

(22) Date of filing: **14.08.2013**

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ters, indicia, images or artwork. Each plate (1) is held on the panel (2) in such a way as it may be removed and replaced without damage to itself or to said panel. The illumination may be from a natural or an artificial light source, or both, and arranged in such a way that both plate (1) and panel (2) are illuminated from behind.



Description

TECHNICAL FIELD

[0001] The current invention relates to the field of illuminated displays in general. In particular, the invention relates specifically to a sign display assembly with an illuminated translucent or transparent panel, optionally containing information, that holds at least one removable back lit plate, optionally containing information, where said plate may be removed and replaced with itself, or with another plate containing different information, without causing damage to itself or to the said panel. The one or more plates may be located on the illuminated panel in different places, according to the design requirements of the sign assembly.

BACKGROUND

[0002] Advertising and sign display systems have been known that use illumination to increase the visibility of the information displayed on the sign display panel. This illumination may be front lit, back lit or edge lit according to the invention. The information contained on the display panel, or poster contained thereon, may be either: unchanging in nature, such as in shop fascias or permanent advertisements, or may require changing periodically as with advertising hoardings or billboards. Examples of these types of inventions can be seen in the following prior art:

[0003] PATENT FR2911424(A1) - 2008.07.18 - inventors: Delisle Jean-Yves, Passet Pierre - Title: DISPLAY PANEL E.G. FOR SIGNAGE, HAS LIGHT SOURCES PLACED AT REAR OF FRONT FACADE, WHERE POSITION OF SOURCES IS VISIBLE ACROSS FACADE WHEN LIGHT SOURCES ARE ILLUMINATED TO DISPLAY VARIABLE MESSAGES; shows an invention where a poster is mounted in an assembly and back lit to form an illuminated sign display. The advertisement can be changed or remain permanent according to requirements.

[0004] PATENT US2006291241(A1) - 2006.12.28 - inventors: Richard Wojtowicz, Werner Reinhard Simbeck et al. - Title: LED ILLUMINATED DISPLAY PANEL ASSEMBLY; shows an invention where a poster, sign or other graphical element is mounted on a translucent sheet and illuminated from behind with a solar & battery powered LED light source.

[0005] PATENT CH676061(A5) - 1990.11.30 - inventor: Held Reto - Title: ILLUMINATED ADVERTISEMENT PANEL HAS MATTED INNER GLASS PLATES BEFORE REFLECTIVE REAR WALL & ADVERTISEMENT; shows an invention of a compact sign assembly where advertising material is held between two glass plates and back lit by an internal light source.

[0006] PATENT EP0283406(A1) - 1998.09.21 - inventor: Villard Jean-Pierre - Title: ILLUMINATED PANEL FOR GROUND LEVEL ADVERTISING; shows an inven-

tion of a robust construction containing a frame holding advertising material sandwiched between two translucent panels which is back lit from inside. The advertising material can be accessed and changed via a hinged panel.

[0007] Although in these inventions the information held in the displays can be changed, it generally requires that the entire panel, poster or other form of representing the information has to be replaced with another. Although these inventions can provide eye-catching and easy to read displays, they may be an inflexible means of displaying information where only part of that information has to be changed periodically due to changing circumstances.

[0008] It is also known of inventions of advertising and sign display systems that have a back lit plate, containing information, which can be changed or replaced if required. Examples of these types of inventions can be seen in the following prior art:

[0009] PATENT US 2011138664(A1) - 2011.06.16 - inventor: Wells Kerry - Title: FRAME WITH REMOVABLE SIGN; shows an invention with a back lit removable and changeable sign mounted on a versatile frame which can be used to locate the sign in a variety of different situations.

[0010] PATENT US51055688(A) - 1992.04.21 - inventor: Branning Lester - Title: ILLUMINATED SIGN HAVING STENCIL PANEL AND REFLECTOR PANEL; shows an invention of a sign assembly where a removable front panel, containing the logo 'EXIT' as an example, is illuminated from behind from a light source within the assembly.

[0011] PATENT US4383382(A) - 1983.05.17 - inventor: Hegarty William - Title: SELF LUMINOUS SAFETY SIGN; shows another invention of the 'EXIT' or 'NO SMOKING' type in a self-luminous sign assembly with a removable back lit front panel containing characters.

[0012] PATENT GB 254450(A) - 1926.07.08 - inventor: August Harry Brackensey - Title: IMPROVEMENTS IN OR RELATING TO ADVERTISING AND LIKE SIGNS; shows another invention of a sign assembly with a removable front panel bearing an inscription illuminated from behind. The panel is hinged to facilitate access.

[0013] As can be seen from these examples, there are many variations on a similar theme of an illuminated sign with a removable back lit panel bearing information such as an exit sign, numbers, simple messages..etc. Although the embodiments in these inventions are depicted with information which appears to be of a permanent or semi permanent nature, the inventions have in common the flexibility to vary the information as and if required.

[0014] However, the inventions generally specify a single plate and have limited scope for including additional plates or illuminated displays of information, indicia or graphics which may compliment the information contained on the plate.

[0015] As a further demonstration of prior art, it is also known of inventions where a plurality of plates are held on

a non-translucent display panel whereby said plates contain back lit information which may be changed readily according to needs and changing circumstances. Three examples of these types of inventions are shown in the following prior art:

[0016] PATENT US2817915 - 1957.12.31 - inventor: Albert A Chatkin - Title: MEMORIAL PLAQUES AND THE LIKE; shows an invention whereby a non-translucent panel holds a plurality of back lit commemorative memorial plaques. The plaques contain information about the deceased which may be replaced with another if required.

[0017] PATENT US1839786 - 1932.01.05 - inventor: H.C.C.Engberg - Title: ILLUMINATED SIGN; shows an invention whereby a non-translucent panel holds a plurality of back lit plates containing information such as the names of doctors in a hospital. The plates may be removed and replaced readily to indicate different names as required. All the plates are back lit by the same illumination though individual plates may be 'blacked out' by means of a manually operated mask which can be swung down to prevent the particular plate from being illuminated.

