# UNITED STATES PATENT OFFICE.

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## LETTERS AND FIGURES FOR SIGNS FORMED OF CELLULOID AND OTHER PLASTIC MATERIAL.

SPECIFICATION forming part of Letters Patent No. 238,928, dated March 15, 1881.

Application filed December 7, 1880. (No specimens.)

*To all whom it may concern:*

Be it known that I, MARSHALL C. LEFFERTS, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Letters and Figures for Signs Formed of Celluloid and other Plastic Materials, of which the following is a specification.

The invention has relation to improvements in signs; and it consists, essentially, in the employment of celluloid or other compounds of pyroxyline in lieu of materials heretofore used. I intend to practice the invention in numerous ways, as hereinafter set forth, and in other analogous ways which will be suggested by those that are specifically described.

My invention consists, primarily, in forming letters, figures, words, &c., by cutting, punching, molding, or otherwise fabricating them out of celluloid or other compounds of pyroxyline, or forming the letter of some other substance and applying a coating or exterior surface of celluloid or analogous material in any convenient way. The mode of constructing the character, as well as the expediency of forming it wholly of celluloid or partly of celluloid and partly of other materials, will depend upon the nature of the letter and upon other circumstances which need not be herein set forth. The same is true of the weight and other details, which will depend upon the use to which the letter is to be applied and the conditions under which it is to be used. In a majority of instances it will probably be desirable to simply cut the letter from a thin sheet of celluloid or other compound of pyroxyline, which may be easily accomplished by any appropriate means. As far as I am aware, the materials at present chiefly used are glass and wood, the objections to which are generally recognized, and have been so well understood that the use of the class of signs to which my invention pertains has been comparatively limited. Letters, figures, &c., made of glass are objectionable for a number of reasons. It is difficult to attach them so that they will adhere permanently to a background or the surface upon which they are intended to be applied. They are brittle and not readily manufactured, and the range of color which can be successfully employed is limited. Wood is not desirable, because the letters can only be properly finished by the use of paint or enamel, which is necessarily soon disfigured. The warping of the wood is another serious objection which it has been found impossible to obviate, except by making the article more expensive than is practicable.

By my invention a letter can be produced that may be handled without danger of being broken or disfigured, which is impossible where the letters are made of glass or wood, which may be attached to a background or surface more successfully than has heretofore been thought to be practicable. Other marked advantages are, that the letter is impervious to moisture, is not affected by atmospheric changes, and may be produced in any color, the color generally remaining indelible until the letter is destroyed—a fact which is only partly true of all letters that have heretofore been produced.

In practicing the invention I contemplate producing letters of various styles, sizes, and colors, that may be kept in stock and sold to persons desiring signs, that may be attached at will by the purchaser to the surface upon which it is desired to use them, and that may be otherwise employed in any convenient way.

In constructing the characters the celluloid or other compound of pyroxyline will be colored, by preference, before the letter is made, and the characters cut, punched, molded, or otherwise formed at pleasure, as hereinbefore recited.

By preference a solution of celluloid or other analogous material will be employed as a cement to attach the letters, by which means a very firm adhesion will be accomplished.

Another method which is adapted to the production of transparent signs consists in cutting the letters from a very thin sheet of transparent celluloid. After the letters are formed they are covered on one side with gilt or other bronze in any known manner, when they will be cemented or attached to a pane or piece of glass. By this means a sign which may be read from either side will be produced, the reverse side presenting the same appearance as the obverse, from the fact that the celluloid, which is transparent and very thin, will not be observed. In making signs of this kind a color of any suitable nature may be

used instead of bronze, and a sheet or piece of transparent or translucent celluloid or other compound of pyroxyline instead of glass.

A great many other ways of practicing the invention will suggest themselves. It may be practicable to employ a piece or sheet of transparent celluloid as a background or surface to hold the letters, using it substantially as glass is now used, and, if preferred, the letters may be printed upon such piece or sheet, or applied upon it in the form of a sizing and bronzed or otherwise treated.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A character composed wholly or in part of celluloid or other compound of pyroxyline, adapted to be used as part of a sign.

2. A character adapted to be used as part of a sign the surface of which is coated with a solution of celluloid or other compound of celluloid.

3. A sign consisting of a transparent background having letters attached thereto, the letters being formed of transparent celluloid or other compound of pyroxyline bronzed or colored upon one side.

In testimony that I claim the foregoing improvement in articles formed of plastic materials, as above described, I have hereunto set my hand this 2d day of December, 1880.

MARSHALL C. LEFFERTS.

Witnesses:
CHAS. C. GILL,
PARIS CHALMERS.