P. R. HAY.

SIGN PROJECTING DEVICE.

APPLICATION FILED MAY 16, 1913.

1,129,092.

Patented Feb. 23, 1915.

2 SHEETS—SHEET 1.

FIG. 1.

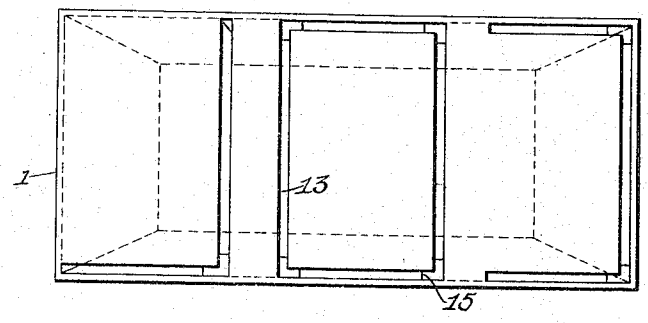


FIG. 3.

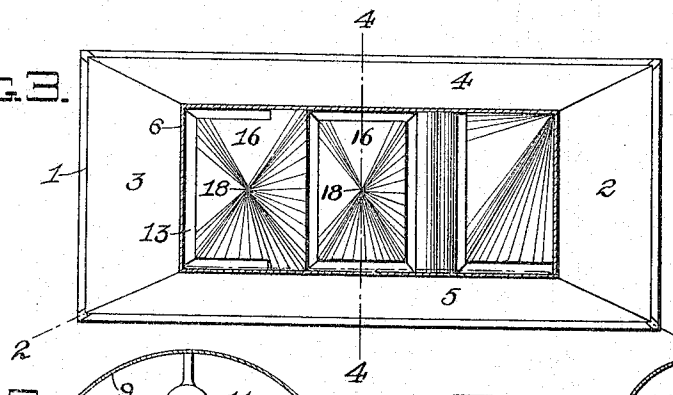


FIG. 2.

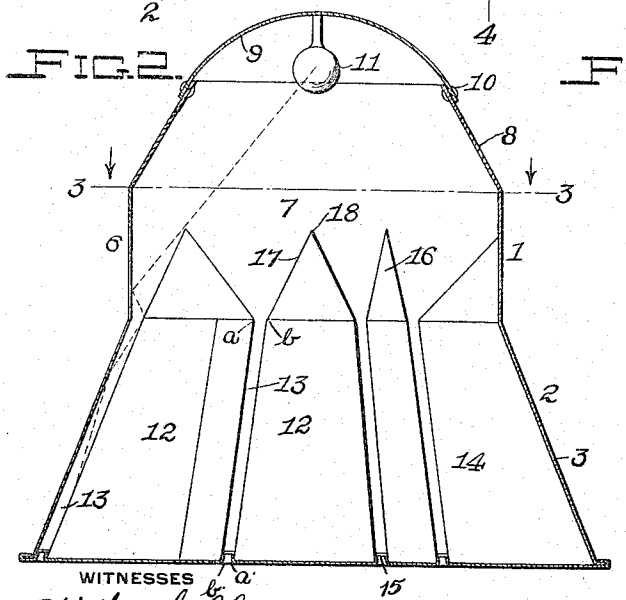
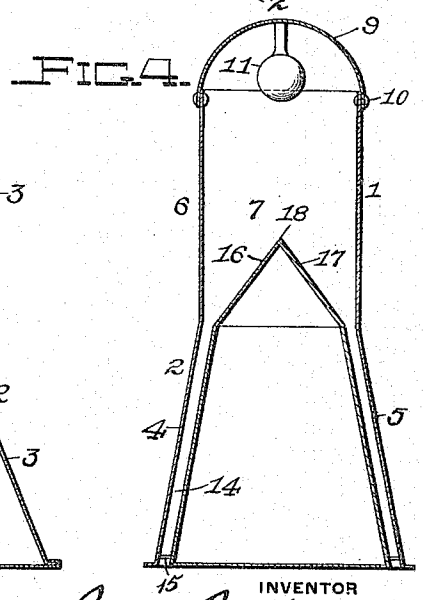


FIG. 4.



