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(54) **EXIT DEVICE WITH LIGHTED TOUCHPAD**

EXIT-EINRICHTUNG MIT BELEUCHTETEM BERÜHRUNGSPAD

DISPOSITIF DE SORTIE COMPRENANT UNE TOUCHE A EFFLEUREMENT ECLAIREE

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(73) Proprietor: **SARGENT MANUFACTURING COMPANY**
New Haven, CT 06511 (US)

(72) Inventors:
- **MOLOKOTOS, Thanasis**
  Easton, CT 06612 (US)
- **PICARD, Daniel, J.**
  Oakville, CT 6779 (US)

(74) Representative: **Maury, Richard Philip**
Marks & Clerk LLP
90 Long Acre
London
WC2E 9RA (GB)

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Description

Technical Field

[0001] The present invention relates to exit devices, of the type used to rapidly and reliably open exit doors and allow people to exit public buildings in the event of a fire, panic situation or other emergency. More particularly, the present invention relates to electrically illuminated exit devices.

Description of Related Art

[0002] An "exit device" is a lock mechanism operated from the inside of an outward swing door through the use of a crossbar, push bar or push rail actuator, that is designed to open an exit door, allowing exit without prior knowledge of how the lock operates, whenever a horizontal force is applied to the actuator. Exit devices are typically required by fire or building codes and are used in public buildings where many people may be gathered, to provide rapid, safe and easy egress in case of emergency.

[0003] Exit devices ensure that an exit door is free to operate from the inside of the locked area, yet they allow the exit door to remain locked to prevent unauthorized entry from the outside.

[0004] Although exit devices have been highly successful in performing the function for which they were designed, deaths in public building fires continue to occur. Some deaths can be traced to the inability of those within the building to quickly identify all the building exit doors when smoke from the fire obscures required exit signage. Such signage is typically located close to the ceiling of public rooms, which permits it to be seen over the heads of those within the room. However, this location is the first to become obscured when smoke and heated air from a fire rise to the ceiling in the room.

[0005] There remains a need to improve exit signage and to directly and rapidly signal to the public the location of each exit door and the location of the actuator for each exit door, particularly in low light or smoke-obscured conditions that accompany a fire.

[0006] Conventional illumination devices, which might meet this need, such as incandescent bulbs, are bulky, fragile, provide non-uniform illumination and produce excessive heat, all of which makes them unsuitable for installation in an exit device. An exit device is subject to repeated impact as the door is operated, so any illuminator located therein must be extremely rugged. The illuminator must not produce heat which could potentially burn a user touching metal components of the exit device, or which might present a fire hazard when the exit device is Installed on a wooden door. The illuminator must be long lasting to minimize maintenance costs, yet it must reliably illuminate in an emergency situation.

[0007] US Patent 6111370 discloses a low-voltage, high-efficiency signage system in which a tubular gas discharge lighting device inside the housing is driven from a source of low voltage, high frequency square wave voltage source.

[0008] US patent 1898505 discloses a conventional push bar exit device in which the actuator or pushbar is provided with the word 'Push' stamped or otherwise inscribed thereon.

[0009] The invention is the device of claim 1.

[0010] The present invention can provide an exit device with an integrated illuminated sign assembly. It can provide an exit device with an integrated illuminated sign assembly that is long lasting and impact resistant. It can provide an exit device with an integrated illuminated sign assembly that produces no heat and wherein the illuminated sign may be located directly on the exit device push bar or actuator.

[0011] The preferred embodiment of the present invention is an illuminated exit device including a door latch mechanism, a base for attachment to a surface of a door, an actuator, a planar electroluminescent illuminator, a planar sign including opaque portions for blocking illumination from the electroluminescent illuminator, and a transparent protective cover mounted in front of the sign.

[0012] The Illuminator, sign and covering plate form a sign assembly visibly mounted on the exit device. The actuator is movably mounted relative to the base and is connected to operate the latch mechanism when pressure is applied to thereto. The electroluminescent illuminator includes electrical wiring extending through the exit device for connection to a source of electrical power, either directly or through an inverter. The sign is mounted between the electroluminescent illuminator and the transparent cover.

