J. M. BROOKS.

SIGN.

APPLICATION FILED JULY 23, 1917.

1,373,167. **Patented Mar. 29, 1921.**

Fig. 1.

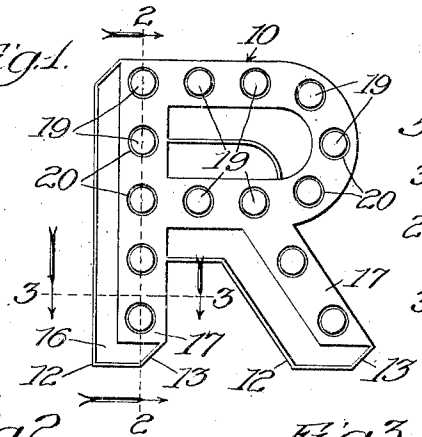


Fig. 4.

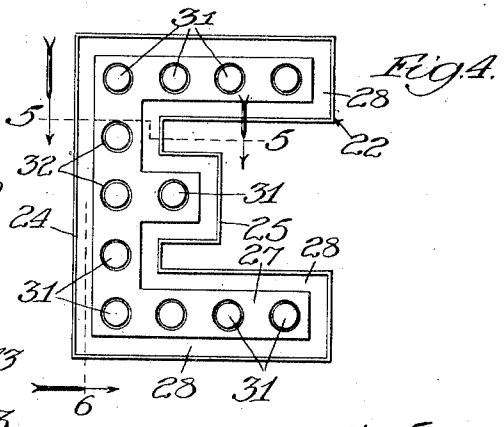


Fig. 2.

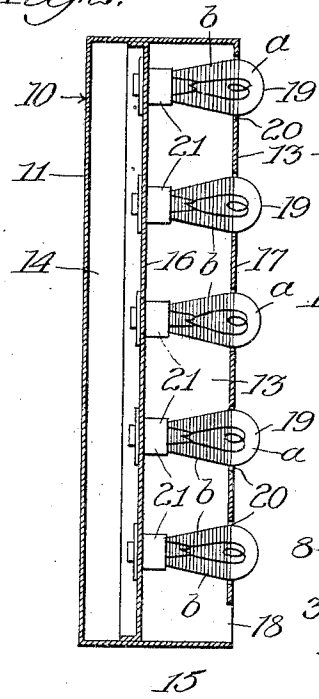


Fig. 3.

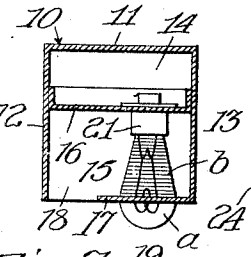


Fig. 5.

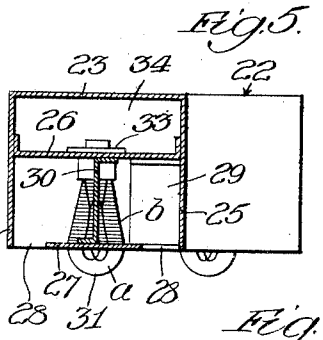


Fig. 7.

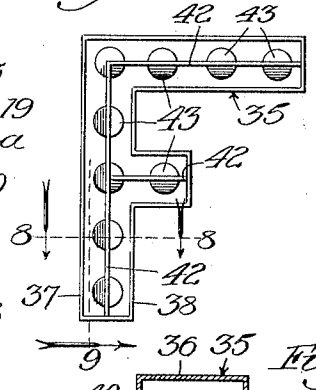


Fig. 6.

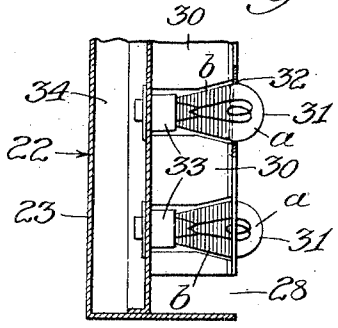


Fig. 8.

