

May 23, 1939.

E. K. MADAN

2,159,095

DIAL

Filed Sept. 5, 1936.

2 Sheets-Sheet 1.

Fig. 1



Fig. 3

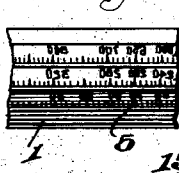


Fig. 2

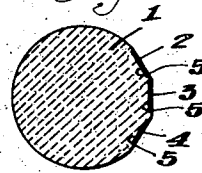


Fig. 4

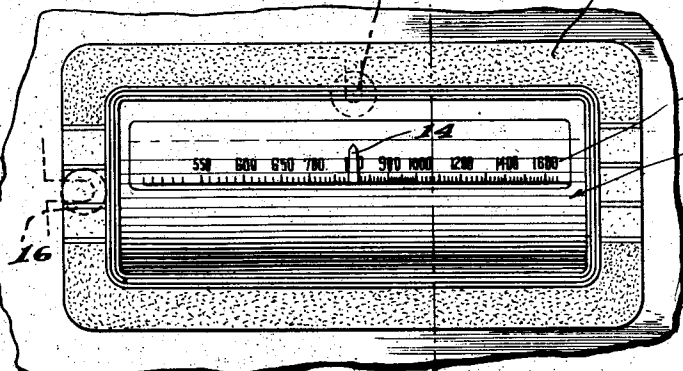
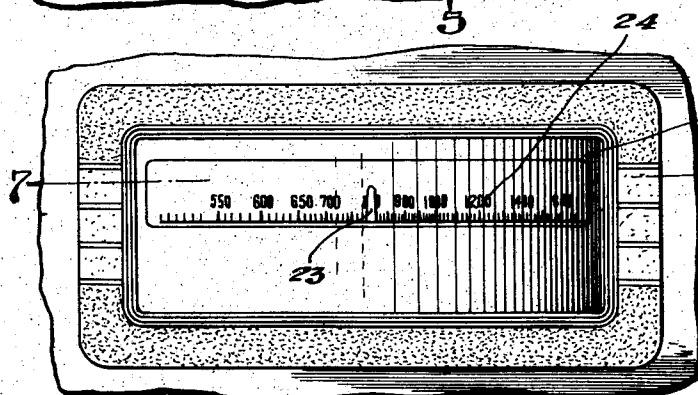
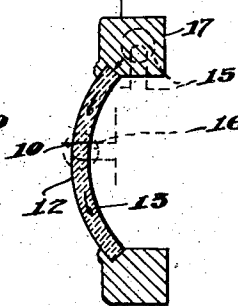


