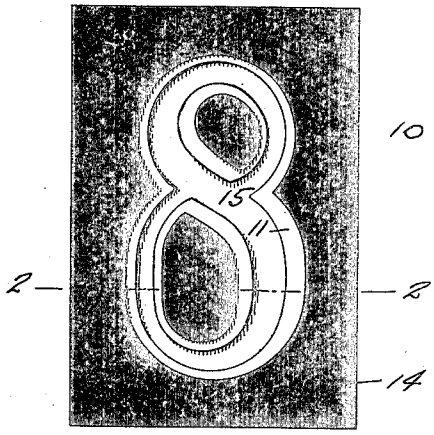
Feb. 20, 1923. 1,446,241.

E. ARMSTRONG.

LUMINOUS SIGN AND THE LIKE.

FILED SEPT. 1, 1921.

Fig. 1.



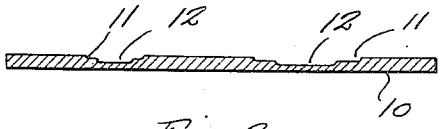


Fig. 2.

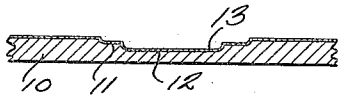


Fig. 3.

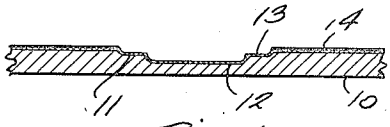


Fig. 4.

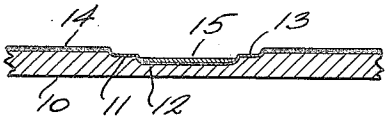


Fig. 5.

INVENTOR.
Eliot Armstrong,
by Parker & Prochnow,
his ATTORNEYS.

Patented Feb. 20, 1923. 1,446,241

UNITED STATES PATENT OFFICE.

ELIOT ARMSTRONG, OF BUFFALO, NEW YORK, ASSIGNOR TO NIAGARA METAL STAMPING CORPORATION, OF NIAGARA FALLS, NEW YORK.

LUMINOUS SIGN AND THE LIKE.

Application filed September 1, 1921. Serial No. 497,721.

To all whom it may concern:

Be it known that I, ELIOT ARMSTRONG, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Luminous Signs and the like, of which the following is a specification.

This invention relates to luminous signs or number plates.

In signs or number plates on which the letters, symbols, numerals or other representations are coated, striped or outlined by radium paint or the like, it is important to apply this radium paint in such manner that it will not be injured, worn or chipped off readily and so that it will not be rapidly deteriorated or disintegrated under the action of the elements. Again, radium paint is, at the present time, very expensive and such expense has discouraged the use of luminous signs or number plates of this character; or in cases where signs of this character are used, owing to the relatively high cost of the radium paint, such a degree of care and skill is necessary in its application as to render the cost of production of these articles almost prohibitive.

The objects of this present invention are to provide signs or number plates or the like, of the type set forth, which may be easily manufactured and at relatively low cost; also to provide articles of the type set forth in which the luminous portions are protected from the weather and from being injured, chipped or worn off while the articles are being handled or are in use; also to provide articles of the type described in which no special skill or care is required in connection with the application of the luminous paint and the amount of the paint or coating applied will be definitely gauged; and also to improve the construction of articles of the type set forth so that a relatively small amount of luminous paint is necessary. Further objects are to provide improvements in the manufacture of signs and number plates in the other respects hereinafter set forth and claimed.

In the accompanying drawings:

Fig. 1 is a front elevation of a number plate embodying the invention.

Fig. 2 is a section thereof, on an enlarged scale, on line 2—2, Fig. 1, showing the metal stamping preparatory to coating the same.

Figs. 3, 4 and 5 are sections on a still further enlarged scale, illustrating the several steps in the coating or finishing of the metal stamping.

In the drawings, the invention is illustrated as embodied in a number plate or the like suitable for designating a house number or automobile license number, but it will be understood that the invention is equally applicable to signs or any other displays of letters, symbols or representations.

