W. N. McCOMB.

ILLUMINATING DEVICE.

APPLICATION FILED MAR. 25, 1908.

926,956.

Patented July 6, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

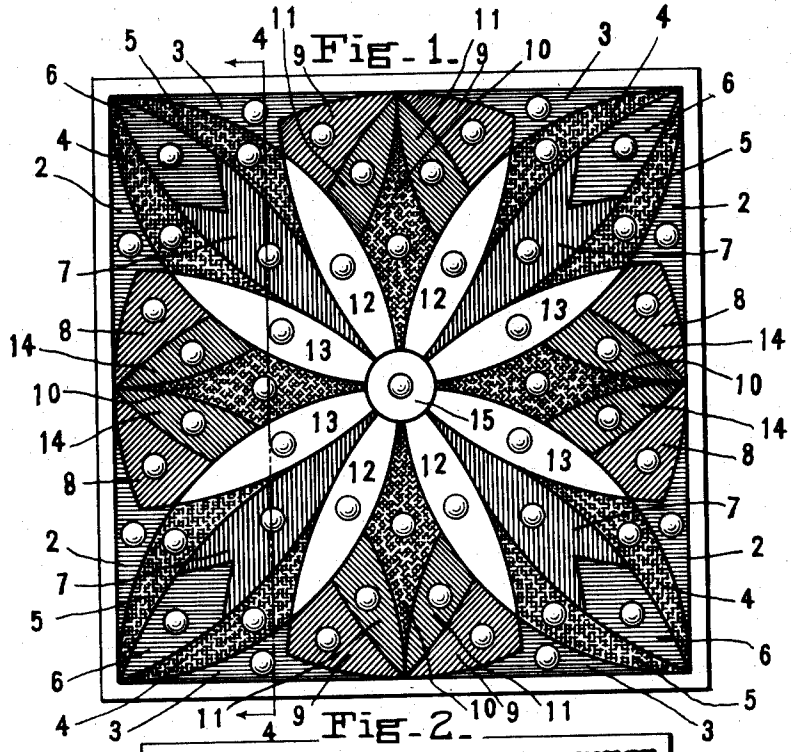
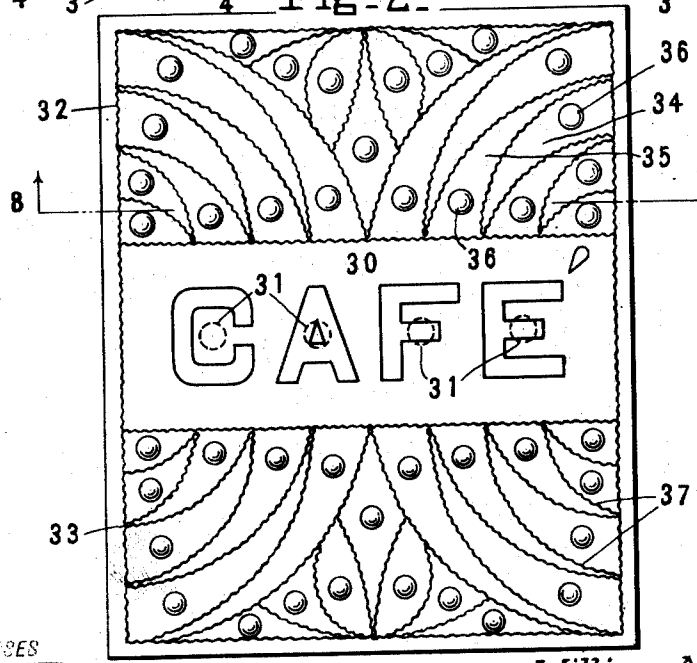


Fig. 2.