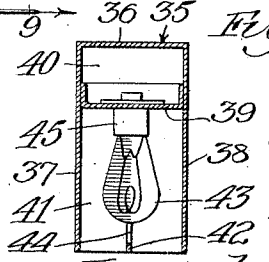
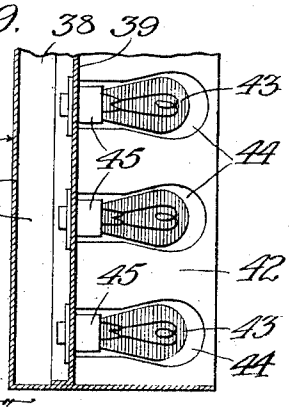


Fig. 9.



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Inventor:
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By Poole & Vann
Att'ys.

UNITED STATES PATENT OFFICE.

JESSE M. BROOKS, OF CHICAGO, ILLINOIS.

SIGN.

1,373,167. Specification of Letters Patent. Patented Mar. 29, 1921.

Application filed July 23, 1917. Serial No. 182,130.

To all whom it may concern:

Be it known that I, JESSE M. BROOKS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Signs, of which the following is a specification.

This invention relates to letters or like characters for illuminated or electric signs, and more particularly to the shading of such letters or characters.

Among the objects of the invention is to effect the shading of a sign letter or character of the kind referred to, by using the same set of lamps which serve to illuminate the outer or front face of such character, and further screen the light rays which produce the shaded effect from the light rays employed for illuminating the front face of the sign letter.

The invention consists further in the matters hereinafter described and more particularly pointed out in the appended claims.

In the accompanying drawings—

Figure 1 is a front view of a sign letter constructed in accordance with my invention;

Fig. 2 is an enlarged longitudinal sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged transverse sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a front view of another sign letter, illustrating another form of my invention;

Fig. 5 is an enlarged transverse sectional view taken on line 5—5 of Fig. 4;

Fig. 6 is an enlarged fragmentary longitudinal sectional view taken on line 6—6 of Fig. 4;

Fig. 7 is a top plan view of another sign letter, illustrating still another form of my invention;

Fig. 8 is an enlarged transverse sectional view taken on line 8—8 of Fig. 7; and

Fig. 9 is an enlarged fragmentary longitudinal sectional view on line 9—9 of Fig. 7.

In Fig. 1 of the accompanying drawings, I have shown a sign character 10, constructed in accordance with my invention and having the shape of the letter "R" of the alphabet, although it is to be of course understood that my invention is equally as well applicable to each and all of the other letters of the alphabet, as well as to the several numerals and other types of characters for display by illuminated or electric signs, and that I have merely selected the letter "R" instead of one of the other letters or numerals for the purpose of illustrating the features of my invention. Said sign letter 10, as shown in Fig. 3, is made trough-shaped in cross-section, and has an inner wall 11 and two oppositely disposed, outwardly projecting side walls 12, 13. Such trough is divided transversely into two chambers 14, 15 by a false bottom or transverse partition wall 16, the latter extending between and being secured to said side walls 12, 13 beyond said inner wall 11. In the instance shown, the sign letter 10 is given a shaded effect to the left thereof, and to accomplish this I provide a screen 17, which extends partially across the open trough from the side wall 13 toward the opposite side wall 12. Said screen 17 forms the outer wall of the trough, and is of such width as to constitute the outer or display face of the sign letter, both for day and night use. Said screen 17 terminates short of the side wall 12, so as to provide an elongated opening or slot 18 opening outward through the display or front face of the sign letter and communicating with the chamber 15. To illuminate the sign letter 10 for night use, I provide a single set of incandescent electric lamp bulbs 19, 19 arranged to conform to the shape or contour of the letter, and each lamp 19 is inserted into the chamber 15 through a hole 20 formed for that purpose in the screen or outer wall 17. (See Figs. 1 and 2.) Secured to said partition wall 16 are a plurality of lamp sockets 21, 21, one for each lamp used and below each hole 20, as shown in Figs. 2 and 3. The distance between the partition wall 16 and the outer wall or screen 17 is such that each lamp 19 has its outer portion *a* projecting or protruding outward beyond the screen 17, so that the front face of the sign letter will be illuminated when the lamps are lighted. The remaining portion *b* of each lamp 19 is in the chamber 15 and extends between the partition wall 16 and the outer wall 17, as shown. The portion *b* of each lamp 19 is painted or given a color contrasting to the color given to or possessed by the front or display face of the sign letter. The inner walls of the chamber 15 are given or painted a color in harmony with the color of the lamp portions *b*, *b*. For instance, if each lamp portion *b* is painted or given a "red" color, the inner walls of the chamber 15

