W. A. SHERWOOD & E. L. GARDNER.

ILLUMINATED SIGN.

APPLICATION FILED MAY 4, 1909.

958,836. Patented May 24, 1910.

Fig. 5.

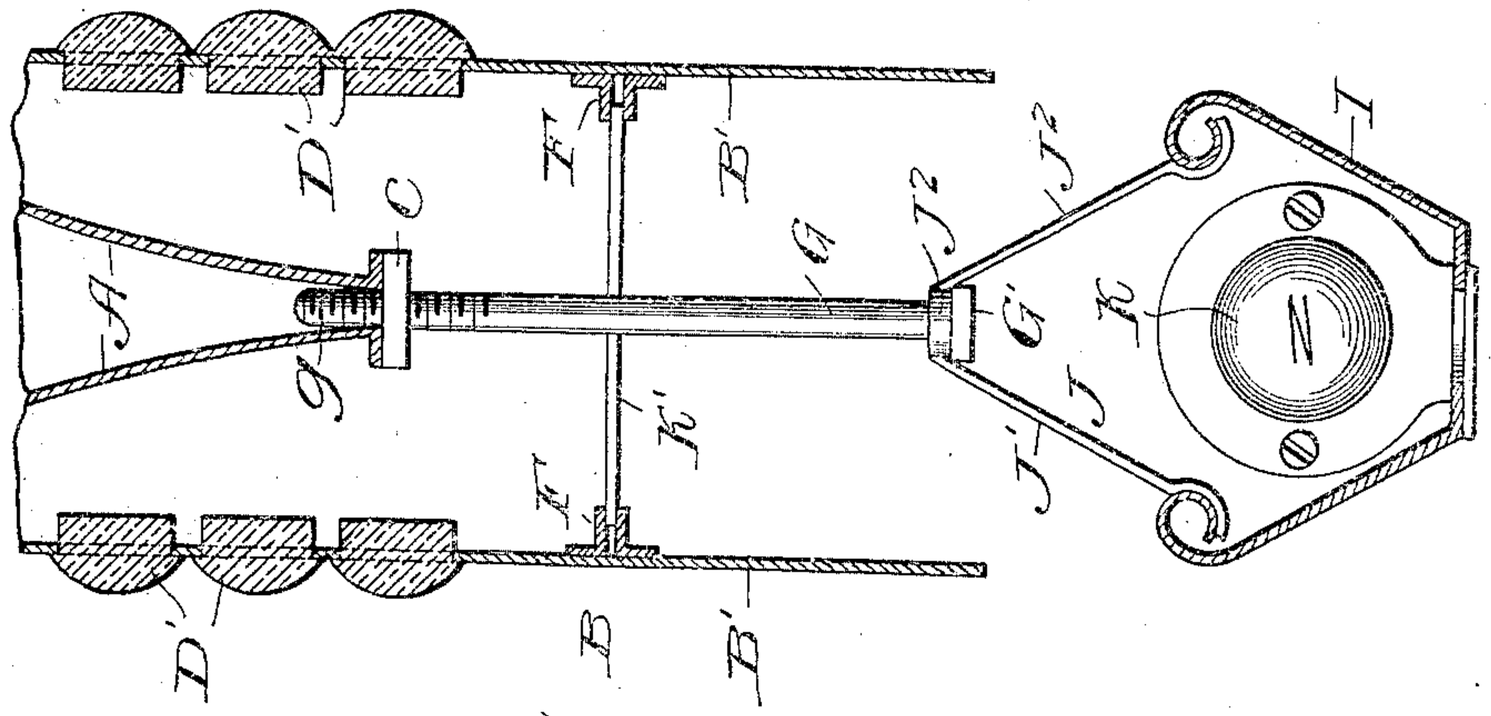


Fig. 2.

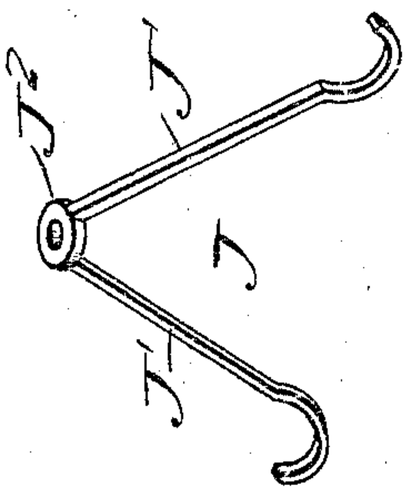


Fig. 3.