WITNESSES

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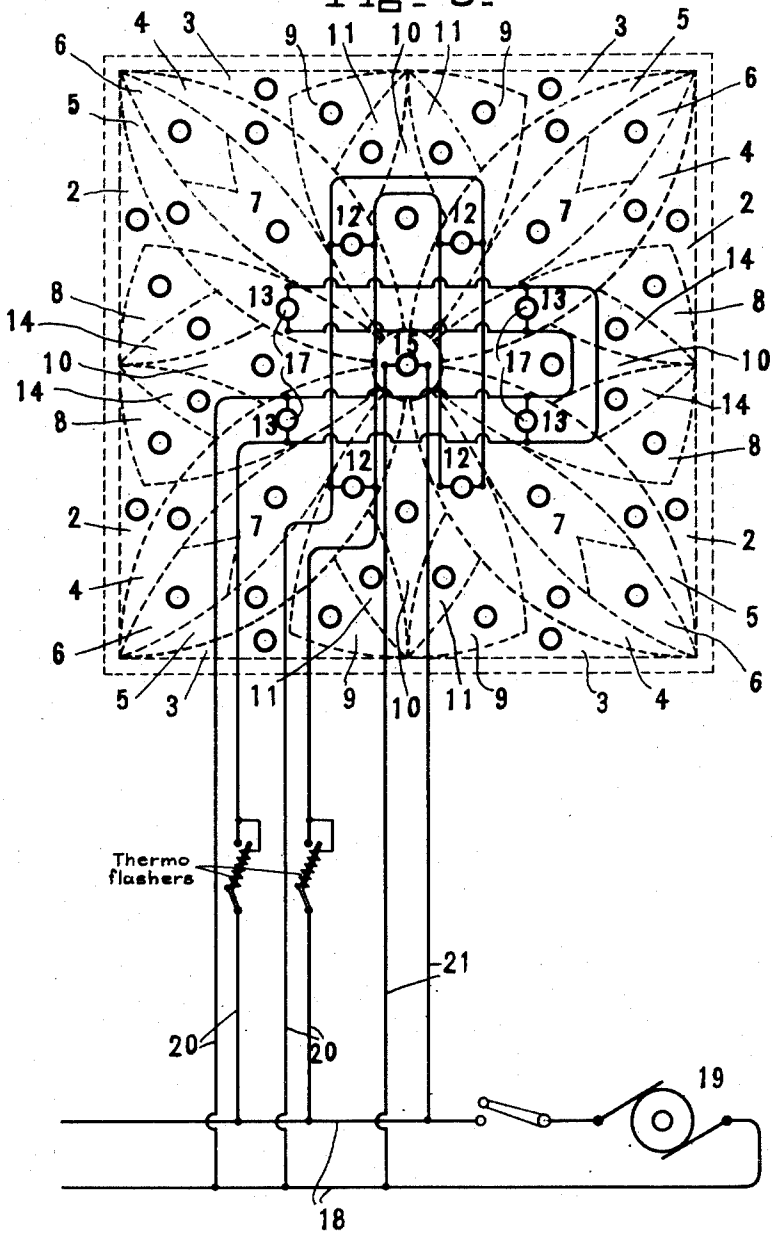
3 SHEETS—SHEET 2.

Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

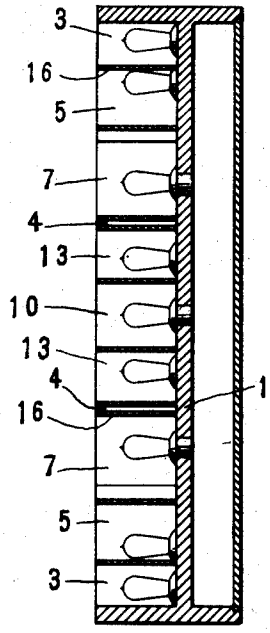


Fig. 5.

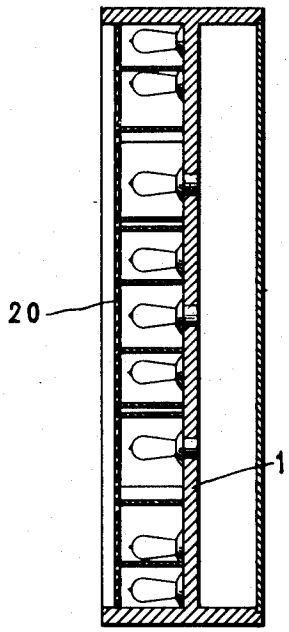


Fig. 6.

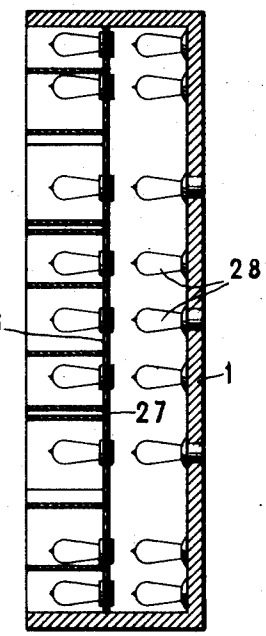


Fig. 7.

