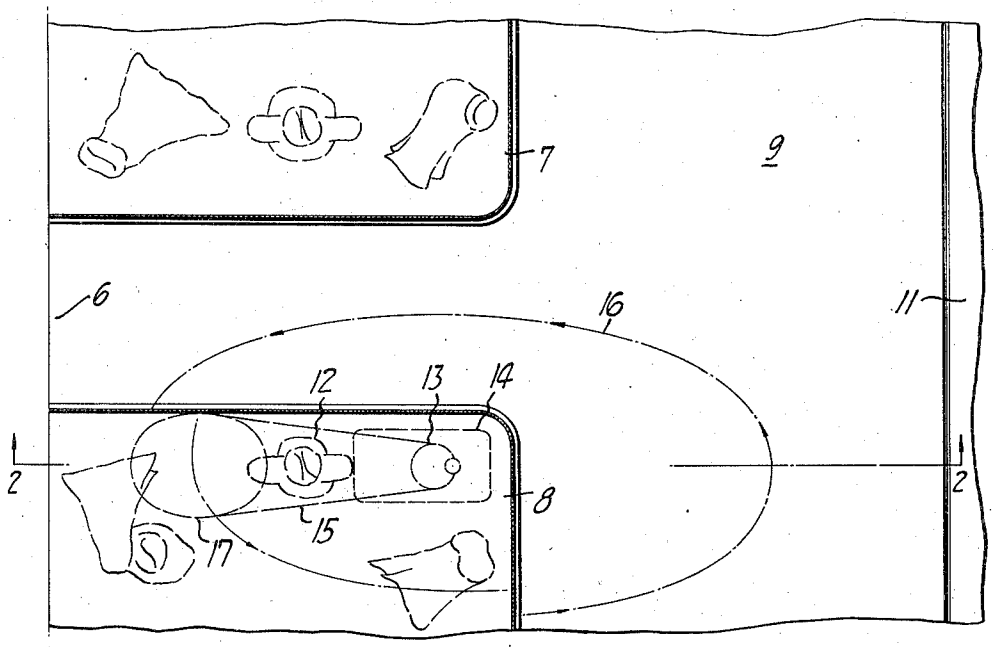
Nov. 15, 1938. G. H. FORSYTH 2,136,429

ADVERTISING DEVICE

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FIG. 1



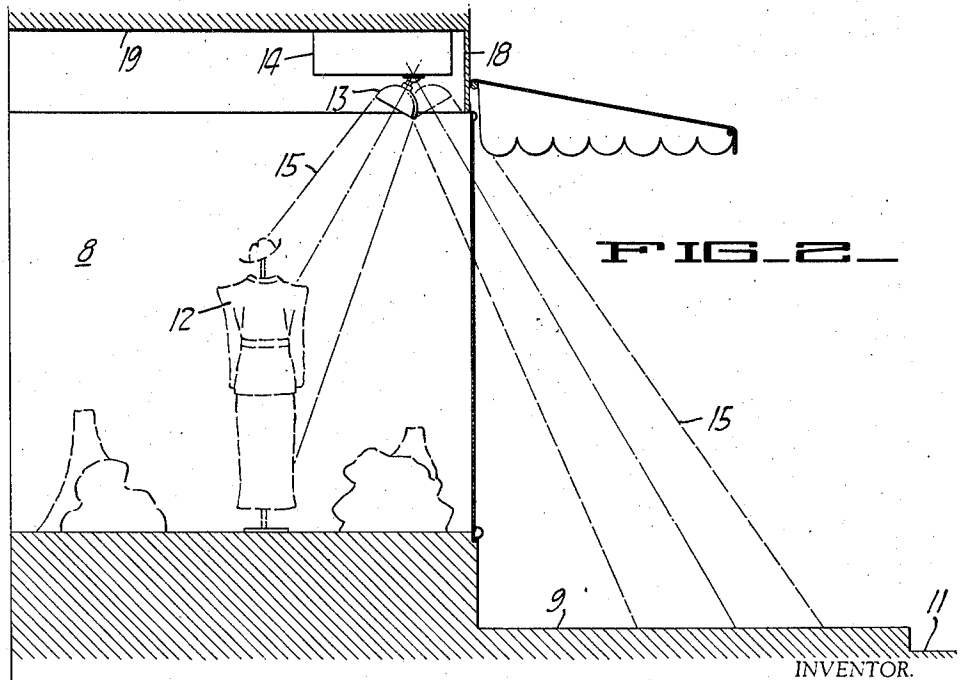


FIG. 2

