

J. B. Blair,

Ornamenting Signs.

N^o 79303.

Patented June 30, 1868.

Fig. 1.

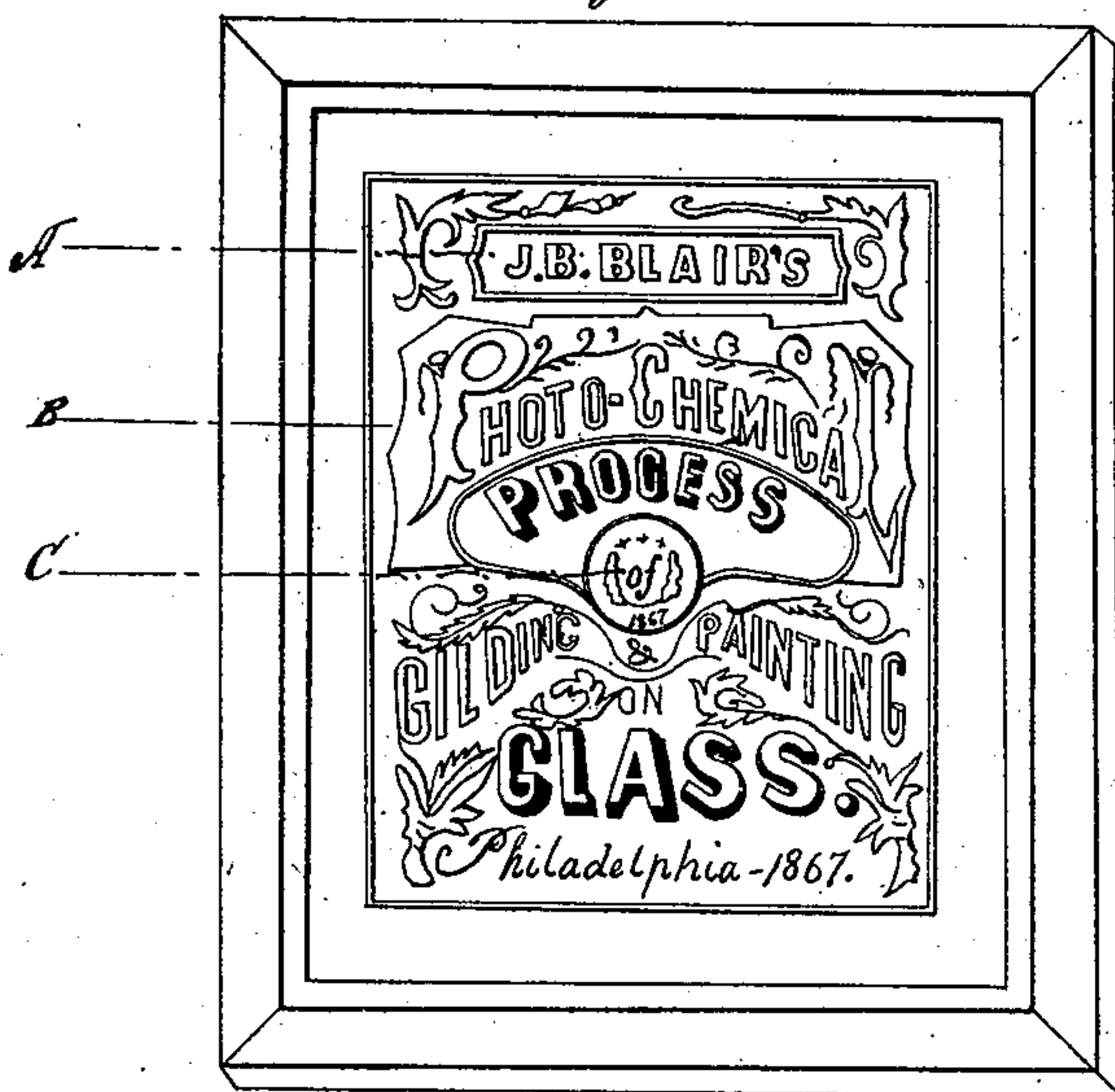


Fig. 2.