[0018] PATENT US 1239982 - 1918.12.31 - inventor: Webber Owen Thomas - Title: ILLUMINATED DIRECTORY BOARD; shows an invention whereby a non-translucent panel holds a plurality of removable back lit plates containing the names of the occupants in a building with the associated room number inscribed to one side on the said panel. The names on the plates can be replaced or changed as required. In this invention, each plate has its own individual light, which can be switched on or off selectively.

[0019] With these inventions, the information contained on the plurality of plates can be changed or replaced readily. Furthermore the lighting to each individual plate may be turned on or off selectively, thus giving further meaning to the information. All the inventions facilitate the ready removal and replacement of the plates, however, the inventions specify that only the plates should be illuminated and there is limited scope for including additional illuminated display of information such as advertising, artwork or images which may compliment the information contained on the plates.

[0020] To overcome the problems of prior art outlined in paragraphs [0007], [0014] and [0019], the current invention is disclosed as described below:

SUMMARY OF THE INVENTION

[0021] A sign assembly consisting of at least one removable back lit plate, optionally containing back lit information, held on an illuminated translucent or transparent panel, which may optionally contain information such as advertising material, artwork, characters, images, indicia or graphics, whereby the said plate may be removed and replaced with itself, or with another plate containing different information, without causing damage to itself or

to the said panel. The plate(s) may be held on the illuminated panel in different locations, according to the design requirements of the sign assembly. The illumination may be natural or artificial light, or both, and arranged in such a way as to provide the back lighting for both panel and plate(s).

[0022] As devised, the aim of the current invention seeks to overcome the problems of prior art by combining the advantages of an eye catching and easy to read illuminated display panel, which may optionally contain information, with one or more removable back lit plates, or plaques, where the information contained thereon is not only more visible by way of the back lighting, but can also be changed readily by replacing the plate(s) with other(s) containing different information.

[0023] With reference to paragraph [0007], the invention provides a sign display system whereby part of the information display can be changed easily, whilst maintaining other parts unchanged.

[0024] With reference to paragraph [0014], the invention provides a sign display system whereby one or more plates, optionally containing information, may be accommodated in various locations on an illuminated panel which may also contain further information.

[0025] With reference to paragraph [0019], the invention provides a sign display system whereby the removable plate(s) and the supporting translucent panel are both back lit such that the information contained on said plate(s) and said panel are both illuminated and rendered more visible.

[0026] The light source may be natural light, as would be the case if the invention is located in a window opening, or situated in front of a window opening which has access to natural light.

[0027] Alternatively the light source may be artificial light, whereby the invention would be located over a light box or situated in such a way that a source of artificial light can be directed to the back of the invention.

[0028] A further alternative may employ both natural and artificial light to provide the illumination. This said further alternative may be employed, for example, when a natural light source diminishes thus requiring artificial lighting to boost the illumination.

[0029] The front of the invention is defined as the side which is meant to be viewed by an observer. With this point of reference, the light source for the illumination is situated behind the plate(s) and the translucent, or transparent panel, which holds the said plate(s).

[0030] It is desirable, though not essential, that the illuminated translucent or transparent panel occupies a surface area significantly greater than that occupied by the plate(s) in order to increase the visual impact of said panel.

[0031] With reference to paragraph [0030], an objective of the current invention is to provide a high visual impact display which can be seen even in low light situations. The advertising material, artwork or supporting information contained on the illuminated panel may either

be permanent in nature, semi permanent, i.e. rarely changed or modified, or may not be included at all; i.e. the illuminated panel may be monochromatic or contain no information or decoration at all.

[0032] In the current invention, the back lit plate is held on the illuminated panel in such a way as it can be removed and replaced readily without damage to itself or to the said panel,

[0033] With reference to paragraph [0032], a further objective of the invention is to provide a sign display assembly containing back lit removable plate(s) whereby information contained thereon can be changed or replaced easily. Also, the plate(s) held on the illuminated background panel may remain blank, i.e. without containing information, until required otherwise by changing circumstances.

[0034] A consequential advantage of this current invention is that each individual plate may be illuminated selectively by turning on or off a corresponding light source situated immediately behind the said plate. In such an embodiment of the invention, those skilled in the art would devise the illumination such that the light source for the illuminated panel and the individual plates can be distributed and controlled separately.

[0035] Notwithstanding the prior art, the invention is neither taught nor rendered obvious and constitutes an inventive step over conventional solutions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0036] The embodiments illustrated in the drawings, and described in the following disclosure, should be viewed as typical examples of possible arrangement according to the invention and should not be regarded as defining the limits of the variations that are possible.

[0037] Any information, artwork and disposition of plates shown in the drawings are fictitious and used for illustrative purposes only. As such, the embodiments and illustrations described below should be viewed as non-limitative to the spirit and nature of the invention.

Fig. 1A: Front view of a non-limitative embodiment of the invention showing the principle features.

Fig. 1B: Cross sectional side view of fig. 1A showing non specific light sources.

Fig. 2A: Detail of preferred non-limitative embodiment of plate.

Fig. 2B: Cross sectional view of fig. 2A showing multiple layered construction of preferred plate embodiment.

Fig. 2C: Cross sectional view of fig. 2A showing alternative orientation of plate embodiment.

Fig. 3A: Detail of another non-limitative embodiment of plate.

Fig. 3B: Cross sectional view of fig. 3A showing multiple layered construction of another plate embodiment.

Fig. 3C: Cross sectional view of fig. 3A showing al-

ternative orientation of another plate embodiment.

Fig. 4: Detail of preferred method of holding plate to panel using nut & bolt mechanical fastenings.

Fig. 5A: Front view of preferred non-limitative embodiment of the invention.

Fig. 5B: Cross sectional view of Fig. 5A showing the schematic arrangement of an artificial light source contained in a light box.

REFERENCES SIGNS LIST

[0038]

1. Back lit removable plate.
2. Illuminated translucent or transparent panel.
3. Sign assembly frame.
4. Information contained on panel 2.
5. Threaded bolt fastening.
6. Threaded nut fastening.
- 7A. Closing side panels of light box.
- 7B. Closing rear panel of light box.
8. Artificial light source.
9. Diffuser panel.
10. Information contained on plate 1.
11. Non specific light source.
12. Optional supplementary artificial light source.
13. Viewer and orientation of viewer.
14. Substantially opaque layer, or film, of plate embodiment.
15. Substantially translucent layer, or substrate, of plate embodiment.