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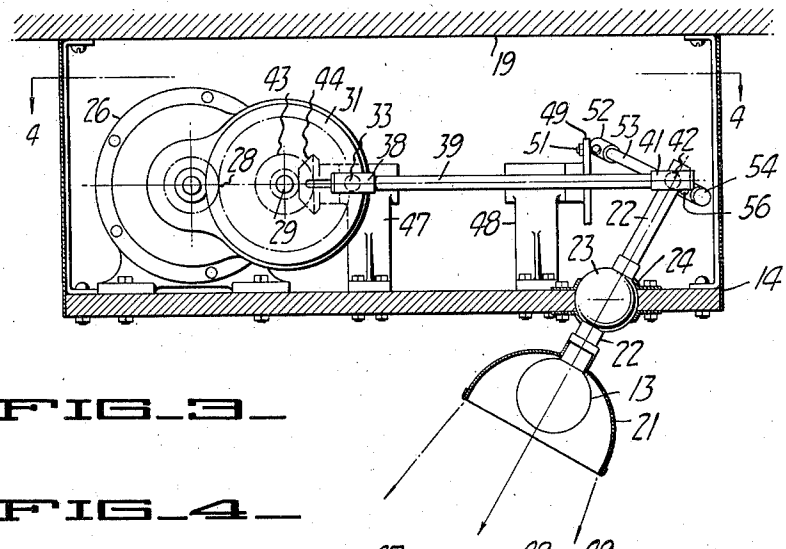


FIG_3_

FIG_4_

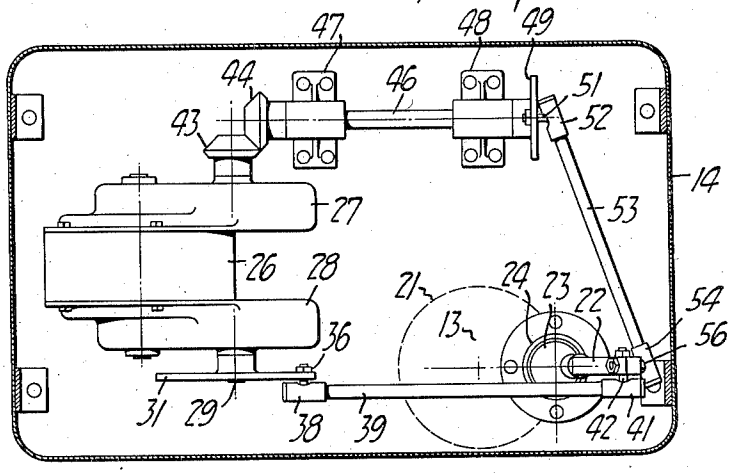


FIG_5_

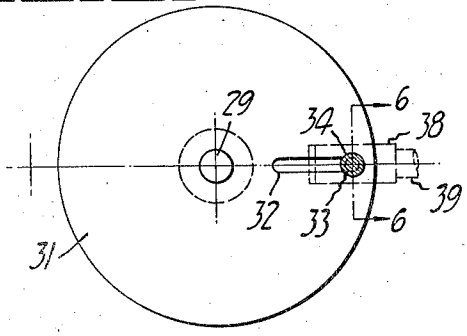
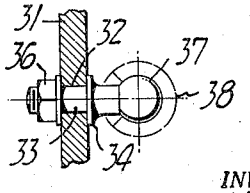