WITNESSES

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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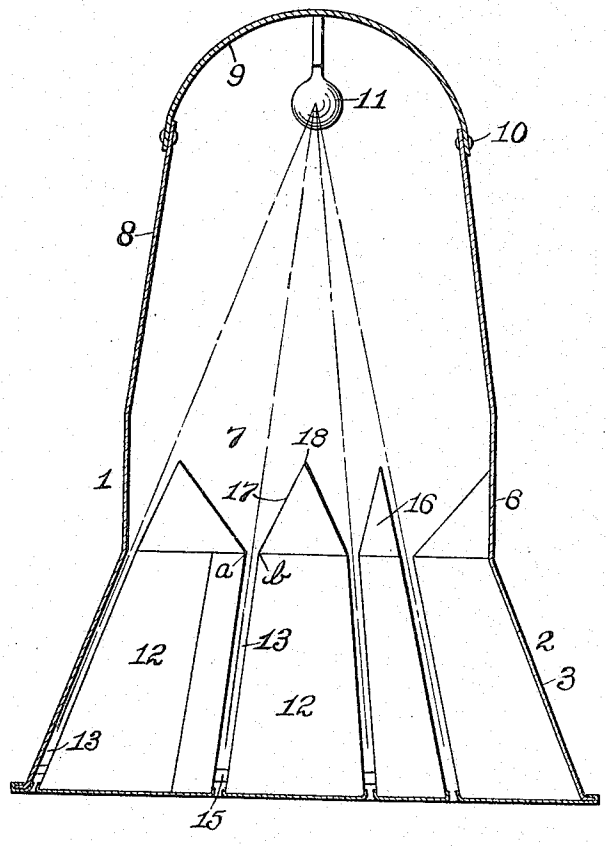
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2 SHEETS—SHEET 2.

FIG. 5.



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UNITED STATES PATENT OFFICE.

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SIGN-PROJECTING DEVICE.

1,129,092. Specification of Letters Patent. Patented Feb. 23, 1915.

Application filed May 16, 1913. Serial No. 768,174.

To all whom it may concern:

Be it known that I, PAUL R. HAY, a citizen of the United States, and a resident of Pittsburgh, North Side, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sign-Projecting Devices; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to sign projecting devices and more particularly to devices which are placed at any convenient point in order to project advertising matter, etc., upon the sidewalks, bill-boards, and other surfaces.

The object of my invention is to provide a cheap, simple, and efficient form of sign projecting device which can be constructed of some light and cheap material, and one in which the diffusion of the light rays will be greatly reduced so that the reflection from the same will be sharp and particularly brilliant.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved sign projecting devices, I will describe the same more fully referring to the accompanying drawing, in which:—

Figure 1 is a front view of the same, through which the light rays pass. Fig. 2 is a view of Fig. 3 looking from below and with the lower wall removed. Fig. 3 is a cross sectional view on the line 3—3, Fig. 2, looking in the direction of the arrows. Fig. 4 is a vertical sectional view on the line 4—4, Fig. 3. Fig. 5 is a view similar to Fig. 2 but showing the light arranged at a position in line with all the passageways.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing, my improved sign consists of a casing 1, which is formed of any suitable light material, tin being preferred and such casing has an outwardly tapered portion 2 consisting of side walls 3, and top and bottom walls 4 and 5 respectively. Beyond the outwardly tapered portion 2, is a rectangular portion 6, which forms a light ray distributing chamber 7 as hereinafter explained, while beyond such rectangular portion, the walls 8 of the casing 1 taper inwardly, and are provided at the outer end of the same with a reflector 9. The reflector 9 is adapted to be fastened to the walls 8 by means of rivets 10 or any other suitable means, and such reflector is concave in shape and provided at the focus of the same with a light 11 for furnishing illumination to the sign. The light 11 can be of any style desired, such as an electric light.

Within the outwardly tapered portion 2 are box-like structures 12 which have openings 13 between the same, and communicating with the light distributing chamber 7, and with the atmosphere, and these box-like structures are arranged in any suitable manner within the outwardly tapered portion 2, which forms the character chamber 14 in such a manner that any character desired may be arranged.