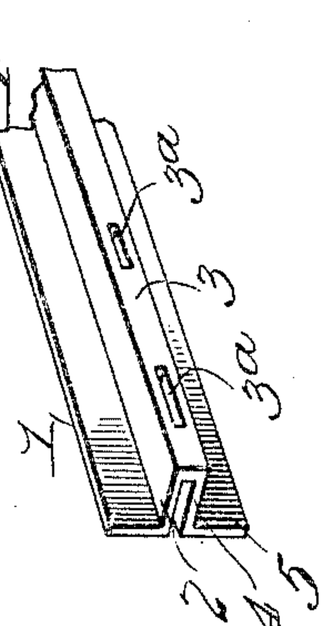


Fig. 4.

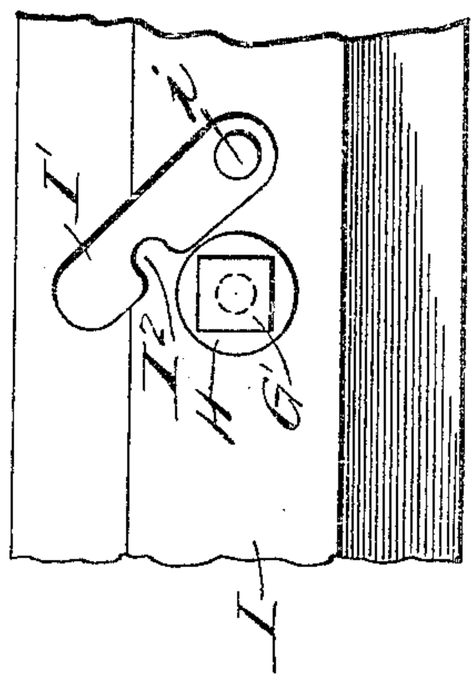
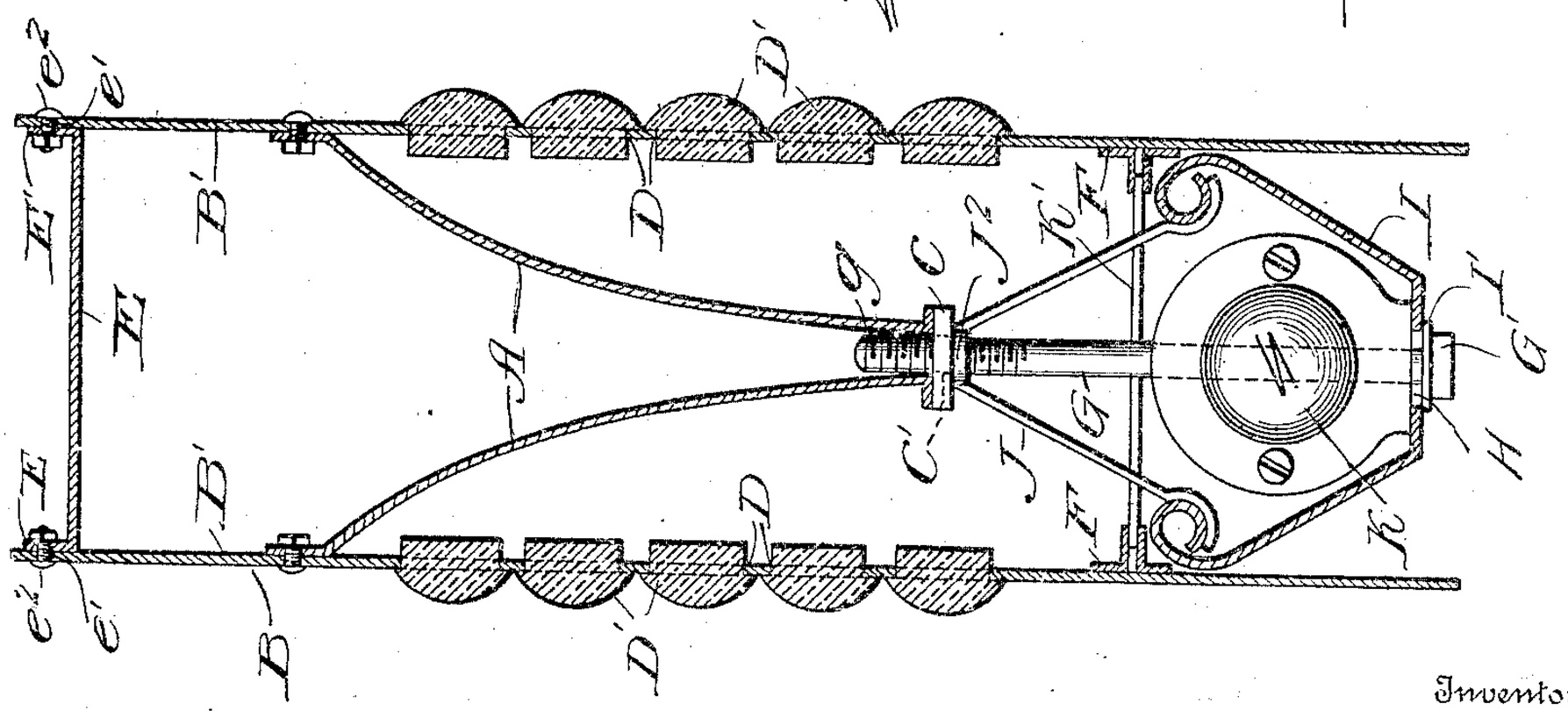