FIG_6_



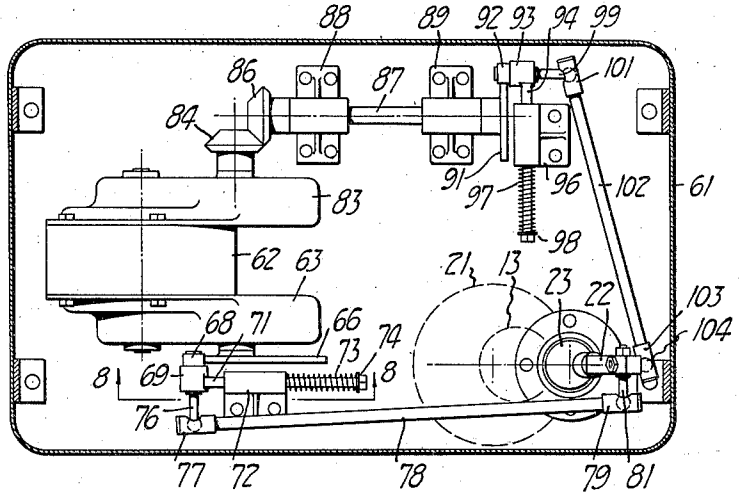
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ADVERTISING DEVICE

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FIG_7_



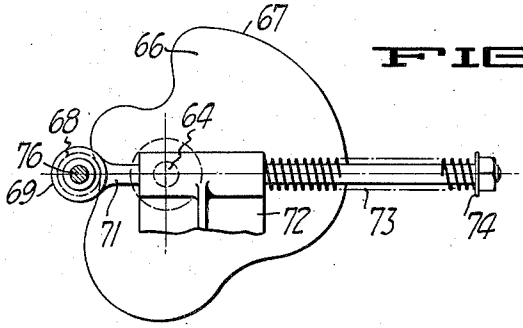


FIG_6_

FIG_8_

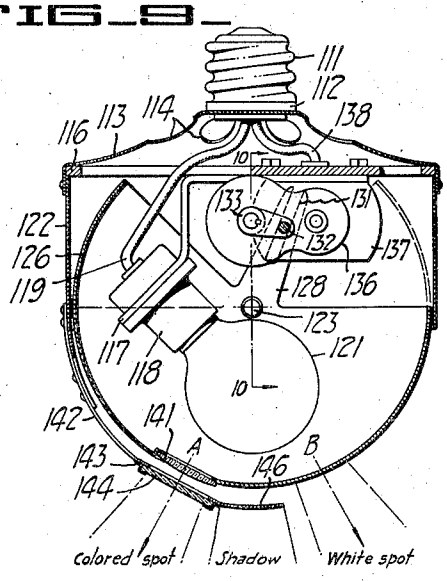
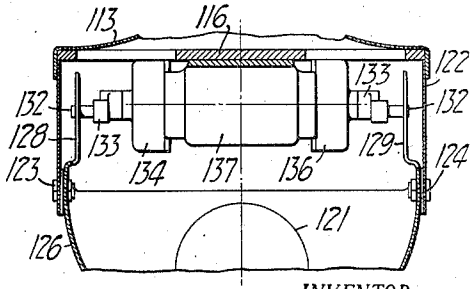


FIG_10_



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UNITED STATES PATENT OFFICE

2,136,429

ADVERTISING DEVICE

George H. Forsyth, Oak Park, Ill.

Application June 22, 1936, Serial No. 86,491

3 Claims. (Cl. 240—6)

My invention relates to means for providing a selected illumination of display spaces and is concerned particularly with a lighting arrangement especially adapted for use in mercantile establishments to attract trade. The general arrangement of my invention is to provide a luminous beam which is moved in such fashion as to attract the attention of passers-by and to illuminate merchandise on display in a given location.

An object of my invention is to provide means for attractively illuminating a given space.

Another object of my invention is to provide a moving illumination by a travelling light beam following a predetermined path.

A further object of my invention is to provide means for directing the attention of passers-by to a mercantile establishment.

The foregoing and other objects are attained in the embodiments of the invention illustrated in the drawings, in which—

Fig. 1 is a plan of a mercantile establishment showing the use of my invention in connection therewith.

Fig. 2 is a cross-section the plane of which is indicated by the line 2—2 of Fig. 1.

Fig. 3 is a longitudinal cross-section of a lighting unit in accordance with my invention.

Fig. 4 is a cross-section the plane of which is indicated by the line 4—4 of Fig. 3.

Fig. 5 is an end elevation of a drive disc of the mechanism of Fig. 4.

Fig. 6 is a cross-section the plane of which is indicated by the line 6—6 of Fig. 5.

Fig. 7 is a cross-section similar to Fig. 4 but showing a modified form of lighting unit in accordance with my invention.