Fig. 5



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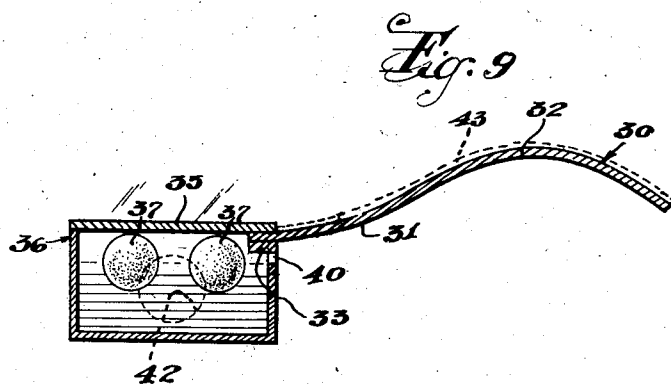
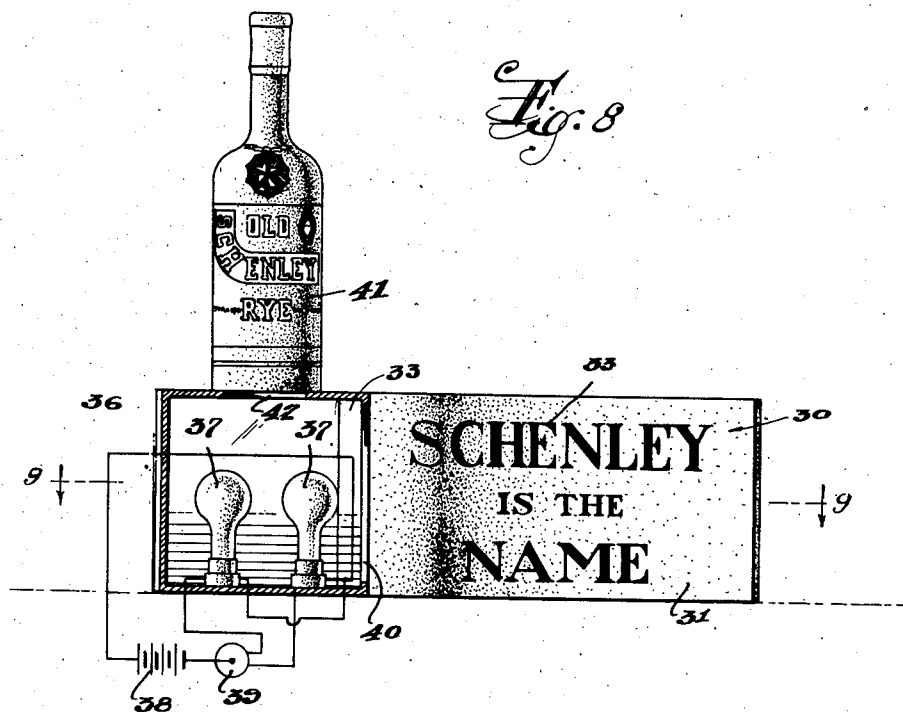
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2 Sheets-Sheet 2



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2,159,095

DIAL

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6 Claims. (Cl. 40—130)

This invention relates to dials, and more particularly to dials or analogous surfaces which are particularly applicable for use in radios, advertising signs, or the like.

5 An object of the present invention is to provide a dial which has a curved surface through which or on which indicia are visible, which dial is constructed of a resinous material, highly transparent, the light absorbing proclivities of which are such as to effectively illuminate the indicia 10 by edge lighting, uniformly over curved surfaces without objectionable reflection or refraction of light rays which might tend to interfere with the visibility of the indicia.

15 With these and other objects in view, as may appear from the accompanying specification, the invention consists of various features of construction and combination of parts, which will be first described in connection with the accompanying drawings, showing a dial of the preferred 20 form embodying the invention, and the features forming the invention will be specifically pointed out in the claims.

In the drawings:

25 Figure 1 is a front elevation of the improved dial.

Figure 2 is a cross section through the improved dial taken on the line 2—2 of Figure 1.

30 Figure 3 is a fragmentary rear elevation of the dial.

Figure 4 is a front elevation of a modified form of the dial.

35 Figure 5 is a cross section through the modified form of the dial taken on the line 5—5 of Figure 4.

Figure 6 is a front elevation of a further modified form of the dial.

40 Figure 7 is a cross section through the dial shown in Figure 6 and taken on the line 7—7 of Figure 6.

Figure 8 is a front elevation partly in section of an advertising device employing a still further modified form of the dial.

45 Figure 9 is a horizontal section taken on the line 9—9 of Figure 8.

Referring more particularly to the drawings, the preferred form of dial shown in Figures 1 to 3 of the drawings is particularly adapted for use in connection with radios, although it may be 50 used in advertising devices or for any other suitable purpose to which it, in modified forms, as covered by the claims herein, is applicable.

The improved dial comprises the cylindrical body 1 which is formed of a methyl-methacrylate, 55 or, in other words, a polymerized derivative of

methacrylic acid which is highly transparent and embodies light absorbing proclivities which prevent objectionable refraction and reflection of light projected thereon or therethrough, yet 5 diffuses the light rays evenly throughout the entire dial for attractive, effective illumination of the dial, and any indicia or characters thereon.

