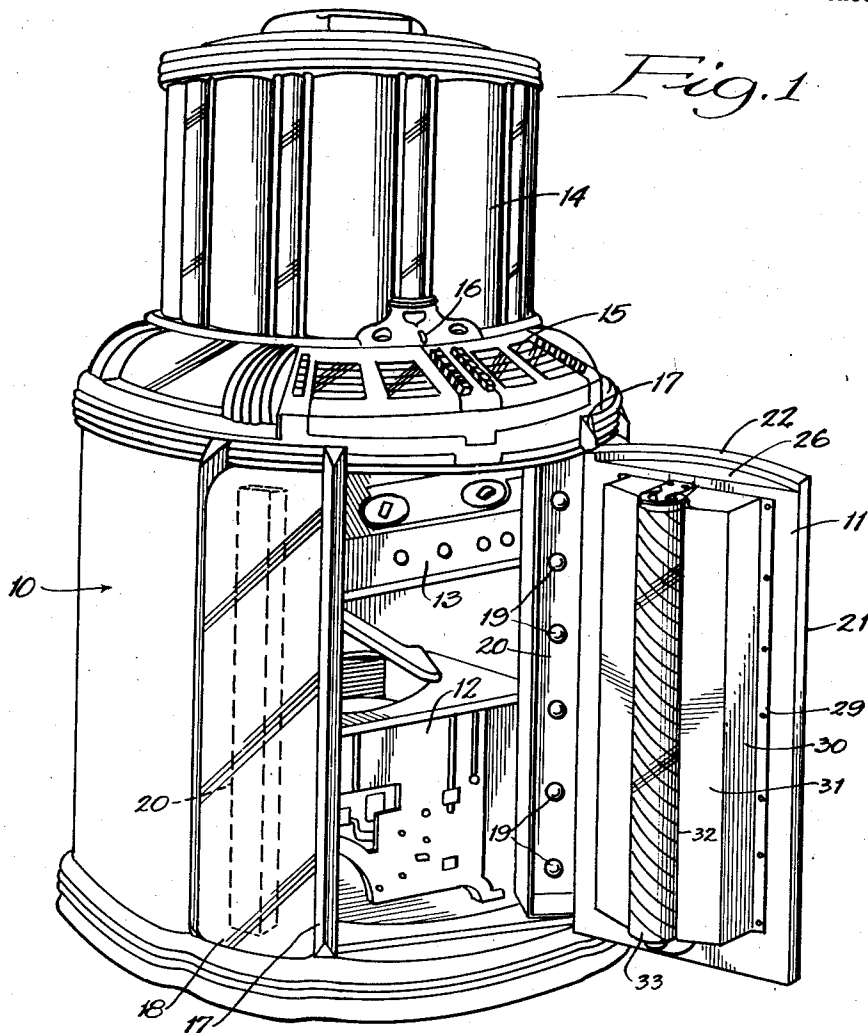
N. A. MILLER

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ILLUMINATED CABINET

Filed March 10, 1941

2 Sheets-Sheet 1



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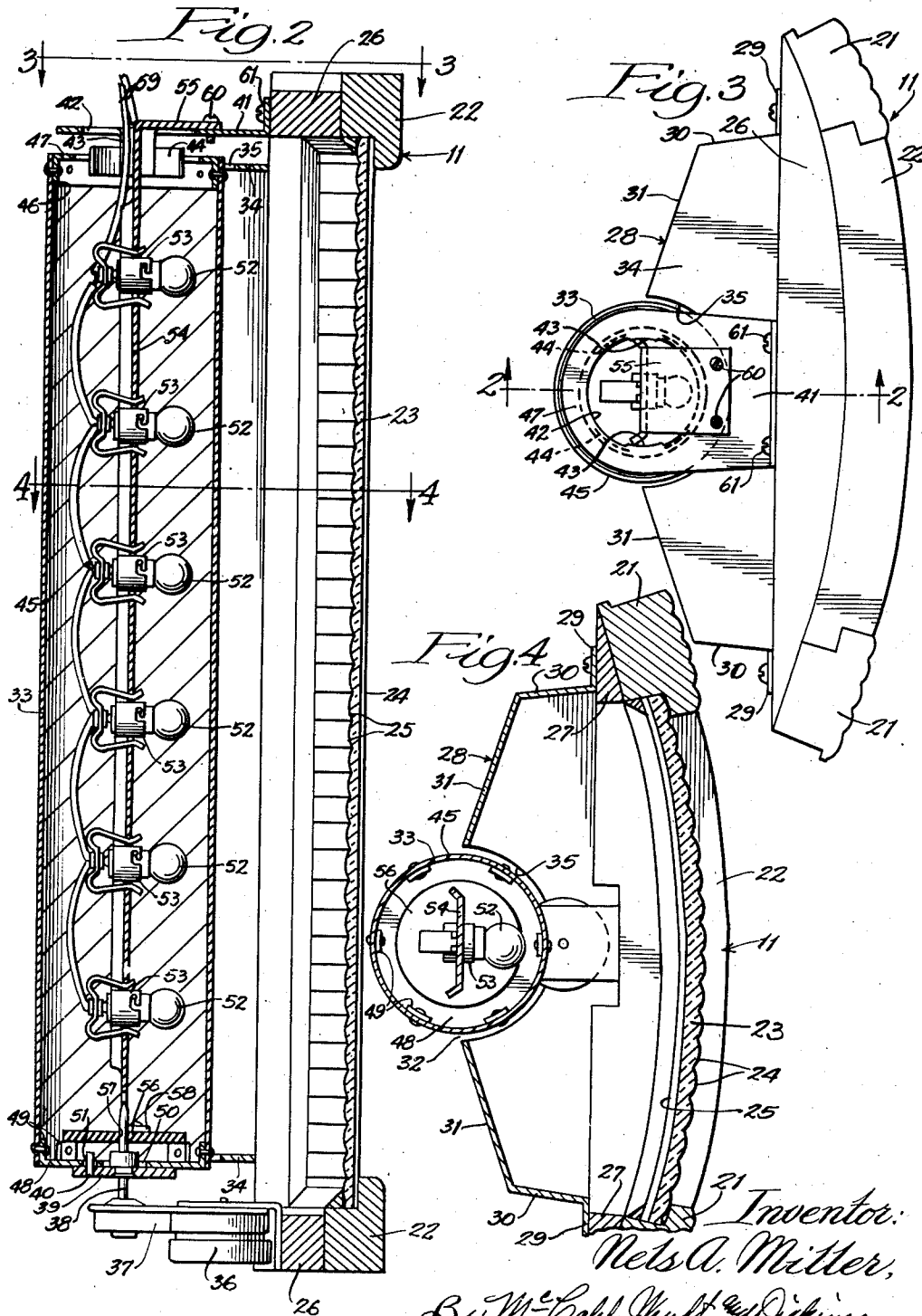
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UNITED STATES PATENT OFFICE

2,297,907

ILLUMINATED CABINET

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7 Claims. (Cl. 240—4)

This invention relates to illuminated cabinets and particularly to illuminated cabinets of the type adapted for automatic phonographs and other public amusement devices.

One of the objects of the invention is to provide an improved illuminated cabinet in which ever-changing light is projected through a transparent panel, and the light is broken up so as to present a pleasing appearance.

A further object of the invention is to provide an improved illuminating structure which can be conveniently mounted upon the door of a cabinet and which remains in operative condition on the door, notwithstanding the opening and closing thereof.

Other objects, advantages and capabilities of the invention will appear from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view of a phonograph cabinet embodying my invention, the door being shown open;

Fig. 2 is a longitudinal sectional elevation through the door and associated structure, the section being taken on the line 2—2 of Fig. 3;

Fig. 3 is a plan view of the door and associated structure; and