Fig. 8 is a cross-section the plane of which is indicated by the line 8—8 of Fig. 7.

Fig. 9 is a cross-section on a vertical plane of a modified form of lighting unit in accordance with my invention.

Fig. 10 is a cross-section the plane of which is indicated by the line 10—10 of Fig. 9.

In its preferred form, the advertising device of my invention includes means for causing an illuminated beam to traverse a predetermined path and, in a predetermined fashion, to illuminate selectively various spaces or areas for display purposes.

While the advertising device of my invention is applicable to a wide variety of different installations and uses, and many modifications of it are contemplated for especial adaptation to particular circumstances, I have chosen for illustration herein several different forms which will at least partially indicate the range of the invention. It is of considerable value to be able to attract passers-by into a mercantile establishment, or at least to have passers-by give close scrutiny to material displayed in the show windows thereof, and a mechanism for that purpose is particularly illustrated in the figures.

A typical installation is shown in Figs. 1 and 2, for instance, wherein a mercantile establishment having an entrance 6 is situated with a show window 7 and a show window 8 adjacent a sidewalk 9 on a thoroughfare 11. To attract the attention of passers-by and to emphasize at least some of the displayed material, such as the object 12 in the window 8, I provide a light source 13, movably mounted on a housing 14, which is adapted to travel in a predetermined path. For example, the light beam 15, which is somewhat concentrated and is of greater intensity than the surrounding illumination, travels in a generally elliptical path illustrated by the broken line 16, and in an anti-clockwise direction as view in Fig. 1, so that a spot 17 of light travels along a path for example extending somewhere adjacent the center of the sidewalk 9. The light spot follows the direction of the arrows (Fig. 1) into the entrance way towards the store entrance 6, turns into the display window 8, and shines upon the object 12 bringing it out in sharp relief, and then repeats the circuit.

The beam of light, passing out onto the sidewalk 9, immediately engages the attention of passers-by and, since it travels in the general direction of the entrance 6 of the store, entices the observer's attention to the store and focuses it upon the especially illuminated object 12. Various and sundry such light sources 13 can be utilized in any given display space, and adjacent mercantile establishments on the same street can all be so supplied, with the advertising devices being arranged to operate in a predetermined sequence in the successive establishments, or to operate at random. In each installation the source of light 13 is located preferably behind a mask 18, such as the valance usually found in the show window of a store, and is not itself readily visible. The light beam is preferably inclined at a relatively steep angle to the sidewalk so that it is not objectionable to the passers-by. In most instances the light is arranged to move regularly in a closed path, but various modifications can be arranged, and I have illustrated several different mechanisms for this purpose.

As disclosed in Figs. 3 to 6, inclusive, the light source 13 is preferably mounted in a reflector 21

attached to a supporting rod 22. The supporting rod is enlarged to provide a ball 23 suitably mounted in a socket 24 attached to the housing 14 which in turn is secured, for example, to the ceiling 19 of the establishment. With this mounting of the light source 13, it can move in any predetermined path within very wide limits. Flexible conductors carry electricity to the source of light but are not shown in the drawings since such a connection is entirely standard. In order to impart appropriate movement to the light source 13, I provide an electric motor 26 disposed within the housing 14 and connected to reduction gears 27 and 28. The reduction gear 28 drives relatively slowly a shaft 29 on which is fastened a disc 31 having a radial slot 32 through which a bolt 33 is passed. The bolt has a shoulder 34 thereon abutting the disc, and a nut 36 for clamping the bolt in any selected radial position in the slot 32. A ball head 37 on the bolt is engaged by a socket 38 at one extremity of a drive rod 39, the other extremity of which is provided with a socket 41. A ball-headed bolt 42, similar to the bolt 33, is engaged by the socket 41 and is mounted in the extremity of the supporting rod 22. This portion of the drive mechanism, when the motor 26 is energized, imparts a motion to the rod 22 which is a reciprocation to the right and left, as seen in Fig. 3.

From the gear reduction 27 a shaft carries a bevel gear 43 which meshes with a similar bevel gear 44 at one extremity of a drive shaft 46 carried in journals 47 and 48 mounted on the casing 14. The drive shaft terminates in a drive disc 49 carrying a ball-headed bolt 51 similar to the bolt 33 and preferably mounted in a similar fashion. Engaging the bolt 51 is a socket 52 at one end of a drive rod 53, the other end of which is provided with a socket 54 engaging a ball-headed bolt 56 similar to the bolt 33 but mounted in the upper end of the supporting rod 22.