[0013] The actuator may be a pushbar, push rail, push plate or other known type of exit device actuator. The latch mechanism may be of the type illustrated or it may be a hidden or visible vertical rod design or other known latch mechanism design, which will be familiar to those of skill in this field.

[0014] The sign assembly is preferably mounted on the actuator such that pressure applied directly to the illuminated sign assembly will operate the exit device. The sign assembly may be directly mounted on the actuator or it may be mounted on a touchpad mounted on the actuator. The touchpad may provide additional electrical insulation and may simplify removal, repair and replacement of the sign assembly and the components thereof.

[0015] The sign assembly is preferably mounted in a surface cavity in the touchpad with the transparent protective cover positioned flush with the surface of the touchpad. The electroluminescent illuminator is preferably encased in a transparent plastic which cooperates with the insulation formed by the touchpad to provide double electrical insulation between the electroluminescent illuminator and other parts of the exit device that may be contacted by the public when the exit device is used. The sign preferably includes the word "EXIT"

and/or other verbage in English or other languages, appearing one or more times thereon.

[0016] The optional integrated inverter provides a high voltage AC power to the electroluminescent illuminator from a low voltage input to the inverter, the low voltage not presenting a shock hazard, and the high voltage being insulated from the other parts of the exit device. The low voltage for the inverter is preferably also a voltage suitable for driving electromechanical locks and hardware, such as 24 volts AC or DC. Most preferably the inverter is capable of operating from both AC and DC voltage.

[0017] The illuminated exit device is designed to permit removal of the transparent cover and/or the touchpad to permit replacement or repair of the electroluminescent illuminator.

Brief Description of the Drawings

[0018] The features of the invention believed to be novel and the elements characteristic of the invention are set forth with particularity in the appended claims. The figures are for illustration purposes only and are not drawn to scale. The invention itself, however, both as to organization and method of operation, may best be understood by reference to the detailed description of a preferred embodiment which follows taken in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of a fully assembled exit device embodying the present invention adapted for installation on a right hand reverse bevel exit door.
FIG. 2 is a perspective view of an exit device for a left hand reverse bevel exit door embodying the present invention, with the sign assembly shown in exploded view an inverter are shown in phantom. In describing the preferred embodiment of the present invention, reference will be made herein to FIGS. 1-2 of the drawings in which like numerals refer to like features.

[0019] Referring to FIG. 1, an illuminated exit device 10 includes a door latch mechanism 12, a base 14 for attachment to a surface of a door, and an actuator 16 movably mounted relative to the base and connected to operate the latch mechanism 12. When pressure is applied directly to the actuator 16, to the touchpad 18 or to an integrated electroluminescent sign assembly 20, the latch mechanism is operated to open the exit door.

[0020] Referring to FIG. 2, it can be seen that the actuator 16 is provided with a touchpad 18 having a surface cavity 22 formed therein for receiving the sign assembly 20. The sign assembly 20 is formed from a planar electroluminescent illuminator 24, a planar sign 26 having opaque portions to form the readable sign and a transparent protective cover 28.

[0021] The electroluminescent illuminator includes an electroluminescent material 30 preferably encased In a transparent electrically insulating material 32. The sign 26 may be a separate element or it may be a thin film adhesively attached to and integrated with the cover 28. Alternatively, it may be in the form of paint applied to the electroluminescent illuminator or the transparent cover. The opaque portions of the sign may form the lettering of the sign or the area around the lettering.

[0022] The touchpad 18 is preferably constructed of an electrically insulating plastic, which cooperates with the transparent coating 32 around the electroluminescent material 30 to provide double electrical insulation between the electroluminescent illuminator and other components of the exit device.