Fig. 4 is a horizontal sectional plan view of the door, the section being taken on the line 4—4 of Fig. 2.

Referring to the drawings, the reference numeral 10 designates a cabinet for an automatic phonograph. This cabinet is provided with a front door 11 which is shown in open condition in Fig. 1. Within the principal lower portion of the cabinet is located a record-changing and playing mechanism 12, an amplifier 13 and a loud speaker (not shown) which is located in the lower part of a sound projecting and baffle chamber 14 which is carried above the main portion of the cabinet. Suitable selecting and record indicia means 15 are mounted on the upper end of the cabinet above the door 11 and adjacent thereto is a coin slot 16 for receiving coins to cause the instrument to play.

The door 11 is mounted between two door posts 17 one of which is shown in Fig. 1. Adjacent each post 17 is a translucent panel 18 which is adapted to be illuminated by lights 19 arranged in two series adjacent the panels 18. These lights may suitably be carried upon reflectors 20 so that the light from the lamps 19 is directed through the translucent panels 18. These panels may be

colored to provide an effect which is pleasing to the eye.

The door 11 comprises a frame formed of vertical members 21 and horizontal members 22 which may conveniently be of wood. The members 22 may be arced or bowed outwardly, as best seen in Figs. 3 and 4. The door frame surrounds a panel 23 of multi-lenticular glass which is likewise bowed outwardly in the manner shown in Fig. 4 so that it is in effect a segment of a cylinder.

