July 15, 1924. 1,501,102

L. DUNCAN ET AL

ILLUMINATED SIGN

Filed Oct. 23, 1922

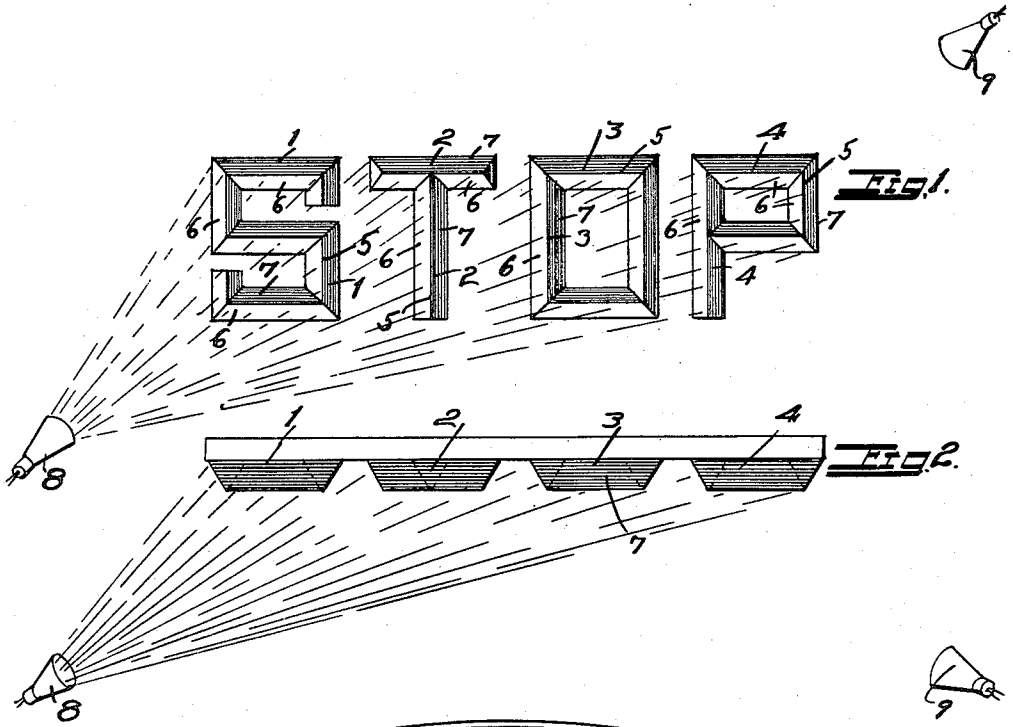


Fig. 1.

Fig. 2.

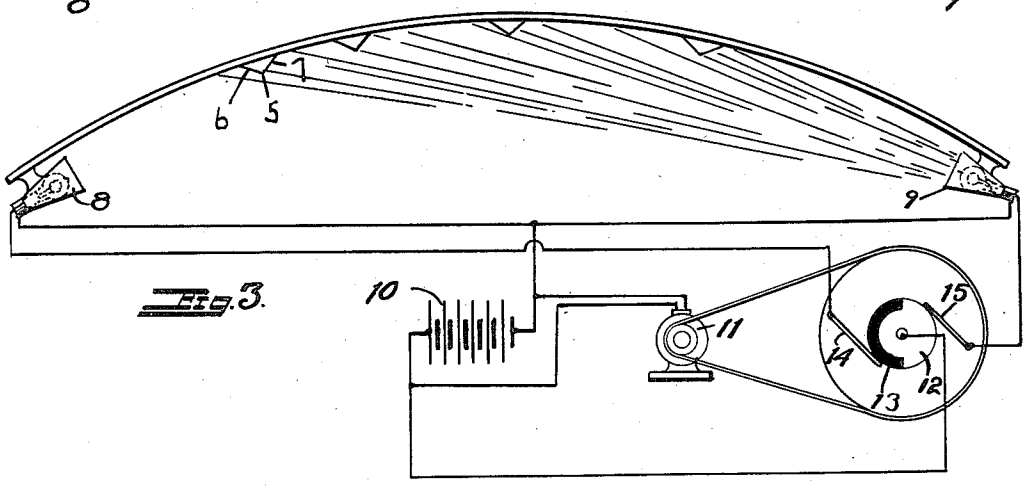


Fig. 3.

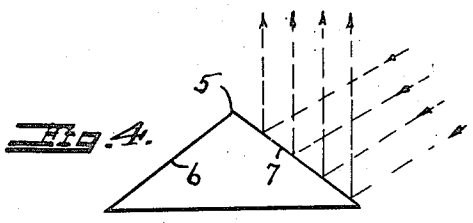


Fig. 4.

