

UNITED STATES PATENT OFFICE

ALBERT EDWARD TILBURN, OF MELBOURNE, VICTORIA, AUSTRALIA

METHOD OF AND MEANS FOR PRODUCING AND DISPLAYING CHANGEABLE SIGNS FOR ADVERTISING PURPOSES

Application filed May 2, 1929, Serial No. 359,854, and in Australia May 8, 1928.

This invention relates to the production and displaying of changeable luminous signs, announcements and the like for advertising and other purposes, more particularly to the production and display of signs of the type consisting of writings, drawings or the like, wherein a normally transparent or translucent screen or sheet is coated on one surface with an opaque substance portions of which are subsequently progressively removed by an artist or draftsman to permit light to pass therethrough and provide a luminous sign.

One of the objects of the invention is to provide an improved method whereby the production of such signs is simplified and whereby more attractive signs may be produced quicker and displayed more effectively than hitherto.

The method of the invention enables signs to be produced and displayed with brilliant effect in daylight or natural light as well as in darkness.

A further advantage of the improved method is that it enables an artist or other person to make a representation of the sign upon the screen or sheet by removing portions of the opaque coating therefrom in an ordinary manner of writing or drawing; that is to say that reverse writing or drawing is avoided. This simplifies operations and enables artists to work faster and to create better signs and also facilitates the production of signs by persons having no particular skill in writing or drawing.

The invention also contemplates means for carrying the method into effect.

According to this invention a normally transparent or translucent screen or sheet is arranged between a source of light and a reflector, and the surface of the screen remote from the reflector is coated with some suitable opaque substance or compound which is removable with the aid of a rubber pencil or pad, a stylographic pen or other suitable instrument. To produce and display a sign an artist or operator progressively removes any desired portions of the opaque coating in the ordinary manner of drawing or writing whereby light will pass through the re-

sultant translucent portions of the screen onto the reflector. The result is that the desired luminous sign will appear progressively upon said reflector in the same order as the writing or drawing on the screen and will be reflected clear of the screen.

The above and other features and objects of the invention will, however, be more readily appreciated from the following description and the accompanying drawings which illustrate diagrammatically certain embodiments of the invention.

In these drawings

Figure 1 represents a constructional form of the invention particularly suitable for use on buildings in day-time or in night-time.

Figure 2 is a fragmentary front view of Figure 1.

Figure 3 is a fragmentary view of a translucent screen or sheet according to the invention.

Figure 4 is a fragmentary view of a translucent screen or sheet according to a modification.

Figure 5 is an end view of a motor vehicle showing sign producing and displaying means incorporated therein.

The embodiment illustrated in Figures 1 and 2 includes a housing or cabin 2 which may be suitably supported at the top or at any other desirable part of a building. The top 3 of the cabin may have an opening 4 to admit daylight and may be closable by a door 6. When artificially illuminated signs are to be displayed the door is closed and electric lamps 7 which may be attached to the door or any other suitable part are switched on so as to direct light onto a normally transparent or translucent screen or sheet 8 disposed within the cabin. The globes of the lamps may be corrugated or chased so that the light rays are diffused.

This screen 8 which may be composed of glass or any other suitable material, is preferably inclined slightly from the horizontal and may be hinged at its lower or front edge 9 and provided with means, such as slotted arcuate arms 11 and bolts or screws 12 at its upper edge 13, whereby it may be securely held in any desired position. The upper sur-

face of this screen is coated with a suitable substance or composition to render it opaque. This opaque coating indicated at 10 may advantageously consist of vegetable black and lamp black mixed with petroleum and glycerine to form a fluid of a consistency suitable for applying to the screen with a brush pad or the like.

The undersurface of the screen is also preferably coloured to improve the appearance of the signs. Any suitable paint, lacquer or colour medium may be employed and it is thinned down so that the resultant coating indicated at 15 in Figure 3 will not impede the passage of light. If desired before the colour medium is applied the undersurface of the screen may be ground, as it has been found that this causes the colour medium to adhere more tenaciously to the screen.

In front of the lower edge of the screen a gangway 14 and a platform 16 may be provided for an artist or draftsman who works on the screen as will be hereinafter described.

The screen 8 in effect forms the bottom of the cabin and beneath the screen a mirror or reflector 17 is mounted preferably at an inclination to the screen. The reflector preferably converges upwardly towards the top or rear edge of the screen and has its upper edge 18 disposed level with or slightly beneath the aforesaid platform 16. If desired, the reflector may be hinged at its upper edge so that its position may be adjusted according to the angle of reflection which is desired.

