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M. FRITTS

1,966,495

TELEPHONE DIAL ILLUMINATOR

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FIG. 1

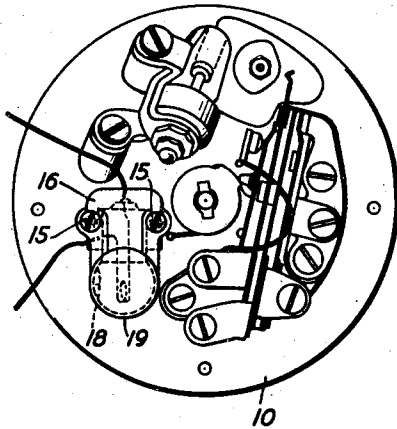


FIG. 2

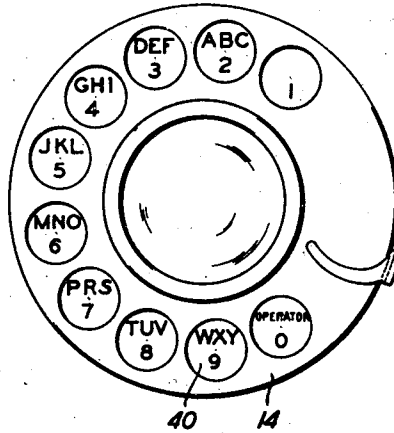
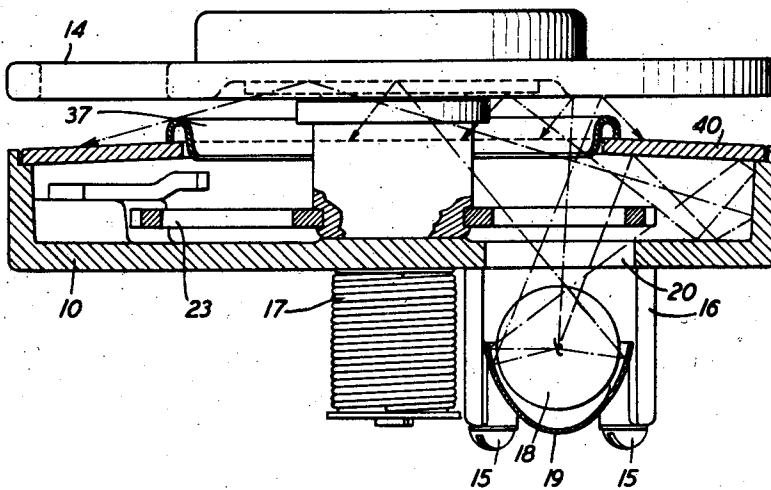


FIG. 3



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TELEPHONE DIAL ILLUMINATOR

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2 Claims. (Cl. 240—2.17)

This invention relates to systems of illumination and particularly to telephone dial illuminators.

The general tendency towards subdued lighting effects in present day homes, apartment houses and the like, renders the use of the dial telephone an inconvenience in that the subscriber has difficulty in quickly and conveniently locating the various digits on the dial number plate. The same annoyance is experienced in telephone booths in spite of the efforts made to light the booths, primarily because of the fact that the number plate of the dial is located immediately beneath the dial finger wheel which has a tendency to shade or obscure the digits irrespective of the location of the auxiliary light sources heretofore employed.

In an attempt to provide suitable dial illumination heretofore, numerous and varied devices have been devised. It is not uncommon to mount a lamp on the telephone standard in superposed relation to the dial so that the light rays from the lamp are cast directly upon the dial. Another method of dial illumination resorted to is embodied in the provision of a translucent number plate with a suitable light source beneath it. These and other similar devices have the objections that the present type dial must either be materially altered to provide for the mounting of the light source or the present type number plate must be abandoned and replaced by one having translucent characteristics or else some unsightly reflecting medium must be secured to the dial or to the telephone standard, all of which materially add to the expense of the subscriber's equipment and, in some cases, detract from the appearance and operating efficiency of the dial.

It is the object of this invention to provide a telephone dial illuminating device which is an integral part of the dial and which necessitates no material changes in the dial design.

This object is attained in accordance with a feature of the invention by utilizing the dial casing and dial finger wheel as reflectors in a system of reflectors, to cause light rays emanating from a suitably located light source to be indirectly reflected upon the surface of the dial number plate.

The invention will be readily understood from the following detailed description made with reference to the accompanying drawing in which:

Fig. 1 is a bottom plan view of a telephone dial showing the location of the light source and the manner of securing it to the base of the dial casing;

Fig. 2 is a top plan view of the dial shown in Fig. 1; and

Fig. 3 is an enlarged sectional view of the dial shown in Figs. 1 and 2 with certain of the operating parts omitted and showing the manner in which the light source located on the underside of the dial casing serves to illuminate the dial number plate located on the top of the dial casing.