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UNITED STATES PATENT OFFICE.

LINDSAY DUNCAN AND CURTIS P. UPTON, OF SAN FRANCISCO, CALIFORNIA.

ILLUMINATED SIGN.

Application filed October 23, 1922. Serial No. 596,383.

To all whom it may concern:

Be it known that we, LINDSAY DUNCAN and CURTIS P. UPTON, citizens of the United States, and residents of the city and county of San Francisco, State of California, have invented new and useful Improvements in Illuminated Signs, of which the following is a specification.

Our invention has for its object a rigid sign or signal which because of its construction and position and character of illumination appears to the eye to have a dancing, quivering or oscillating effect. It is particularly applicable to road and window signs where it is desired to attract the attention of those who pass by.

Other objects will appear from the drawings and specification which follow:

Referring to the drawings, Fig. 1 is a front view of a sign on which the word "Stop" is indicated and shows somewhat diagrammatically the arrangement of the lighting therefor.

Fig. 2 is a plan view of Fig. 1.

Fig. 3 is a diagrammatic showing of the electric circuit connections and showing also a variation in the arrangement of the parts of the sign whereby a more perfect illuminating effect as the sign appears to the eye is attained.

Fig. 4 is a graphic showing of the incident and reflected rays as they strike the parts of the sign and are reflected therefrom.

Throughout the figures similar numerals refer to identical parts.

The illustration chosen for setting forth our invention presupposes the employment of a sign on which the word "Stop" is desired to appear as dancing or oscillating and it will be seen that the letters are made of a triangular form in cross section whereby two surfaces of each letter having an angular relation to each other are employed. The numeral 1 indicates the letter S, numeral 2 the letter T, numeral 3 the letter O, the numeral 4 the letter P. It will be seen that each of these letters present a group of surfaces on one side of the median line 5 through the letters which slope in one direction and on the opposite side of the median line all of the surfaces slope in the opposite direction. The first group of surfaces we have indicated generally by the numeral 6 and the second group by the numeral 7. In front of the said sign and at a suitable angle to the surfaces 6 we mount the light source 8 which, upon being lighted will illuminate the surfaces 6 of all of the letters. The surfaces 7 at such time remain in darkness. At 9 we mount a second light source which upon being lighted illuminates all of the surfaces 7 but none of the surfaces 6.

In Fig. 3 is shown a wiring diagram for the circuit connections by which the lights 8, 9, are energized and in which a source of electricity is diagrammatically indicated at 10 and a commutating device operated from the motor 11 and having the metallic member 12, insulating member 13 and brushes 14, 15, interposed in the said circuit so that the lights 8, 9, are alternately lighted. Thus, as the metallic member 12 comes under the brush 15, as shown in the diagram, the lamp 9 is lighted and the insulated strip 13 being under the brush 14 the lamp 8 remains dark. As the members 12, 13, rotate the lamp 9 is darkened and the lamp 8 is lighted. The cycle of illumination results in the group of surfaces indicated at 7 being first illuminated and then darkened and coincident therewith the darkening and the illumination of the surfaces 6 respectively. We have found that about three illuminations per second give the best effect, but it will be obvious that other alternations of illumination may be employed to suit the taste or requirements of each operator, and we do not confine ourselves to any particular rate of commutation.

We have also shown letters formed at a specific angle best suited to secure the maximum reflection but we do not wish to confine ourselves to the specific angles shown, as surfaces presented by the letters to the several sources of illumination may be formed differently and different effects produced thereby.

The amplitude of movement of the letters to the eye of an observer as our sign is operated, is two or three times the width of the stem of one of the letters and the effect upon the observer may be modified as desired by the position and number, intensity of lights, the form of the reflecting surfaces, shape, color and material of the letters. The apparent movement produced by alternating the illumination of different sides of the letters or other characters render the sign very noticeable and give the effect of continuously illuminated letters with an apparent movement towards and

away from the sources of light. The lights are preferably shrouded so that the illumination from them is directed towards the sign and shielded from the observer, and we have found that white letters give the most intense effect, and that the background, if any, should absorb and not reflect light.

We claim:

A sign composed of characters having V-shaped sides, two electric lamps so disposed that one of them will project its rays against one side of the characters and the other one will project its rays against the other side of the characters, in combination with means for alternately energizing and deenergizing the lamps, at a predetermined periodicity, whereby an apparent oscillating motion is given to the characters of the sign.

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