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USER'S SIGNAL.

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To all whom it may concern:

Be it known that I, JOHN J. WALSH, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Ushers' Signals, of which the following is a specification.

This invention relates to signals designed to be carried and used by ushers, particularly in the darkened moving picture theaters, for indicating visually to the late arriving spectators, the number of vacant seats which are available, without requiring the usher to needlessly traverse the aisles or give disturbing audible or manual signals.

The object of the invention is to provide a novel, simple and convenient illuminating signal, consisting of a common pocket electric flash-light which is equipped with means for selectively flashing one or more disc-like lights, the signalling means being so arranged that an usher may readily and quickly and accurately adjust the same for projecting lights corresponding to the number of vacant seats that are available in a certain part of the house. And a further object is to provide novel means for holding the selective parts in the adjusted positions for preventing accidental shifting thereof and thereby giving false signals.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing, in which—

Figures 1, 2, 3 and 4 are similar views of the flash-light; showing the manner of progressively displaying the several lights. Fig. 5 is a broken side elevation of the device. Fig. 6 is a similar view, with parts broken away for showing the arrangement of certain of the internal parts. Fig. 7 is a fragmentary section, taken on line 7-7 of Fig. 5; showing the tension means for holding the indexing cap in the adjusted positions. And Fig. 8 is a reduced plan view of the stationary shutter.

In the drawing, 2 represents the barrel or body of the ordinary pocket flash-light, in which the usual battery 3 is disposed. 4 represents the electric lamp, which is supported within an inverted conical reflector 4'. 5 is the hollow conical head which encloses the reflector, and which is screwed on to one end of the barrel, as at 5', the flaring top-end of the barrel being externally threaded, for attaching an annular cap 5" which grips and holds the usual lens 6 in place. The lens is supported by and closes the open top of the reflector, and the reflector is shown resting upon a ring 7, which is supported by the head 5. The lamp 4 is alternately lighted and extinguished by the reciprocable movements of the usual switch 2", carried by the body 2.

My improvement consists of the following parts: 9 represents a disc or shutter of any suitable opaque material, which is preferably about the same diameter as the lens 6, and is disposed between the lens 6 and the reflector 4', in such manner that the disc is held stationary by the tension of the cap 5". The disc is provided with a number of similar circular apertures through which the rays of the light from the lamp 4 are emitted to the lens. One of these openings 9', is arranged co-axial with the bulb 4. The other openings 9", 9" and 9" are arranged in a semi-circle concentric to the opening 9', and these are preferably spaced equidistantly. 10 represents another inverted conical casing, which is large enough in diameter to receive and enclose the head 5, and whose contracted lower end loosely engages the neck 5" of the head, upon which the casing is rotatable. The flaring top-end of the casing 10 is externally threaded for the purpose of attaching a crown-cap 11, which is internally threaded for the purpose. The casing 10 is provided with a number of perforations 10', 10', 10' and 10', corresponding to the number of light openings in the disc 9 and the cap 11, the said perforations being arranged in a circumferential row that partially encircles its angular sides. These perforations are employed for indexing the cap 11, and the casing and cap are held in place after each adjustment by a spring 12, which is carried by the corresponding portion of the head 5, the said spring being provided with an outwardly convex socket or portion 12', which is disposed in the path of and successively engages the holes 10', 10', 10' and 10" in the casing when the latter is rotated, as best seen in Figs. 5, 6 and 7. The top or closed end of the cap 11 is crowned to correspond to the convex face of the lens 6, and this portion of the cap is provided with the same number of circular light apertures as the disc 9. The central aperture 11' of the cap also registers with
the bulb 4 and the opening 9' of the disc. The other apertures, 11a, 11b and 11c of the cap 11 are disposed in the same relation to the central aperture 11d, as shown in the disc. The casing 10 and its cap 11 when assembled are movable as one part and may be readily rotated on the head 5, by the operator exerting sufficient force to flex the spring 12 towards the head 5, for disengaging the socket 12 from the indexing perforations of the casing 10.

