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R. E. NULSEN

1,898,463

ILLUMINATED HOUSE NUMBER

Filed April 23, 1932

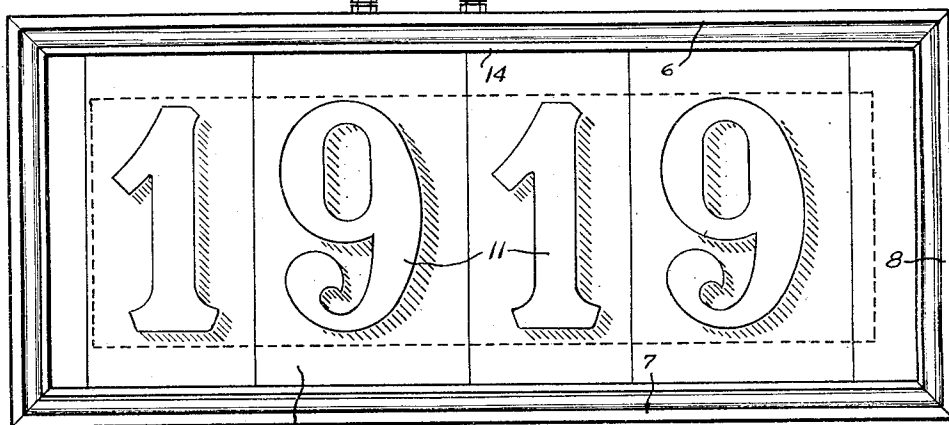


Fig. 1

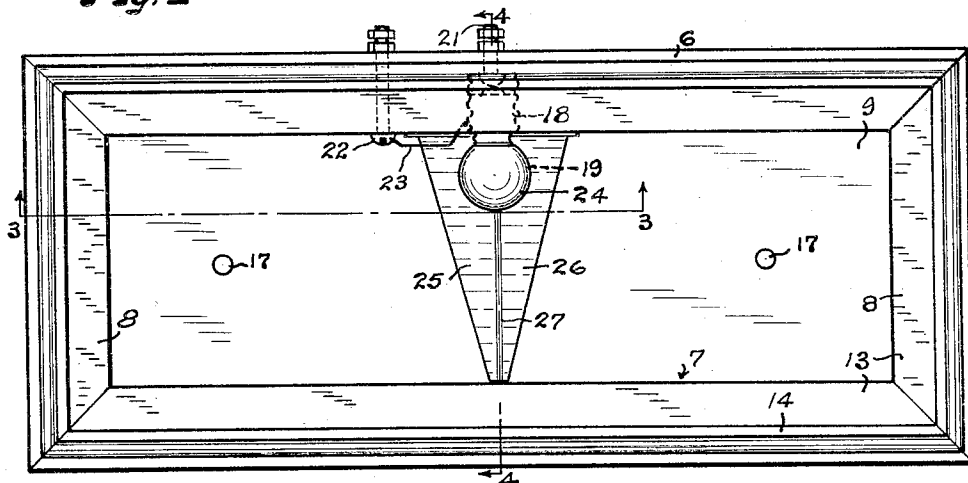


Fig. 2

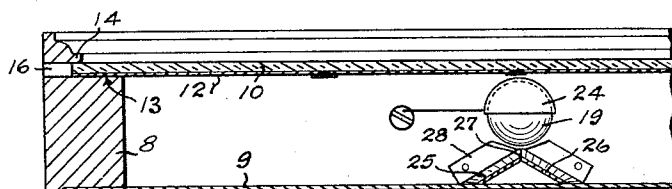


Fig. 3

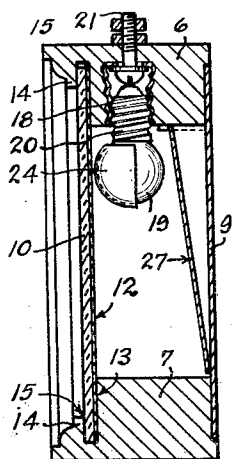


Fig. 4

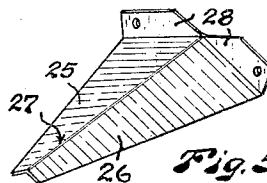


Fig. 5

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## UNITED STATES PATENT OFFICE

RICHARD E. NULSEN, OF SEATTLE, WASHINGTON

## ILLUMINATED HOUSE NUMBER

Application filed April 23, 1932. Serial No. 607,097.