[0023] The cover 28 includes multiple tabs 34 which engage corresponding openings 36 in the surface cavity 22. Wiring 38 extends from the illuminator 30 through the touchpad 18, through an opening 40 in the actuator 16 to an optional inverter 42 located within the body of the exit device 14. Wiring 40 continues through an opening 44 into the door and through an electric hinge 46 and into the wall where connection is made to a source of power. An "electric hinge" is a commercially available product which allows electrical connections to be made through the hinge line of an exit door.

[0024] In the preferred design, the inverter 42 is powered with a low voltage AC or DC voltage which is also suitable for powering electromechanical locks and hardware. Alternatively, the inverter 42 may be omitted and a direct connection to a suitable power supply is provided.

[0025] The electroluminescent material 30 is typically provided with a 200 volt, 400 Hertz AC signal by the inverter 42. Connectors at 48 and 50 allow the touchpad and sign assembly to be disconnected without the necessity of removing the exit device from the door. Connector 52 allows the exit device to be connected to wiring from the electric hinge 46.

[0026] While the present invention has been particularly described in conjunction with a specific preferred embodiment, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art in light of the foregoing description. It is therefore contemplated that the appended claims will embrace any such alternatives, modifications and variations as falling within the true scope of the present invention.

Claims

1. An illuminated exit device including:

a door latch mechanism (12);
a base (14) for attachment to a surface of a door;
an actuator (16) movably mounted relative to the base and connected to operate the door latch mechanism when pressure is applied to the actuator by a person desiring to operate the exit device, **characterised by**:
a planar electroluminescent illuminator (24) mounted to the exit device and

electrically insulated therefrom;
an inverter (42) providing high voltage AC power to the electroluminescent
illuminator from a low voltage input to the inverter connected via electrical wiring (52) extending through the exit device to a source of low voltage electrical power, the low voltage being sufficiently low and the electrically insulated mounting of the electroluminescent illuminator being sufficient for the high voltage AC power to not present a shock hazard to the person desiring to operate the exit device;
a planar sign (26) including opaque portions for blocking illumination from
the electroluminescent illuminator, the sign being mounted in front of the electroluminescent illuminator; and
a transparent protective cover (28) mounted in front of the sign (26), the
illuminator (24), sign (26) and cover (28) forming a sign assembly (20) visibly mounted on the exit device.

2. The illuminated exit device according to claim 1 wherein the actuator comprises an elongated push bar.

3. The illuminated exit device according to claim 1 wherein the sign assembly (20) is mounted on the actuator (16) and pressure applied to the sign assembly will operate the exit device.

4. An illuminated exit device according to claim 1 further including a touchpad (18) mounted on the actuator (16), and wherein the sign assembly is mounted on the touchpad.

5. The illuminated exit device according to claim 4 wherein the touchpad (18) includes a surface cavity (22) in a surface thereof and the sign assembly is mounted in the surface cavity with the transparent protective cover positioned flush with the surface of the touchpad.

6. The illuminated exit device according to claim 4 wherein the touchpad (18) is formed of an electrically insulating material providing an electrically insulating barrier between the electroluminescent illuminator (24) and other parts of the exit device.

7. The illuminated exit device according to claim 6 wherein the touchpad (18) is formed of plastic.

8. The illuminated exit device according to claim 6 wherein the electroluminescent illuminator (24) is encased in a transparent plastic comprising an additional electrical insulator to provide double electrical insulation between the electroluminescent illuminator and other parts of the exit device.

9. The illuminated exit device according to claim 1 wherein the planar sign (26) comprises an opaque film adhesively attached to the transparent protective cover.

10. The illuminated exit device according to claim 9 wherein the planar sign (26) comprises an opaque paint.

11. The illuminated exit device according to claim 1 wherein the sign (26) includes letters forming the word "EXIT" and/or other verbiage in English or other language thereon.

12. The illuminated exit device according to claim 1 wherein the electroluminescent illuminator (24) is encased in a transparent plastic comprising an electrical insulator.

13. The illuminated exit device according to claim 1 further including a touchpad (18) mounted on the actuator, and wherein:

the touchpad includes a surface cavity (22) in a surface thereof and the
surface cavity includes a plurality of openings (36);
the transparent cover includes a plurality of tabs (34); and
the sign assembly (20 is held in the surface cavity by engagement between
the tabs of the cover and the openings in the surface cavity.

