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H. D. HANSON

2,252,124

SIGN

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Fig. 1.

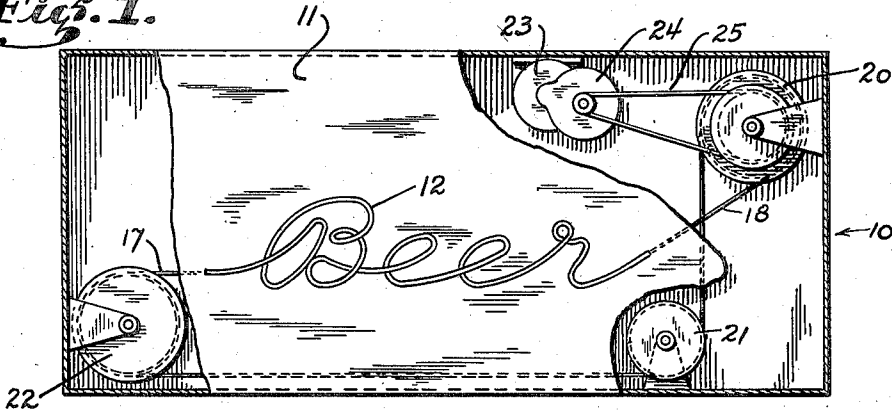


Fig. 2.

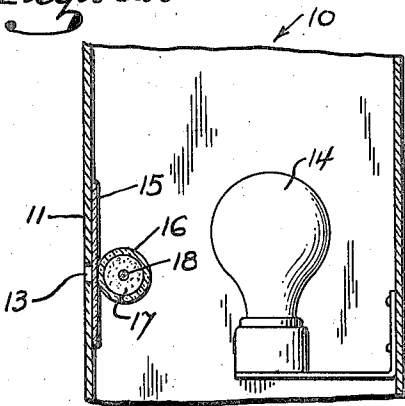


Fig. 3.

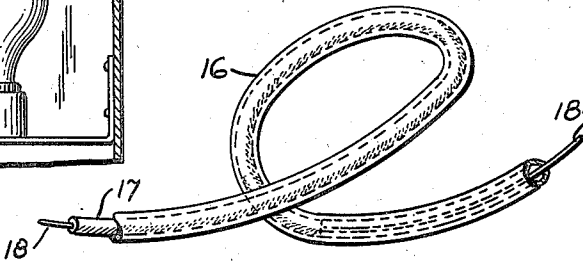
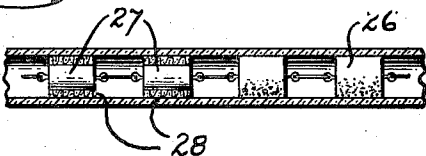


Fig. 4.



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4 Claims. (Cl. 40—133)

The present invention relates to signs and particularly to animated luminous signs intended through a distinctive mode of operation to command attention of observers.

It is the object of the present invention to provide a sign on which characters are displayed by luminous lines on an opaque background, and on which the said lines may either be made opaque or luminous in a progressive manner throughout their lengths so as to give the impression of a character or written word being created in light, as by the hand of a person writing.

A further object is to provide a sign having but a single constant light source in which mechanical means are employed to impart various forms of animation to characters displayed in light against an opaque background.

The invention comprises generally a background having characters defined thereon by slits or cutout portions, and having a source of light behind the background, and a masking member intermediate the source of light and the background, which is capable of being moved from end to end of the slits so as to effect a progressive masking or unmasking of the lighted characters displayed by the sign.

One form of the invention is illustrated in the accompanying drawing, and described in detailed in the following specification, wherein further objects and advantages of the invention will be made apparent.

In the drawing—

Fig. 1 is a front elevation with parts broken away to disclose internal mechanism of a sign embodying the present invention;

Fig. 2 is an enlarged vertical section taken through a portion of the sign illustrated in Fig. 1;

Fig. 3 is an enlarged detail view of the guide means and masking element employed in a sign of the type illustrated in Fig. 1; and

Fig. 4 is an enlarged sectional detail of a modified form of masking element which may be employed to produce a different effect than that produced by the masking element illustrated in Fig. 3.

In the form illustrated in the accompanying drawing, the sign of the present invention comprises a housing 10, the front face of which is covered with a thin sheet of metal or other suitable material 11, which forms the background for the characters or letters 12 which constitute the sign. These characters or letters 12 are formed

by cutting slits, as indicated at 13 in Fig. 2, through the sign background 11 so that a source of light, diagrammatically illustrated at 14 in Fig. 2, positioned within the housing 10, will impart a luminous effect to the characters so formed. The slits 13 may weaken the thin material of which the background 11 of the sign is made, and in some cases, as in forming the letter "e," as shown in Fig. 1, a portion of the letter may be entirely separated from the background so that unless otherwise supported it would fall out. This weakening or separation of parts of the background may be overcome in any conventional manner, such as by placing a sheet of translucent or transparent material, as shown at 15 in Fig. 2, behind the background and securing the weakened or separated parts of the background to said sheet. It is also possible to form the background of the sign of glass or other transparent or translucent material and to paint the main body of the background, leaving only the letters or characters of the sign unpainted.