10 designates a plate which may be formed of any suitable metal or the like and in any desired size, shape or form. The plates are stamped or otherwise formed to provide a primary shallow depression 11 and a secondary narrower depression or groove 12 within the primary depression, which depression and groove outline the numeral or other character to be displayed. The wider depressions 11 serve as shoulders bordering the grooves 12 and inset from the face of the plate. The characters on the plate may be readily formed by a single stamping operation and large quantities of the stampings made up at a relatively small cost.

The depressed portions of the plate are then coated with a suitable light-diffusing or reflecting paint or enamel. This may be expeditiously done by spraying the plates or by dipping the same, and no special skill or care is required at this stage of the operation, since there is no objection to the coating covering a part of or the entire face of the plate. Fig. 3 of the drawings illustrates this step in the manufacture, wherein the stamping is coated with white enamel or paint 13 or other suitable light-diffusing or reflecting material, the material coating the entire face of the plate including the depressions and grooves.

As illustrated in Fig. 4, the flat or undepressed portions of the face of the plate are then coated with a contrasting color, such as a coat 14 of black paint or paint of other suitable dark color and this paint may be expeditiously applied, as for instance by means of a roller. At this stage of the operation the depressions which form the outline of the character or characters have been coated with the light-diffusing or reflecting paint or enamel and the body of the plate and the portions intermediate of

the outline are in the dark or contrasting color.

A coating 15 of the radium or luminous paint or the like is then applied on the secondary grooved portion 12. In the application of this coating the groove 12 provides an effective guide for the brush or other instrument by which the coating is applied and allows this operation to be performed very quickly and with no special care or skill. At the same time the groove 12 confines the radium paint or the like and prevents it from spreading over the plate with a resultant economy in the amount of radium paint used. The luminous coating 15 is protected from being injured, chipped or broken away from the plate by reason of its position in the secondary groove 12, being protected by the outer surface of the plate and also by the surrounding relatively shallow depressed portions 11. The positioning of the groove 12 within or between the edges of the relatively shallow depressions 11 which are coated with the light-diffusing or reflecting coating and which form, with respect to groove 12, light reflecting shoulders, and the application of the radium or other luminous paint to the groove 12, results in reflection or diffusion of light from the shallow depressions or shoulders 11. This makes it possible to make the groove 12 relatively narrow and to obtain with a small amount of radium paint or other luminous paint or coating, a relatively great luminosity, as the plate described appears when viewed at night, to be luminous to the full width of the primary depressions 11. This relative positioning of the grooves 12 with the relatively narrow stripe of luminous material between the edges of the shallow depressions 11 which are coated with the light-diffusing or reflecting material, results in a great saving in the expense of manufacture. The narrow groove serves as a definite gauge for the amount of radium or luminous coating and a plurality of like characters will all have like quantities of the coating, thereby standardizing the cost of production of the signs.

I claim as my invention:

1. In a sign or the like, a plate having a depression therein outlining a character to be illumined, a groove in said depression, a coating of light-reflecting material in said depression, and a coating of luminous material in said groove.

2. In a sign or the like, a plate having a depression therein outlining a character to be illumined, a groove in said depression, a coating of light reflecting material in said depression, a coating of luminous material in said groove, and a coating of dark material on the undepressed portions of said plate.

3. In a sign or the like, a plate having in one face a depressed light-reflecting surface outlining a character, a groove in said depressed surface and following the outline of said character, and a coating of luminous material in said groove, whereby said light-reflecting surface is illumined.

4. In a sign or the like, a plate having in one face a depression outlining a character, a groove in said depression, a coating of light-reflecting material in said depression and groove, the undepressed portions of said plate being of a contrasting color to said light-reflecting material, and a coating of luminous material in said groove over the light-reflecting material therein, whereby the grooved portion and the light-reflecting depression is illumined.

ELIOT ARMSTRONG.