14. The illuminated exit device according to claim 1 wherein the inverter (42) provides high voltage AC power to the electroluminescent illuminator from a low voltage which is suitable for driving electromechanical locks and hardware.

15. The illuminated exit device according to claim 1 wherein the inverter (42) provides high voltage AC power to the electroluminescent illuminator from a 24 volts AC or DC power input to the inverter.

16. The illuminated exit device according to claim 1 wherein the inverter (42) is mounted in the base (14).

17. The illuminated exit device according to claim 1 wherein:

the base (14) includes an opening (44) facing towards the surface of the door
on which the base is to be attached, and
the electrical wiring is hidden from view within the exit device and extends from the electrolu-

minescent illuminator (24) to the opening (44) in the base (14) whereby the electroluminescent illuminator (24) may be electrically connected to hidden power wiring in the door extending from an electrical hinge to an opening in the door surface, the opening in the base being located opposite the opening in the door surface to permit connection between the power wiring and the internal wiring.

18. The illuminated exit device according to claim 1 wherein the transparent cover (28) is removable without removal of the exit device from the door to permit replacement or repair of the electroluminescent illuminator(24).

Patentansprüche

1. Beleuchtete Exit-Einrichtung, Folgendes einschließend:

einen Türverriegelungsmechanismus (12);
eine Basis (14) zum Befestigen an einer Oberfläche einer Tür;
einen Aktuator (16), der relativ zur Basis beweglich montiert ist und angeschlossen ist, um den Türverriegelungsmechanismus zu bedienen, wenn Druck auf den Aktuator durch eine Person aufgebracht wird, die die Exit-Einrichtung bedienen will, **dadurch gekennzeichnet, dass**:

ein flacher elektrolumineszierender Illuminator (24) an der Exit-Einrichtung montiert ist und von ihr elektrisch isoliert ist;
ein Wechselrichter (42) den elektrolumineszierenden Illuminator mit Hochspannungs-AC-Leistung von einem Niederspannungseingang zum Wechselrichter versorgt, der über elektrische Verdrahtung (52) angeschlossen ist, die durch die Exit-Einrichtung zu einer Quelle von elektrischer Niederspannungsleistung verläuft, wobei die Niederspannung hinreichend niedrig ist und die elektrisch isolierte Befestigung des elektrolumineszierenden Illuminators hinreichend ist, sodass die Hochspannungs-AC-Leistung eine Person, die die Exit-Einrichtung bedienen will, keiner Elektroschockgefahr aussetzt;
ein flaches Schild (26) lichtundurchsichtige Teile einschließt, um Beleuchtung vom elektrolumineszierenden Illuminator auszublenden, wobei das Schild vor dem elektrolumineszierenden Illuminator montiert ist; und
eine transparente Schutzabdeckung (28) vor dem Schild (26) montiert ist, wobei der Illuminator (24), das Schild (26) und die Abdeckung (28) eine Schildbaugruppe (20) bilden, die sichtbar auf der Exit-Einrichtung montiert ist.

2. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin der Aktuator eine längliche Schubstange umfasst.

3. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin die Schildbaugruppe (20) auf dem Aktuator (16) montiert ist und auf die Schildbaugruppe aufgebrachter Druck die Exit-Einrichtung betreiben wird.

4. Beleuchtete Exit-Einrichtung nach Anspruch 1, außerdem ein Touchpad (18) einschließend, das auf dem Aktuator (16) montiert ist, und worin die Schildbaugruppe auf dem Touchpad montiert ist.

5. Beleuchtete Exit-Einrichtung nach Anspruch 4, worin das Touchpad (18) eine Oberflächenvertiefung (22) in einer Oberfläche davon einschließt und die Schildbaugruppe in der Oberflächenvertiefung montiert ist, wobei die transparente Schutzabdeckung flächenbündig mit der Oberfläche des Touchpads positioniert ist.