As shown in Fig. 1, characters on the sign may, if desired, be formed by a continuous line or slit, and the present invention provides mechanism for causing said slit first to appear opaque and then to appear luminous at one end, and to have this luminous effect progress from that end throughout the length of the continuous slit until it reaches the other end.

One form of mechanism for producing this effect is illustrated in Figs. 1, 2 and 3, wherein a tube of glass 16 or other translucent material is shown as positioned directly behind the slit 13 throughout its length. This tube 16 serves as a guide for a masking member 17 in the form of a soft flexible cord adapted to slide through the tube. The masking member 17 is of limited length and connected at its ends by a small cable 18 of flexible wire or the like, which is sufficiently small that it may pass through the glass tube 16 unnoticed and without material effect on the amount of light permitted to pass through said tube and through the slit 13 from the source 14. As shown in Fig. 1, the cable 18, upon leaving the end of the guide tube, is trained over and preferably wound several times about a rotatable drum 20. It then passes from the drum over a sheave 21 or is otherwise guided to a second sheave 22 over which it passes before entering the forward end of the tube. A motor 23 disposed within the housing 10 drives a reduction gearing indicated at 24, which is connected through a belt 25 to the drum 20 to cause the

continuous cable, made up in part of the drag line 18 and in part of the masking elements 17, to move through the guide which lies behind the slit 13, forming the characters on the background of the sign. When the mask member 17 is within the guide, it acts as a shutter which prevents light from the source 14 from passing through the slit 13. As the trailing end of the mask 17 enters the initial end of the characters on the sign, a luminous line appears because of the fact that the drag line 18 is sufficiently small to pass through the glass tube 16 behind the slit 13 unnoticed. Upon continuous movement of the masking member, the trailing end thereof leaves a gradually lengthening line of light in the form of the characters defined by the sign, producing an effect of a line growing in length, or of characters being drawn with a luminous medium.

Various effects may be accomplished through slight modifications in the mechanism illustrated. The motor 23 may, upon being reversed, cause the characters of the sign to appear to be written in light and then erased, the erasure beginning from either end.

Various colors may be used in the plate 15 or in the tubing 16, and other effects may be created, such as through the use of a translucent but non-transparent sheet of material placed over the sign so that the writing of the characters will be produced on a plain background, as for example, frosted glass, rendering the characters on the sign visible only when they become luminous. It is also possible to eliminate the slitted background 11 altogether and to use frosted glass or other translucent but non-transparent material in front of the tubular guide 12. The result will be a sign background that is normally lighted and, as the masking member is drawn through the guide, the characters will be formed on the background in shadow.

It is also possible through the modification illustrated in Fig. 4, to create a sign of a dotted line rather than of a continuous line by substituting for the masking member 17 a masking member such as that illustrated at 26. This masking member comprises short cylindrical members 27 covered by a resilient opaque material 28, which may be of felt or other similar material, which will pass easily through the glass tube.

While the glass tube illustrated is preferred as a guide member where the characters on the sign are ornate or involved, with many curves, it is possible in signs formed principally of

straight lines to make the guide member in short sections rather than in a continuous tube, the sections being placed only at corners or angles of the slits. It is also possible to use a series of spaced rings for guide members rather than a continuous tube, and if the rings are made of sufficiently small stock, they may be formed of metal or other opaque material without being noticeable when they are viewed through the slit from the front of the sign.

Other modifications in the sign as hereinabove described may be made and various changes may be made in the construction and arrangement of the several parts described, all within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A sign comprising an opaque background with a light emitting slit formed therein to delineate characters thereon, a source of light behind said background, a tubular translucent guide between said slit and said source of light, a masking member comprising an opaque cord slidable through said guide, a drag line connecting the ends of said masking member to form an endless cord, and means for pulling said line and cord through said guide to alternately mask and unmask the slit.

2. A sign comprising an opaque background with a light emitting slit formed therein to delineate characters thereon, a source of light behind said background, a flexible cord-like masking member adapted to be moved in a plane intermediate the source of light and the slit, and tubular translucent guide means confining said flexible, cord-like masking member to follow the contour of said slit.

3. The combination with a sign which includes illuminated line characters, of a masking member comprising a tubular translucent guide in registry with said characters, an opaque cord slidable through said guide, a drag line connecting the ends of said cord, and means for pulling said line and cord through said guide to alternately mask and unmask the characters.

4. The combination with a sign which includes illuminated line characters, of a masking member comprising a tubular translucent guide in registry with said characters, an opaque cord slidable through said guide, a drag line connected with the ends of said cord, and means for pulling said line and cord through said guide to produce a masking effect.

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