July 7, 1953 M. H. GREENWALD 2,644,935

ILLUMINATED PAGING DEVICE

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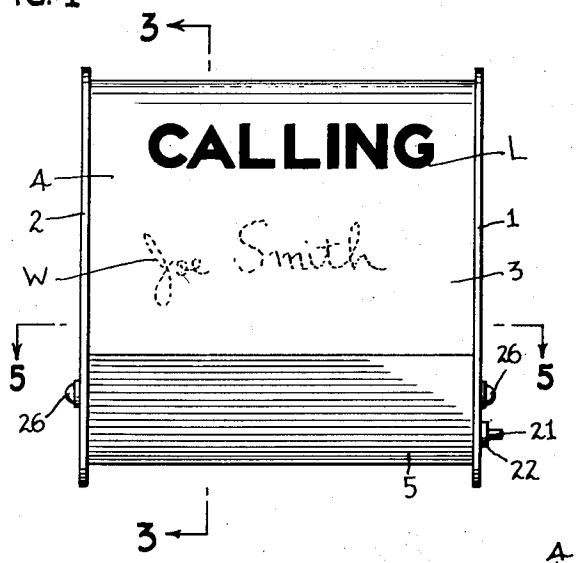
FIG. 1



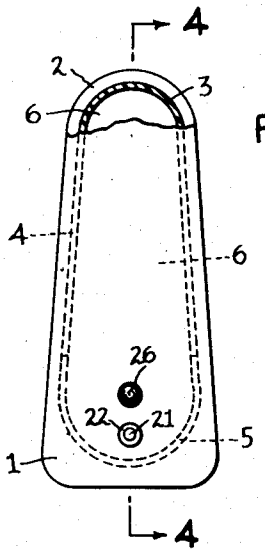


FIG. 2

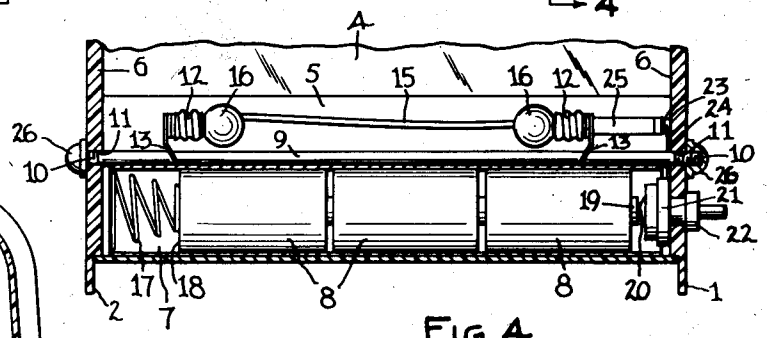


FIG. 4

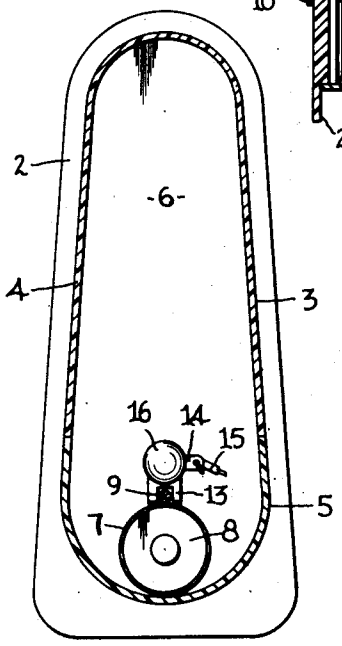


FIG. 3

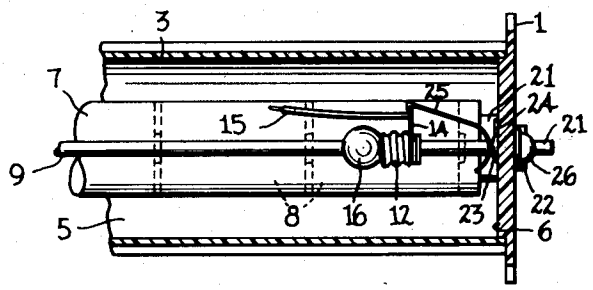


FIG. 5

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FIG. 6

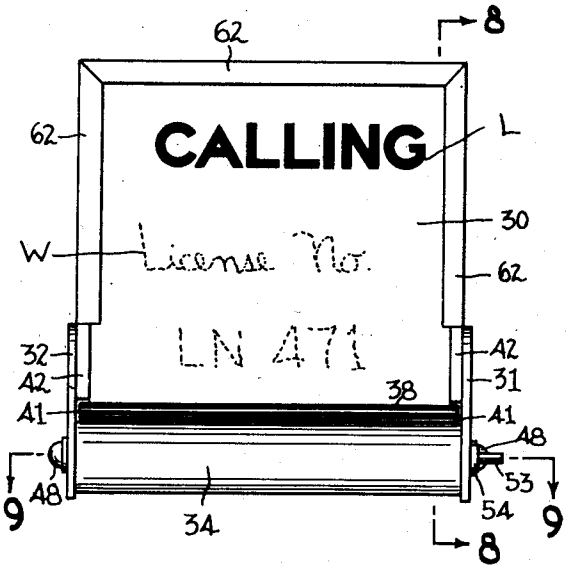
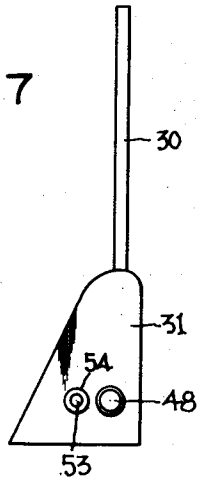


FIG. 7



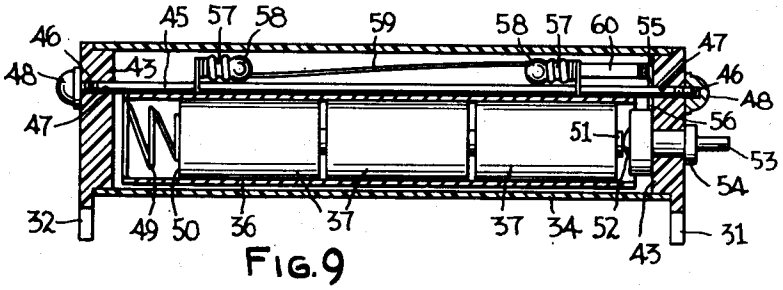