are also painted "red". Consequently, when the lamps 19 are lighted, the front face of the sign letter 10 will be illuminated "white" while the rays of red light in the chamber 15 will be reflected outward from the front face of the sign letter through the slots or passages 18, thereby giving the sign letter 10 a shade of red light on the left thereof. The light producing the outline of the letter is a direct light, while the light producing the shaded effect is an indirect light due to the outer wall or screen 17. The fact that the inner walls of the chamber 15 are painted "red" makes the sign letter 10 in daytime have a shade of red color, as the latter can be viewed from the front of the sign letter through the slots 18. The portions *b* of the lamp and the inner walls of the chamber 15 may be painted or given any other color desired, such as green, blue, yellow, or the like, or the front face of the letter could be given a dark color, while the parts to effect the shading of the letter could be given a light color. The matter of coloring depends, of course, upon the conditions at hand. When it is desired to form a letter 10 having a shaded effect on the right, the construction illustrated would be changed only in that the screen or outer wall 17 would be connected with the side wall 12, and the lamp sockets 21 shifted accordingly. The chamber 14 is designed to contain the electric wires or conductors (not shown) connecting the several lamp sockets with the contact plugs (not shown) on the back of the letter and whereby the latter may be readily connected with the lead wires or the like of the sign on which the letter is placed.

It will be particularly noted that by the construction described and shown the sign letter 10 is both illuminated on its outer or front face and the shaded effect produced by a single set of lamps. In other words, the lamps used for illuminating the front face of the sign letter are also used for producing the shaded effect, and that by the screen 17 the shaded effect is produced by an indirect and subdued light. By using but a single set of lamps for both illumination and shading, the maintenance cost of the sign letter is greatly reduced, when compared to a construction requiring two sets of lamps, one for illuminating the front face of the letter and the other for producing the shading. Furthermore, by using one set of lamps both for illumination and shading, the latter may be produced by an indirect and subdued light, thus producing a proper amount of light for effecting a proper shading. Then again, by using but a single set of lamps, the letter is complete in itself and may be handled, transported, and placed in position on the sign board as a complete unit.

In Fig. 4, I have shown a sign character 22 having the shape of the letter "E" and embodying the same general features of my invention as above referred to in connection with Figs. 1 to 3, but carrying out the objects of my invention by a different type of construction from that heretofore described. The sign character 22 is also made trough-shaped in cross-section, and has an inner wall 23, two side walls 24, 25, and an intermediate transverse partition wall 26, which extends between and is secured to said side walls. Extending partially across the open side of the trough is a screen or outer wall 27, the latter having the same shape as the letter 22, but narrower than the width of the trough so that the margins of said screen 27 terminate short of the side walls 24, 25 so as to provide elongated openings or slots 28 on each side thereof and opening into the chamber 29 formed between the screen or outer wall 27 and the partition wall 26. The screen 27 constitutes the front or outer face of the letter 22 and is maintained in the position shown by a supporting flange 30 extending between and secured to said walls 26, 27. (See Fig. 5.) To illuminate the sign letter 22 for night use, I provide a single set of incandescent electric lamps 31, 31, arranged to conform to the shape of the sign letter and being inserted into the chamber 29 through holes 32 formed for that purpose in the outer wall or screen 27. The partition wall 26 is provided with lamp sockets 33 for the reception of the lamps 31. As in the case of the sign letter 10, the distance between the partition wall 26 and the outer wall or screen 27 is such that the outer portions *a* of the lamps 31 project to a like extent beyond the screen, so that when the lamps are lighted the front or outer face of the sign letter 22 will be illuminated. The portions *b* of the lamps 31 are located in the chamber 29, and the light rays thereof are reflected, by the inner walls of said chamber, outwardly from the front face of the letter 22 through the slots 28, 28, around the entire margins of the screen or outer wall 27. Should the portions *b* of said lamps 31 and the inner walls of the chamber 29 be painted or given a red color, there would be produced around all of the edges of the screen 27, when the lamps are lighted, a shade of red color, thus contrasting markedly to the illuminated light front face of the sign letter 22. In other words, when the lamps 31, 31 are lighted, a centrally disposed portion of the front face of the letter is illuminated one color, say "white" should the front face of the letter be painted such color, while the marginal portions of the front face of the letter around the edges of such central portion would appear a contrasting color, say "red" should the walls of the chamber 29 and the lamp portions *b*