6. Beleuchtete Exit-Einrichtung nach Anspruch 4, worin das Touchpad (18) aus einem elektrisch isolierenden Material geformt ist, das eine elektrisch isolierende Barriere
zwischen dem elektrolumineszierenden Illuminator (24) und anderen Teilen der Exit-Einrichtung bereitstellt.

7. Beleuchtete Exit-Einrichtung nach Anspruch 6, worin das Touchpad (18) aus Kunststoff geformt ist.

8. Beleuchtete Exit-Einrichtung nach Anspruch 6, worin der elektrolumineszierende Illuminator (24) von einem transparenten Kunststoff ummantelt ist, der einen zusätzlichen elektrischen Isolator umfasst, um doppelte elektrische Isolierung zwischen dem elektrolumineszierenden Illuminator und anderen Teilen der Exit-Einrichtung bereitzustellen.

9. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin das flache Schild (26) einen lichtundurchlässigen Film umfasst, der an der transparenten Schutzabdeckung adhäsiv befestigt ist.

10. Beleuchtete Exit-Einrichtung nach Anspruch 9, worin das flache Schild (26) eine lichtundurchlässige Farbe umfasst.

11. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin das Schild (26) Buchstaben einschließt, die das Wort "EXIT" bilden und/oder eine andere Wortwahl in Englisch oder einer anderen Sprache darauf.

12. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin der elektrolumineszierende Illuminator (24) von einem einen elektrischen Isolator umfassenden transparenten Kunststoff ummantelt ist.

13. Beleuchtete Exit-Einrichtung nach Anspruch 1, außerdem ein Touchpad (18) umfassend, das auf dem Aktuator montiert ist und worin:

das Touchpad eine Oberflächenvertiefüng (22) in einer Oberfläche davon einschließt und die Oberflächenvertiefung eine Vielzahl von Öffnungen (36) einschließt;
die transparente Abdeckung eine Vielzahl von Befestigungslaschen (34) einschließt; und
die Schildbaugruppe (20) durch Eingriff zwischen den Befestigungslaschen der Bedeckung und der Öffnungen in der Oberflächenvertiefung in dieser Oberflächenvertiefung gehalten wird.

14. Beleuchtete Exit-Einnichturzg nach Anspruch 1, worin der Wechselrichter (42) Hochspannungs-AC-Leishing an den elektrolumineszierenden Illuminator von einer Niederspannung anlegt, die zum Antreiben von elektromechanischen Schlössern und Hardware geeignet ist.

15. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin der Wechselrichter (42) Hochspannungs-AC-Leistung von einem 24 Volt AC- oder DC-Leistungseingang zum Wechselrichter an den elektrolumineszierenden Illuminator anlegt.

16. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin der Wechselrichter (42) in der Basis (14) montiert ist.

17. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin:

die Basis (14) eine Öffnung (44) einschließt, die der Oberfläche der Tür zugewandt ist, auf der die Basis zu befestigen ist, und
die elektrische Verdrahtung innerhalb der Exit-Einrichtung von der Sicht verborgen ist und vom elektrolumineszierenden Illuminator (24) zur Öffnung (44) in der Basis (14) verläuft, wodurch der elektroluminesztерende Illuminator (24) an verborgene Leistungsverdrahtung in der Tür elektrisch angeschlossen werden kann, die von einem elektrischen Gelenk zu einer Öffnung in der Türoberfläche verläuft, wobei die Öffnung in der Basis gegenüber der Öffnung in der Türoberfläche angeordnet ist, um Verbindung zwischen der Leistungsverdrahtung und der internen Verdrahtung zu ermöglichen.

18. Beleuchtete Exit-Einrichtung nach Anspruch 1, worin die transparente Abdeckung (28) entfernbar ist, ohne die Exit-Einrichtung von der Tür zu entfernen, um Austausch oder Reparatur des elektrolumineszierenden Illuminators (24) zu ermöglichen.

