

No. 881,390.

PATENTED MAR. 10, 1908.

J. W. ELLIS.
ILLUMINATED SIGN.
APPLICATION FILED OCT. 2, 1907.

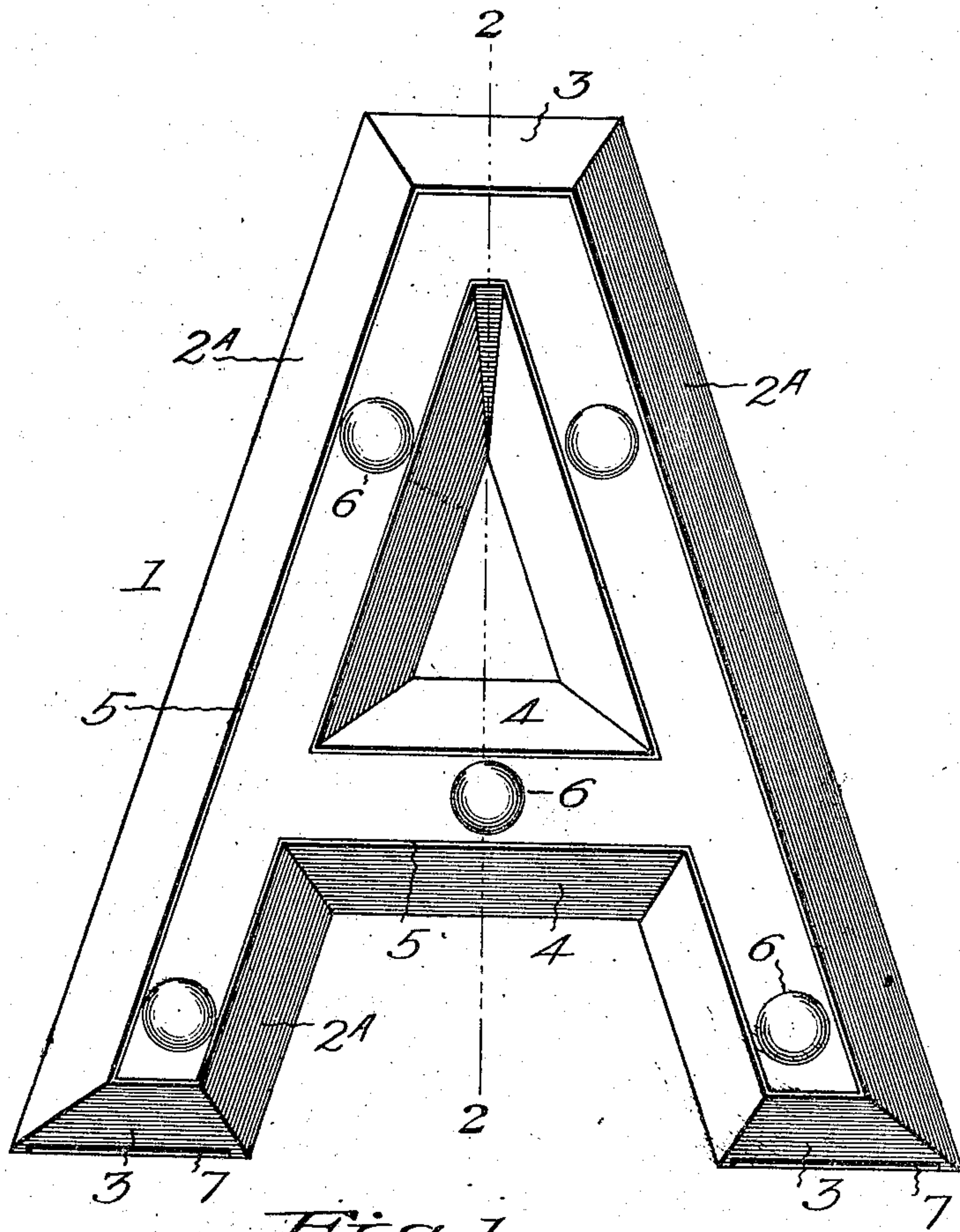


Fig. 1.

