Feb. 5, 1924.

1,482,790

E. C. GMELIN

ILLUMINATED SIGN

Filed April 21, 1923

2 Sheets-Sheet 1

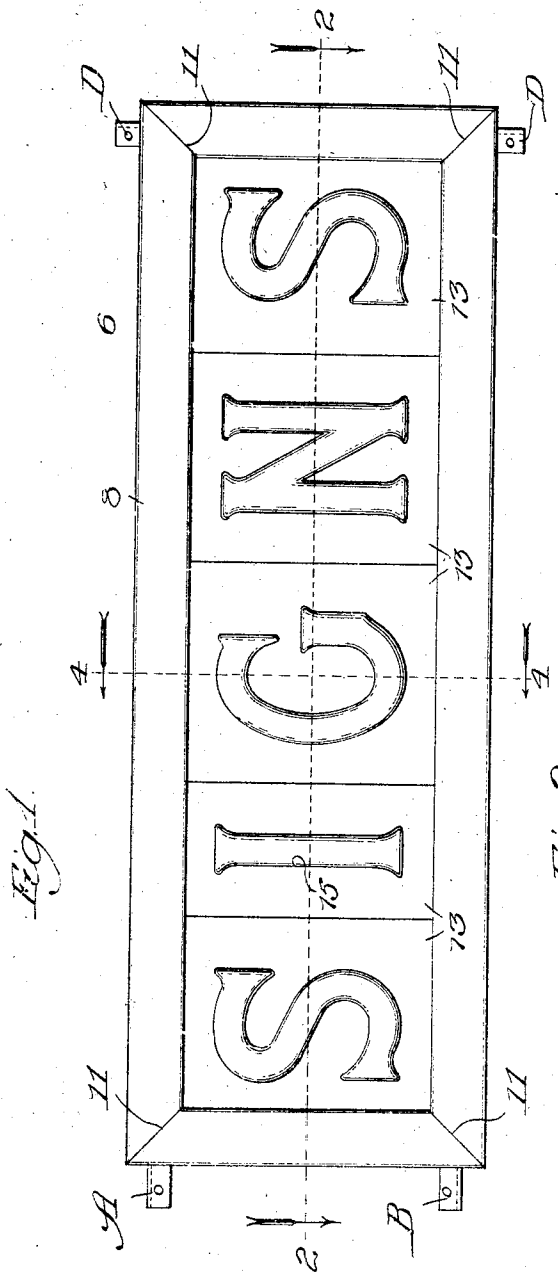


Fig. 1.

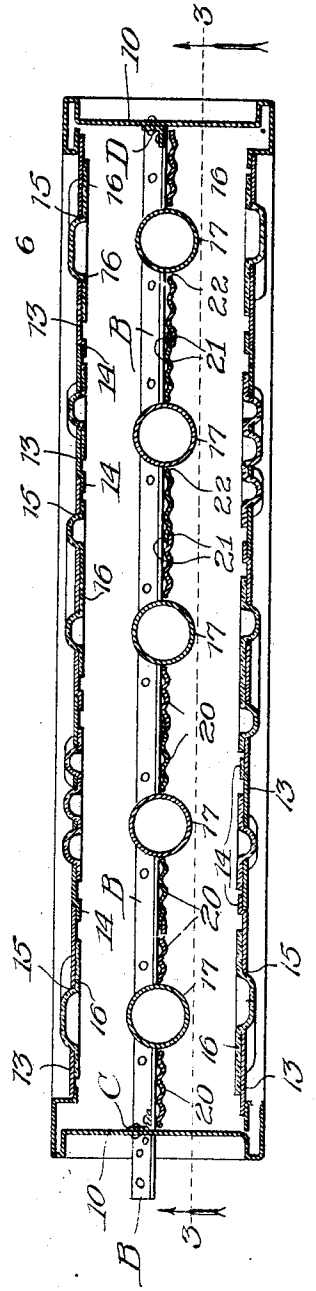


Fig. 2.

