

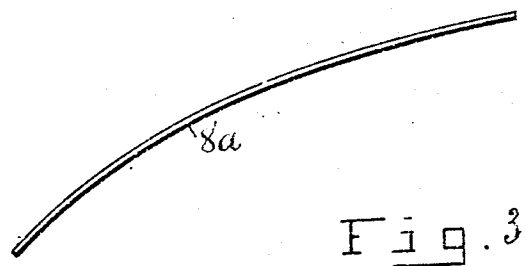
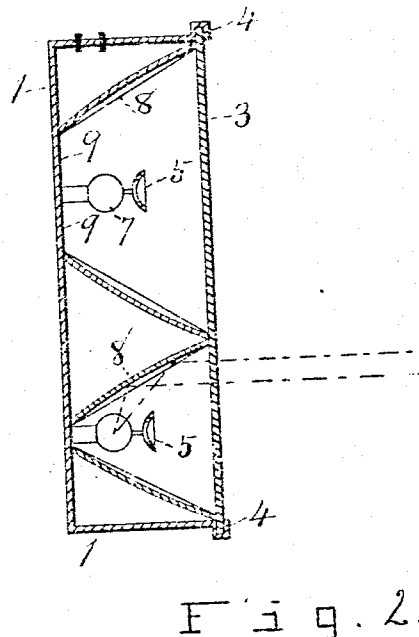
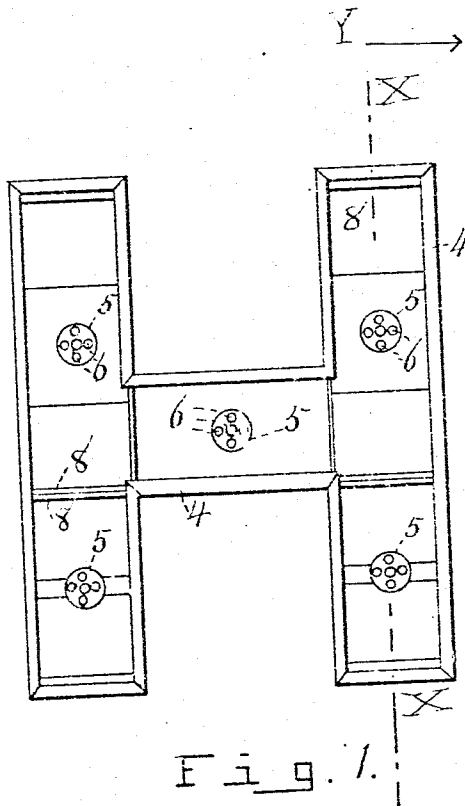
R. R. & W. K. WILEY & W. S. HOUGH, JR.
ILLUMINATED SIGN.

APPLICATION FILED OCT. 24, 1908. RENEWED DEC. 20, 1909.

Patented Feb. 8, 1910

2 SHEETS—SHEET 1

948,557.



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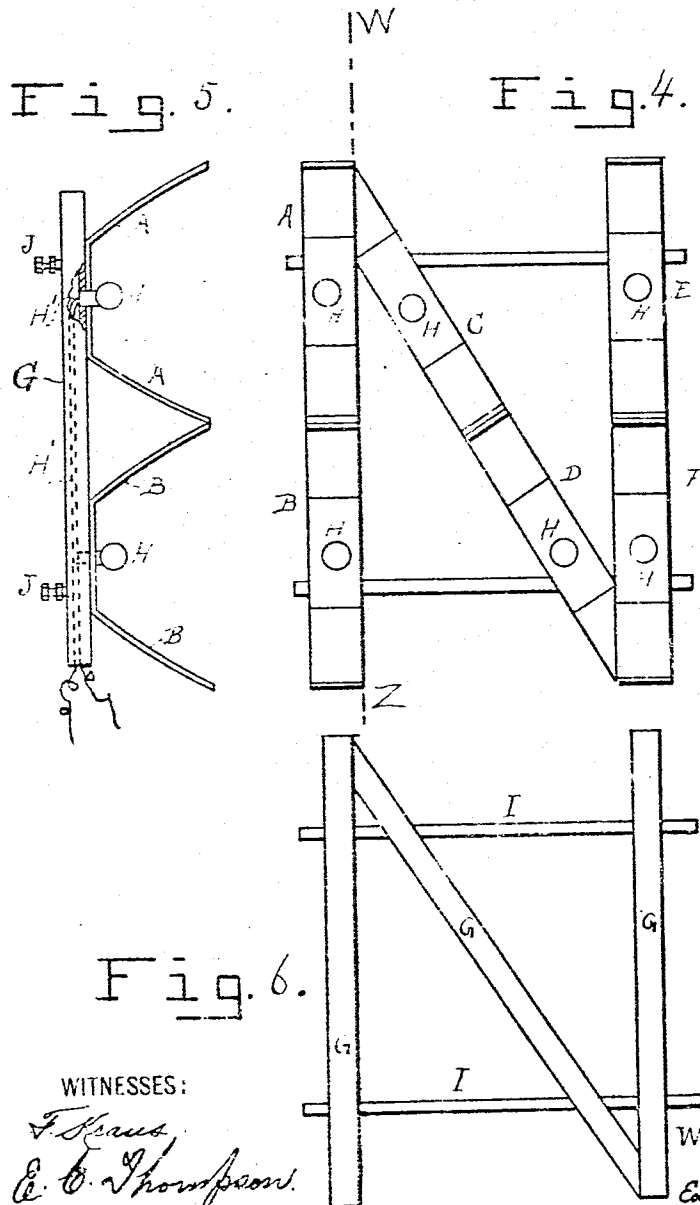
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2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

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ILLUMINATED SIGN.