When the motor 26 is energized, the bevel gears 43 and 44 are rotated, the disc 49 and the drive rod 53 are then effective to impart a reciprocatory motion to the rod 22, but in a direction approximately at right angles to the rod 39. The combination of the two components of movement imparted to the rod 22 is effective to move the rod in virtually an elliptical path, and, since the ball-headed bolts 33 and 51 are radially adjustable, the major and minor axes of the ellipse can be varied to suit individual circumstances of installation, and can be varied from time to time.

If desired, any suitable electric current interrupting device of standard make (not shown) can be included in the power supply circuit to the motor 26, or in the circuit to the light source 13, so that the motor and the light source will operate intermittently with any desired program.

While an elliptical path or special cases of it; namely, circular and straight-line paths, will be advantageous in many cases, nevertheless there are other instances where the preferred path is an entirely irregular one, and for such installations I preferably provide the structure disclosed in Figs. 7 and 8. This arrangement is in most regards, and except where specially indicated, similar to that shown in Figs. 3 to 6, inclusive. The structure is all mounted in a housing 61 and includes an electric driving motor 62 operating a speed reduction gear 63 which, on a sub-shaft 64, carries an irregularly shaped cam disc 66 having any desired peripheral contour 67 cut especially for each installation, if necessary. Cooperating with the cam disc 66 is a cam follower 68 mounted on a body 69 to which is fastened a slide plunger 71 reciprocably but non-rotatably mounted in a bracket 72 fastened in the casing 61. A coil spring 72 is interposed between the bracket 72 and a nut-retained washer 74 at the terminus of the slide 71, in order to hold the follower 68 against the cam 66 at all times. A ball-headed bolt 76 projects from the body 69 and is engaged by a socket 77 at one extremity of a drive rod 78, the other end of which carries a socket 79 engaging a ball-headed bolt 81 in the upper end of the supporting rod 22.

A reduction gear 83 is driven by the motor 62 and, through bevel gears 84 and 86, rotates a drive shaft 87 carried in journals 88 and 89 mounted in the casing 61. The extremity of the shaft 87 carries a cam disc 91 having an irregular periphery of any desired contour, which is engaged by a cam follower 92 projecting from a body 93 having a squared stem 94 reciprocably mounted in a bracket 96 connected in the casing 61. The follower 92 is urged into contact with its cam 91 by a coil spring 97 abutting a nut-retained washer 98 on the stem 94. A ball-headed bolt 99 on the slide 93 is engaged by a socket 101 at one end of a drive rod 102. A socket 103 at the other end of the drive rod 102 engages a ball-headed bolt 104 mounted on the upper extremity of the supporting rod 22. The cams 66 and 91, being entirely irregular and preferably cut to provide any desired path of movement of the light beam, are each effective to impart one component of movement to the rod 22 and thus to produce any two-directional path desired, with appropriate dwells or pauses, reversals of movement, and combinations of components, to produce any fancy or plain contour of light path.

It is not essential that the light source itself be movable in order to provide a moving beam of light, and in Figs. 9 and 10 I show a modified form of structure in which the light source itself is stationary and in which variations in the character of light beam are produced. The structure shown in these figures is of relatively small size and is intended to be entirely supported in an electric outlet of the "Mogul" socket type. It can therefore readily replace a standard electric light globe to produce a readily installed and detached mechanism for producing the novel effects in accordance with my invention. The structure includes an attaching base 111, which is preferably a screw plug adapted to fit into a "Mogul" socket and to act as an electrical conductor. Separated from the plug 111 by an insulating washer 112 is a metal canopy 113 provided with ventilating apertures 114. A base plate 116 is secured to the canopy 113 and serves as a mounting for a bracket 117 on which a standard light base 118 is mounted. An electrical conductor 119 extends from the base 118 or receptacle to electrical connection with the plug 111. A light globe 121, or other suitable source of illumination, is mounted in the receptacle 118.