FIG. 9

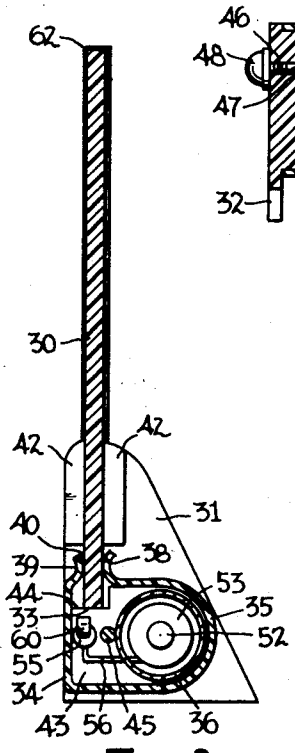


FIG. 8

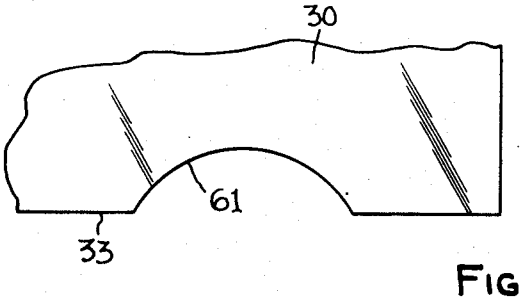


FIG. 10

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UNITED STATES PATENT OFFICE

2,644,935

ILLUMINATED PAGING DEVICE

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Application April 28, 1950, Serial No. 158,823

2 Claims. (Cl. 340—321)

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The present invention relates to an illuminated device having particular utility for use as a paging device in darkened theatres and auditoriums and the like.