Fig. 1.



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UNITED STATES PATENT OFFICE.

WARREN A. SHERWOOD AND EDWIN L. GARDNER, OF LANCASTER, PENNSYLVANIA.

ILLUMINATED SIGN.

958,836. Specification of Letters Patent. **Patented May 24, 1910.**

Application filed May 4, 1909. Serial No. 493,943.

To all whom it may concern:

Be it known that we, WARREN A. SHERWOOD and EDWIN L. GARDNER, citizens of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Illuminated Signs; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to illuminated signs and has for its object to provide a more evenly distributed light and easy means of access to the source of illumination.

In the signs now in use the light is thrown upon the sides unevenly, as the light gets weaker, so that the parts farthest from the source of illumination receive less light than those closer to it. In this invention the light is equally distributed, the source of it is made easily accessible and the same is readily returned to and held in its proper place.

To these ends and for the general improvement of the sign our invention consists in the construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings Figure 1 represents a vertical section of a sign embodying our invention; Fig. 2, a detail view of the triangular check and ring; Fig. 3, a detail view of one of the T-irons; Fig. 4, a detail view of part of the bottom of the trough reflector the catch and head of the supporting rod; and Fig. 5 represents in detail sectional view the trough reflector in its lowest position, for access to the light, showing proximate parts.

A A designates the two concave upwardly diverging reflectors secured at their upper edges to the sign case B. These reflectors may be covered with some enamel of any color or may be left uncovered, being of polished metal. They are fastened together at their converging lower ends preferably by a screw tapped plate C or they may be brought together and fastened in any suitable way. By arranging these side reflectors in such a way that as the distance from the light increases the distance from the sides of the sign casing and the side reflectors decreases it will be seen that the strength of the rays at the farthest point will be greatly increased and as the distance is shortened in proportion to the increase of the distance from the light the strength of the rays at the farthest point will be equal to the strength of the rays at the nearest point to the source of illumination, therefore the light will be spread equally over the sides of the sign.

The sides or show faces B′ of sign case B are preferably provided with holes D receiving bulls eye lenses D′. These we do not claim in such use except as combined with the reflectors in the especial arrangement described. Each face or side B′ may, however, consist of one sheet of glass having characters marked on it without affecting the operation of the other parts of the device hereinafter described or the scope of the claims apart from such special arrangement and adaptation.

The top-plate E has flanges E′ E′, provided with bolt holes which correspond to holes e' in the side walls of said casing. Bolts e^2 passing through said holes fasten said flanges and top plate to the body of the casing.