therein be given such color, thereby giving a shaded effect around the entire margin of the front face of the letter. As in the type of construction shown in Figs. 1 to 3, the conductor wires (not shown) for the set of lamps 31 in the letter 22 are located in the chamber 34 formed behind the wall 26.

Thus, in the type of construction described and shown in Figs. 4 to 6, a single set of lamps, with the aid of the screen 27, perform at the same time two functions, first, illuminate the front face of the letter 22, and, second, produce the shading thereof.

In Fig. 7, I have shown a sign character 35 having the shape of the letter "F" and, although embodying the features of my invention, yet being constructed a little differently from the types of structures above described and shown in the preceding figures. The sign letter 35 is also made trough-shaped in cross-section, and has an inner wall 36, two side walls 37, 38, and an intermediate transverse partition wall 39, which extends between said side walls and divides the trough transversely into two chambers 40, 41. Interposed between the side walls 37, 38 and arranged parallel thereto is a longitudinal partition wall or screen 42. Said screen 42 is secured to said partition wall 39 and extends outwardly therefrom, as shown in Figs. 7 and 8. Said screen 42 is preferably spaced equal distances from said side walls 37, 38, so that the sign letter when looked at from the front will appear to have two troughs arranged side by side and extending in the same general direction. To illuminate said sign letter 35, I provide a single set of incandescent lamps 43, 43, all located in the trough and so arranged, with respect to said screen 42, that one longitudinal half of each lamp 43 projects to one side of said screen, while the remaining longitudinal half of each lamp projects to the opposite side of said screen, the latter being provided with openings or holes 44 therein for that purpose. Each lamp 43 is screwed into a lamp socket 45, secured to the transverse partition wall 39. That portion of each lamp 43 which extends to one side of said screen 42 is painted one color, such as red, green, blue, or the like, while the remaining portion of the lamp which extends to the opposite side of said screen is painted a contrasting color, such as white, yellow, or the like, or allowed to retain its natural color. In the example shown, the letter 35 is given a shaded effect to the left, and the portions of the lamps painted or given the same color are positioned on that side of the screen so as to produce the shaded effect to the left. The inner walls of the trough in which such painted lamp portions are located are painted a color in harmony with such painted lamp portions. Should it be desired to shade the opposite side of the letter 35, the painted parts would be reversed. From the type of construction described, the results are obvious. When the lamps are lighted, one-half of the shape of the letter 35 is illuminated one color, such as a bright one, say "white," while the remaining half of the letter would be illuminated a darker color, say red, blue, or the like, thereby producing a shaded effect. The chamber 40 is designed to receive the conductor wires (not shown) for the several lamps 43.

In each of the three different forms shown, a single set of lamps are used, and such lamps illuminate as well as effect the shading of the sign character. Further, a screen is used for separating the light rays used for illuminating the letter from the light rays used for effecting the shading, the light rays for the two purposes referred to being produced from the same source of light. In the first two forms shown, the illumination of the front face of the letter is produced by a direct light, while the shading is produced by an indirect one. Moreover, in each of the three forms shown, the transverse partition wall (16 in the letter 10, 26 in the letter 22, and 39 in the letter 35) forms, in fact, the inner wall or base member of the sign character, in that the lamp sockets are all secured to said base member. In other words, said partition wall constitutes the inner wall or base member of the trough or chamber in which the lamps are located. In the case of any letter or numeral or other character having rounded or curved portions, as the letter "R" shown in Fig. 1, the walls of the trough are curved accordingly, and the ends of the trough are closed by end walls, as shown. Other and further advantages of my invention will be apparent to those skilled in the art to which my invention appertains.

