Dec. 9, 1930. W. F. MORTON 1,784,704

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Filed Jan. 16, 1930 2 Sheets-Sheet 1

Fig. 1.

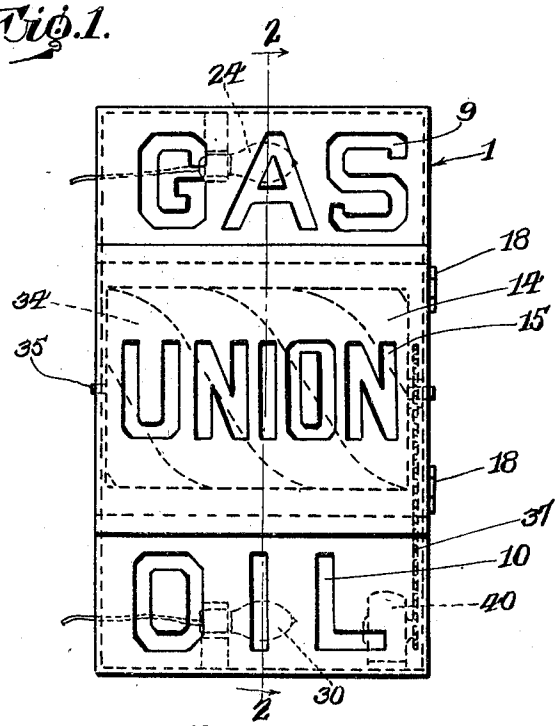
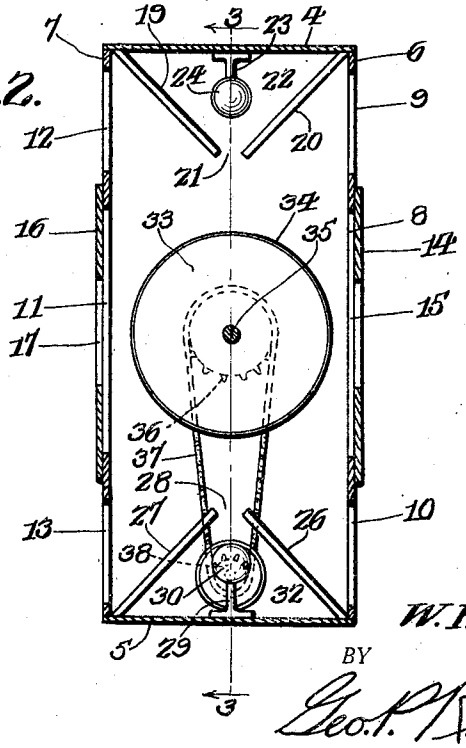


Fig. 2.



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Fig. 3.

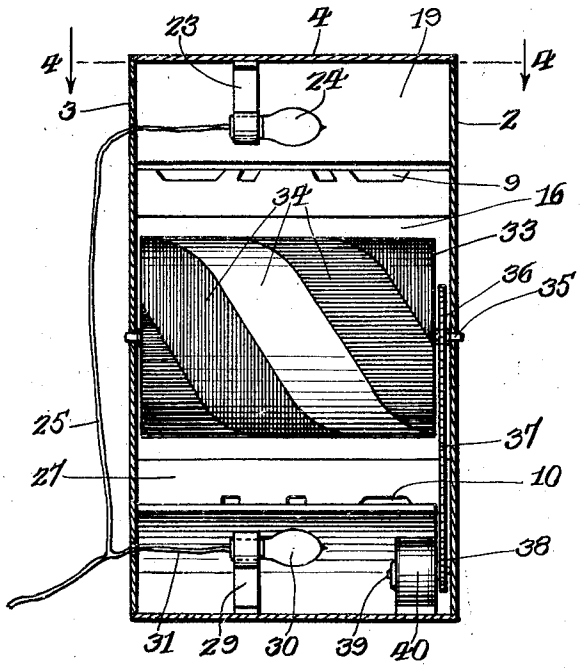
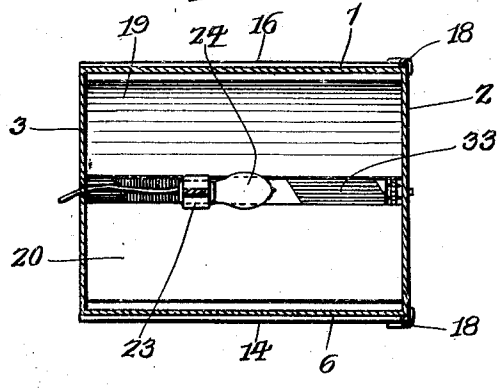


Fig. 4.



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UNITED STATES PATENT OFFICE

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Application filed January 16, 1930. Serial No. 421,240.

This invention relates to signs of the illuminable type and has for its object to provide, in a manner as hereinafter set forth, a sign of such class including means for automatically changing the colors of light rays emanating from light sources and for reflecting said colored rays in a manner to provide for the successive change in color of the matter displayed, thereby resulting in an unusually distinctive and attractive device.