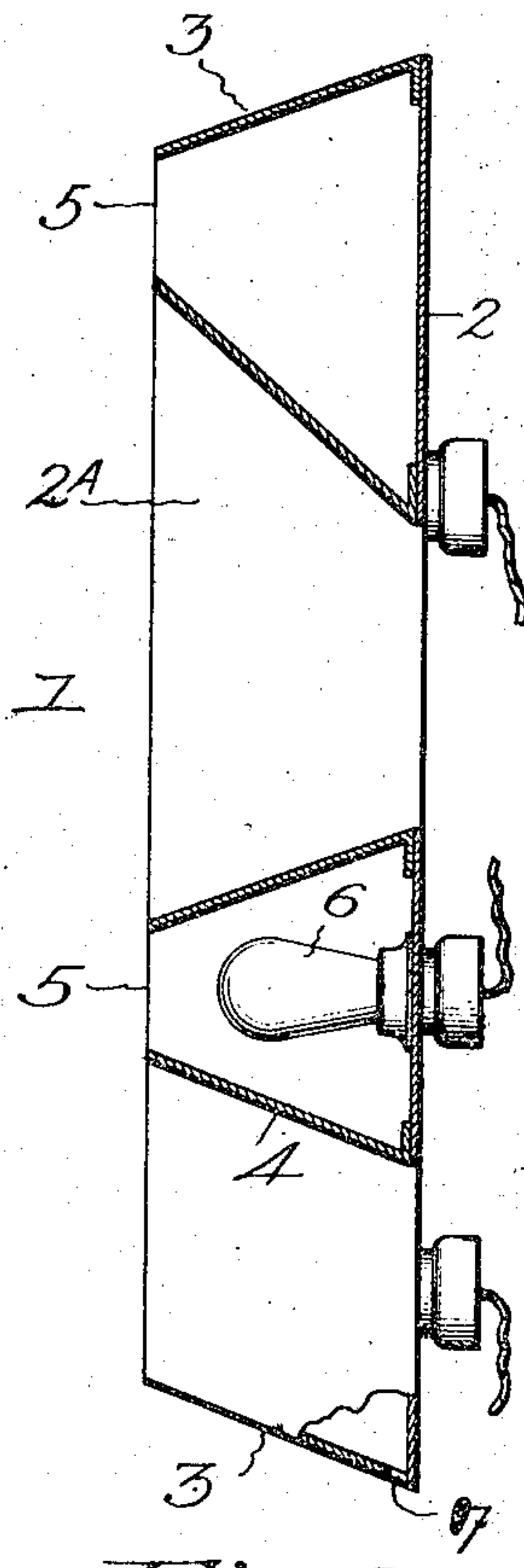


Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES W. ELLIS, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO ANDREW P. THOMPSON,
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ILLUMINATED SIGN.

No. 881,390.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed October 2, 1907. Serial No. 395,580.

To all whom it may concern:

Be it known that I, JAMES W. ELLIS, a citizen of the United States of America, residing at the city and county of Denver and State of Colorado, have invented a new and useful Illuminated Sign, of which the following is a specification.

My invention relates to improvements in illuminating signs; and the objects of my invention are: first, to provide illuminated letters in which each letter is formed by a sunken channel or recess, of a fan or dove-tail shape, made in the form of the different letters of the alphabet, and formed of any suitable metal in the shape of the letters of the alphabet, or sunk or otherwise formed in the surface of a sign board of wood or any other suitable material. Second, to provide an illuminated sign letter that will give as great an illuminating candle-power effect as any electrically illuminated letter in use, with one-third of the electric light candle power. And third, to provide an electric light sign letter which will concentrate or focus the light within it into a narrow line of the form of the letter, of great brilliancy, and which comprises a letter in the form of any letter of the alphabet desired, provided with a fan or dove-tailed recess, the bottom and sides of which form in outline the frustum of a triangle, the apex portion of which forms the shape of the letter, and also the entrance to the letter, and the bottom of which recess-shaped letter is provided with an incandescent electric light at the center and end portions only of each angle of its form, which are positioned wholly within the recess. I attain these objects by the mechanism illustrated in the accompanying drawings, in which:

Figure 1, is a front view of a letter for an illuminated sign, constructed in accordance with my invention. And Fig. 2, is a vertical, sectional view thereof on the line 2—2 of Fig. 1.

Referring to the drawings, the numeral 1, designates a letter of the alphabet. I have preferably illustrated my invention embodied in the letter "A", although my invention contemplates its embodiment in any letter of the alphabet. The letter is constructed of any suitable material, preferably galvanized iron, and is made in the form of the letter desired, and consists of a back portion 2, of preferably the form and shape of the letter to be made from this back portion;

the sides 2^a, and ends 3, and the cross arm portions 4 are either bent up from or are secured to the back portion by solder or rivets or other suitable means, and are positioned to project at a slight inwardly projecting angle of preferably about 60° towards the center of each arm of the letter. That is, the sides of each limb slope convergingly towards each other toward the lengthwise axis of the limb a sufficient and equal amount to form a dove-tailed or fan-shaped letter in cross-section, and a dove-tailed or fan-shaped recess between them, which is open at the top 5, of the sides throughout the length of the letter; and the sides and ends and cross arm portions of the letter are formed to provide a continuous open space at their top edge portions, which open space is formed to be the true form and shape of the letter desired, and this entrance space becomes the illuminated letter when the dove-tailed recess of the side and end cross arm of the letter are illuminated. The sides and ends and cross arm portions of the vertical and cross portions of each letter are equally and evenly inwardly inclined so as to bring the entrance slot of the recess in the center of the width of the different parts of the letter. The rear wall and side portions of this dove-tailed recess, are provided with light reflecting surfaces, which are made by either painting or glazing them with white paint or enamel or cement or tile or some other suitable material, or if desired they may be constructed of a light reflecting material.