As is well known, whenever large groups of people attend a performance, as in an auditorium or a theatre, there are always occasions during the performance when it is necessary to contact some person in the audience to deliver an important or emergency message to him. This occurs most frequently in movie theatres where it may be necessary to inform an adult that he or she is urgently needed at home, or to inform a physician that he has an emergency call, or to inform a child that his parents are looking for him, or to inform a person that his automobile must be moved, or like situations.

It is present practice when such situations arise in darkened movie theatres to do generally one of two things; either the person wanted is paged by means of a public address system, or the person's name is projected onto the motion picture screen and superimposed on the entertainment feature. It will be apparent that in either case the audience is disturbed, either by the sudden sound from the loud-speaker which interferes with the voices of the characters on the screen, or by interference with the showing on the screen.

It may be mentioned that some theatres provide a registration book for persons, such as physicians, who expect to be called, in which book the seating location of the physician is noted so that he can be found when necessary. However, this procedure applies only to those who would normally expect to be called and is of no value in the great majority of cases, where the calls are unexpected.

It is the primary object of my invention to provide means for contacting a member of the audience, which means shall not unduly disturb or interfere with the entertainment being offered.

Another object of my invention is to provide such means in the form of a portable, illuminated device which can readily be carried by an usher.

Still another object of my invention is to provide such a paging device which lends itself readily to a variety of individual messages.

A further object of my invention is to provide a device of the character described which is light in weight, compact in appearance, and which consists of a minimum of parts.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part

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of this specification, and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a front elevation of a paging device embodying the features of my invention.

Fig. 2 is an end elevation of the device shown in Fig. 1, as viewed from the right side of Fig. 1.

Fig. 3 is a vertical cross-section taken as indicated by line 3—3 of Fig. 1.

Fig. 4 is a fragmentary vertical cross-section taken as indicated by line 4—4 of Fig. 2.

Fig. 5 is a fragmentary horizontal cross-section taken as indicated by line 5—5 of Fig. 1.

Fig. 6 is a front elevation of a modified form of paging device.

Fig. 7 is an end elevation of the device shown in Fig. 6, as viewed from the right side of Fig. 6.

Fig. 8 is a vertical cross-sectional view taken on line 3—3 of Fig. 6.

Fig. 9 is a horizontal cross-sectional view taken on line 9—9 of Fig. 6, and

Fig. 10 is a fragmentary detail of the display panel used in the embodiment of Fig. 6.

Referring more particularly to Figs. 1–5 of the drawings, the device is seen to comprise two end plates 1 and 2 between which is secured a unitary hollow body 3 which is of oval-shaped cross-section. The body 3 consists of two parts, a transparent or translucent upper display portion 4 and an opaque arcuate lower portion 5, the two parts 4 and 5 being cemented or bonded together to form the body.

The parts 4 and 5 are conveniently formed of a synthetic resin or plastic material, and the upper portion 4 is preferably a frosted or white translucent material, whereas the lower portion may be black. The upper portion 4 could be glass but inasmuch as the synthetic resin is more readily workable and far less fragile, the latter is preferred.

Each of the end plates 1 and 2 has a thickened center portion or embossment 6 formed thereon which conforms in contour to the inner periphery of the body 3 and extends into the body 3 so as to position the body properly as well as to reinforce it.

A metallic tubular battery case 7 containing a plurality of dry cells 8 is contained within the arcuate lower portion 5 of the body 3 and a longitudinally extending rod 9 is secured to said battery case 7 exteriorly thereof, as by soldering or the like. The ends 10 of the rod 9 are threaded and project through clearance holes 11 in the end plates 1 and 2.

Also mounted on the battery case 7, and secured

thereto as by soldering, are two or more bulb sockets 12 having suitable supporting portions 13 which serve to electrically connect one terminal of the socket to the battery case. Each of the sockets 12 is also provided with a laterally extending terminal lug 14, the respective terminal lugs 14 being electrically connected by means of an insulated conductor wire 15. Bulbs 16 of the flashlight type are threadedly secured in the sockets 12.