DETAILED DESCRIPTION OF THE INVENTION

[0039] With reference to drawing figs. 1A & 1 B:

[0040] Fig. 1A shows an embodiment of the invention showing the general arrangement of the illuminated panel (2), plate(s) (1) and the sign assembly frame (3).

[0041] The example of fictitious information depicted as the characters: 'MANAGEMENT STRUCTURE', 'Q Seven Industries and the artwork 'Q 7' is designated as the supporting information (4) which compliments the information (10) on the plate(s) (1).

[0042] The supporting information (4) is deemed to be permanent or semi-permanent in nature and is contained on the illuminated panel (2). Suggested means used to apply the supporting information (4) to the panel (2) are described below in paragraphs [0052] to [0057], though not to the exclusion of other means which achieve the desired results.

[0043] The information (10) contained on the plates (1) is deemed to be variable and can be changed by replacing the appropriate plate with another containing different information. Suggested means used to apply the information to the plates are described below in paragraph [0068] and paragraphs [0070] to [0072], though not to

the exclusion of other means which achieve the desired results.

[0044] A preferred means of holding the plate (1) to the panel (2) is described below in paragraph [0085] to [0088].

[0045] Further means of holding the plate (1) to the panel (2), though not to the exclusion of other means, are described in paragraphs [0089] to [0094].

[0046] The illuminated panel (2) is held in a frame (3) whose proportions are not restricted by the specification of this invention but which broadly follow the shape and size of the said panel.

[0047] The frame (3) may be made from suitable materials such as, but not exclusively, wood, UPVC or plastic extrusions, aluminium extrusions or steel profiles and fabricated using the known methods as used by those skilled in the window frame or door making industry.

[0048] The said panel (2) may be held in a rebated portion of the frame as commonly adopted to fit glass panels into frames used in the window or door making industry. These may include, though not exclusively, battens, clips, adhesive mastic or special profile strips designed to clip onto the rebated section of a window frame extrusion.

[0049] Optionally, the join between the panel (2) and the frame (3) may be sealed to resist the elements by means (not illustrated) such as mastic, silicon sealants or flexible sealing strips.

[0050] The panel (2) may be made from any material which is translucent or transparent and fulfills the structural and constructional requirements of the sign display. Such materials may include, though not exclusively, glass, polymers, acrylic, fiberglass, resins, polycarbonates and plastics. In the preferred embodiment of the invention the preferred material is translucent acrylic sheet though other materials may be used such as those previously described.

[0051] The material used for panel (2) may be coloured, monochromatic, opalescent, translucent or transparent and may have one or all of its surfaces 'frosted', for example by sand blasting, to act as a diffuser to the light source (11).

[0052] The methods of applying information to the panel (2), in the form of advertising material, characters, images, indicia, graphics, artwork and so on, are many and varied and are not restricted by this invention. Suggested methods are described below, though not illustrated, but do not exclude other methods which achieve the desired results.

[0053] A method is suggested whereby information may be displayed through, or in front of the panel (2) by the inclusion of a poster or advertising material which may be affixed either directly to the surface of the panel (2) or sandwiched between the panel (2) and a supplementary panel (not illustrated) adjacent to panel (2). It is desirable that the poster or advertising material should be sufficiently translucent to allow the passage of light so that it appears illuminated when subjected to a light

source behind it.

[0054] A method is suggested whereby information may be applied to the surface of panel (2) by painting, printing or screen printing an opaque medium which may be further decorated when dry, set or hardened.

[0055] Another method is suggested whereby information may be applied to the surface of panel (2) by painting, printing or screen printing a translucent medium which may be further decorated when dry, set or hardened.

[0056] Yet another method is suggested whereby information may be applied to the surface of panel (2) by the application of resin lines which may have the enclosed spaces they create decorated by the application of coloured translucent resins. Such methods are used to create a simulated visual effect similar in aspect to a stained glass window.

[0057] A further method is suggested whereby information may be applied to the surface of panel (2) by the application of self-adhesive lead strips which, when applied, may have the enclosed spaces they create decorated by the application of coloured translucent laminates. Such methods are used to create a simulated visual effect similar in aspect to a stained glass window.

[0058] The panel (2) may also be made as an actual stained glass window constructed from individual glass pieces assembled with lead came using the methods known by those skilled in the arts.

[0059] The assembly of frame (3), panel (2) and plates(s) (1), as shown in this embodiment, may be located in a window opening, or in front of a window opening, whereby the illumination for the sign assembly comes from a light source (11) which may be natural light.

[0060] Optional artificial light sources (12), such as spot lights, may be used to supplement the natural light source when said natural light source fails or diminishes.

[0061] If desired, the frame (3) may be devised such that it is hinged to a fixed frame (not illustrated) to permit the frame & panel assembly (3 & 2) to be operate as an opening window.

[0062] Fig. 1B shows the plate (1), panel (2) and frame (3), in cross section, and shows the orientation of the invention where the front is defined as the side seen by the viewer (13). With this reference in mind, the illumination (11) and/or (12) is directed at the opposite side to the viewer and provides the back lighting for both panel (2) and plate(s) (1).

[0063] With reference to drawing figs. 2A, 2B & 2C:

[0064] Fig. 2A shows the preferred embodiment for representing information (10) on the plate (1) where the said information may be represented as characters, indicia, images or artwork.

[0065] As seen by the viewer (13), the surface areas occupied by the information (10) are substantially translucent whilst the remaining surfaces of the plate are substantially opaque, or sufficiently less translucent than those of the information, so as to create a high contrast between said information and said plate.

[0066] As a consequence, when a light source (11) is

present behind the plate, the information (10) appears illuminated according to the condition previously described.

[0067] Fig. 2B shows the preferred embodiment material made from a multi layered material composed of at least two layers; one layer (14) being substantially opaque and the other layer (15) being substantially translucent. In this embodiment the material is orientated so that the substantially opaque layer (14) is facing the viewer (13).