A further object of the invention is to provide, in a manner as hereinafter set forth, a sign of the illuminable type including matter for simultaneous display upon the front and rear thereof, and means for automatically changing the color of light rays emanating from light sources into different colors and for reflecting said differently colored rays in a manner to provide for color changing of the matter displayed upon the front and rear of the sign whereby such matter is made very distinctive and attention will be quickly attracted thereto.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a sign of the illuminable type which is simple in its construction, strong, durable, compact, thoroughly efficient in its use, pleasing in appearance, attractive, readily set up, and inexpensive to manufacture and upkeep.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a front elevation of a sign structure in accordance with this invention.

Figure 2 is a section on line 2—2, Figure 1.

Figure 3 is a section on line 3—3, Figure 2.

Figure 4 is a section on line 4—4, Figure 3.

A sign or sign structure in accordance with this invention comprises a housing referred to generally at 1 and which includes a pair of side walls 2, 3, a top 4, a bottom 5, a front wall 6 and a rear wall 7.

The front and rear walls 6, 7 centrally thereof are formed with an opening, and above and below the opening are a series of spaced, light emitting portions which constitute the matter to be displayed. Preferably the light emitting portions are translucent, but if desired can be provided by cutting out said walls in the desired manner. That part of the front and rear walls 6, 7 other than the light emitting portions thereof is opaque to prevent the passage of light. The opening in the front wall 6 is indicated at 8, the light emitting portions above the opening 8 at 9, and the light emitting portions below the opening 8, at 10. The opening in the rear wall 7 is indicated at 11, the light emitting portions above the opening at 12 and the light emitting portions below the opening 11 at 13. The upper light emitting portions of the front and rear walls are illustrated by way of example to indicate the word "Gas" and the lower light emitting portions of the front and rear walls are formed, by way of example, to indicate the word "Oil".

Extending across the outer face of the front wall 6 and closing the opening 8 is a plate 14 having light emitting portions 15 formed by way of example to indicate the word "Union". The part of the plate 14 other than the light emitting portions 15 is opaque to prevent the passage of light through such part. Extending across the outer face of the rear wall 7 is a plate 16 having a series of light emitting portions 17, and which are so arranged by way of example, to indicate the word "Union". That part of the plate 16 other than the light emitting portions is opaque to prevent the passage of light therethrough. It is to be understood that the displayed matter upon the front of the sign structure and upon the rear thereof can be as desired and not limited to the showing. The light emitting portions 15 and 17 may be translucent or cut in the plates 14 and 16. The plates 14, 16 are hinged to the end wall 2 and are main-

tained in abutting relation with respect to the front and rear walls 6, 7 by any suitable means for detachably securing the plates in such position. The hinge connections for the plates 14, 16 are indicated at 18.

Secured within the housing 1 and opposing the light emitting portions 9, 12, is a pair of oppositely disposed, inclined reflectors 19, 20, the former depending from one end of the inner face of the top 4 and the latter depending from the other end of the inner face of top 4. The reflectors extend toward each other and have their bottom edges arranged in opposed spaced relation with respect to each other to provide a light ray passage 21. The reflectors 19, 20 are in the form of mirrors and disposed at an angle of 45° with respect to the top 4 of the housing 1. The reflectors 19, 20 extend from the front wall 2 to the rear wall 3, and form in connection with the housing a lamp compartment 22.

Depending from the top 4 is a hanger 23 for removably suspending a lamp 24 within compartment 22. Extending through the rear wall 3 and attached to lamp 24 are circuit connections 25. The lamp 24 is arranged in alignment with, but spaced above the light ray passage 21. The lamp 24 provides one of the light sources of the sign.

Secured within the housing 1 and opposing the light emitting portions 10, 13 is a pair of oppositely inclined, upwardly disposed reflectors 26, 27, the former extending upwardly from one end of the inner face of the bottom 5 and the latter extending upwardly from the other end of the inner face of the bottom 5. The reflectors extend toward each other and have the upper edges thereof arranged in opposed spaced relation to provide a light ray passage 28. The reflectors 26, 27 are in the form of mirrors, disposed at an angle of 45° with respect to the bottom 5 and extend from the side wall 3 to a point in proximity to the side wall 2.

Connected to the inner face of the bottom 5 is an upstanding support 29 for a lamp 30 which is arranged below, in alignment with respect to and spaced from the passage 28. The lamp 30 is removably connected to support 29. Circuit connections 31 extend through the side wall 3 and are attached to the lamp 30. The reflectors 26, 27 form in connection with the housing, a lamp compartment 32. The lamp 30 provides the other light source of the sign.