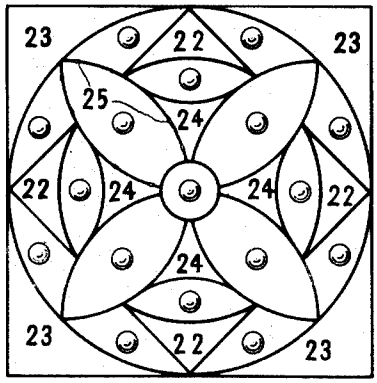
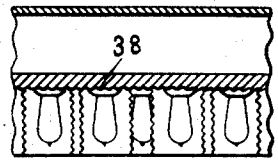


Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIAM N. McCOMB, OF NEW YORK, N. Y.

ILLUMINATING DEVICE.

No. 926,956. Specification of Letters Patent. Patented July 6, 1909.

Application filed March 25, 1908. Serial No. 423,093.

To all whom it may concern:

Be it known that I, WILLIAM N. McCOMB, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Illuminating Devices, of which the following is a specification.

The present invention relates generally to illuminating devices, and has more particularly reference to an electric display device.

One object of the invention is to increase the attraction of electrical display devices by producing bizarre or odd effects for the purpose of attracting attention to a sign forming either a part of the electrical display device or hung adjacent thereto.

A further object is the production of electrical display means whereby kaleidoscopic effects may be obtained for the purpose of producing purely pleasing sensations to the eye.

For the purpose of carrying out the invention, a plurality of groups of compartments are employed, each group individually and any number of groups collectively forming a unitary design. Lamps are contained in said compartments, electrical connections are made, and means are provided for flashing the lamps of any group or any combinations of groups, the lamps belonging to the same group flashing in unison.

Somewhat different effects may be produced by omitting the lamps in certain of the compartments whereby these blank compartments will always show up black in distinction from the lighted compartments. This effect may be still further varied by providing perforations in the walls of the compartments so that the lights on the other side of the perforated walls will shine through such openings and the compartment will be only dimly lighted as compared to the other compartments. These perforations may of course be placed in any of the walls of the compartment. If placed in the side walls of the compartment, the lights in the adjoining compartments may serve to illuminate the compartment through the perforated walls and if the light openings are made in the rear wall of the compartment, extra lights might be placed in a compartment or elsewhere behind such rear wall. Also to further increase the attractiveness of the device, certain or all of the walls of the compartments may be made corrugated or otherwise irregular in shape.

The compartments may all display the same color, if desired, but, preferably, each group of compartments shows a distinctive color, whereby brilliant effects are produced. The different colors may be produced by using differently colored lamps in the several groups, or by differently colored face plates covering the compartments, but preferably and as herein shown, the walls of the compartments are painted in different colors.

For the purpose of flashing lamps any suitable switch mechanism may be employed such as are controlled by clock work, or an electric motor. It is obvious, however, that in order to avoid repeating the same design too often a great range of combinations must be produced extending over a long cycle of operations. To do this by clock mechanism would involve very intricate and expensive apparatus. On this account, the switch mechanism will preferably take the form of an arbitrary selecting device for flashing the lamps of the several groups irregularly, the lamps belonging to the same group flashing in unison. A convenient switch for this purpose is found in the well-known thermo-flashers, which automatically make and break the connection according to variations of heat.

Other features of construction will appear as the specification proceeds.

In the accompanying drawings, the invention is disclosed in a concrete and preferred form, showing also modifications, but variations in structure, design and arrangements may of course be made without departing from the legitimate and intended scope of the invention.

In the said drawings:—Figure 1 is a plan view of an electric display device having a plurality of compartments, embodying the invention. Fig. 2 is a plan view of an electric display device showing the invention applied as a border to a sign with steady lights. Fig. 3 is a diagrammatic view of the reverse side of the device shown in Fig. 1, illustrating the wiring. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Figs. 5 and 6 are views similar to Fig. 4 showing modifications. Fig. 7 is a plan view of a device similar to

Fig. 1, but showing a modified form of compartments. Fig. 8 is a sectional view on the line 8—8 of Fig. 2.

Similar characters of reference indicate corresponding parts in the several views.