[0068] In the preferred embodiment, the plate material is a specialised multi layered plastic or acrylic composite material which is composed of the aforementioned substantially opaque and substantially translucent layers. This preferred material is not exclusive and other materials may be used which achieve the desired results.

[0069] In the preferred embodiment, the information (10) may be formed by removing parts of the substantially opaque layer (14), using a laser, engraver or router cutter, to reveal below the substantially translucent substrate layer (15) in the form of the information shapes.

[0070] An alternative plate material may be composed of a translucent or transparent substrate (15), such as a glass, resin, polycarbonate, plastic or acrylic, with a substantially opaque layer (14) applied to it, such as a paint film or a laminate film.

[0071] With the aforementioned alternative material as described, the information may be formed by applying the substantially opaque layer (14), as a paint or pigment film, directly to the substantially translucent substrate (15) leaving the unpainted areas to form the shapes of the information.

[0072] Alternatively, a mask, in the form of the information shapes, may be applied first to the substrate layer (15) and then removed later after the substantially opaque paint or pigment layer has been applied and hardened. A suggested method to apply the paint film is by paint spraying but this does not exclude other methods which achieve the desired results.

[0073] Alternatively a laminate film made of a substantially opaque material, with the information shapes already cut out, may be applied to the substantially translucent substrate (15) leaving translucent areas visible in the form of the the information shapes.

[0074] The above methods are non limitative and other methods may be employed to achieve the condition described in paragraph [0064] & [0065]

[0075] Fig. 2C shows an alternative orientation of the plate (1) where the substantially translucent layer (15) is facing the viewer (13). As with the preferred orientation shown in Fig. 2B, the information is formed in the substantially opaque layer (14), but with the shape of the information in reverse format, as a mirror image, so that the information can be read correctly when viewed as described.

[0076] The means to achieve the embodiment in Fig. 2C are substantially the same as those for the embodiment in Fig. 2A though fulfilling the conditions detailed in

paragraph [0074]

[0077] With reference to drawing figs. 3A, 3B & 3C:

[0078] Fig. 3A shows an alternative embodiment for representing information (10) on the plate (1) where the said information may be represented as characters, indicia, images or artwork.

[0079] As seen by the viewer (13), the surface areas occupied by the information (10) are substantially opaque whilst the remaining surfaces of the plate are substantially translucent, or sufficiently less opaque than those of the information, so as to create a high contrast between said information and said plate.

[0080] When a light source (11) is present behind the plate (1), the said translucent areas on the plate appear illuminated according to the condition previously described.

[0081] Fig. 3B shows the alternative embodiment material made from a multi layered material composed of at least two layers; one layer (14) being substantially opaque and the other layer (15) being substantially translucent. In this embodiment the material is orientated so that the substantially opaque layer (14) is facing the viewer (13).

[0082] Fig. 3C shows an alternative orientation of the plate (1) where the substantially translucent layer (15) is facing the viewer (13). As with the embodiment oriented as in Fig. 3B, the information is formed by the substantially opaque layer (14), but with the shape of the information in reverse format, as a mirror image, so that the information can be read correctly when viewed as described.

[0083] The suggested methods used to form the information (10) on the plate (1) are broadly similar to those described for the embodiments shown in fig. 2A, 2B & 2C though fulfilling the conditions detailed in paragraph [0078] & [0081]

[0084] With reference to drawing fig. 4.

[0085] Fig. 4 illustrates a preferred means of holding the plate (1) to the panel (2) such that the said plate may be removed without damage to itself or to the said panel.

[0086] In this preferred embodiment, the fastening method is at least one screw threaded bolt (5), coupled to a screw threaded nut (6), with said bolt passing through a proportionally sized hole through both plate (1) and panel (2) so that both components are held together when the said nut is screwed onto the threaded portion of bolt (5).

[0087] It is desirable, though not essential, that at least two nut & bolt fixings are used to securely hold the plate (1) onto the panel (2).

[0088] In cases where the sign assembly is exposed to the elements, it is desirable, though not essential, to use a sealing washer or 'O' ring (not illustrated) located between plate (1) and panel (2) with the bolt (5) passing through the said washer. Note that the sealing means, when used, should be applied to the side of the sign assembly which faces the elements.

[0089] It is also possible, if desired, to orientate the nut

& bolt in the reverse order such that the head of the bolt (5) contacts the panel (2) and the nut (6) contacts the plate (1).

[0090] An alternative mechanical fastening may be the use of at least one clevis pin (not illustrated), instead of the bolt (5), similarly passing through a proportionally sized hole through both plate (1) and panel (2) and a split pin, or pin, (not illustrated), instead of a nut (6), to secure the clevis pin and components together.

[0091] Another alternative fastening may be the use of at least one magnet (not illustrated) to hold the plate (1) to the panel (2). Using this means, a magnet or magnets may be fixed to the panel (2) and a corresponding magnetisable plate, or plates, fixed to the plate (1) such that when the two are brought into contact with each other in the correct position, the plate (1) is thereby held by the said panel as a result of magnetism. Alternative materials and/or alternative location of the magnet(s) may be employed which achieve the same objective of magnetically holding the plate (1) to the panel (2).

[0092] Yet another alternative fastening is the use of at least one clip (not illustrated) to hold the plate (1) to the panel (2). Designs of clip fastenings based on spring clips or mechanical restraints already exist in prior art and suitable devices which achieve the objective may be adopted by those skilled in the arts.

[0093] A further alternative method of holding the plate (1) to the panel (2) is by using a 'slide and groove' method (not illustrated) such that the plate (1) may be slidably located in position on the panel (2) in grooved retainers fixed to the same panel. These grooved retainers may take the form of two flanges, spaced apart at an appropriate distance to accommodate the plate (1), and fixed to the panel (2), such that when the plate 1 is slid between the flanges, the said plate is held securely in place but can be slidably removed if required. Designs of 'slide and groove' fixings already exist in prior art and suitable devices which achieve the objective may be adopted by those skilled in the arts.

