

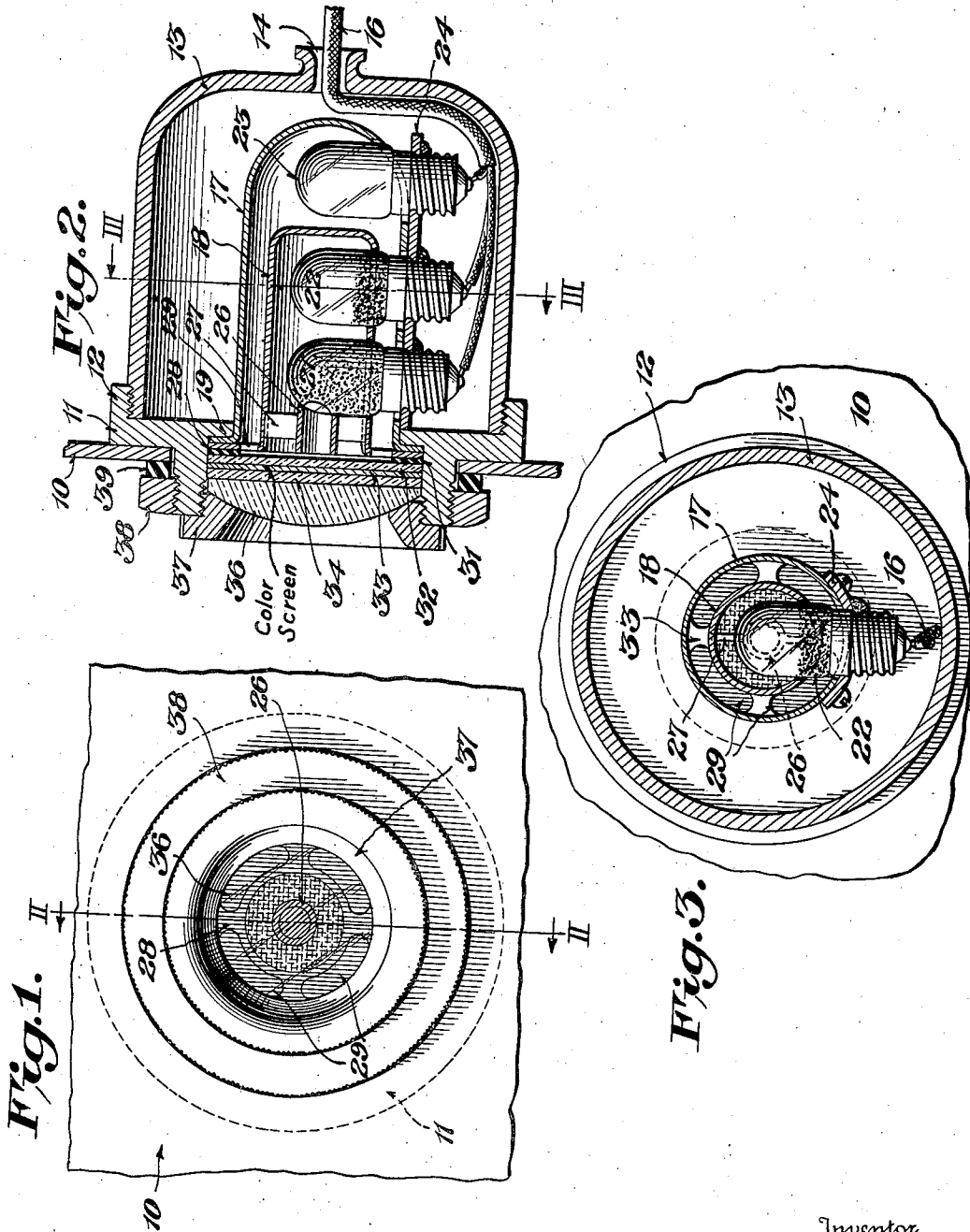
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VISUAL SIGNAL INDICATOR

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VISUAL SIGNAL INDICATOR

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2 Claims. (Cl. 177—327)

My invention relates to a visual signal indicator, such as is used to communicate by means of light rays the passing of a medium beyond a predetermined critical value.

5 The structure, operation and advantages of my invention will be unfolded as the specification proceeds.

10 The invention is more clearly described with the aid of the accompanying drawing, forming part of the specification, wherein:

Figure 1 represents a front or face view of the device, embodying one form of my invention;

15 Figure 2 is a longitudinal sectional view of the device, taken along the vertical plane II—II of Figure 1; and,

Figure 3 is a lateral sectional view of the device, taken along the vertical plane III—III of Figure 2.

20 The device shown and described in this specification is designed to indicate three conditions of the medium, which, for the sake of clarity, in disclosure, will be taken to be air pressure. It is assumed that if the pressure exceeds a predetermined value, say, 40 pounds per square inch, the device will show a green or normal light; if the pressure is less than 10 pounds, the device will show a red or inoperative signal; if between 40 and 10, an amber or warning signal. Of course, the colors might be reversed, showing red for 40 or more pounds, and green for less than 10, or other colors may be chosen. Further, more than three signals may be utilized, the number depending on the information which will be desired by the operator.

