Jan. 19, 1960 G. M. MILLER 2,921,552

LIGHT TRANSMITTING DEVICE

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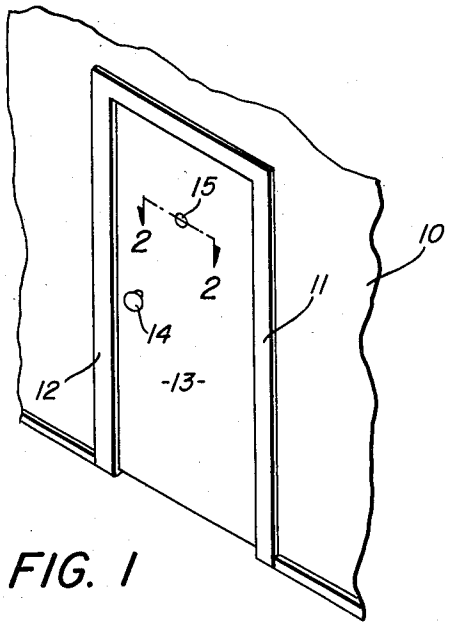


FIG. 1

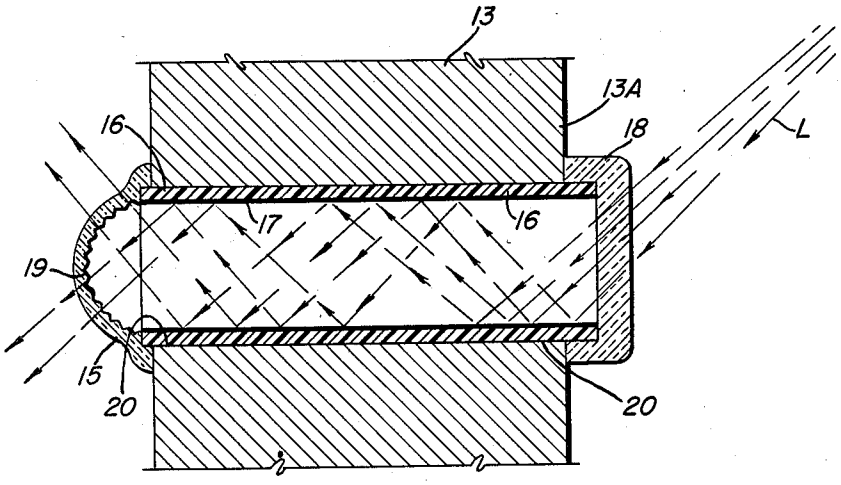


FIG. 2

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LIGHT TRANSMITTING DEVICE

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5 Claims. (Cl. 116—114)

This invention relates to a device for transmitting light from one side of a door, wall, partition or the like to the other side thereof so as to indicate the presence of light.

The principle object of the invention is the provision of a light transmitting device that may be installed in a door so that it will indicate whether or not the lights are on on the other side of the door.

A still further object of the invention is the provision of a light transmitting device that acts to collect and concentrate light in transmitting it from one end thereof to the other.

A still further object of the invention is the provision of a light transmitting device that may be inexpensively produced and installed and that operates efficiently for its intended purpose.

The light transmitting device disclosed herein is intended to be installed in doors, walls, partitions or such other locations as may be desired in order to indicate the presence of light on the other side of the door, partition, etc.

The device is suitable for installation in doors, in dormitory rooms, hotel rooms, and the like so that the light condition within the rooms may be determined without entering the rooms.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a perspective view of a portion of a wall and a door therein showing the light transmitting device therein.

Figure 2 is a large cross sectional detail on line 2—2 of Figure 1 with arrow indicating the path of light rays through the device.

By referring to the drawings and Figure 1 in particular it will be seen that a wall 10 has a door frame 11 therein defining an opening 12, a door 13 is positioned in the openings in the usual manner and includes a door knob 14. A light transmitting device is positioned in the door and the portion thereof visible on the door comprises a dome shaped lens 15. By referring now to Figure 2 of the drawings an enlarged cross section of the door 13 will be seen with the dome shaped lens 15 located on

one side thereof and connected to and communicating with a tube 16 the inner surface 17 of which is chrome plated and highly polished. The tube 16 extends through a drilled opening in the door 13 outwardly beyond the opposite side 13A thereof so that a transparent cap 18 of larger diameter than the tube 16 may be positioned thereon and secured thereto. The dome shaped lens 15 is preferably provided with an inner surface formed in a plurality of interconnecting diamond shaped depressions 19 so that light rays entering the tube 16 through the transparent cap 18, as shown by the arrows in Figure 2, will be reflected back and forth within the light reflecting interior 17 of the tube 16 and be directed against the inner diamond patterned surface of the dome shaped lens 15 and thereby be visible on the exterior thereof.

It will be seen that while light is transmitted through the device and the light rays are concentrated by the device and delivered to the dome shaped lens 15 the formation of the dome shaped lens 15 is such that visibility is not possible through the device. If desired, the dome shaped lens 15 may be formed of light transmitting colored material, for example, a red colored molded plastic and the tube 16 may be formed of any material, for example, extruded plastic which may be chrome plated or plated or coated with other light reflecting material.

It will thus be seen that the device is simply installed in a door, wall, partition or the like by drilling a hole 20 therethrough and inserting the tube 16 with its attached dome shaped lens therethrough. The projecting end of the tube 16 on which the cap 18 is subsequently installed is cut to the desired projecting length as shown and the cap 18 which is formed of transparent material such as molded plastic is then positioned thereon and secured thereto as with plastic cement.

Still referring to the drawings and Figure 2 in particular it will be seen that the projecting end of the tube 16 beneath the cap 18 acts to increase the amount of light conducted by the tube and particularly when the light comes from a source above, below or at either side of the cap 18. The increased light pick up results from the area of the light reflecting lining 17 which in effect extends into the light and the fact that the cap 18 is larger than the tube 16 and completely transparent.

It will thus be seen that the light transmitting device disclosed herein meets the several objects of the invention and having thus described my invention, what I claim is:

1. A light transmitting device adapted to be installed in an opening in a door and the like and comprising an elongated section of tubular material having a light reflecting lining therein, a light transmitting lens secured on one end of said tube, said light transmitting lens having the inner surface thereof formed in a plurality of diamond shaped depressions and a transparent cap comprising a flanged disc secured to the outer surface of the other end of said tube.

2. A light transmitting device adapted to be installed in an opening in a door and the like and comprising an elongated section of tubular material having a light reflecting lining therein, a domed shaped light transmitting lens secured on one end of said tube, and a light transmitting cap comprising a flanged disc secured to the outer surface of the other end of said tube.

3. The light transmitting device set forth in claim 2 and wherein the cap is formed of transparent plastic and

the light transmitting lining comprises polished chrome plating.

4. The light transmitting device set forth in claim 2 and wherein the dome shaped lens has a pattern of diamond depressions covering its inner surface and wherein the tubular member is plastic and the light transmitting lining therein is polished chrome plating.

5. The combination of a door or the like having an opening drilled therethrough and a light transmitting device positioned in said opening and comprising a tubular body member having a light transmitting inner surface, a pair of caps one positioned on each end of said

tubular member and on the opposite sides of said door and acting to close said cap and secure said device in said opening in said door, said caps being formed of light transmitting material.

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