Within the battery case 7, adjacent one end thereof, is secured a coil spring 17 the free end of which bears against and makes electrical contact with one terminal 18 of the series of dry cells 8. The action of the spring 17 also serves to urge the other terminal 19 of the series of cells 8 into electrical contact with one terminal button 20 of a push-button switch 21 which is mounted on the end plate 1 and secured thereto by means of a ring nut 22.

The other terminal button 23 of the switch 21 is spaced from the switch and is secured to the inner face of the end plate 1 and electrically connected to the switch by a conductor 24. The terminal 23 is so located as to be in alignment with a resilient copper contact leaf 25 which is secured to the terminal lug 14 of the nearest bulb socket 12. The contact leaf 25 yieldably presses against the terminal button 23 to complete the electrical circuit to the bulbs 16.

The entire unit is fastened together by means of acorn nuts 26 which threadedly engage the projecting ends 10 of the rod 9.

It will be apparent that when the switch 21 is closed, the bulbs 16, which are connected in parallel to the series of dry cells 8, will be energized and will light up. The illumination from the bulbs will be concealed by the opaque portion 5 of the body 3 and will diffuse and be visible through the exposed portions of the translucent part 4 of the body.

In order to utilize the device in the manner hereinbefore mentioned, letters or numerals such as those designated L may be secured to or imprinted upon the portion 4 of the body 3. These letters may be made a permanent part of the portion 4 as by painting them on, as the word "Calling" would generally not be changed. However, there are available letters and numerals in various sizes which are formed of plastic sheet material coated with a pressure-sensitive adhesive. These letters will adhere to any smooth surface and are readily removable or changeable, therefore, I prefer to use such removable letters rather than using painted lettering or the like.

The identification such as the name "Joe Smith" may be written on the body portion 4 by means of crayon as indicated at W, such crayon being easily erased from the surface when it is desired to write another name. Instead of using crayon, however, I prefer to use the removable letters heretofore referred to as they are neater in appearance and are more legible than ordinary writing with crayon.

Thus, if Mr. Joe Smith were wanted, his name would be placed on the paging device, or if it were desired to locate the owner of a car bearing license number LN 471, such license identification would be written or formed on the device. Both sides of the display portion 4 would carry the same message so that when an usher carries the illuminated device up a theatre aisle, persons both to the right and to the left of him will be able to read the message.

The illumination given by the flashlight bulbs is sufficient to makes the message stand out and be easily visible and readable, yet it is not too bright so as to disturb the audience.

In Figs. 6 to 10 of the drawings, I have shown a modified form of paging device in which I utilize an edge-wise illuminated display panel 30. The panel may be formed of glass, but I prefer that it be formed of a clear, transparent synthetic resin such as "Lucite."

The panel 30 is supported between two end plates 31 and 32 and its bottom edge 33 is concealed within a hollow body portion 34 which also is supported between the end plates 31 and 32.

The body portion 34 may be made of an opaque synthetic resin and is provided with an arcuate laterally offset portion 35 of semi-circular cross-section which is adapted to contain a tubular metallic battery case 36 holding a series of dry cells 37.

The edges 38 and 39 of the body 34 are spaced from each other to define a longitudinally extend slot or opening 40 in the upper portion of the body, which slot is slightly narrower than the thickness of the panel 30. Each of the edges 38 and 39 is curved slightly away from the opening 40 so as to provide a flared entranceway to the slot. Additionally, the edge 38 is recessed at both ends thereof as indicated at 41 so as to permit the edge 38 to yield or give when the panel 30 is inserted in the slot 40. In the assembled structure, the end plate 31 is removable, but the end plate 32 is preferably cemented to the body 34, therefore the recesses 41 permit some resiliency in what would otherwise be a fairly rigid structure.

Each end plate 31 and 32 is provided with two horizontally spaced vertically extending ribs 42 which serve to support the panel 30 in an upright position and guide it into the slot 40.