[0094] Yet a further alternative fastening is the use of a 'hook and eye' material (not illustrated), such as the material with the trade name 'Velcro', to hold the plate (1) and panel (2) together. By this means, the 'hook' half of the material would be attached to one face of either of the components (1) or (2) and the 'eye' half of the material attached to the face of the other component such that the hooks and eyes engage and hold together when the plate (1) and is brought into correct positional contact with the panel (2). Designs of 'hook and eye' type fixings already exist in prior art and suitable devices which achieve the objective may be adopted by those skilled in the arts.

[0095] Yet another further alternative fastening is the use of 'low-tack' adhesion (not illustrated) whereby a film of low-tack adhesive is applied to the rear of the plate such that it may be bonded to the panel (2) with sufficient adhesion to hold it securely in place but which allows the plate (1) to be removed without damage either to itself

or to said panel. Variations in application, disposition and choice of low-tack adhesives may be employed which achieve the same objective.

[0096] With reference to Figs. 5A & 5B.

[0097] Figs. 5A & 5B show a preferred embodiment of the invention using an artificial light source to provide the back illumination for both the plate(s) (1) and the illuminated panel (2).

[0098] The characters 'BOROUGH HOSPITAL DUTY REGISTRARS', the legends '1st, 2nd & 3rd Floor' and the graphics as the lines forming the text frames are designated as the supporting information (4) which complements the information (10) on the plates (1). The information depicted, the quantity and disposition of the plates (1) is fictitious and for illustration purposes and not restricted by the specification of this invention.

[0099] The description of the embodiment shown in Fig. 5A, and its construction, is broadly similar to the description of the embodiment shown in Fig. 1A and reference is made to paragraphs [0041] to [0057] to describe the embodiment of Fig. 5A.

[0100] Fig. 5B is a cross section of fig. 5A showing the associated light box and the schematic depiction of an artificial light source contained within.

[0101] The sides of the light box are formed by horizontal and vertical surfaces extending rearwards from the frame (3) to form the closing side panels (7A) of the light box where the said side panels are adjacent to, but separate from, the rear face of the frame (3).

[0102] The frame (3) is attached to the sides (7A) of the light box, for example by hinges (not illustrated) to allow the front panel assembly (2 & 3) to be opened permitting access to the interior of the light box.

[0103] A diffuser panel (9), made from a translucent or transparent material which may have a 'frosted' surface, e.g. by sandblasting, may be included optionally to diffuse the light source before it reaches the illuminated panel (2). Alternative methods to diffuse a light source exist in prior art and any suitable means may be chosen which achieves the desired result.

[0104] Alternatively the light source may impinge directly on the panel (2) without diffusion.

[0105] The vertical and horizontal closing panels (7A) of the light box may be terminated with a closing rear panel (7B) which may be used to mount the illumination devices (8).

[0106] A plurality of artificial light sources (8) are disposed within the light box, behind the panel (2), so that the resultant illumination achieves the desired aesthetic and practical objectives for illuminating the panel (2), the plate(s) (1) and any information contain thereon.

[0107] Optionally, the plates(s) may have an individual dedicated light source located immediately behind the said plate(s) which may be selectively turned on or off.

[0108] The power supply (not illustrated) for the artificial light source may be a mains electricity supply, a battery supply, a solar panel or any combination thereof.

[0109] The electrical lighting control system (not illus-

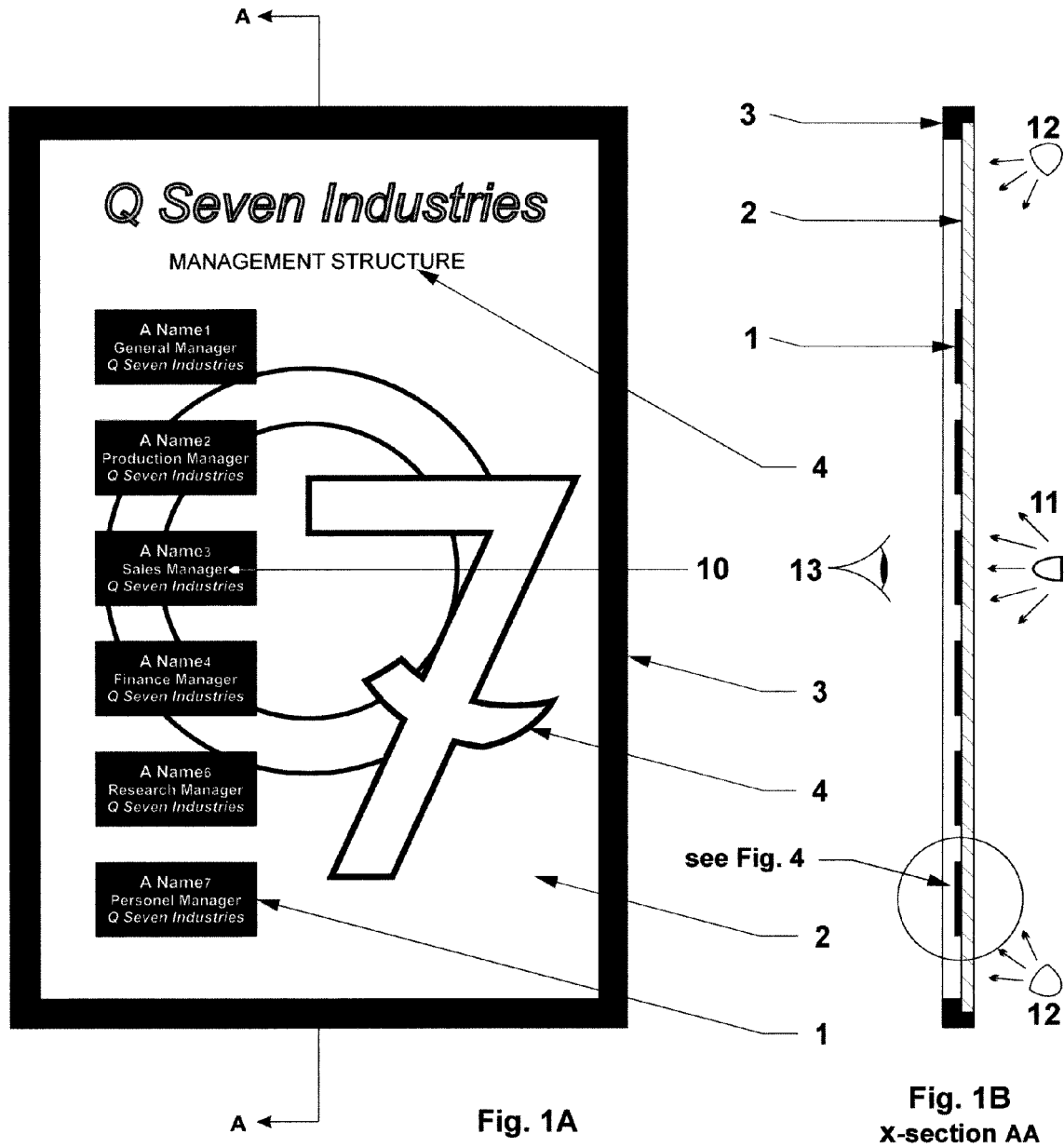
trated) may be a simple switch, a remotely connected control device, or a Passive Infrared sensor (PIR) to turn the lights on when a viewer is detected.