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2 Sheets-Sheet 2

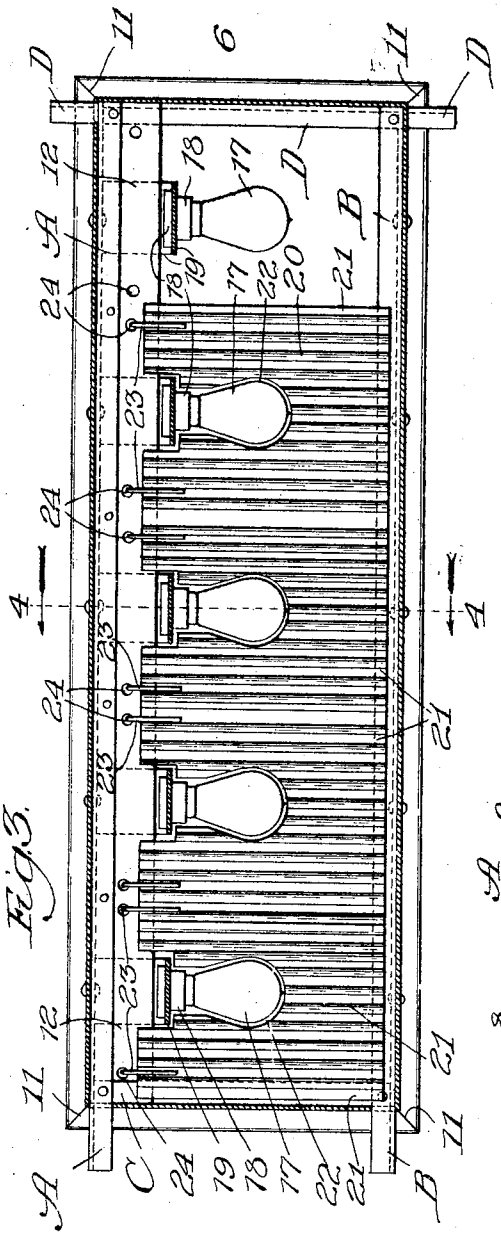


Fig. 3.

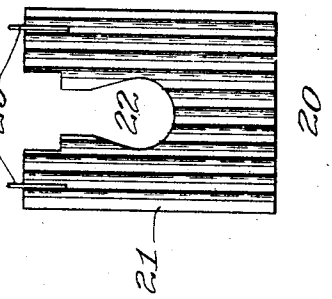


Fig. 5.

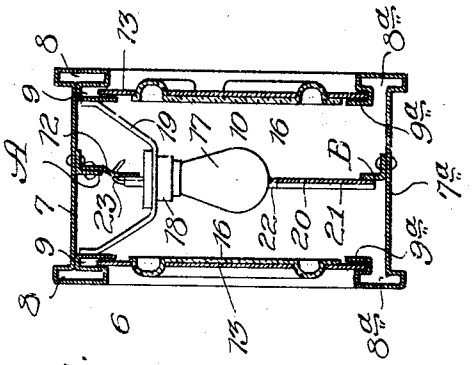


Fig. 4.

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Patented Feb. 5, 1924. 1,482,790

UNITED STATES PATENT OFFICE.

EUGENE C. GMELIN, OF CHICAGO, ILLINOIS.

ILLUMINATED SIGN.

Application filed April 21, 1923. Serial No. 633,627.

To all whom it may concern:

Be it known that I, EUGENE C. GMELIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Illuminated Signs, of which the following is a specification.

My invention relates to an improvement in illuminated signs of the double-face variety, and it is more particularly intended for use in such signs whereof the opposite sides are formed with one or more light-transmitting character-bearing plates and preferably plates of opal or milk glass with the character strokes thereon in relief.

In the accompanying drawings—

Figure 1 is a view in side elevation of a sign embodying my improvement;

Figure 2 is a section on line 2—2, Fig. 1;

Figure 3 is a section on line 3—3, Fig. 2, with one of the partition-sections removed;

Figure 4 is a section on line 4—4, Fig. 1 or Fig. 3, and

Figure 5 is a face view of a corrugated partition section.

The casing 6, which is preferably constructed of metal, may be of the form and construction illustrated in the drawings, or of any other form and construction desired for adapting the sign for special use. As shown, the detailed construction of the casing is described as follows:

The casing-frame, as shown, of rectangular shape, is formed of upper and lower angle-bars A and B and similar end-bars C and D. The projecting ends of the bars A and B afford means for securing the sign in its place of use, as at the front of a building, and the projecting ends of the bar D afford means for reinforcing the support of the sign, as through the medium of chains, not shown; but all in a common manner. The top of the casing is made of a metal sheet 7 secured along its center to the bar A and having its lateral edges bent to produce similar loops 8 (Fig. 4), for reinforcing the edges, and recesses 9 to receive and confine the upper edges of the sign-plate carrying sheets, hereinafter described, which form the casing-sides. The bottom is made, like the top, of a metal sheet 7^a secured along its center to the bar B and having its lateral edges bent to provide similar reinforcing loops 8^a and recesses 9^a for receiving and confining the said sheets at their lower edges, the last-named recesses being somewhat shallower than the recesses 9. Each end of the casing is formed of a metal sheet 10 having its lateral edges bent into the loop-forms represented in Fig. 2, for reinforcement and to afford bearings for the respectively adjacent edge-portions of the end-members of the aforesaid side-forming sheets; and the tops and ends are fastened together by mitre-joints, represented at 11 in Figs. 1 and 3.

To the angle-bar A is riveted, to extend lengthwise through the casing, a sheet-metal apron 12, for the purposes hereinafter explained. The casing-sides are similarly formed with the required number of metal sheets 13 having offset lateral edges at 14 to cause them to mutually overlap when placed in position, as hereinafter described, each sheet 13 containing a stencil-like opening 15 to conform to a given letter or character provided in relief on a plate 16 of light-transmitting opal or milk glass secured, as by cementing, to the inner face of the sheet to present its light-reflecting surface to the interior of the casing. To provide the casing with its sign-character forming sides, the sheets 13 having thereon the plates 16, which are of smaller dimensions than the sheets and bear the character-strokes which project through the openings 15, are inserted at their upper edges into the recess 9 and permitted to drop, to introduce their lower edges into the recess 9^a, whereby the plate-carrying sheets are confined in their sign-forming positions, from which any may be removed by raising it sufficiently to clear the lower recess 9^a, and thereupon withdrawing it.

