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R. J. THOMAS

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PUSH BUTTON HAVING TWO POSITIONS IN ONE OF WHICH IT IS ILLUMINATED

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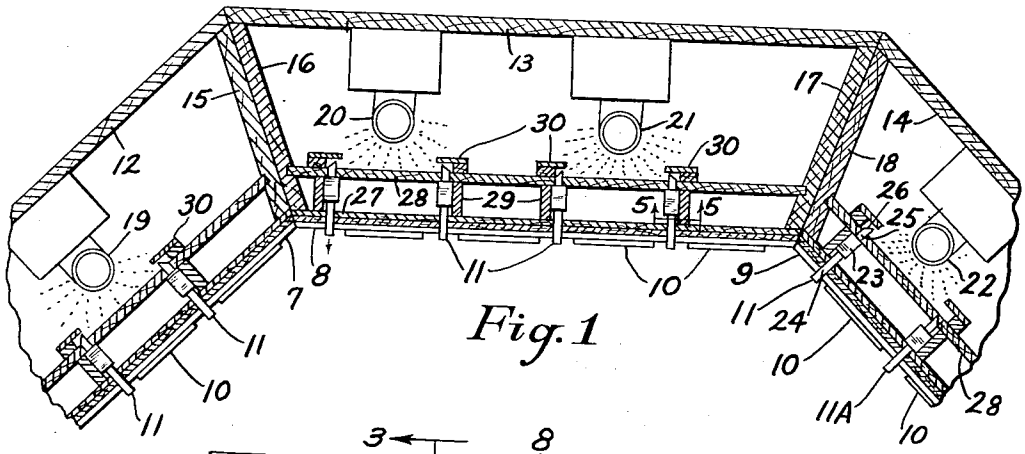


Fig. 1

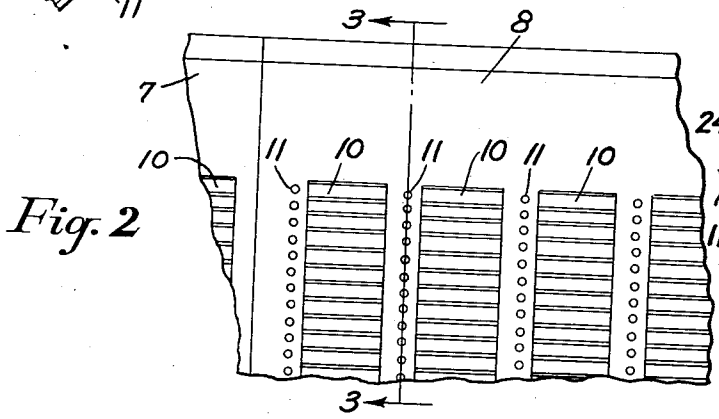


Fig. 2

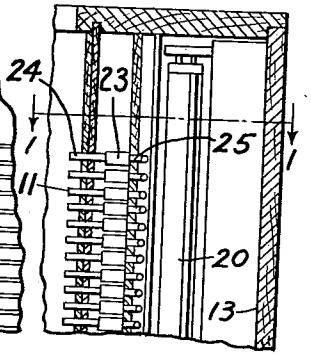


Fig. 3

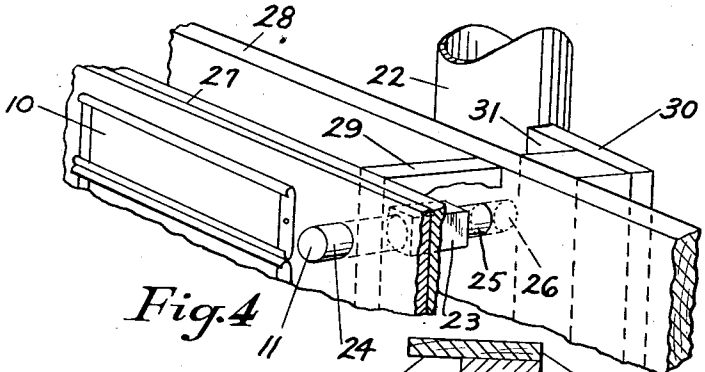


Fig. 4

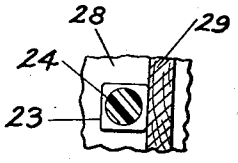


Fig. 5

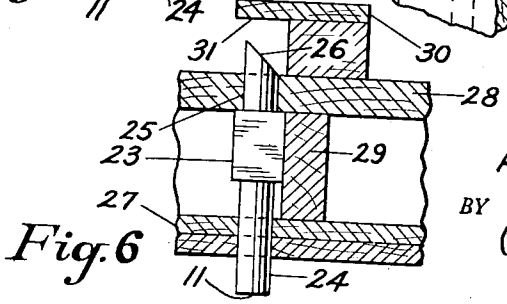


Fig. 6

INVENTOR.
ROBERT J. THOMAS

BY Edward M. Apple

ATTORNEY

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# UNITED STATES PATENT OFFICE

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## PUSH BUTTON HAVING TWO POSITIONS IN ONE OF WHICH IT IS ILLUMINATED

Robert J. Thomas, Royal Oak, Mich.

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2 Claims. (Cl. 240—1)

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This invention relates to signaling devices, and has particular reference to a device which may be employed to indicate whether or not a person is in or out of his office, or to indicate the existence or non-existence of other facts or conditions.