The cylindrical body 1 shown in Figures 1 to 3 of the drawings has a plurality of facets 2, 3 and 4 cut longitudinally thereof at the rear side of 10 the dial, and these facets or longitudinally extending flat surfaces have suitable indicia indicated at 5 either impressed therein as clearly shown in Figure 2 of the drawings, or printed, engraved, or otherwise formed thereon. Due to 15 the light diffusing properties of the methyl-methacrylate of which the dial is formed, it has been found to be advantageous to impress or engrave the indicia in the facets so as to provide transverse surfaces thereon for catching and 20 holding the light to more effectively illuminate the indicia.

The indicia 5 are relatively small on the facets and are viewed through the cylindrical body 1 which causes a magnifying of the indicia viewed 25 so that they stand out clearly and distinctly from the front or view side of the dial. Owing to the cylindrical shape of the body 1 of the dial, only the indicia on the facet which is disposed perpendicularly or vertically may be viewed through 30 the dial, and thus only one row of this indicia is visible from the view side of the dial at a time, and to bring either of the other rows of indicia to view, the dial must be turned a part rotation to move the facet carrying the indicia to be 35 viewed into position with its flat transverse surface vertical. While in Figures 1 to 3 of the drawings the dial body 1 is shown as having three facets cut or ground thereon, it is to be understood that any number of facets, either one or 40 more, bearing any suitable indicia, may be provided on the dial without departing from the spirit of the present invention.

Owing to the light absorbing and diffusing proclivities of the methyl-methacrylate of which the 45 dials of the present invention are made, curved surface dials with edge lighting may be employed in radios or for analogous purposes without causing blurring or indistinctive illumination of the indicia due to the refraction and reflection of the 50 light rays, such as is caused by the use of glass, Celluloid, or other well-known transparent materials, and in Figures 4 and 5 of the drawings, a modified form of the dial is shown as either an edge or end lighted radio dial. 55

The modified form of dial 10 shown in Figures 4 and 5 of the drawings is convexly, concavely curved, transversely, presenting an outer convex viewing surface. The indicia 11 may be either imprinted on, impressed or engraved in, either the front convex viewing side 12, or the inner concave side 13 of the dial as desired, and owing to the high transparency of the material of which the dial is made, the indicator 14 may be positioned back or inwardly of the dial 10. In these Figures 4 and 5, electric lights or lamps 15 and 16 are shown, one of which is placed above the dial 10 at its upper longitudinal edge to provide edge illumination of the dial with the light bulb hidden by the cabinet 17 which carried the dial. The light bulb 16 is placed at the end of the dial to provide end or end-edge lighting of the dial. These light bulbs are merely shown diagrammatically to illustrate that the dial may be edge lighted in any approved manner from any of its edges, and due to the light absorbing and transfusing properties of the material of which the dial is made, the dial will be evenly and uniformly illuminated over its entire surface irrespective of the specific position of the light bulb.

Figures 6 and 7 of the drawings show a further modified form of dial particularly adapted for use in radios, and this modified form of dial is curved longitudinally as clearly shown in Figure 7 of the drawings, that is, the dial 20 is curved uniformly from end to end in contradistinction from side to side as is the dial 10. The convex viewing side 21 of the dial 20 is positioned outwardly with the concave surface 22 inwardly, and the indicator or pointer 23 is preferably positioned rearwardly of the dial. The indicia 24 may be printed upon or impressed or engraved in either the front convex surface 21 or the inner or rear concave surface 22 of the dial, but it is preferably placed upon the inner concave surface. This dial 20 may be edge lighted in the same manner as is shown in connection with the dial 10, which is also true of the cylindrical dial 1 shown in Figures 1 to 3 of the drawings.

Figures 8 and 9 show a further modified form of the dial, and a different application or use of such dial, and while this modified form shown in Figures 8 and 9 is illustrated in connection with an advertising device, it is to be understood that this form of dial as well as the other three forms shown in Figures 1 to 7 inclusive, may be used in radios, advertising devices, or any other adaptable use without departing from the spirit of the present invention. In Figures 8 and 9, the dial 30 is made of a sheet of the highly transparent material, such as a polymerized derivative of methacrylic acid, and it is sinuously curved, presenting a convex-concavo front or viewing surface and a concavo-convexo rear surface 32. In this form of dial, the indicia indicated at 33 are preferably printed or impressed on the front viewing side or face 31, although they may be placed on the rear side 32 if desired. The dial 30 has an attaching portion 33 formed thereon which fits between the overlapping flange 34 of the removable side 35 of the container 36 and the facing side of the container for detachably attaching the dial 30 to the container. In the drawings, the container 36 is illustrated as a rectangular box, but it may be any shape desired without departing from the spirit of the present invention.