Illuminating units, in desired number, are provided in the casing, preferably but not necessarily in depending position therein, as shown. Incandescent electric lamps 17 are represented as the illuminating medium, and I prefer to provide one lamp between each pair of the opposite plates 16 immediately between the character-strokes thereon. Each lamp has its socket 18 fastened in an angular sheet-metal bracket 19 (Fig. 4) secured, as by soldering, to the inner sides of the opposite recesses 9; and the lamps are included, as usual, in an electric circuit (not shown).

A partition 20, of any suitable opaque material, and which is the all-important feature

of my improvement, extends lengthwise through the casing, thereby dividing the latter into chambers. I prefer to form the partition of corrugated sheet-material having light-reflecting surfaces, such as tin-plate, and to have it corrugated, as represented, the lamps being interposed at the desired intervals in the partition to cause each lamp to illuminate both chambers. The partition, moreover, may be best made in sections, like the section represented at 21 in Fig. 5, containing an opening 22 conforming to and surrounding a lamp. The partition-sections are provided with hooks 23 introduced into holes 24 in the apron 12 for swingingly hanging them in overlapping relation thereto, so that when a lamp is to be removed, as for replacing by another, the particular section, which, like all of the partition-sections, abuts at its lower end against a side of the vertical flange of the lower frame-bar B, may be moved away from the lamp to render it accessible for the purpose. As will be understood, one section 21 may form the entire partition where the sign in which it is used is small and has only two opposite plate-carrying sheets 10; but where the partition comprises a plurality of sections, they should mutually overlap at their adjacent edges and the outer edges of the end-sections of the series should overlap the respectively adjacent frame-bars C and D. The apron 12 and partition thus close the casing-chambers to each other against reflection of the light from the reflecting surfaces of the plates 16 on each side of the casing to those on the opposite thereof.

The primary purpose of my improvement being to intensify the illumination of a double-face sign of the present kind, this object is accomplished by providing therein my partition for dividing the casing into chambers illuminated by the same lamp or lamps, thereby to avoid dependence for reflection of the light from side to side across the entire interior width of the casing and decrease by one-half the space for passage of the reflected light-rays to cause their reflection to be directed back and forth from the plates 16 on either casing-side and the opposing surface of the partition, the corrugated form of which directs the reflected light at numerous angles against the character-strokes and greatly augments the brilliancy of illumination.

I realize that considerable variation is possible in the details of construction herein shown and I do not intend to limit my invention thereto except as pointed out in the appended claims, in which it is my intention to claim all the novelty inherent in my invention as broadly as permissible by the state of the art.

I claim:

1. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an opaque partition extending in the casing between said sides to divide it into chambers, and having an opening therein extending from its upper edge and approximating in size and shape an illuminating unit to be centrally placed therein and an illuminating unit interposed in the partition opposite said character-bearing plates to illuminate said chambers and reflect the light back and forth from said surfaces and those of the partition.

2. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an opaque partition extending in the casing between said sides to divide it into chambers and formed of sections provided with openings each approximating in size and shape a portion of illuminating units to be placed centrally therein, and illuminating units supported in the casing to extend in said openings to illuminate said chambers and reflect the light back and forth from said surfaces and those of the partition.

3. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an opaque partition extending in the casing between said sides to divide it into chambers and formed of movably-supported sections provided with openings each approximating in size and shape a portion of illuminating units to be placed centrally therein, and illuminating units supported in the casing to extend in said openings to illuminate said chambers and reflect the light back and forth from said surfaces and those of the partition.

4. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an opaque corrugated partition having opposite light-reflecting surfaces and extending in the casing between said sides to divide it into chambers, and having an opening therein extending from its upper edge and approximating in size and shape an illuminating unit to be centrally placed therein, and an illuminating unit interposed in the partition opposite said character-bearing plates to illuminate said chambers and reflect the light back and forth from said plate and partition surfaces.

5. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an opaque sectional corrugated partition having light-reflecting surfaces and ex-

tending in the casing between said sides to divide it into chambers, the partition-sections having openings, and illuminating units supported in the casing to extend in said openings to illuminate said chambers and reflect the light back and forth from said plates and partition surfaces.

6. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an opaque partition extending in the casing between said sides to divide it into chambers and formed of corrugated sections having opposite light-reflecting surfaces, said sections having openings and being movably hung in the casing, and illuminating units supported in the casing to extend in said openings to illuminate said chambers and reflect the light back and forth from said plate and partition surfaces.

7. A double-face sign comprising a casing having its sides formed with character-bearing plates of light-transmitting material and presenting inner light-reflecting surfaces, an apron of opaque material depending in the casing from its top, an opaque partition formed of corrugated sections having opposite light-reflecting surfaces, said sections having openings and being movably hung on said apron to cooperate therewith in dividing the casing into chambers, and illuminating units supported in the casing to extend in said openings to illuminate said chambers and reflect the light back and forth from said plate and partition surfaces.

EUGENE C. GMELIN.