An object of the invention is to provide a signaling device which is readily adaptable to switchboards, directory panels, and other applications where it is desired to indicate the presence or absence of a person or thing, or to indicate a positive or negative answer to a particular problem.

Although I have herein disclosed the device as being applied to a directory panel arranged to carry a plurality of names, as for example the names of tenants in a building, doctors in a hospital, or office, and the like, the invention has wider applications and broader aspects as will hereinafter appear.

Another object of the invention is to provide a signaling apparatus which is constructed and arranged so that a plurality of indicators may be served by a common light source.

Another object of the invention is to provide a signaling device which is constructed and arranged so that any failure of a light source would be positively indicated by a whole bank or a plurality of indicators.

Another object of the invention is to provide a signaling device which has wide applicability and great flexibility in its use, particularly where different colors are required to be used for indicating different signals.

Another object of the invention is to improve signaling devices and to provide a signaling apparatus which is simple in construction, economical to manufacture and install, and efficient in operation.

Another object of the invention is to provide means for conducting light from a common light source to a variety of signal outlets without the requirement of switches, wires, or small lamps directly connected with the light conductor.

Another object of the invention is to provide a novel conductor for light which is constructed and arranged so that the light may be conducted to a signal outlet or may be entirely shut off at will without increasing, decreasing or extinguishing the light source.

The foregoing and other objects and advantages of the invention will become more apparent as the description proceeds, reference being made to the accompanying drawings, forming part of the within disclosure, in which drawings:

Fig. 1 is an enlarged transverse section of a directory board equipped with the device embodying the invention. Fig. 1 is taken substantially on the line 1—1 of Fig. 3.

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Fig. 2 is an enlarged fragmentary detail in front elevation of the device illustrated in Fig. 1.

Fig. 3 is an enlarged fragmentary detail in section taken substantially on the line 3—3 of Fig. 2.

Fig. 4 is an enlarged fragmentary detailed view in perspective illustrating the principal elements of the invention.

Fig. 5 is an enlarged fragmentary detail in section taken substantially on the line 5—5 of Fig. 1.

Fig. 6 is an enlarged plan view of one of the conductors with assembled parts in section.

Referring now more particularly to the drawings, it will be understood that in the embodiment herein disclosed the reference characters 7, 8 and 9 indicate directory panels positioned in the lobby of a hopsital, office building, or apartment on which is positioned name plates 10. Opposite each name plate 10 is a light conductor 11 arranged to indicate whether or not the person named on the name plate 10 is in or out. Each panel 7, 8 and 9 may be formed of one or more thicknesses of material, and may be provided with back members 12, 13 and 14, and reinforcing partitions 15, 16, 17 and 18 which are arranged to define hollow enclosures in which are mounted the light source elements 19, 20, 21 and 22, which in this embodiment are fluorescent tubes of sufficient length to cover substantially the full height of the panels 7, 8 and 9. It will be noted that each fluorescent tube 19, 20, 21 and 22 is arranged to serve as a light source for two or more vertical banks of light conductors 11. Each light conductor 11 is made of a single length of light conductive plastic material, such as "Plexiglas" or other suitable material, and formed with a central section 23 (Figs. 1, 3, 4 and 5) having a substantially square cross section, and members 24 and 25 having substantially circular cross section.

The end member 25 is provided with a substantially 45 degree angular face 26 which face 26 it will be noted is positioned away from the light source so that when the end 25 of the conductor 11 is exposed to the light rays, the light rays will transversely penetrate the end 25 and strike the inside of the angular surface 26 whereupon the light rays will be directed longitudinally through the conductor 11, and will illuminate the exposed end of the conductor 11. When the conductor 11 is pulled outwardly, so that the end

25 is not exposed to the light rays, no light will be conducted through the conductor and the front end of the conductor will appear as if the light source had been extinguished, so that when the conductors 11 are positioned as shown in Fig. 1, the conductors will be illuminated, and when the conductors are pulled out as shown at 11A in Fig. 1 the end of the conductors will appear as though the light source had been extinguished.

The conductors 11 and 11A are slidably supported in apertures formed in the vertical members 27 and 28 (Figs. 1 and 4) and are prevented from rotating about their longitudinal axes by means of the vertically positioned bars 29 which abut against the sides of the square sections 23. A shield 30 is provided for the end 25 of each conductor 11A so that the light rays are directed only against the sides of the ends 25 when they extend beyond the members 28.

The inside faces 31 of the shields 30 are preferably painted black to prevent any reflection of the light rays which might tend to strike the ends 25 longitudinally.

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

1. In a device of the character described, including a tubular light source and a double walled shield for the light source, the combination of a plurality of plastic light conductors slidable in said shield, each of said conductors having an angular face at the end adjacent said light source and each of said conductors having an enlarged central section with at least one flat side face, each end of said central section being arranged to contact a respective wall of said shield to serve as stops and the said flat side face of each said central section being arranged to slidably engage a spacer positioned between the double walls of said shield, whereby to prevent the rotation of said conductor.

2. The structure of claim 1, including an element on one wall of said shield adjacent the angular face of each conductor, each element being arranged to overhang the angular face of one of said conductors, whereby to partially shield such conductor.

ROBERT J. THOMAS.




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