Arranged within the housing 1, between and opposing the intermediate light emitting portions, is a rotatable light ray color changer and reflector element for the purpose of changing the color of the light rays emanating from the lamps 24, 30. The said element provides in connection with the reflectors for successively changing the colors of the displayed matter and is in the form of a drum 33 provided with differently colored spiral stripes 34. As illustrated by way of example, the drum 33 has applied thereto three stripes colored red, white and blue, but it is to be understood that the number of stripes 34, as well as the colors of the latter can be as desired. The diameter of drum 34 is such that the reflectors 19, 20, 26 and 27 will oppose it in spaced relation whereby the stripes of the drum will appear in the reflectors and oppose the upper and lower light emitting portions. The element also provides for reflecting the light rays to the reflectors, whereby that displayed matter, which opposes such reflectors will have the color thereof automatically changed during the rotation of the ray color changer and reflector element.

The drum or cylinder 33 is carried by a shaft 35 journaled in the end walls 2, 3. One end of the drum is spaced a substantial distance from the end wall 2 and that part of the shaft 35 which projects from such end of the drum 33, carries a sprocket wheel 36 driven from an endless belt 37, operated from a sprocket pinion 38, carried on one end of the shaft 39 of an electric motor 40 arranged within the compartment 32 in proximity to the side wall 2 of the housing.

The arrangement of the parts as referred to provides a sign of the illuminable type for automatically changing the colors of light rays emanating from light sources and for reflecting said colored rays in a manner to provide for the successive change in the color of the matter displayed, thereby resulting in an unusually distinctive and attractive device and therefore it is thought the advantage of a sign structure, in accordance with this invention, can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the detailed structural arrangement thereof can be had which will fall within the scope of the invention as claimed.

What I claim is:—

1. A sign structure of the illuminable type comprising a housing having at the top and bottom of its front and at the top and bottom of its rear light emitting portions constituting the matter to be displayed, an upper pair of inclined, oppositely disposed depending reflectors opposing the light emitting portions at the top of said front and rear of said housing, a light source arranged between said reflectors, said reflectors spaced from each other at their bottoms to provide a passage for the light rays emanating from said source, a lower pair of inclined, oppositely disposed, upstanding reflectors opposing the light emitting portions at the bottom of the front and rear of the housing, a light source arranged between the reflectors of the lower pair, said lower pair of reflectors spaced from each other at their tops to

provide a passage for the light rays emanating from the light source therebetween, and a rotatable light ray color changer and reflector element journaled in the sides of said housing and positioned in spaced relation to and opposing said pairs of reflectors, the said reflectors inclining inwardly away from said light emitting portions.

2. A sign structure of the illuminable type comprising a housing having at the top and bottom of its front and at the top and bottom of its rear light emitting portions constituting the matter to be displayed, an upper pair of inclined, oppositely disposed, depending reflectors opposing the light emitting portions at the top of said front and rear of said housing, a light source arranged between said reflectors, said reflectors spaced from each other at their bottoms to provide a passage for the light rays emanating from said source, a lower pair of inclined, oppositely disposed, upstanding reflectors opposing the light emitting portions at the bottom of the front and rear of the housing, a light source arranged between the reflectors of the lower pair, said lower pair of reflectors spaced from each other at their tops to provide a passage for the light rays emanating from the light source arranged therebetween, a rotatable light ray color changer and reflector element journaled in the sides of said housing and positioned in spaced relation to and opposing said pairs of reflectors, the said reflectors inclining inwardly away from said light emitting portions, and means arranged within the lower portion of the housing and connected with said element for rotating it.

3. A sign structure comprising a housing having at the top and bottom of its front wall and at the top and bottom of its rear wall light emitting portions providing the matter to be displayed, an upper pair of spaced reflectors opposing the upper light emitting portions and inclining inwardly therefrom, said reflectors depending from the top of said housing and providing a light source compartment having a light ray passage at the bottom thereof, a light source within said compartment, a lower pair of reflectors opposing the lower light emitting portions and inclining inwardly therefrom, said lower pair arranged in spaced relation and providing a light source compartment having a passage for light rays, a light source arranged in said second mentioned compartment, a rotatable light ray color changer and reflector element positioned within the housing and spaced from said reflectors and light emitting portions and including means for changing the color of the light rays emanating from said sources into one or more colors for changing the color of the displayed matter during the operation of said element, and means within said housing for rotating said element.

4. A sign structure comprising a housing having the upper part, intermediate part and lower part of its front and rear walls provided with light emitting portions constituting the matter to be displayed, means within said housing at the top and bottom thereof to provide an upper and a lower light source compartment, said upper compartment having a light passage at its bottom and said lower compartment having a light passage at its top, said means including reflecting surfaces opposing in spaced relation said upper and lower light emitting portions and inclining inwardly from the latter, light sources in said compartments and aligning with said passages, a rotatable light ray color changer and reflecting element opposing said intermediate light emitting portions, said element journaled in opposed walls of the housing and spaced from said compartments and upper and lower light emitting portions, said element provided with means for changing the color of the light rays from said sources into one or more colors for changing the color of the matter displayed, and means within the housing for rotating said element.

In testimony whereof, I affix my signature hereto.

WILLIAM F. MORTON.