Revendications

1. Dispositif de sortie éclairé comprenant :

un mécanisme de verrouillage de porte (12) ;
une base (14) destinée à être fixée à une surface d'une porte ;
un actionneur (16) monté de manière mobile par rapport à la base et raccordé pour actionner le mécanisme de verrouillage de porte lorsqu'une pression est appliquée à l'actionneur par une personne souhaitant actionner le dispositif de sortie, **caractérisé par** :

un dispositif d'éclairage électroluminescent plan (24) monté sur le dispositif de sortie et isolé électriquement de celui-ci ;
un onduleur (42) fournissant une puissance alternative haute tension au dispositif d'éclairage électroluminescent à partir d'une faible tension appliquée à l'onduleur connecté par l'intermédiaire d'un câblage électrique (52) s'étendant à travers le dispositif de sortie à une source d'énergie électrique basse tension, la basse tension étant suffisamment basse et le montage isolé électriquement du dispositif d'éclairage électroluminescent étant suffisant pour que la puissance alternative haute tension ne présente pas un risque d'électrocution pour la personne souhaitant actionner le dispositif de sortie ;
un panneau plan (26) comprenant des parties opaques pour arrêter l'éclairage provenant du dispositif d'éclairage électroluminescent, le panneau étant monté devant le dispositif d'éclairage électroluminescent ; et
un capot de protection transparent (28) monté devant le panneau (26), le dispositif d'éclairage (24), le panneau (26) et le capot (28) formant un ensemble de panneau (20) monté de manière visible sur le dispositif de sortie.

2. Dispositif de sortie éclairé selon la revendication 1, dans lequel l'actionneur comprend une barre de poussée allongée.

3. Dispositif de sortie éclairé selon la revendication 1, dans lequel l'ensemble de panneau (20) est monté sur l'actionneur (16) et la pression appliquée à l'en-

semble de panneau actionnera le dispositif de sortie.

4. Dispositif de sortie éclairé selon la revendication 1, comprenant en outre un pavé tactile (18) monté sur l'actionneur (16), et dans lequel l'ensemble de panneau est monté sur le pavé tactile.

5. Dispositif de sortie éclairé selon la revendication 4, dans lequel le pavé tactile (18) comprend une cavité de surface (22) dans une surface de celui-ci et l'ensemble de panneau est monté dans la cavité de surface avec le capot de protection transparent positionné à niveau avec la surface du pavé tactile.

6. Dispositif de sortie éclairé selon la revendication 4, dans lequel le pavé tactile (18) est constitué d'un matériau électriquement isolant réalisant une barrière électriquement isolante entre le dispositif d'éclairage électroluminescent (24) et les autres parties du dispositif de sortie.

7. Dispositif de sortie éclairé selon la revendication 6, dans lequel le pavé tactile (18) est constitué d'une matière plastique.

8. Dispositif de sortie éclairé selon la revendication 6, dans lequel le dispositif d'éclairage électroluminescent (24) est enfermé dans une matière plastique transparente comprenant un isolant électrique supplémentaire pour réaliser une double isolation électrique entre le dispositif d'éclairage électroluminescent et les autres parties du dispositif de sortie.

9. Dispositif de sortie éclairé selon la revendication 1, dans lequel le panneau plan (26) comprend un film opaque fixé de manière adhésive au capot de protection transparent.

10. Dispositif de sortie éclairé selon la revendication 9, dans lequel le panneau plan (26) comprend une peinture opaque.

11. Dispositif de sortie éclairé selon la revendication 1, dans lequel le panneau (26) comprend des lettres formant le mot «EXIT» et/ou un autre mot en anglais ou en une autre langue sur celui-ci.

12. Dispositif de sortie éclairé selon la revendication 1, dans lequel le dispositif d'éclairage électroluminescent (24) est enfermé dans une matière plastique transparente comprenant un isolant électrique.

13. Dispositif de sortie éclairé selon la revendication 1, comprenant en outre un pavé tactile (18) monté sur l'actionneur, et dans lequel :

le pavé tactile comprend une cavité de surface (22) dans une surface de celui-ci et la cavité de surface comprend une pluralité d'ouvertures (36) ;
le capot transparent comprend une pluralité de languettes (34) ; et
l'ensemble de panneau (20) est maintenu dans la cavité de surface par une mise en prise des pattes du capot avec les ouvertures dans la cavité de surface.