My invention relates to improvements in illuminated house numbers and the general objects of my invention are to provide an illuminated house number of very simple and efficient construction which is inexpensive to manufacture, easy to install, neat and ornamental in appearance and which may easily be read at a substantial distance, as by persons in the street or across the street from the house on which the number is installed.

Other objects of the invention are to provide an illuminated house number comprising a housing of greater length than width and of relatively shallow depth, said housing having an interior of light diffusing material and having an electric lamp bulb mounted therein and further having a light distributing member of reflecting material positioned directly back of the lamp bulb for distributing the light evenly throughout the housing.

A further object of my invention is to provide an illuminated house number in which the light is utilized to the best possible extent thus allowing a very small lamp to be used. This keeps the electric current consumption very low and makes it possible to allow the lamp to burn continuously at a very small cost.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawing.

In the drawing, Figure 1 is a front elevation of an illuminated house number constructed in accordance with my invention.

Fig. 2 is a similar front elevation with the front wall of the housing removed.

Fig. 3 is a longitudinal section substantially on broken line 3—3 of Fig. 2.

Fig. 4 is a cross section substantially on broken line 4—4 of Fig. 2.

Fig. 5 is a detached perspective view of a light distributor of reflecting material which is embodied in the invention.

Like reference numerals designate like parts throughout the several views.

Referring to the drawing I show a rectangular housing composed of two oppositely disposed side walls 6 and 7, two end walls 8, a rear wall 9 of thin metal and a front wall 10 in the nature of a removable plate having light conductive numerals therein. The front wall 10 is preferably of glass and the light conductive numerals, indicated at 11 in Fig. 1, are preferably each provided on separate pieces of paper 12 or like material which pieces 12 are opaque except for said numerals. A plurality of the pieces 12 each having one number thereon are adhesively secured to the glass plate 10 to make up any desired house number. For instance in the device illustrated in the drawing four pieces 12 have been secured to the rear side of the glass plate 10 to make up the number "1919". These numbers are easily seen in daylight irrespective of whether or not the number is illuminated.

The sides and ends of the housing are preferably formed of wood, and are relatively thick and these walls afford at their front a relatively wide shoulder 13 having an overhanging portion 14 along both sides and both ends, which parts 13 and 14 cooperate to form a groove 15 for the reception of the front plate 10. This groove 15 is cut through the wall at one end, as shown at 16 in Fig. 3, so that the front plate 10 may be inserted and removed from the end.

The rear wall 9 is preferably of thin sheet metal countersunk into the wooden side walls, as shown, it being desirable to make the housing of shallow depth and as nearly moisture proof as possible. Holes 17 are provided in the rear wall 9 through which fastening means may be inserted to secure the housing to a support.

An internally screw threaded metallic receptacle 18 is provided in one side wall of the housing, which may be either the upper or the lower side wall, it being understood that the housing is reversible. A lamp bulb 19 is provided with a shank 20 which is threaded into the receptacle 18. A screw 21 positioned centrally of the receptacle 18 and electrically insulated therefrom forms one binding post and another binding post is formed by a screw 22 which is electrically connected with the receptacle 18 by a wire