REISSUED

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Specification of Letters Patent.

Patented Feb. 8, 1910.

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To all whom it may concern:

Be it known that we, ROY R. WILEY, WALLACE K. WILEY, and WILLIAM S. HOUGH, JR., citizens of the United States of America, and residents of St. Catherines, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Illuminated Signs, of which the following is a specification.

10 Our invention relates to signs in general, and to illuminated signs in particular.

The objects of the invention are to produce a maximum brilliancy, with a minimum number of lamps; to protect the reflecting surfaces from dirt and the weather; to eliminate all useless portions of the reflecting surfaces, for the purpose of reducing bulk and weight; to eradicate blurring effects and localized bright spots, and to provide a durable sign for long distance vision, as well as for short range.

The statement of the invention is as follows, it being noted that the various scopes of the invention are attended to in the 23 claims hereinafter annexed.

The organization, underlying our conception, consists of a plurality of central segments of parabolic reflectors placed relatively to each other so as to form a character, 30 a box whose contour is that of said character, surrounding said reflectors, a glass plate covering said box, and lamps for the reflectors.

Figure 1 is a front elevation of the device. Fig. 2 is a vertical section at the line X X, in Fig. 1, looking in the direction of the arrow Y. Fig. 3 is a side elevation of a portion of a modified reflector, on an enlarged scale. Fig. 4 is a front elevation of a modified construction of the letter N. Fig. 5, is a side view of that portion of the letter N, at the left of the line W Z. Fig. 6 is a front elevation of the frame used in Fig. 4.

45 Referring particularly to Figs. 1 and 2, the structure consists of a box, shaped like the letter H, and having its front covered by a glass plate 3, and held by bent over lips 4, which are a part of the material of the box 1, and a plurality of central segmental parabolic reflectors 3, grouped to form the letter H, and located inside of said box 1, the reflecting portion of the reflector being that portion of a paraboloid, which 55 lies between two parallel planes, respec-

tively on opposite sides of the axis of the paraboloid, and lamps 7 for the reflectors, respectively located at the foci of the reflectors. In addition, we may use small auxiliary reflectors 5 in front of the lamps, for 60 throwing the light, incident thereon, back to the main parabolic reflector, thereby preventing the appearance of a dotted or spotted sign, and serving to increase the legibility at a distance. The small reflectors are 65 shown perforated, at the holes 6.

In operation, the light is divided, one portion being reflected by each reflector 8, in a beam of light having approximately a rectangular shaped cross section, another portion being thrown forward by the flat surface 9, at the back of the lamp, and another portion striking the reflector 5, then the reflectors 9 and 8, and finally leaving the device, while some of the light radiated to the reflector 5, passes through the holes thereof, 75 and evens up the general brilliancy of the character.

Our invention may be modified without departing from the spirit thereof. Instead 80 of the more common parabolic surface of spoon shape, the surface 8^a may be that described by a parabolic curve moved parallel to a plane which coincides with the axis of the parabola, and farther and farther away 85 from said plane, Fig. 3; being an enlarged side view of a portion of such a parabolic surface, and Figs. 4, 5 and 6 being different views of complete parabolic surfaces applied in a modified construction. The said 90 modified construction embodies the mission of glass fronts and casings for the reflectors.

We will now describe the modifications shown in Figs. 4, 5, and 6. A series of reflectors A, B, C, &c., are mounted end to 95 end on an N shaped frame, composed of long and narrow boxes G, which contain the wiring H' for the lamps H. I represents cross braces for making the structure suitable for shipping and for endurance. J 100 represents bolts and nuts for attaching the letter N to supports usually on the tops or sides of buildings.

By this simple construction, it is easy to provide signs several feet high, and by 105 means of only one lamp in each reflector, the sign appears brilliant all over its surface, and at great distances away.

We claim as our invention,—

1. In an illuminated sign, the combina- 110

tion of a pair of parabolic reflectors, each approximately rectangular in outline, and placed opposite each other so as to have their foci coincident, a third rectangular reflector joining the ends of said pair of reflectors, a lamp located at the common focus, and other like combinations of reflectors and lamps grouped together to form the shape of a character.

2. In an illuminated sign, the combination of a series of central segments of parabolic reflectors, each having a focus, and placed end to end to form a character, said segments being those portions which lie between parallel planes on opposite sides of and parallel to the major axis of the parabolas, and lamps at the foci.

3. In an illuminated sign, the combination of a plate of glass, of rectangular out-

line, a pair of parabolic reflectors, having an end of each bearing against said glass plate at its ends, and each reflector approximately rectangular in outline and both placed opposite each other so as to have their foci coinciding, a flat rectangular reflector joining the ends of said reflectors, and a lamp located approximately at the focus of said reflectors, and other like combinations of glass, reflectors, and lamps, grouped together, to form the shape of a character.

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