The box-like structures 12 which are formed of any suitable material such as tin and which provide for the particular character or advertising matter, are supported in the character chamber 14 by means of small pieces of sheet metal 15, such as tin, and of such width as will not detract from the volume of light passing through the openings 13.

The rear ends of the box-like structures 12 are provided with light directing portions 16 which are situated in the light distributing chamber 7 and such portions have walls 17 composing the same tapering to an apex 18, so that all of such portions are either regular or irregular pyramids.

In Fig. 5 the openings 13 between the box-like portions 12 are so inclined, that each one of the same is in a direct line with the center of the light 11, so that such light shines directly through each of said openings, assisted by the reflector 9 beyond said light and by the light directing portions 16 at the rear of each of the box-like structures 12.

In the present construction, it will be seen that the letters C—O—L are arranged for and any character or advertising matter may be arranged by placing the box-like structures in the character chamber 14 in such a way that the openings 13 will be provided through which the light rays pass. In this arrangement the diffusion of the light rays is practically eliminated, as the

greatest possible diffusion in the case of the end openings 13 would be between the points *a* and *a'* and the points *b* and *b'*, and as this is practically negligible by reason of the long openings 13, the reflection of the characters upon the pavement, signboards, or other surface will be clear and sharp, and the edges of the same very sharp and distinct, whereas in sign devices used at the present time, there is a great diffusion of the light rays so that the characters reflected are either dim or are ragged and not sharp.

When it is desired to place the light in about the position shown in Fig. 2 or even closer to the light directing portions 16 than actually shown, the walls 17 being as they are of highly polished material such as nickel plate or mirrors will reflect the light from one to another of the said walls and through the openings 13 as shown by the dotted line in Fig. 2, so that the light may be placed in any position and the long openings 13 will prevent diffusion as before explained.

It will be readily seen that with my improved form of sign projecting device, that any form of character or other advertising matter may be arranged for within the character chamber 14, and that the particular shape of the structure shown need not be carried out in all instances, so long as the light rays are adapted to pass equally through all of the openings 13 between the box-like structures 12.

I am aware of the fact that many signs of this class are used today, but none of the same have means for preventing the diffusion of the light rays as in my structure, and it is not possible in the use of any of these illuminated signs now on the market to get a clear, sharp reflection such as with my improved device.

Various modifications and changes in the design and construction of my improved sign projecting devices may be resorted to without departing from the spirit of the invention as set forth in the appended claims or sacrificing any of its advantages.

What I claim as my invention and desire to secure by Letters Patent, is:—

1. A device for projecting a sign upon a selected surface comprising a casing, members in said casing spaced apart to provide passageways therebetween, said passageways being in cross-section of the shape of the desired characters, a reflector behind and spaced from said members, a light source between said members and said reflector, said passageways being relatively long and narrow whereby diffusion of light from said light source and said reflector is prevented.

2. A device for projecting a sign upon a selected surface comprising a casing, members in said casing spaced apart to provide passageways therebetween, said passageways being in cross-section of the shape of the desired characters, a reflector behind and spaced from said members, a light source between said members and said reflector, said passageways being in alinement with said light source and being relatively long and narrow, whereby diffusion of the light from said light source and said reflector is prevented.

3. A device for projecting a sign upon a selected surface comprising a casing, members in said casing spaced apart to provide passageways therebetween, said passageways being in cross-section of the shape of the desired characters, a reflector behind and spaced from said members, a light source between said members and said reflector, light reflecting means on the rear of said members and in front of said light source said passageways being relatively long and narrow whereby diffusion of light from said light source and said reflector is prevented.

4. A device for projecting a sign upon a selected surface comprising a casing, members in said casing spaced apart to provide passageways therebetween, said passageways being in cross-section of the shape of the desired characters, a reflector behind and spaced from said members, a light source between said members and said reflector, pyramidal light reflecting means at the rear of said members and in front of said light source, said passageways being relatively long and narrow whereby diffusion of light from said light source and said reflector is prevented.

In testimony whereof, I the said PAUL R. HAY have hereunto set my hand.

PAUL R. HAY.

Witnesses:
T. B. HUMPHRIES,
J. N. COOKE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."