The telephone dial shown in the drawing is of a type similar to that shown in U. S. Patent 1,860,535, issued May 31, 1932 to H. W. Goff. It is believed unnecessary to enter into any description of the operation of the dial or of the various operating parts, except in so far as is necessary for a complete understanding of the invention.

Referring to the three figures generally, and to Fig. 3 particularly, it will be noted that the parts of the dial which correspond to similar parts described in the above identified patent are given the same numerical identification assigned to them in the patent drawing. This is done to simplify the description and at the same time render it possible for anyone wishing it, to obtain a complete detailed description of the various parts and their functions.

The dial casing 10, substantially cup-shaped, houses the dial operating mechanism and is provided with an annular number plate 40 which is held in position on the casing by means of the clamping ring 37, the outer periphery of the number plate resting on a circular shoulder portion of the casing. A ratchet wheel 23, the purpose of which is fully explained in the U. S. patent referred to above, is housed within the casing and is provided with a plurality of spokes, the spaces between adjacent spokes permitting the passage of light rays from the source 11 as will appear from a later description. The finger wheel 14 is secured to the centrally located dial shaft in the well-known manner and is adapted to rotate with the shaft, clockwise during the setting of the dial and counter-clockwise under the action of spring 17 when the finger wheel is released.

The under surfaces of the finger wheel 14 and number plate 40 as well as the inside surface of the casing 10 are finished in white or some other highly reflecting color for a purpose which will presently appear.

Secured to the underside of the base of casing 10 by means of screws 15 immediately below an aperture 20 in the casing base, is a combination lamp socket and reflector support 16. The screws 15 engage tapped holes in the base of the casing. The support 16 may be of any desirable form and

material and is shown supporting a parabolic reflector 19 which serves to reflect the rays emanating from lamp 18 in a manner most beneficial for the purpose of illuminating the number plate 40.

5 Referring particularly to Fig. 3 it will be noted that some of the light rays emanating from the lamp 18 are reflected by the reflector 19 directly upon the under surface of the finger wheel by which they are again reflected upon the upper face of the number plate to effect an indirect illumination thereof, whereas others impinge first
10 on the under surface of the number plate, then on the inside surfaces of the casing and thence on the upper surface of the number plate by way of the under surface of the finger wheel.

15 All the reflected light from the source 18 that serves to illuminate the upper face of the number plate is indirectly transmitted to the number plate thereby furnishing a soft and pleasing effect with sufficient intensity to provide satisfactory illumination of the digits on the dial number plate.

20 It is understood that some of the light rays emanating from the source 18 are interrupted by spokes of the ratchet wheel 23 during its rotation, but since this occurs so rapidly the effect is negligible, and also at a time when it is not necessary to observe the dial digits. When the dial is at rest, that is when it is necessary to locate a desired digit and the corresponding finger hole the spokes of the wheel 23 do not interfere with the light rays.

30 The finger wheel 14, number plate 40 and casing 10 only are shown treated in such a manner as to present highly reflecting surfaces. It is understood that other portions of the mechanism housed in the dial casing might be treated in like manner without departing from the spirit of this invention.

35 From the foregoing description, it is apparent that this invention provides a distinct advance in the art of dial illumination in that the only alterations in the dial structure necessary are the two tapped holes which accommodate the screws 15,

and the aperture 20, and also in that there is provided means for effecting the indirect illumination of the dial number plate without the addition of any auxiliary reflectors, the system of reflectors being composed entirely of parts already embodied in the dial structure. It is also evident that the light source 18 and its associated reflector 19 may be readily applied to the dial structure with a minimum of effort and the equipment does not in any manner interfere with other parts of the dial or with the operation thereof.

80 The indirect illumination of the dial number plate by means of a system of reflectors composed of essential dial elements, such as the dial casing and finger wheel, may also be effected by mounting the light source within the casing as well as externally thereof. Such a modification comes within the spirit and scope of this invention.

What is claimed is:

95 1. In combination, a telephone dial including a casing enclosing the dial mechanism and having an aperture therein, a number plate supported on said casing, a rotatable finger wheel in superposed relation to said number plate, a light source secured to the underside of said casing in close proximity to said aperture and a system of reflectors for indirectly reflecting the light emanating from said source to said number plate by way of said aperture, said finger wheel constituting a part of said system of reflectors.

100 2. In combination, a telephone dial including a casing enclosing the dial mechanism and having an aperture therein, a number plate supported on said casing, a rotatable finger wheel in superposed relation to said number plate, a light source secured to the underside of said casing in close proximity to said aperture and a system of reflectors for indirectly reflecting the light emanating from said source and passing through said aperture onto said number plate, said casing, number plate and finger wheel constituting said system of reflectors.

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