A plurality of electric lights 37 are placed in the container, and these lights are preferably of

different colors, as for instance, one of them may be red and one the ordinary white, or one red and another blue, or green, or any color combination desired may be employed. The light bulbs 37 are connected in circuit with a suitable source of electrical energy, and an intermittent energizer or flasher 39 is connected in the circuit so that the light bulbs will be alternately and intermittently energized. The container 36 is preferably opaque except for the light transmitting space 40 therein which may be an opening or a transparent section as desired. The light transmitting portion 40 is positioned so that the light from the bulbs 37 will be directed upon the convexo-concavo view or front surface 31 of the dial 30. Due to the light absorbing and diffusing properties of the material of which the dial is formed, the light rays transmitted to the dial from the light bulbs will be evenly diffused or distributed throughout the dial and will uniformly illuminate the curved surfaces of the dial and the indicia 33 thereon. By providing the intermittent alternately energizing electric lights of different colors, an attractive lighting effect on the dial may be obtained without visibly exhibiting the means or method of changing the apparatus or color of the dial and its indicia.

The container 36 is also shown as having a representation of the goods advertised mounted thereon and as shown at 41. This representation of the goods may also be made of the same material as the dial and may be illuminated through a light transmitting opening or space 42 in the container 36 or if it is so desired, the representation of the goods 41 may be eliminated and one of the actual goods for sale and which is advertised may be removably placed upon the container, so that it may be changed at will. Due to the ease with which the dial 30 may be connected to the container 36, the dial may be easily and quickly changed at will, so as to advertise several different products by means of a single illuminating device.

While in Figures 8 and 9 the dial is shown as having a convexo-concavo front or viewing surface, it is to be understood that the dial may have any kind of a curved surface, embodying a plurality of oppositely curved surfaces in any relation to each other without departing from the spirit of the present invention.

It is also to be understood that if it is so desired, the rear face of the dial may be dulled or sanded, colored any desired color, or a colored backing sheet may be employed with the dial as indicated at 42, in dotted lines in Figure 9 of the drawings for changing the effect of the dial without departing from the spirit of the present invention.

It will be understood that the invention is not to be limited to the specific construction or arrangement of parts shown but that they may be widely modified within the invention defined by the claims.

What is claimed is:

1. As a new article of manufacture, a dial constructed of a polymerized derivative of methacrylic acid having a convex obverse face and having a reverse side of different shape than its obverse face, indicia on said reverse side and visible through said convex obverse face, and illuminating means for the dial placed beyond the outer limits of the dial.

2. As a new article of manufacture, a dial formed of a solid cylindrical body of a polymerized

derivative of methacrylic acid, and indicia on a part of the exterior surface of the cylindrical body and visible axially through the body.

3. As a new article of manufacture, a dial
5 formed of a solid cylindrical body of a polymerized derivative of methacrylic acid and indicia on a part of the exterior surface of the cylindrical body and visible axially through the body, and illuminating means at one end of said dial.

10 4. As a new article of manufacture, a dial comprising a cylindrical body of a polymerized derivative of methacrylic acid, said cylindrical body having a flat facet thereon, and indicia on said facet and visible through said body.

5. As a new article of manufacture, a dial comprising a cylindrical body of a polymerized derivative of methacrylic acid, said dial having a plurality of longitudinally extending parallel facets thereon, and indicia on said facets and
5 visible through the body.

6. As a new article of manufacture, a dial comprising a cylindrical body of a polymerized derivative of methacrylic acid, said dial having a plurality of longitudinally extending parallel
10 facets thereon, and indicia impressed in said facets.

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