In order to provide varied illumination in accordance with my invention, I preferably attach to the canopy 113 and the base plate 116 a circular-cylindrical metallic shroud 122 and at diametrically opposite points of the shroud provide journal pins 123 and 124. Pivotally mounted on the journal pins is a metallic, hemispherical, opaque bowl 126 encompassing the source of light 121 and freely oscillatable about the diameter of the hemisphere and the common axis of the pins 123 and 124. In order to oscillate the shield 126, I provide on the shield a pair of upstanding

lever arms 128 and 129, each of which is radially cut to provide a slot 131 with which one of two crank pins 132 is in engagement. The crank pins are mounted in their respective arms 133, each of which is driven through a suitable speed reduction gear 134 and 136 mounted at the ends of an electric motor 137 fastened on the base plate 116.

The motor 137 is connected by a conductor 138 to the plug 111 and, when energized, rotates the crank arms 133 so that the crank pins 132 in engagement with the slots 131 rock the arms 128 and 129 and oscillate or rotate the opaque bowl 126. This movement of the bowl is utilized to cause a light beam to follow a predetermined path. At a selected area on the periphery of the shield 126 a window or lens 141 is mounted. A plurality of such lenses or windows can of course be utilized, but one will serve as an example. The lens 141 preferably moves between one extreme position A, as indicated in Fig. 9, to another extreme position B, as indicated in that figure. The light beam therefore moves with its center from the line A to the line B and back again in a regular cycle, and extends, for example, from the sidewalk to a given location in the display window.

In order to give variety to the display, if desired, I provide a bracket 142, preferably of opaque material, attached to the member 122 and extending arcuately around the periphery of the shield 126. At a suitable place in its length, the bracket 142 is preferably pierced and provided with a fastening 143 to secure in position a colored window 144, so that when the lens 141 is in substantial alignment with the window, the light beam is appropriately colored. In the event it is desired, for the sake of variety or for other reasons, to have no special illumination for a predetermined zone, it is not necessary to interrupt the operation of the device but simply to provide an opaque extension 146 on the bracket 142 which will interrupt or intercept the light from the lens 141 while the lens is in registry with the opaque extension. The extension 146 is terminated so that the light beam adjacent the center line B is entirely unchanged as it comes through the lens 141, so that a beam of white light, for example, is projected.

I claim:

1. In a sidewalk display window having an opaque area above a windowed portion thereof, an illuminating device comprising, a housing installed within the display window adjacent the opaque area above the windowed portion whereby the housing is substantially concealed from the exterior of the display window, a cover for said housing, a universal joint supported by said cover and extending both inside and outside the housing, a source of light at the outer end of said joint projecting a beam of light in a generally downwardly direction, a motor in said housing, and means operatively connecting the inner end of said joint to the motor to cyclically move said beam of light to follow a predetermined path located partly exteriorly and partly interiorly of the display window whereby to alternately illuminate a substantial portion of the sidewalk and articles disposed within the display window.

2. In a sidewalk display window having an opaque area above a windowed portion thereof, an illuminating device comprising, a housing having a cover installed within the display window adjacent the opaque area above the windowed portion whereby the housing is substantially concealed from the exterior of the display window, a universal joint supported upon a wall of said housing and extending both inside and outside the housing, a source of light at the outer end of said joint projecting a beam of light in a generally downwardly direction, a motor in said housing, and means operatively connecting the inner end of said joint to the motor to cyclically move said beam of light to follow a predetermined path located partly exteriorly and partly interiorly of the display window whereby to alternately illuminate a substantial portion of the sidewalk and articles disposed within the display window.

3. In a sidewalk display window having an opaque area above a windowed portion thereof, an illuminating device comprising, a housing installed within the display window adjacent the opaque area above the windowed portion whereby the housing is substantially concealed from the exterior of the display window, a light supporting rod extending both inside and outside said housing and mounted upon a wall of said housing for movement in a plurality of different directions, a source of light at the outer end of said rod projecting a beam of light in a generally downwardly direction, a motor in said housing, and means operatively connecting the inner end of said light supporting rod to the motor to cyclically move said beam of light to follow a predetermined path located partly exteriorly and partly interiorly of the display window whereby to alternately illuminate a substantial portion of the sidewalk and articles disposed within the display window.

GEORGE H. FORSYTH.