When the device is employed by the usher merely as a flash or search light, or for indicating that he has but one seat to dispose of, the casing 10 and the cap are set in the position shown in Figs. 1, 5 and 6, in which the apertures 11d, 11e and 11f are disposed directly over the perforate portion of the disc 9, and only the central aperture 11g registers with the lamp 4 and the opening 9' of the disc. By this arrangement, but one circle or spot of the light shows through the cap 11. When the parts are in the latter position, the socket 12 is in engagement with the index hole 10 of the casing 10. To signal for two seats, the usher grasps the cap 11 and gives it a partial twist towards the right. This moves the apertures 11a, 11b and 11c clockwise until the socket 12 is engaged with the hole 10 of the casing. The aperture 11d then registers with the opening 9' of the disc, and the unseated spectators see two illuminated spots, as shown in Fig. 2. To signal for three vacant seats, the usher rotates the cap 11 another step in the same direction, until the socket 12 snaps into the perforation 10 of the casing, which brings the aperture 11d of the cap into registry with the aperture 9 of the disc and at the same time advances the apexures 11a, 11b and 11c into registry with the openings 9' of the disc. Three discs of light then show in the face of the device. To signal for four vacant seats, the cap 11 is again rotated in the same direction till the socket 12' enters the hole 10 of the casing. This moves the apertures 11a, 11b and 11c of the cap into registry respectively with the openings 9', 9 and 9 of the disc, for showing four illuminated spots (see Fig. 4). The central openings 9' and 11d during all these manipulations of the cap 11 show the central light continuously, unless the switch 2' is opened. When the device is not being used for signalling, the operator should turn the cap 11 in the direction for extinguishing all but the central light, so as to be ready for the next operation, as described.

Having thus described my invention, what I claim is—

1. In a signal, an electric lamp, a lens, a hollow head enclosing the lamp and supporting the lens, an apertured stationary disc disposed between the lens and the lamp, a cap rotatably-mounted on the head and having an apertured portion overlaying the lens adapted to be rotated for bringing certain of its apertures into registry with the corresponding apertures of the disc, and tension means for stopping and holding the cap after each partial rotation.

2. A signal comprising an electric lamp, a lens, an apertured stationary disc disposed between the lens and the lamp, an apertured cap disposed above and concentric to the lens, one aperture of the disc constantly in axial alinement with one aperture of cap, the other apertures of the cap adapted to be successively moved into registry with the corresponding apertures of the disc by the rotation of the cap for selectively projecting a number of lights, and means for indexing and holding the cap in the various adjusted positions.

3. In a signal, the combination with an electric lamp, a lens, and a hollow head enclosing and supporting said parts, of a stationary opaque shutter disposed between the lens and the lamp, a casing surrounding said head, means carried by said head and frictionally engaging said casing for holding the casing in a number of different positions, and an apertured opaque cap fixed to the casing and overlaying the lens, one of the apertures of said cap being disposed coaxially to the lamp and a corresponding aperture of the shutter, the other apertures of the cap adapted to be brought into registry with the corresponding apertures of the shutter by the step-by-step rotation of said cap.

4. The combination with an electric lamp, a reflector, a lens and a head enclosing said parts, of a stationary opaque disc disposed between the lamp and the lens and supported by the reflector, said disc having a plurality of apertures by means of which the rays of light from the lamp are emitted to the lens, a casing rotatably mounted on and enclosing said head, said casing being provided with a circumferential row of indexing perforations, a cap carried by said casing and overlaying the lens, said cap having apertures corresponding in number and disposition to the apertures of the disc, one aperture of said cap and one aperture of said disc being constantly in line axially with the lamp, the other apertures of said cap adapted to be successively moved into registry with the corresponding apertures of the disc by the rotation of said casing, and a tension device carried by said head adapted to successively engage the perforations of the casing for indexing said cap.

5. The combination with a flash-light including an electric lamp, a lens, and a head enclosing said parts, of a casing rotatably mounted on said head and having a plurality of indexing perforations, means carried by said head adapted to engage said perforations for holding the casing in different positions.
sitions, a cap carried by and movable with the casing, said cap having a central aperture registering with the lamp and having a plurality of similar apertures arranged in a semi-circle concentric to the central aperture, an opaque disc disposed between the lens and the lamp and held stationary by the lens, said disc having apertures corresponding to said cap adapted to emit the rays of the lamp through the apertures of the cap when the latter is rotated in either direction.

In testimony whereof I affix my signature.

JOHN J. WALSH.