14. Dispositif de sortie éclairé selon la revendication 1, dans lequel l'onduleur (42) fournit une puissance alternative haute tension au dispositif d'éclairage électroluminescent à partir d'une basse tension qui est appropriée pour commander des verrous et un matériel électromécaniques.

15. Dispositif de sortie éclairé selon la revendication 1, dans lequel l'onduleur (42) fournit une puissance alternative haute tension au dispositif d'éclairage électroluminescent à partir d'une puissance alternative ou continue de 24 volts appliquée à l'onduleur.

16. Dispositif de sortie éclairé selon la revendication 1, dans lequel l'onduleur (42) est monté dans la base (14).

17. Dispositif de sortie éclairé selon la revendication 1, dans lequel :

la base (14) comprend une ouverture (44) orientée vers la surface de la porte sur laquelle la base doit être fixée, et
le câblage électrique est caché à la vue dans le dispositif de sortie et s'étend du dispositif d'éclairage électroluminescent (24) jusqu'à l'ouverture (44) dans la base (14), moyennant quoi le dispositif d'éclairage électroluminescent (24) peut être connecte électriquement à un câblage de puissance caché dans la porte s'étendant d'une articulation 5 électrique jusqu'à une ouverture dans la surface de porte, l'ouverture dans la base étant située face à l'ouverture dans la surface de porte pour permettre une connexion entre le câblage de puissance et le câblage interne.

18. Dispositif de sortie éclairé selon la revendication 1, dans lequel le capot transparent (28) peut être retiré sans retirer le dispositif de sortie de la porte pour permettre le remplacement ou la réparation du dispositif d'éclairage électroluminescent (24).