1 indicates a back plate or socket supporting member of any suitable construction divided into a plurality of groups of compartments, numbered from 2 to 15 in Figs. 1 and 3, by means of partitions 16. In these compartments are placed the lamps 17, the lamps belonging to the same group of compartments being in circuit with each other. These partitions may divide the casing into vari-shape compartments of any configurations found desirable, each group of compartments and any combination of groups of compartments forming a unitary design. Preferably the walls of these compartments are painted in different colors, the compartments belonging to the same group being of the same color as indicated by the color symbols in Fig. 1.

In Fig. 3 the wiring used is shown connected up to the groups of compartments 12, 13 and 15. To connect all the lamps in the different groups of compartments would produce a maze of lines, and a few circuits have therefore been selected to illustrate the invention, it being understood that the lamps in the other groups of compartments are to be similarly connected. 18 indicates the mains leading from the source of supply 19 and connected to any number of individual circuits as 20, the said individual circuits 20 each controlling the lamps belonging to one group of compartments. The lamps 17 belonging to the same group of compartments are connected in parallel to their respective circuit 20 as shown, and are flashed irregularly by the thermo-flashers diagrammatically indicated in each of the circuits. If desired, some of the lamps may be caused to burn steady as indicated by the central lamp 15 which is connected up to the mains by means of ordinary wiring 21. When the current is turned on, the lamps in the several groups will flash irregularly, producing innumerable designs in color, the lamps belonging to the same group of compartments flashing in unison. The partitions serve to confine the light of the lamps to the particular compartments lighted and to concentrate and inwardly reflect the light so that clear and distinct effects are produced, the unlighted groups of compartments forming regular black designs. For this reason, it is not always necessary or desirable to have lamps in all of the compartments.

As shown in Fig. 7, groups of compartments 22, 23 and 24 may be left blank between the other groups so that certain black effects are always produced. If desired, however, light apertures indicated by 25 may be made in the partitions so as to cause a faint glow of the unlighted groups of compartments, when the lamps in an adjoining group of compartments are flashed. As shown, these apertures may be in the partitions between groups of compartments both of which have lamps, or between groups of compartments, some of which have lamps and others not. By this means, dim and high lights can be produced in the same group of compartments. Another way of accomplishing this effect is to provide the light perforations 26 in the back plate 27 as shown in Fig. 6, the steady or flashing lights 28 in the rear of the back plate furnishing a faint glow to some or all of the groups of compartments as may be desired while the flashing lamps within the compartments produce a high and brilliant light.

To produce a more subdued or softened effect, a plate of ground glass 29 shown in Fig. 5 may cover the open face of the compartments.

The design shown in Fig. 1 is purely kaleidoscopic in its nature, but as shown in Fig. 2 the invention may be applied for other purposes such as to produce different borders on a reading sign.

In Fig. 2, 30 indicates a reading sign which may have steady or flashing lights 31. 32 indicates an upper border and 33 a lower border, on the sign, each of which is provided with a plurality of groups of compartments as shown. By forming some or all, of the compartment shown here with alternately inwardly and outwardly tapering shapes such as is illustrated by the compartments 34 and 35, and by locating flashing lamps 36 in the larger end of these compartments, the effect of flashing streamers moving away from and toward the design is produced. To heighten the effect the partitions 37 may be corrugated and as shown in Fig. 8 the background may similarly be provided with a corrugated face 38 thereby producing shaded effects.

The word "unitary" as here used, does not mean that the compartments belonging to the same group need be of the same shape or spaced an equal distance apart. It is also evident that the compartments belonging to the same group may be differently colored. It is further evident that the groups of compartments need not be constant.

What I claim is:—

1. An electric display device comprising a plurality of groups of compartments, each group individually, and any number of groups together, forming a unitary design, lamps in said compartments, electrical connections, and means for flashing the lamps of any group or any combination of groups, the lamps belonging to the same group flashing in unison.

2. A multi-colored electric display device formed by a plurality of groups of compartments, the compartments belonging to the

same group showing a unitary design of the same color when lighted, and any number of groups together forming a multi-colored unitary design when lighted, lamps in said compartments, electrical connections, and means for flashing the lamps of any group or combination of groups, the lamps belonging to the same group flashing in unison.

3. An electric display device comprising a plurality of vari-shaped groups of compartments, the compartments belonging to the same group being similarly shaped, each group individually and any number of groups together forming a unitary design, lamps in said compartments, electrical connections, and means for flashing the lamps of any group or any combination of groups, the lamps belonging to the same group flashing in unison.