Each end plate 31 and 32 is also provided with an embossment 43 which generally conforms in shape to the internal periphery of the body 34. The embossments 43 project into the body 34 and serve to reinforce the body as well as to locate it properly during assembly. Each embossment 43 is provided with a horizontal portion or ledge 44 which is located directly below the panel 30 and serves as a stop or rest for the bottom edge 33 of the panel.

A longitudinally extending rod 45 is secured to the battery case 36 and has threaded ends 46 which project through clearance holes 47 provided in the end plates 31 and 32. The battery case 36 and the end plates are secured together and held in position by acorn nuts 48 which threadedly engage the rod 45.

In one end of the battery case 36 is secured a compression coil spring 49 which bears against and makes electrical contact with one terminal 50 of the series of dry cells 37. The spring also urges the other terminal 51 of the series of dry cells into electrical contact with a contact terminal or button 52 which is provided on a push-button switch 53 which is mounted on the end plate 31 and secured thereto by means of a ring nut 54.

The other terminal 55 of the switch 53 is spaced from the switch and mounted on the inner surface of the end plate 31. It is connected electrically to the switch by means of a conductor 56.

Secured to the side of the metallic battery case 36 as by soldering or the like, are a plurality of longitudinally spaced bulb sockets 57 adapted to threadably receive bulbs 58, of the flashlight type. One terminal of the sockets 57 makes electrical

connection with the terminal **50** of the dry cells **37** through the battery case **36**. The other terminals of the respective sockets **57** are connected electrically by means of a conductor wire **59**. A resilient copper contact leaf **60** is secured to the terminal of the bulb socket nearest the switch terminal **55** and makes contact with said switch terminal to complete the electrical circuit through the tubes **58**.

The bulbs **58** are so located that they will underlie the bottom edge **33** of the panel **30**, and it will be apparent that when the switch **53** is closed the bulbs **58**, which are connected in parallel to the series of dry cells **37**, will be energized and the light will be transmitted through the edge of the panel **30**.

In order to increase the effectiveness of the lighting, the lower edge of the panel **30** is provided with a series of arcuate recesses **61** which, by presenting more edge surface to the light source, serve to intensify the illumination of the panel **30**. Each recess **61** is located directly above a corresponding light bulb **58**.

It has also been found that if the edges of the panel **30** are cloaked, the transmitted light will be better contained within the panel and will not escape through the edges. Therefore, in order to increase the intensity of the illumination, I bind or cloak the exposed edges of the panel **30** with an opaque tape **62**. A heavy coating of paint or the like could be used in lieu of the tape **62**.

In utilizing the device, letters L of the adhesive type may be mounted on the panel to spell out a word such as "Calling" which would ordinarily be common to all messages which might be put on the paging device.

The particular identification, such as the license number LN 471 of a car which has to be moved, can be written on the face of the panel **30** by means of crayon as indicated at W. This writing can be easily removed or erased and replaced by another message whenever the occasion arises. Instead of crayoning the message onto the panel, it may be made of the same type of letters L which I prefer to use for "Calling."

In order that the message be readily visible, I prefer to put a coating of black paint or the like on one side of the panel **30**. This serves as a background for the message and makes it stand out and be silhouetted against the light which is contained in the panel **30**.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a paging device of the character described, the combination of a message panel, end plates for supporting said panel, a stay-rod securing said end plates together, a battery case, said stay rod being secured to said battery case longitudinally thereof and supporting it, an opaque enclosure surrounding said stay-rod on said battery case, an electrical light source mounted on said battery case for illuminating said massage panel, and a source of electrical energy contained within said battery case for energizing said light source.

2. In a paging device of the character described, the combination of a hollow display panel having open ends, said panel having an upper translucent portion and a lower opaque portion, end plates supporting said panel, said end plates having embossments thereon which are slidable into the open ends of said panel, securing means for holding said end plates to said panel, an electrical light source contained within the opaque portion of said panel, and light energizing means contained within said opaque portion of said panel and operatively connected to said light source.

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