To the bottom of the inside of the recess, which is the back or floor of the letter, I secure in the length of each arm portion of the letter, one or more incandescent electric lights 6, in suitable apertures formed therein to receive them, and connect the socket portions of these lights which project beyond the rear side of the letter, by circuit wires to a source of current supply.

It is the present practice in making illuminated letter signs to make letters the sides of which diverge outward in a V-shape trough form of letter. This form of letter, however, requires that a sufficient number of incandescent electric lights be placed along the bottom of the V-shaped trough to form a row of closely positioned lights in order to make a letter that shall be in form an unbroken outline of light, of the true form of the letter.

My invention consists of shaping the sides and ends and cross arms of the letter that their inside surfaces will reflect their light against each other, and concentrate it in the center of the dove-tailed recess between them, and thus present a bright streak of light of the width of the entrance slot to the dove-tailed recess between them, and thus enable just as bright a sign letter to be produced with the use of a very much less number of incandescent lights, and thus very materially reduce the cost of the electric current used to supply the sign, and also reduce the cost of its manufacture. And the sign letter embodied in my invention requires but one incandescent light at the center or central and at the end portions of each arm of the letter; consequently in the letter "A" I secure to the bottom of the dove-tailed recess one incandescent electric light at the end portions of the vertical limbs of the letter, and one at the center of their cross arm portion. These five electric lights, which would be in all cases of the same candle power as would be used in signs of the commonly used form, are all sufficient to reflect and concentrate a bright streak of light the full width of the entrance to the dove-tailed shaped recess throughout the full length of the letter, while in the V-shaped trough form in common use about three times as many electric lights of the same candle power would be required to produce an equally bright illuminated letter.

In practice I have found that a sign of the letters of the form of cross section embodying my invention, will consume less than one-third of the electric light current per month used in the same sign of the V-shaped trough form of letter, which makes the cost of a sign of my letters two-thirds less per month in amount of electric light current consumed.

The first cost of construction and material of letters embodying my invention, is also very materially less than in signs of similar letters of the commonly used form, as the converging sides make a stiffer and stronger sign letter for a given size, and less work is required to place the lights in them; also about two-thirds less incandescent lights and wiring are required. Drain openings, 7, are formed at the bottom of the letters to permit the escape of rain and melted snow.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. An illuminated electric light sign letter, comprising a flat back portion, provided with inwardly converging side and end portions projecting from said back and converged towards each other to form a dove-tailed recess between them, their free ends being spaced at a sufficient distance apart to form a recess between them of the outline of the letter desired, and narrower than the width

of the back of the different portions of the letter, and an electric incandescent light secured to said back portion at the central and end portions of each limb and arm portions of said letter.

2. An illuminated sign letter, comprising a supporting back portion, sides, and end portions projecting forward from said back portion and converging towards each other to form a dove-tailed shaped recess portion, having a flat back or wall portion and converging side wall and end wall portions, provided with a light reflecting surface, and incandescent electric lights secured to the back wall within said dove-tailed recess and operatively connected to a source of electric current supply to illuminate said dove-tailed shaped recess.

3. In an illuminated sign letter, the combination of a letter supporting sign or back board adapted to permit a letter to be formed in it, with a letter, comprising a dove-tailed shaped recess of the form of the true outlines of the letters of the alphabet desired, said recess having its narrowest slot entrance portion at the front or face of the supporting back in which it is formed, and its widest portion at the bottom of said recess in said supporting back, and having the sides of said dove-tailed recess convergingly inclined towards each other from the bottom of said recess to its entrance slot portion and having the inside walls of this dove-tailed shaped recess provided with a light reflecting surface, electric lights secured at predetermined distances apart into the rear wall of said dove-tailed recess and arranged to illuminate the rear and side walls of said dove-tailed recess, and circuit wires operatively connected to said electric lights and to a supply of electric current.

4. A letter for an illuminated sign, comprising a back, having the outline of the desired letter, and a projecting rim conforming to the outline of the letter, which forms, with the back, a channel or chamber open on its front, the sides of which converge from the back, and incandescent lamps secured to said back within said chamber.

5. A letter for an illuminated sign, comprising a back having the outline of the desired letter, and a projecting rim conforming to the outline of the letter, which forms, with the back, a channel or chamber open on its front, the sides of which converge from the back, said chamber being provided with drain openings, and incandescent lamps secured to the back, within said chamber.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES W. ELLIS.

Witnesses:

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