To produce and simultaneously display a sign or the like an artist or draftsman progressively removes appropriate portions of the opaque coating 10 from the screen so that light, either natural or artificial according as to whether the door 6 of the cabin is opened or closed, will pass through the resultant uncoated portions of the screen onto the reflector 17. In this manner the desired luminous sign, an example of which is indicated at 19 in Figure 2, will appear progressively upon the reflector and is thereby reflected clear of the screen 8 and the lower part of the cabin.

It will be evident from the foregoing procedure and arrangement of parts the artist may progressively form the representation of the sign by removing the opaque coating 10 from the screen in the ordinary manner of writing or drawing. This avoids the necessity for reverse writing or drawing as is required for previously known methods, and consequently permits the artist to work quicker and more confidently and create better signs.

The complete sign may be displayed for as long or as short a period as may be desired after which additional coating substance may be applied to the screen to render it opaque preparatory to the formation and display of another luminous sign. It will be under-

stood, however, that one screen 8 could be prepared or re-prepared whilst another screen is in use.

For operations in night-time or in conditions where artificial illumination is desired, the electric lamps 7 may be switched off during re-coating or changing of the screen, and various lighting effects may be obtained by employing lamps with differently coloured globes controlled by appropriate switches.

In order to prevent any reflections or shadows of the artist or operator and the writing or drawing instrument, and also any reflection of the opaque coating 8 from appearing on the reflector, without, of course, impeding the passage of light through uncoated portions of the screen 8, the undersurface of the latter may be stippled so that when no sign is being displayed all that can be seen when looking at the reflector is a reflection of the stippled undersurface of the screen. The stippling indicated at 20 in Figures 4 and 5 may be of any suitable colour or tint but it is preferably white or relatively light in tone so that the screen is readily penetrable by light from above. If the undersurface of the screen 8 is coloured then the stippling will be applied afterwards. The colour 15 and stippling 20 may remain permanently upon the screen.

In order further to attract attention to the luminous sign or the surface on which a sign is to appear, an additional sign indicated by the numeral 21 in Figure 2 may be displayed in an appropriate position adjacent the first or main sign. This additional sign may be of a permanent nature and may be constituted by a painted or stencilled sheet. If desired, however, it may be produced in a manner similar to the main sign. For instance, an additional screen 8a may be positioned in an opening in the front wall 22 of the cabin, the rear or inner surface having an opaque coating 10a and the front surface being coloured and/or stippled in a manner similar to the screen 8. A sign or signs may be formed directly and progressively upon this additional screen by the artist as will be understood, but in this case the writing or drawing actions will be in reverse.

The additional sign 21 may be illuminated artificially by electric lamps 23 so arranged that the artist will not throw shadows upon the screen 8a. The additional sign could be employed to attract attention of observers particularly during periods when the main sign 19 is being changed. In such instances the illumination for the additional sign 21 could be switched off during the formation and display of the main sign 19. A shade 24 may extend above and in front of the additional sign to prevent natural light from shining directly thereon.

Figure 5 illustrates apparatus according to the invention embodied in a road vehicle

for street advertising. To display signs at each side of the vehicle a pair of screens 8 may be mounted to extend longitudinally within a closed body 26 of the vehicle one at each side of the centre line. Suitable platforms 27 and gangways 28 are provided adjacent the sides of the body for the artists or operators and the screens may be illuminated naturally by way of openings 29 in the roof 31, or if artificial illumination is required the openings may be closed by doors 32 and electric lamps 33 arranged to direct light onto the screen.

A reflector 17 is suitably mounted beneath each screen 8 and openings 34 are formed in the sides of the body in alignment with the reflectors which may thus be viewed by the public. Additional screens may be provided in the sides of the body above the openings 34 to provide additional signs as before mentioned.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A method of producing and displaying luminous signs, announcements and the like for advertising or other purposes, which consists in arranging a translucent sheet or screen between a source of light and a reflector, coating that surface of the sheet which is remote from the reflector with an opaque substance, and progressively removing portions of the opaque coating from said screen whereby light will pass through the resultant translucent portions of the screen onto said reflector so that the desired luminous sign appears progressively upon said reflector and is thereby reflected clear of said screen.