The trough-reflector I suspended below the reflectors A A and capable of being lowered for inspection and other purposes consists of metal highly polished or enameled on the inside and is preferaby semi-hexagonal in cross-section. It is provided with a hole H in the longitudinal middle line of its bottom. The supporting rod of said trough reflector is screw-threaded at its upper end g to screw into a screw threaded hole C′ in the plate or nut C, and is provided with a head G′ at its lower end, which head may pass through the hole H in the bottom of the trough reflector and be fastened outside the same, when in normal position, by the catch I′, see Fig. 4, which is pivotally fastened at i to the bottom of the trough reflector I and provided with a notch I^2 adapted to engage the supporting rod G above the head G′ and thereby prevent the trough reflector from lowering to the position provided for easy access to the source of illumination (see Fig. 5) until said catch I′ is turned out of engagement with the supporting rod G.

T-irons or brackets F are fastened to the inside of the sides of the casing B. Their object is to act as a check to prevent the operator from inserting the trough reflector too far and to also hold brace rods K′. To accomplish this last object they are formed of a sheet of metal of the correct width bent

in the following manner; first a base flange 1 is formed, then a horizontal portion 2, then a vertical portion 3, then a horizontal portion 4, of the same height and parallel to the portion 2, is formed and then base flange 5 is formed. During this operation portions are punched or cut out of the portion 3, leaving holes 3ª. These T-irons are then fastened to the sides of the sign, care being taken to make the holes in the T-iron on one side correspond to the holes in the T-iron on the other side.

To the edges of the trough reflector I is fastened a check J consisting of two upwardly converging rods J′ J′ fixed at their upper ends to a ring J², which is smaller in diameter than the diameter of the head G′ and encircles the rod G. The downward movement of the trough reflector is checked and limited by the said head which the said ring strikes against and remains against in the lowest position of the trough reflector. The T-irons F similarly limit upward movement of the trough reflector I, being struck by its upper edge or rim.

In the trough reflector is located and secured the source of illumination K, preferably an electric lamp but it may be anything that will give light.

The brace rods K′ are fitted at the ends into the holes 3ª in the portion 3 of the T-irons F and serve to brace and hold apart the bottoms of the two sides B′ of the sign casing B. These are found particularly useful in large signs.

Various minor changes within the limits of the appended claims may be made in the construction and arrangement of parts hereinbefore described without affecting our invention.

We do not claim in this application a casing provided with two sets of reflectors, each of a trough shaped reflector and a pair of converging side reflectors, both sets sliding on the same series of rods as shown and claimed in our application #495,199; nor do we claim in this application a pair of straight integral converging reflectors having a curved concave reflector below them as in our application #493,944.

We do not claim broadly in combination a sign casing, a reflector casting light through the same, a movable reflector normally within the said casing and reflecting light on the reflector first mentioned, a source of light and supporting rods for the movable reflector allowing the latter to lower out of the casing without separation from said rods, this subject matter though shown in the present application being sufficiently claimed in said application #493,944.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:

1. In combination with a sign having an oppositely arranged pair of show faces and a pair of intermediately arranged, inwardly converging reflectors, a trough shaped reflector arranged to act simultaneously on both the reflectors before mentioned, means for permitting said trough shaped reflector to be removed from operative position and returned into the same and a source of illumination adapted to be moved into and out of such position with said trough-shaped reflector.

2. The combination of a semi-hexagonal shaped trough reflector provided with a hole through its bottom with two curved reflectors, and a screw tapped plate, a supporting rod provided with an externally threaded part, engaging said plate, and a head of less diameter than said hole, a catch adapted to engage said head in proximity to said hole, means for preventing the said trough reflector from being inserted too far into the sign casing and a pair of show faces adapted to exhibit the light from said reflectors.

3. A sign casing adapted to permit the transmission of light through the same, in combination with a pair of curved reflectors which transmit the light through said casing, a source of illumination, a trough-shaped reflector receiving light therefrom and supplying it to said curved reflectors, a supporting rod for said trough shaped reflector, means for fastening the said rod in the sign, means for permitting the removal of the trough-shaped reflector from its normal position, means for checking such movement at a given point and means for locking said reflector in such normal position.