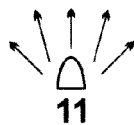
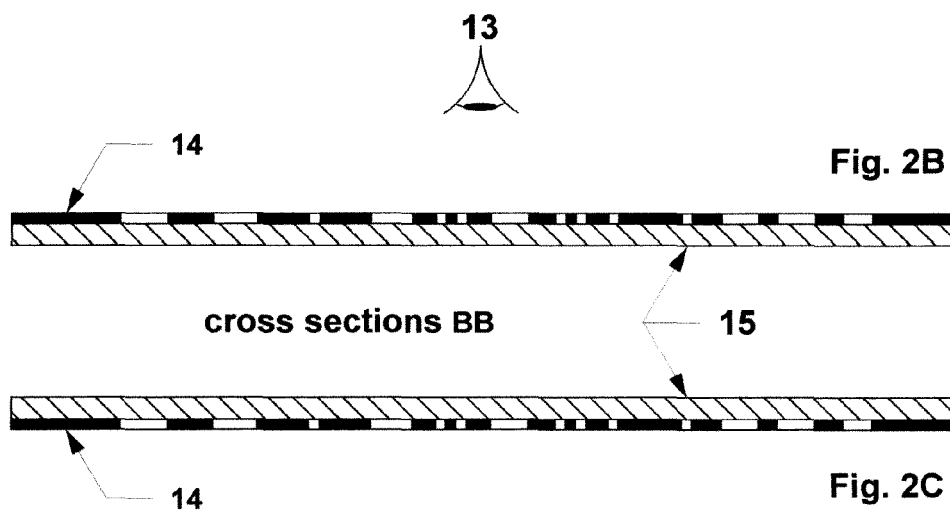
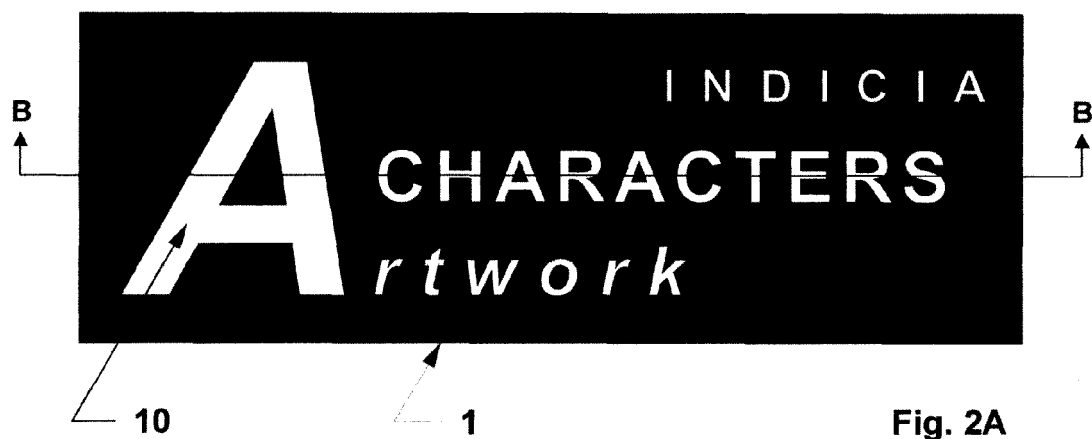
[0110] If the embodiment is devised with independent light sources behind each plate, as well as the general illumination, the lighting to the individual plate(s) (1) may be controlled and turned on or off selectively, thus imparting further meaning to the information contained on the plate(s).