FIG. 1

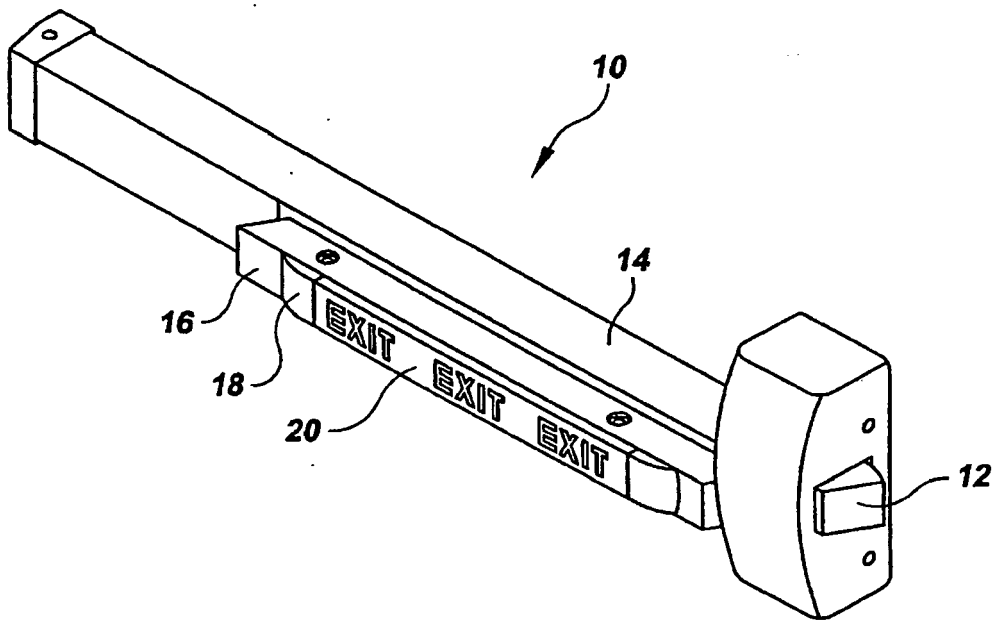
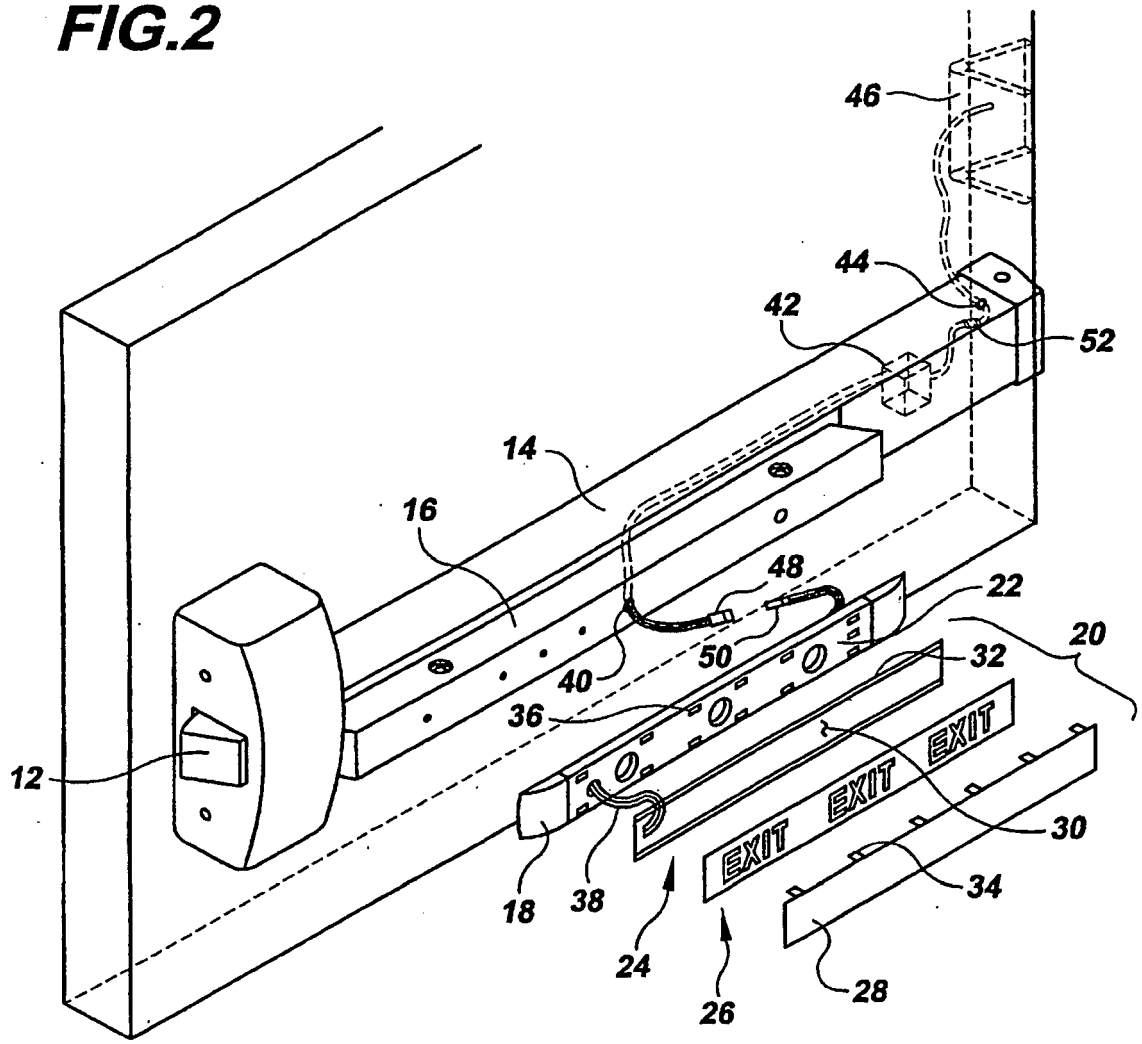


FIG.2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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 6111370 A **[0007]**
- US 1898505 A **[0008]**