4. In combination with a casing adapted to permit the transmission of light through its opposite sides, a pair of curved reflectors adapted to concentrate the light which they thus transmit, a source of light, a trough-shaped reflector adapted to receive light from said source and reflect it on said curved reflectors and means permitting the movement of said trough shaped reflector into and out of its normal position for the purposes set forth.

5. A sign casing adapted to permit the transmission of light through its side, in combination with a curved reflector adapted to concentrate the light which it transmits through the same, means of illumination, a trough-shaped reflector adapted to receive light from said means and reflect the same on said curved reflector and means permitting the said trough-shaped reflector to be lowered from its normal position for convenience of access and restored to such position substantially as set forth.

6. A sign casing adapted to permit the transmission of light through the same, in combination with a reflector arranged to thus transmit it, means of illumination, a reflector arranged to receive light from said

means and supply it to the first mentioned reflector, a supporting rod permitting said second mentioned reflector to be lowered out of its normal position thereon, a transverse internal brace for said casing, means for limiting the upward movement of said trough reflector and means for holding the trough reflector in normal position.

7. A curved reflector, an angularly shaped perforated trough reflector arranged to reflect light on the reflector first mentioned, means allowing for the quick raising and lowering of said trough reflector, a source of illumination, means for checking the insertion of the trough reflector, and means for checking the outward movement thereof and means for fastening the same in its normal position substantially as set forth.

8. A sign casing, in combination with an angular perforated trough reflector, a source of light for said trough reflector, curved reflectors adapted to receive light from the said trough reflector and transmit it through said casing, a supporting rod arranged in said casing and means for fastening said trough reflector to said rod.

9. A sign casing adapted to exhibit light through its sides, in combination with an angularly shaped perforated trough reflector, a source of illumination throwing light on said trough reflector, a supporting rod fastened in said casing and adapted to hold said reflector in position but permit its outward movement, means for fastening said trough reflector to said supporting rod and means for checking the outward movement of said trough reflector substantially as set forth.

10. A sign casing adapted to exhibit light through its sides, in combination with an angularly shaped perforated trough reflector, a source of illumination casting light on said trough reflector, curved reflectors adapted to receive light from said trough reflector and cast it through the sides of said casing, a brace bar for said casing, means permitting the upward and downward movement of said trough reflector and means for restricting the upward and downward movement of said trough reflector as set forth.

11. A sign casing adapted to exhibit light through its sides, in combination with an angular perforated trough reflector, a source of light secured to said trough reflector and casting light thereon, means for allowing the quick withdrawal or insertion of said trough reflector and means for checking the inward or outward movement of said trough reflector substantially as set forth.

12. In combination with a sign casing having opposite faces and means for directing the light out through them, sources of illumination, a trough shaped reflector supporting an illuminant and adapted to be moved into and out of operative position, a headed supporting rod adapted to let said reflector and illuminant slip over its head out of such position, a check comprised of converging rods connected at the spread ends to the said reflector and united at their converging ends by a ring which encircles said supporting rod but is of too small diameter to pass over the head of said supporting rod substantially as set forth.

13. A sign casing in combination with a reflector movable into and out of normal position, a supporting rod and a check connected to said reflector and provided with a ring which slides on said rod, and an illuminant supplying light to said reflector, the said rod being provided with a part of greater diameter than said ring to limit the movement of said reflector out of position.

14. A sign casing, in combination with a reflector movable into and out of normal position, a supporting rod and a triangular check connected to said reflector at its diverging ends and provided with a ring at its apex which ring slides on said rod, and an illuminant supplying light to said reflector, the said rod being provided with a part of greater diameter than said ring to limit the movement of said reflector out of position.

15. A sign casing in combination with a reflector having an opening and a headed supporting rod over which it can be slipped into or out of normal position, the head of said rod being of less diameter than said opening, a catch attached to said reflector and adapted to be moved into and out of position for engagement with said head substantially as set forth.

16. A sign casing, in combination with a pair of concave converging reflectors, a headed supporting rod, a plate whereby said rod is attached to said concave reflectors, a trough-shaped reflector movable over said rod and a catch on said reflector engaging said rod.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

WARREN A. SHERWOOD.
EDWIN L. GARDNER.

Witnesses:
J. O. WILLCOX,
CHAS. E. LONG.