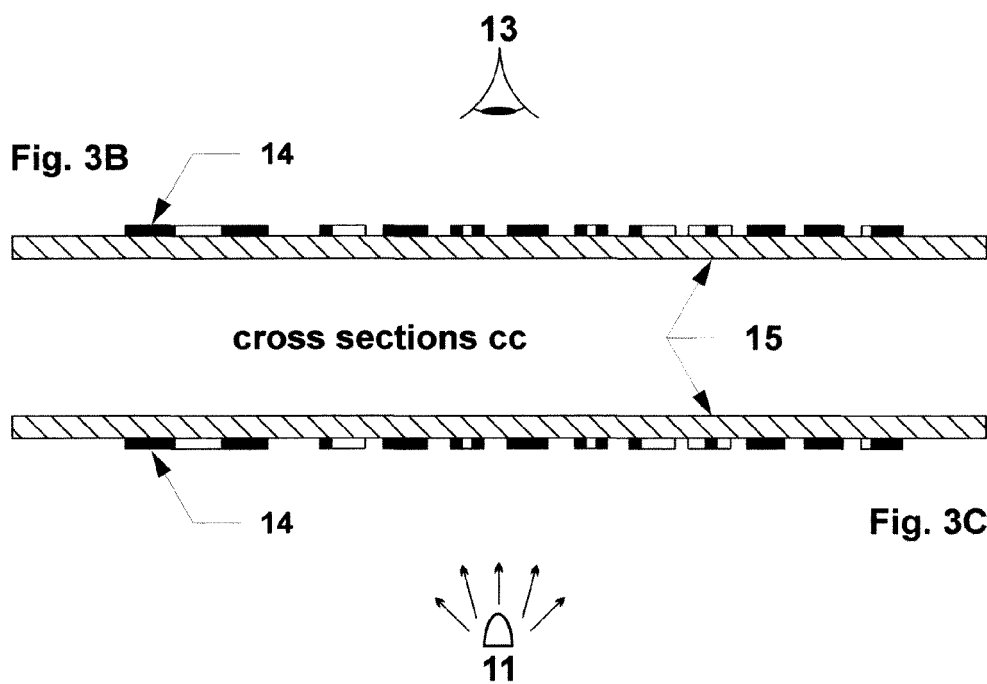
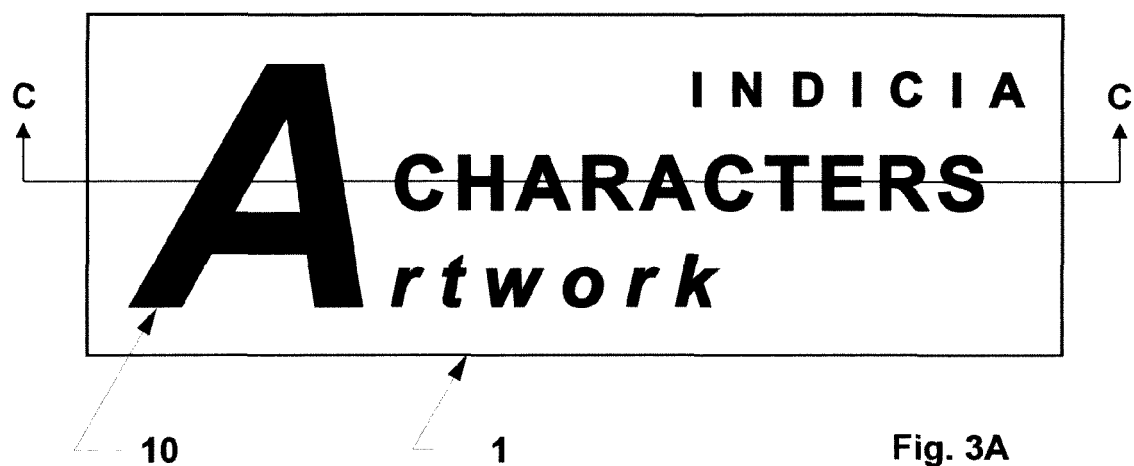
Claims

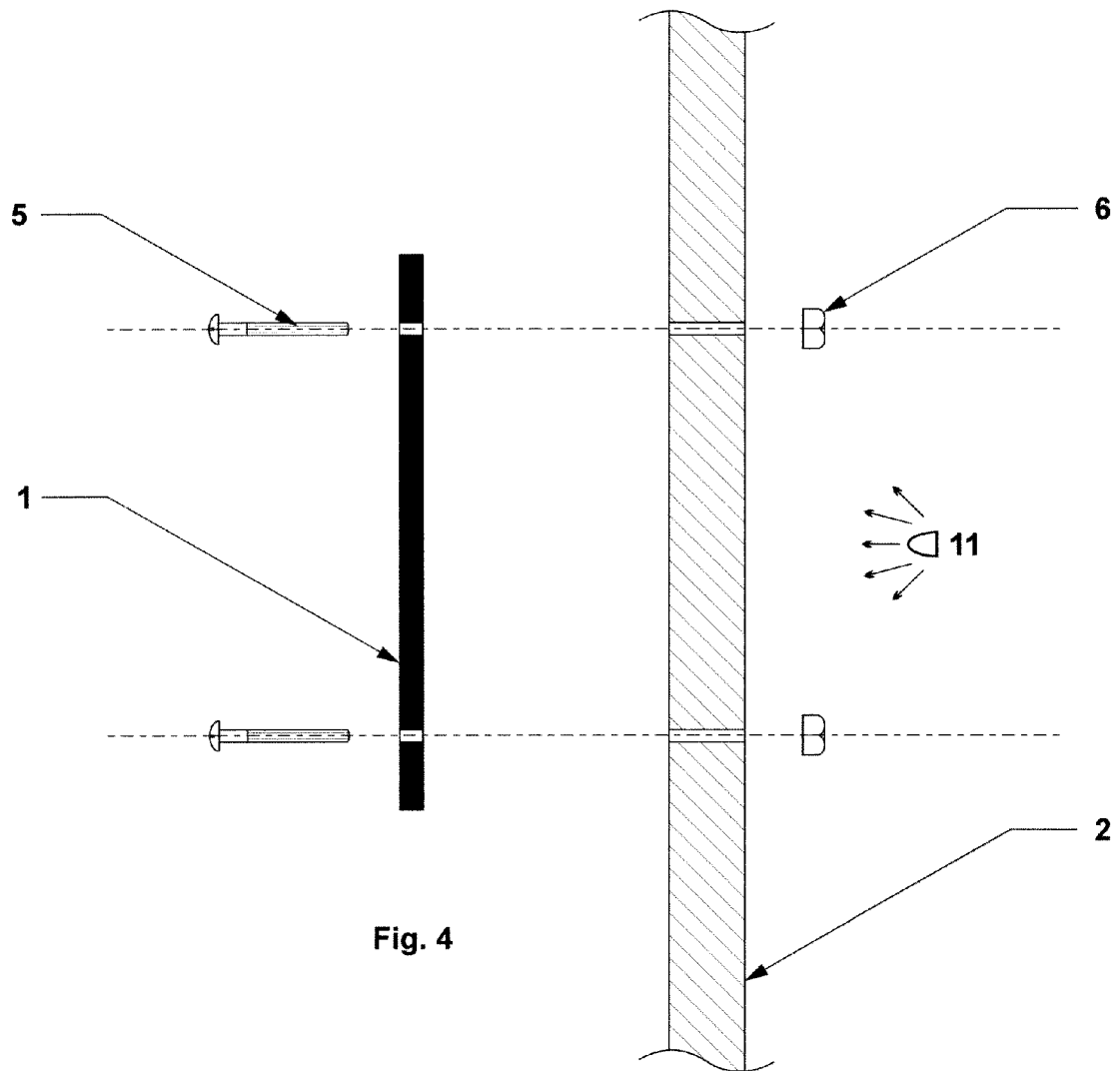
1. A sign assembly consisting of at least one removable back lit plate, optionally containing back lit information, held on an illuminated panel, which may optionally contain information, whereby each plate may be removed and replaced with the same plate or with another similar plate.
2. A plate according to claim 1 which uses a holding method to hold the plate to the panel which allows for the removal and replacement of the plate without damage to itself or to the panel.
3. A holding method according to claim 2 which is a mechanical fastening composed of at least one threaded nut and one threaded bolt.
4. A holding method according to claim 2 which is a mechanical fastening composed of at least one clevis pin and one retaining pin.
5. A holding method according to claim 2 which is composed of at least one magnet contacting with a magnetisable plate or with the opposite pole of another magnet.
6. A holding method according to claim 2 which is composed of at least one retaining clip.
7. A holding method according to claim 2 which is composed of at least two flanges to form a slide and groove retainer.
8. A holding method according to claim 2 which is composed of a 'hook and eye' material with the 'hook' material affixed to the mating surface of either the plate or the panel and connecting to the 'eye' material affixed to the corresponding mating surface of the other component.
9. A holding method according to claim 2 which is composed of a low tack adhesive affixed to the mating surface of either the plate or the panel and connecting to the corresponding mating surface of the other component.