35 In the drawing, where like reference characters are applied to the same or similar parts, 10 represents the supporting member for the device. This member may be an instrument panel, a dashboard, a wall, a column, or other structure. 40 The member 10 is apertured to receive a male collar 11. The back of the collar 11 has a rearwardly extending flange 12, which is threaded to receive the external casing 13 of my device. This casing has an opening 14 through which may pass the cable 16 from the air container (not shown), or other medium under observation.

50 Within the casing 13 are two smaller shells 17 and 18, each having a flared end supported by the neck 19 of the collar 11 and held in position by washers and other members to be hereinafter more fully described. The shell 18 has two apertures in its bottom to receive the lamps 21 and 22, and the shell 17 has three apertures to receive the lamps 21, 22 and 23, as shown in Figure 2.

55 Underneath the shell 17 is a carrier 24, which

may be fastened to the shell 17 by screws, as shown in Figure 3, or by welding, or soldering, or otherwise, or which may be unattached thereto but supported by means of the collar 11. The carrier 24 carries three lamp bases, which are adapted to receive the three lamps 21, 22 and 23. Each base, of course, has electrical connections with the cable 16 and with a source of electrical energy for energizing the lamps at the proper time.

10 At the center of the device, I provide a shell or tube 26, which is supported by means of vertical wings 27 which mate with slots in the shell 18. This tube is open at both ends, the rear end abutting the lamp 21. Alternatively, I may support the tube 26 by means of flanges held against the neck 19 of the collar 11, as in the case of the shells 17 and 18. Also, I may provide a separate shell in place of the tube 26, the shell being similar to the shells 17 and 18, and being adapted to receive only one lamp 21.

20 The flared end 28 of the shell 18, which end is held against the front of the neck 19 of the collar 11, has a plurality of openings 29, which are four in number in this embodiment. In front of the flared end 28 is positioned an annular washer 31, of rubber or fiber, and in front of the washer 31 is a transparent glass shield 32. In front of the shield 32 is a color screen 33, made of glass or a translucent plastic. The screen 33 has three concentric and separate regions of color, the central region being aligned with the tube 26, the middle region surrounding the central region and being aligned with the shell 18, and the outer region surrounding the middle region and being aligned with the outer shell 17.

35 In front of the screen 33 is another clear glass shield 34 and a transparent lens 36. The end 28 of the shell 17, the washer 31, the glass shield 32, the color screen 33, the glass shield 34, and the lens 36 are all held in place against the neck 19 by means of the lens cap 37, which threads with the collar 11. The assembly is held rigid against the support 10 by means of a clamping ring 38 and a rubber or fiber washer 39. The construction makes it impossible for moisture to enter the indicator, or to pass through the support 10.

40 When the lamp 23 is energized, its light will be reflected into the space between the shells 17 and 18 and be visible through the openings 29 and color screen 33, as red, for example. The light from the lamp 22 will be similarly visible, as amber, for example. If, as shown, the lamp 21 is not contained by itself in a separate shell, provision is made to prevent its light from being

visible through the opening reserved for the lamp 22.

To this end, I coat the lamp 21, first, with a reflecting medium, such as silvering, aluminum, or white, then with blacking, and, finally, with another reflecting medium. The lamp is left uncoated in back of the tube 26, so that light from the lamp can pass through the tube and be visible, as green, for example. No light can pass from either the lamp 21 or the lamp 22 into the reflecting space reserved for the other. The surfaces of the shells 17 and 18 and tube 26 are coated with reflecting media, so that the light is reflected and transmitted with a maximum of efficiency.

If a lamp is rendered inoperative for some reason, it is a simple matter to unscrew the casing 13 from the flange 12, slide it along the cable 16, unscrew the carrier 24 from the shell 17, and withdraw the carrier and lamps.

In operation, each lamp is energized when a critical value for the air pressure is reached or passed, and then the appropriate color is visible in front of the device through the lens 36. It is obvious that the electrical connections may be such as to energize only one lamp at a time, or two or more at a time, and that auditory signals may be combined with the visual.

The embodiment shown is one form of my invention. It is understood that modifications may be made in structure, proportion, number of lamps and other members, and other details, without departing from the spirit of the invention, as set forth in the appended claims.

What I claim is:

1. A visual signal indicator comprising a carrier having an opening therein, a screen in said opening, a plurality of open ended spaced concentric shells, means for mounting said shells with their open ends adjacent the screen, said shells also being provided with longitudinally aligned openings, a lamp support including means for supporting lamps with their axes parallel and in longitudinal alignment corresponding to the openings in the shells, and lamps in said supports extending into at least two of said shells respectively.

2. A visual signal indicator comprising a carrier having an opening therein, a screen in said opening, a plurality of open ended spaced concentric shells, means for mounting said shells with their open ends adjacent the screen, said shells also being provided with longitudinally aligned openings, a lamp support including means for supporting lamps with their axes parallel and in longitudinal alignment corresponding to the openings in the shells, and lamps in said supports extending into the shells, the lamp supplying light for the innermost shell lying in the next outer shell and being covered with an opaque coating except adjacent the opening of its shell, each succeeding outer shell containing the lamp illuminating it and having the longitudinally aligned openings for its lamps and the lamps illuminating the shells inside of it.

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