2. A method of producing and displaying luminous signs in accordance with claim 1, wherein the progressive removal of portions of the opaque coating from said sheet or screen is effected in the ordinary manner of writing or drawing.

3. A method according to claim 1 characterized by applying a colour medium to said screen, preparatory to the production and display of signs, for the purpose specified.

4. A method in accordance with claim 1, characterized by treating a surface of said screen in such a manner that it prevents the reflection of said opaque coating onto said reflector but is penetrable by light passing through portions of said screen from which the opaque coating has been removed.

5. A method in accordance with claim 1, characterized by treating a surface of said screen in such a manner that it prevents the reflection of said opaque coating onto said reflector but is penetrable by light passing through portions of said screen from which the opaque coating has been removed, said surface of the screen not coated with opaque substance being stippled so as to render it semiopaque, for the purpose specified.

6. A method according to claim 1, characterized by applying a colour medium to the surface of said screen which is not coated with opaque substance and then applying a semiopaque coating over said colour medium, for the purpose specified.

7. A method of producing and displaying luminous signs under conditions of natural light which consists in arranging a translucent screen in such position that it receives natural light upon its upper surface, arranging a reflector in spaced relationship beneath said screen or sheet, the reflector being inclined or converging upwardly towards said screen, applying a coating of opaque substance to the upper surface of said screen, and progressively removing portions of the opaque coating from the screen whereby light will pass through the resultant translucent portions of the screen onto said reflector with the result that the desired luminous sign will appear progressively upon said reflector and will be thereby reflected clear of said screen.

8. Apparatus for producing and displaying luminous signs, announcements and the like for advertising or other purposes, comprising a normally transparent or translucent screen, one surface of which is adapted to receive a coating of opaque substance capable of being removed therefrom by writing or drawing actions of an operator, and a reflector arranged in spaced relationship from said screen so that light passing through uncoated portions of said screen is reflected by the reflector clear of the screen, the screen and reflector being mounted so as to be capable of relative adjustment.

9. Apparatus for producing and displaying luminous signs, announcements and the like for advertising or other purposes, comprising a normally transparent or translucent screen, one surface of which is adapted to receive a coating of opaque substance capable of being removed therefrom by writing or drawing actions of an operator, and a reflector arranged in spaced relationship from said screen so that light passing through uncoated portions of said screen is reflected by the reflector clear of the screen, said screen being disposed within an operating cabin or compartment adapted to be illuminated by natural or artificial light, the reflector being disposed beneath the screen.

10. Apparatus for producing and displaying luminous signs, announcements and the like for advertising or other purposes, comprising a normally transparent or translucent screen, one surface of which is adapted to receive a coating of opaque substance capable of being removed therefrom by writing or drawing actions of an operator, and a reflector arranged in spaced relationship from said screen so that light passing through uncoated portions of said screen is reflected by

the reflector clear of the screen, said screen being disposed within an operating compartment adapted to be illuminated by natural or by artificial light, the reflector being disposed
5 beneath the screen, said compartment being provided with a platform upon which an operator may stand and move while working on the screen.

11. Apparatus for producing and displaying
10 ing luminous signs, announcements and the like for advertising or other purposes, comprising a normally transparent or translucent screen, one surface of which is adapted to receive a coating of opaque substance capable
15 of being removed therefrom by writing or drawing actions of an operator, and a reflector arranged in spaced relationship from said screen so that light passing through uncoated portions of said screen is reflected by
20 the reflector clear of the screen, said screen and associated reflector being mounted within a compartment in a body of a road vehicle, said body being formed with an opening in its side aligned with said reflector.

25 12. In means for producing and displaying luminous signs and the like, a normally transparent screen having a surface coated with an opaque substance along predetermined lines as required in making up the sign,
30 the reverse surface of the screen opposite the surface coated with an opaque substance being coated with a material to render said opaque coating substantially obscure when the screen is viewed from said reverse surface.
35

13. Means according to claim 12 characterized in that the reverse surface of said screen is provided with a semi-transparent coating which adheres thereto, for the purpose
40 specified.

14. Means according to claim 12 characterized in that the reverse surface of said screen is provided with a semi-transparent coating which adheres thereto, and wherein said reverse surface is coloured before the stippling
45 or semitransparent coating is applied.

In testimony whereof I affix my signature.

A. E. TILBURN.

50

55

60

65