4. A multi-colored electric display device formed of a plurality of vari-shaped groups of compartments, the compartments belonging to the same group being similarly shaped, and, when lighted, showing the same color, and any number of groups together forming a vari-shaped and multi-colored design when lighted, lamps in said compartments, electrical connections, and means for flashing the lamps of any group or combination of groups, the lamps belonging to the same group flashing in unison.

5. An electric display device comprising a plurality of groups of compartments, lamps in said compartments, electrical connections, and arbitrary selecting means for flashing the lamps of the several groups irregularly, the lamps belonging to the same group flashing in unison.

6. A multi-colored electric display device formed by a plurality of groups of compartments, the compartments belonging to the same group showing a unitary design of the same color when lighted, and any number of groups together forming a multi-colored unitary design when lighted, lamps in said compartments, electrical connections and arbitrary selecting means for flashing the lamps of the several groups irregularly, the lamps belonging to the same group flashing in unison.

7. An electric display device comprising a plurality of vari-shaped groups of compartments, the compartments belonging to the same group being similarly shaped, each group individually and any number of groups together forming a unitary design, lamps in said compartments, electrical connections, and arbitrary selecting means for flashing the lamps of the several groups irregularly, the lamps belonging to the same group flashing in unison.

8. A multi-colored electric display device formed of a plurality of vari-shaped groups of compartments, the compartments belonging to the same group being similarly shaped, and, when lighted, showing the same color, and any number of groups together forming a vari-shaped and multi-colored design when lighted, lamps in said compartments, electrical connections, and arbitrary selecting means for flashing the lamps of the several groups irregularly, the lamps belonging to the same group flashing in unison.

9. In an electric display device, a back plate, partitions having light apertures forming a plurality of groups of compartments, lamps in said compartments and means for flashing said lamps.

10. In an electric display device, a member having a plurality of groups of compartments, each group individually or in combination with other groups forming a unitary design, the walls of the compartments having light apertures therein, and lamps arranged to illuminate the compartments through such light apertures.

11. An electric display device comprising a plurality of groups of lamps, each group individually, and any number of groups together, forming a display effect, electrical connections, and means for flashing any group or any combination of groups of lamps, the lamps belonging to the same group flashing in unison.

12. An electric display device comprising a plurality of groups of lamps, each group individually, and any number of groups together, forming a display effect, electrical connections, and arbitrary selecting means for flashing the lamps of the several groups irregularly, the lamps belonging to the same group flashing in unison.

13. An electric display device comprising a plurality of groups of lamps, each group individually, and any number of groups together, forming a display effect, electrical connections, and automatic selecting means for indiscriminately flashing any group or any combination of groups of lamps, the lamps belonging to the same group flashing in unison.

14. An electric display device comprising a plurality of groups of compartments, each group individually, and any number of groups together, forming a unitary design, lamps in said compartments, electrical connections, and automatic selecting means for indiscriminately flashing the lamps of any group or any combination of groups, the lamps belonging to the same group flashing in unison.

15. An electric display device comprising a member divided up into a number of vari-shaped multi-colored compartments, lamps in the compartments, electrical connections for the lamps, and means for causing arbitray irregular flashing of the lamps in the various compartments.

16. An electric display device comprising a design carrying member and a series of

unitary independent designs carried thereby, and means for irregularly and arbitrarily illuminating said unitary designs.

17. In an electric display device, the combination with a design carrying member, a plurality of independent symmetrical designs carried thereby, means for illuminating said designs, and controlling means for causing arbitray irregular illumination of the different designs.

18. A display device comprising a design carrying member having a series of independent designs, forming either singly or in any combination, a unitary design, and means for illuminating the designs.

19. An electric display device comprising a plurality of groups of compartments, each group individually and any number of groups together, forming a unitary design, lamps in said compartments, electrical connections, and means for flashing the lamps of any group or combination of groups.

20. A display device comprising a plurality of groups of compartments, the said compartments having corrugated walls and the groups of compartments individually or in any number forming a unitary design, and means for illuminating the compartments.

Signed at New York city in the county of New York and State of New York this 16th day of March A. D. 1908.

WILLIAM N. McCOMB.

Witnesses:
AXEL V. BEEKEN,
EMMA PROSS.