Although I have shown and described in detail herein several forms of my invention, yet it is to be of course understood that the details of construction and the arrangement of the parts shown may be variously changed and modified without departing from the spirit and scope of my invention, and I do not wish to be limited or confined to the details of construction shown and arrangement of parts illustrated, except as pointed out in the appended claims.

I claim as my invention:

1. A sign character, comprising a screen member having substantially the same shape as the character depicted by the said character and forming the outer face thereof, a plurality of electric lamps back of the screen and having their outer ends projecting through said screen to illuminate the outer face thereof and the portion of the sign character back of said screen member, and means arranged to provide an open slot ex-

tending about at least one of the edges of the screen member and adapted to cause the rays of light back of the screen member to be reflected outward from the sign character through said slot.

2. A sign character, comprising a base member, two oppositely disposed side walls projecting outwardly from said base member, a screen member spaced outwardly from said base member and arranged substantially parallel thereto; said screen member extending partially across the trough formed between said side walls, and an electric lamp located in said trough and having a portion thereof projecting outwardly through said screen member.

3. A sign character, comprising a base member, two oppositely disposed side walls projecting outwardly from said base member, a screen member spaced outwardly from said base member and arranged substantially parallel thereto; said screen member extending partially across the trough formed between said side walls, and an electric lamp located in said trough and having a portion thereof projecting outwardly through said screen member; the portion of said lamp between said base and screen members having a color different from the color possessed by the portion of said lamp projecting outwardly from said screen member.

4. A sign character, comprising a base member, two oppositely disposed side walls projecting outwardly from said base member, a screen member spaced outwardly from said base member and arranged substantially parallel thereto; said screen member extending partially across the trough formed between said side walls, and an electric lamp located in said trough and having a portion thereof projecting outwardly through said screen member; the portion of said lamp between said base and screen members having a color different from the color possessed by the portion of said lamp projecting outwardly from said screen member, and the inner walls of said trough and the portion of the lamp located therein having the same color, the latter being different from the color possessed by the portion of said lamp projecting outwardly from said screen member.

5. A sign character, comprising a base member, two oppositely disposed side walls projecting outwardly from said base member, a screen member spaced outwardly from said base member and arranged substantially parallel thereto, said screen member being secured to one of said side walls and terminating short of the other of said side walls, and an electric lamp mounted on said base member and projecting outwardly therefrom through said screen member.

6. A sign character, comprising a base member, two oppositely disposed side walls projecting outwardly from said base member, a screen member spaced outwardly from said base member and arranged substantially parallel thereto, said screen member being secured to one of said side walls and terminating short of the other of said side walls, and an electric lamp mounted on said base member and projecting outwardly therefrom through said screen member, the portion of said lamp between said base and screen members having a color different from the color possessed by the portion of said lamp extending outwardly from said screen member.

7. A sign character, comprising a base member, two oppositely disposed side walls projecting outwardly from said base member, a screen member spaced outwardly from said base member and arranged substantially parallel thereto, said screen member being secured to one of said side walls and terminating short of the other of said side walls, and an electric lamp mounted on said base member and projecting outwardly therefrom through said screen member; the inner walls of the trough formed by said side walls and base member having a color different from the color possessed by the outer face of said screen member.

8. A sign character, comprising a screen member having substantially the same shape as said sign character and forming the front or outer face thereof, means for illuminating the front or outer face of said screen member and the portion of the sign character below said screen member, means adapted to cause the rays of light below said screen member to be reflected outward from at least one of the edges of said screen member, and means for imparting to said reflected light rays a color different from that possessed by the rays of light reflected from the front or outer face of said screen member.

In testimony that I claim the foregoing as my invention, I affix my signature in the presence of two witnesses, this 3rd day of July, A. D. 1917.

JESSE M. BROOKS.

Witnesses:

EUGENE C. WANN,

MARGARET C. SMITH.