The multi-lenticular structure of the glass may be provided by any suitable formation or formations on the surface or surfaces thereof. It is preferred, however, to employ a panel of glass which is fluted in one direction on one side and in a direction transverse to the first direction upon the other side. Thus, in the embodiment shown, the glass panel 23 is formed with vertical flutings on the outside and with horizontal flutings on the inside. Consequently, any one particular rounded protuberance 24 on the outer side of the glass is intersected repeatedly throughout its length by the horizontal protuberances 25 on the inner side of the glass panel. For this reason the panel 23 is provided with lenses in number equal to the product of the number of protuberances 24 and the number of protuberances 25.

The horizontal members 22 have secured to them on their rear side bow-shaped pieces 26, the forward surfaces of which are arcuate and the rear surfaces of which are straight, so that they lie in chord relation to the generally arcuate form of the door. The vertical members 21 are provided on their rear side with fillets 27, the rear faces of which are co-planar with the rear faces of the bow-shaped pieces 26.

Upon the bow-shaped pieces 26 and the fillets 27 is mounted a housing 28. This housing comprises vertical flanges 29 adapted to be secured to the fillets 27 by means of screws. The housings also comprise vertical inwardly extending walls 30 which may slope inwardly by a slight angle as is shown in Fig. 4. From the walls 30 extend rear walls 31 which project inwardly from the walls 30 with a slight rearward angle as is shown in Fig. 4. The walls 31 terminate in spaced relation from each other so as to provide in the housing 28 a relatively large slot 32 in which is located the cylinder 33.

The two side, or vertical, portions of the housing 28, each comprising the flange 29, wall 30 and wall 31, are connected by horizontal walls 34 which extend horizontally into alignment with the flanges 29 and with the rear faces of the

bow-shaped portions 26. On their rear sides the walls 34 are provided with substantially semi-circular recesses 35 for the reception of the cylinder 33 which extends beyond them to a slight extent as shown in Fig. 2.

The lower bow-shaped member 26 carries an electric motor 36 which carries a gear reduction housing 37 from which projects upwardly a spindle 38. The spindle 38 is driven at a low speed by the motor 36 through gear reduction elements (not shown) located within the housing 37. The spindle 38 is located substantially on the axis of the cylinder 33 and rigidly carries a disc 39 having an upwardly projecting pin 40 located at some distance from the spindle 38.

Upon the upper bow-shaped member 26 is mounted a rearwardly extending bracket 41, the rear end of which is substantially semi-circular and is provided with a circular opening 42 in alignment with the spindle 38. The opening 42 is suitably stamped out and lugs 43 integral with the stock of the bracket 41 are bent downwardly at opposite sides of the opening 42. Upon the outer side of these lugs 43 are mounted arcuate shoe members 44 which are adapted to serve as guides for the upper end of the cylinder 33.

The cylinder 33 may comprise a cylindrical wall 45 of suitable transparent material. For example, the cylindrical wall 45 may be of glass or of any suitable plastic substance. The cylindrical wall 45 is multi-colored, the portions of different color extending in a generally longitudinal direction so that around any horizontal circle of the cylinder there will be zones of various color. The zones of color may be located in general helical arrangement as is suggested by the oblique lines on Fig. 2.

The upper end of the cylindrical wall 45 is secured to a collar 46 which has an inwardly directed flange 47 adapted to engage the shoe members 44 so as to provide a bearing support for the upper end of the cylinder 33.

The lower end of the cylindrical wall 45 is rigidly connected to a disc 48 with the aid of lugs 49 struck up from said disc. The disc is provided with a central opening 50 through which the spindle 38 passes and it is also provided with an opening 51 for the reception of the pin 40. It will be of course be understood that any desired number of pins 40 and openings 51 may be provided on the disc 39 and in the disc 48 respectively.

It will readily be understood that when the motor 36 is in operation, the spindle 38 and disc 39 are driven at a slow rate of speed and that the cylinder 33 is rotated about its axis at the same slow speed.

Means are provided for supporting a plurality of lamps 52 within the cylinder 33. These lamps are carried by sockets 53 which are rigidly mounted in suitable spaced relation upon a bar 54 which may suitably be of channel structure. The upper end of the bar 54 is bent forwardly to provide a forward extension 55. The forward end of this extension lies upon the upper surface of the bracket 41 in front of the opening 42 and it is secured to this bracket by suitable removable means such as screws. The lower end of the bar 54 has rigidly secured thereto a horizontal disc 56. This disc is provided with a central opening 57 which is adapted to receive for free rotation the upper end of the spindle 38.

It may be noted that the lower end of the bar 54 is bifurcated to receive the upper end of the spindle 38 and the furcations are bent forwardly

to provide feet 58 whereby the bar 54 is secured to the disc 56.

The lamps 52 may be provided with energy by means of conductors 59 which extend out of the upper end of the cylinder 33 as shown in Fig. 2.