23. The lamp bulb 19 has a combined shield and reflector 24 of substantially semi-spherical shape provided thereon on the front side next to the front plate 10 and a  
 5 light distributor of reflecting material is provided directly to the rear of the lamp bulb 19. This light distributor is preferably formed of a single piece of metal bent into inverted trough like shape to afford two  
 10 relatively inclined light deflecting surfaces 25 and 26 extending in opposite directions from an apex 27, said deflector being of substantial width at one end and tapering almost to a point at the other end. Flanges  
 15 28 on the wider end of the deflector afford means for securing the deflector to the housing wall. The housing is relatively shallow and the depth of the deflector at its widest end is not great. The lamp bulb is positioned directly over the apex of the deflector and near one side 6 of the housing. The housing is only deep enough to afford clearance for the lamp bulb 19 and deflector and consequently will not protrude far enough  
 20 outwardly from a wall to be in the way. The incline of the deflector from the wider toward the narrower end tends to deflect the light toward the side 7 of the housing opposite from the side 6 near which the lamp is positioned thus compensating for the placing of the lamp off center as respects the two sides 6 and 7 of the housing. The taper or narrowing of the deflector toward the end remote from the lamp 19 provides  
 25 for sufficient illumination of the areas of the plate 10 above the deflector, it being obvious that a wide deflector extending entirely across the housing and deflecting substantially all of the rays from this location side-wise would leave the area directly above the deflector under illuminated. The relative incline of the two sides 25 and 26 of the deflector cause the light to be deflected toward the two ends of the housing. This produces an even distribution of the light  
 30 throughout the interior of the housing and insures equal illumination of all of the numbers. The interior walls of the housing are preferably of light diffusing material so that the light will be evenly diffused but will not be absorbed. I find that an efficient light diffusing wall is produced by painting the same with aluminum paint. The lamp bulb 19 is of a type capable of operating on a low voltage and is only strong enough to fill the housing with light. I prefer to use a lamp bulb which will operate on a door bell transformer circuit in which the current may vary between six and twelve volts.  
 35 This affords a lamp operating at a very low cost and which may remain lighted continuously if desired. Continuous illumination of the house number precludes the possibility of it being dark when it is needed  
 40 and makes it easily visible from the street

at all times and tends to prevent undesirable persons from approaching the house.

The light transmitting numerals are very inexpensively made by printing the same on paper, the numeral being left white and capable of transmitting light and the area around the numeral being rendered opaque and nonlight transmitting by printing the same solid black. This printing process also affords an opportunity for making distinctive and artistic numerals very inexpensively. If the numerals are printed on ordinary white paper it obviates the necessity for using a ground glass front plate, which would ordinarily be used if the numerals were cut out. The method of applying the numeral slips to the plate 10 makes it possible to quickly and easily set up any desired house number at the time of installation of the apparatus by selecting the individual numerals desired and cementing them in proper position on the plate 10, slips bearing the numerals from 0 to 9 inclusive being all that are needed. Should the numeral slips 12 become loosened from the glass plate 10 after installation they will be held in their proper position by cooperation of the plate 10 and the relatively wide shoulders 13 against which the slips rest. The relatively thick side walls afford the relatively wide shoulders 13 and further form a housing interior which is only slightly larger than the field of the house number. This utilizes the light very efficiently and at the same time insures an ample margin around the house number to produce a pleasing and artistic appearance.

The foregoing description and accompanying drawing clearly disclose a preferred embodiment of my invention, but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims.

I claim:

1. In an illuminated house number, a housing having an interior of light diffusing material, an electric lamp disposed within said housing, circuit means connected with said lamp, a light distributor of reflecting material positioned directly behind said lamp, a reflector and shield provided on the front side of said lamp opposite said deflector, and a housing front disposed in close proximity to said lamp and provided with light conductive numerals.

2. In an illuminated house number, a relatively shallow housing of greater length than width having a light diffusing interior, an electric lamp within said housing positioned near one side of the housing and substantially mid way between the two ends thereof, a light distributor of reflecting material and of inverted trough like cross sectional shape positioned with its apex sub-

stantially vertical and directly back of said lamp, said distributor tapering toward the end remote from said lamp whereby it will distribute the light from said lamp substantially evenly throughout said housing, a reflector shield over the front side of said lamp, and a housing front disposed in close proximity to said lamp and provided with light conductive numerals.

10 The foregoing specification signed at Seattle, Wash., this 14th day of April, 1932.

RICHARD E. NULSEN.

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