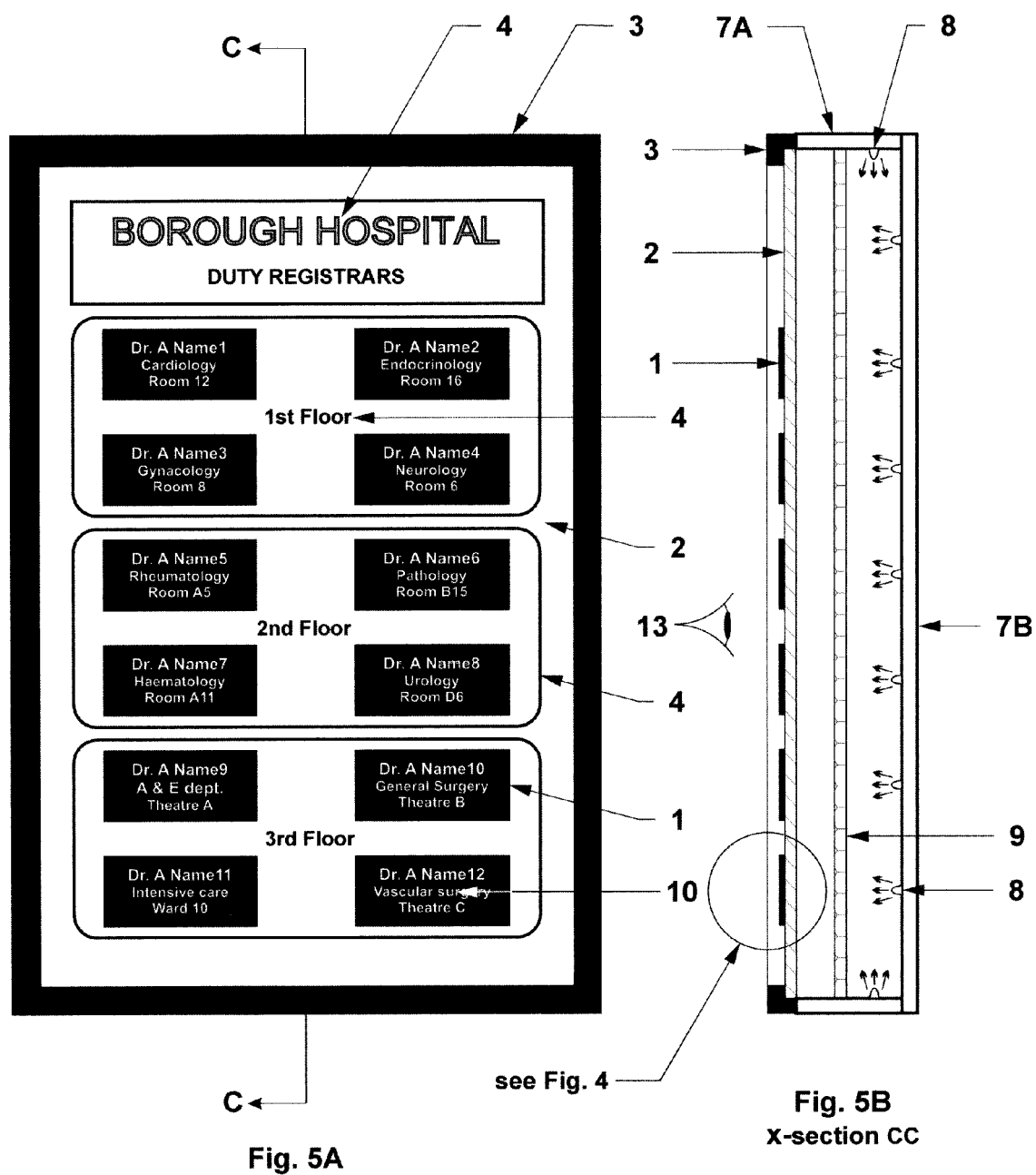
10. A panel according to claim 1 which is made from a translucent or transparent material.
11. A plate according to claim 1 which is made from a multi layered material composed of at least one layer which is substantially translucent and at least one layer which is substantially opaque.
12. A plate according to claim 1 where the information contained thereon is formed from the substantially translucent layer such that the outlines of the information shapes are formed by the substantially opaque layers.
13. A plate according to claims 1 where the information shapes contained thereon is formed by the border outline between the substantially opaque layer and the substantially translucent layers.
14. A sign assembly according to claim 1 where the illumination is from a natural light source or from an electrically powered artificial light source or both.
15. A sign assembly according to claim 1 where the illumination to an individual plate can be turned on or off selectively.













EUROPEAN SEARCH REPORT

Application Number
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			G09F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 8 January 2014	Examiner Pantoja Conde, Ana
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