It will readily be understood that the lamps 52 are readily available for service or replacement. The whole lamp structure may be removed by opening the door, unscrewing the screws 60 which secure the extension 55 to the bracket 41, and the bar 54 may then be removed outwardly out of the cylinder 33. After the lamps have been serviced, the bar 54 is again moved into the cylinder, care being taken to cause the upper end of the spindle 38 to enter into the opening 57 of the disc 56. Thereafter the screws 60 are replaced.

The cylinder 33 may readily be removed for service by unscrewing the screws 61 which hold the bracket 41 to the upper bow-shaped portion 26 of the door 11. When this is done, both the bar 54 and the cylinder 33 may be elevated away from the disc 39 and spindle 38. Thereafter the cylinder 33 may be drawn away from the bar 54. Thereafter they may be reassembled, the cylinder may be placed upon the disc 39 with its opening or openings 51 in register with the pin or pins 40, and the opening 57 of the disc 56 is again presented to the upper end of the spindle 38. The screws 61 are then replaced.

In operation, the lamps 52 are illuminated and the motor 36 is supplied with current. The cylinder 33 rotates at a slow speed, bringing multi-colored portions in succession horizontally past the lamps 52. Consequently, varying light is projected upon the panel 23 and this light is broken up by the multi-lenticular structure thereof so that very pleasing light effects of everchanging pattern are seen by a spectator in front of the cabinet. Furthermore, any movement on the part of the observer adds to the scintillating beauty of the panel itself.

Although the invention has been described in connection with the specific details of a preferred embodiment thereof, it must be understood that such details are not intended to be limitative of the invention except in so far as set forth in the accompanying claims.

Having thus described my invention, I declare that what I claim is:

1. In a cabinet, in combination, a wall of multi-lenticular glass, a transparent cylinder behind said wall, said cylinder being multi-colored in directions transverse to the axis of the cylinder, means for mounting said cylinder for rotation about its axis, motor means for rotating said cylinder, and a plurality of lamps within said cylinder for projecting light through the cylinder and through said wall.

2. In a cabinet, in combination, a wall of light-passing material, a cylinder of light-passing material mounted within the cabinet and behind said wall, said cylinder being mounted for rotation about its axis, lamps adapted to project light through said cylinder and through said wall, said cylinder comprising multi-colored light passing materials extending generally in spiral directions on said cylinder, and motor means for rotating said cylinder, said wall comprising multi-lenticular formations for breaking up the changing multi-colored light passing therethrough.

3. In a cabinet, in combination, a wall of multi-lenticular glass, a housing behind said wall, a transparent cylinder of varicolored material in said housing, motor means for rotating said cyl-

inder about its axis, and a plurality of lights within said cylinder adapted to transmit varicolored light through the cylinder and through said wall.

4. In a cabinet, in combination, a wall including a frame, a panel of multi-lenticular glass in said frame, a housing secured to said frame having a longitudinal slot, a cylinder of transparent material mounted on said housing so that it is located within the slot, said transparent cylinder comprising multicolored portions extending generally in the longitudinal direction of the cylinder, motor means carried by said frame for rotating said cylinder, and light-supporting means extending into said cylinder and removably mounted upon said frame.

5. In a cabinet, in combination, a door having a multi-lenticular glass panel, a housing on said door enclosing said panel and having a central longitudinal slot, a transparent multi-colored cylinder located in said slot, a rotary member carried by said door at one end of said slot operatively engaging and supporting said cylinder, an electric motor carried by said door for driving said rotary member and said cylinder, guide means at the other end of said slot for guiding said cylinder, and stationary means carried by said door extending into said cylinder, and lamps carried by said stationary means adapted to project light through said cylinder and through said panel.

6. In a cabinet, in combination, a door having a multi-lenticular glass panel, a housing on said door enclosing said panel and having a central longitudinal slot, a transparent multicolored cyl-

inder located in said slot, a rotary member carried by said door at one end of said slot operatively engaging and supporting said cylinder, an electric motor carried by said door for driving said rotary member and said cylinder, guide means at the other end of said slot for guiding said cylinder, stationary means carried by said door extending into said cylinder, lamps carried by said stationary means adapted to project light through said cylinder and through said panel, and a perforated member on said stationary means adapted to receive said rotary member.

7. In a cabinet, in combination, a door having a multi-lenticular glass panel, a reflecting housing on said door enclosing said panel, said panel having a central longitudinal vertical slot, a transparent multicolored cylinder located in said slot, a rotary member carried on said door at the lower end of said slot operatively engaging the lower end of said cylinder, an electric motor mounted on said door and for driving said rotary member and said cylinder, removable guide means carried by the door at the upper end of said slot and having downwardly extending portions provided with arcuate portions adapted to engage the interior of the cylinder at its upper end, a member carried by the upper end of said door projecting downwardly into the cylinder, lamp means carried by last said member adapted to project light through said cylinder and through said multi-lenticular panel, and a member carried by last said member at its lower end, having a bearing relation with said rotary member.

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