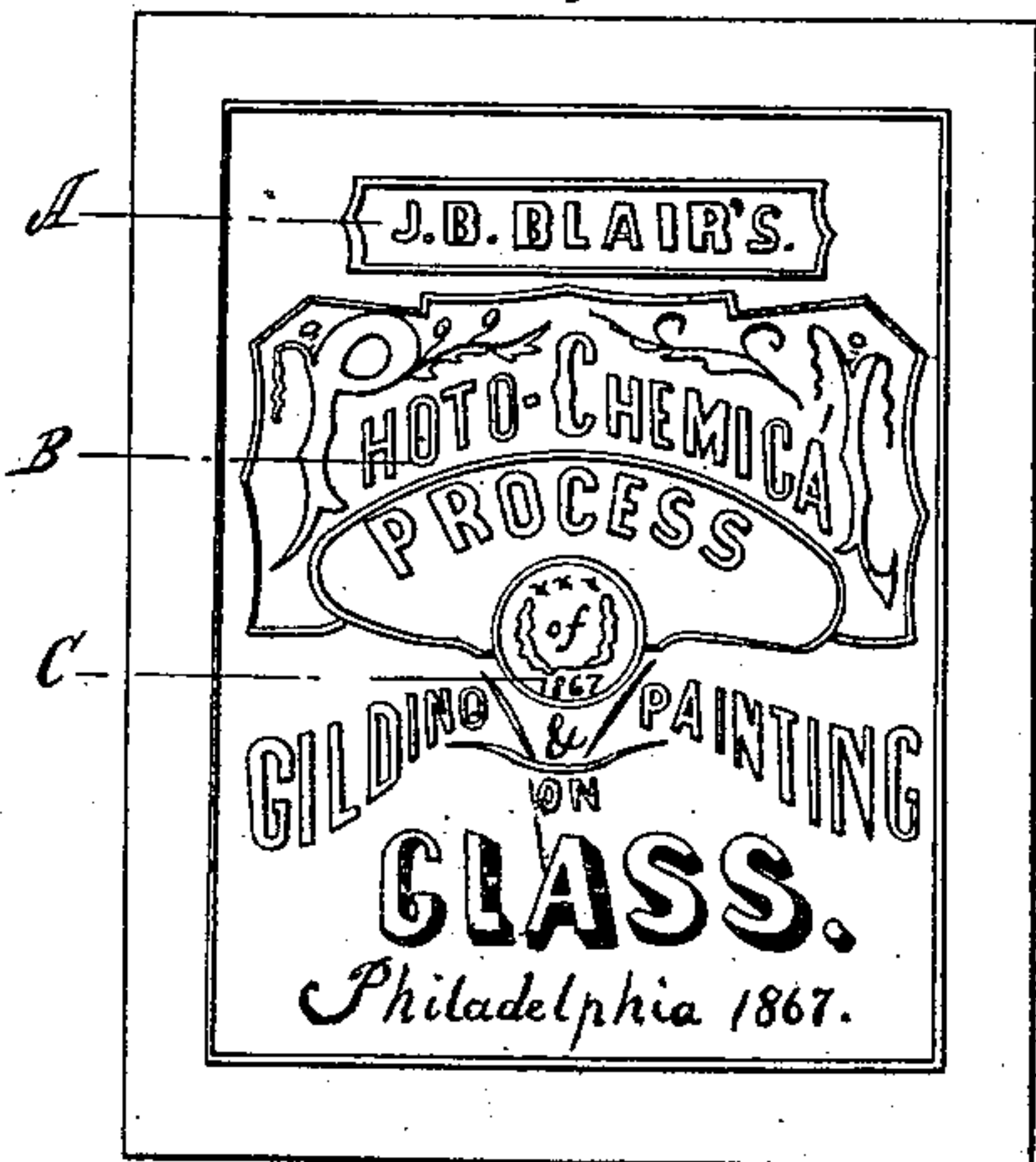
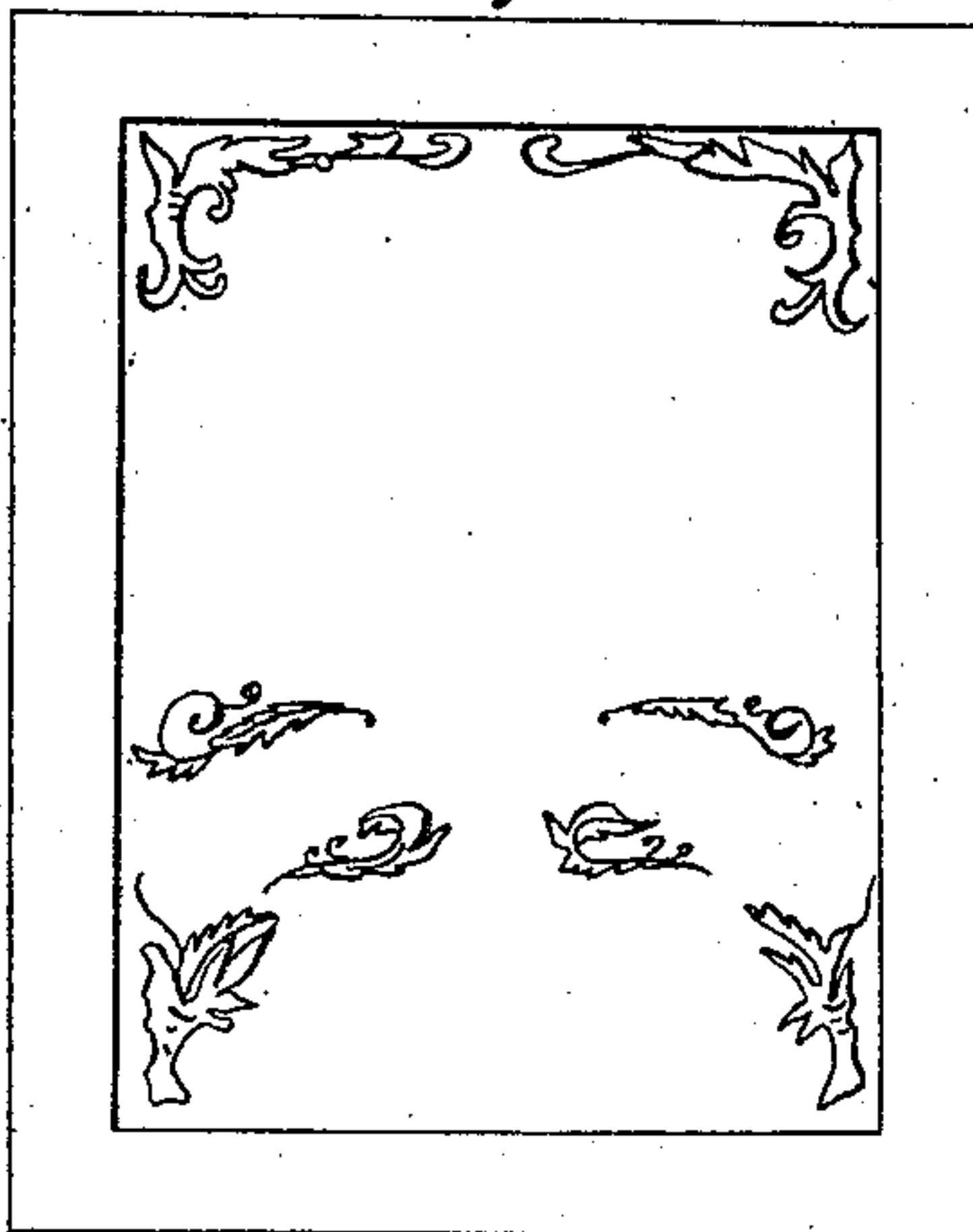


Fig. 3.



Witnesses:
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United States Patent Office.

J. B. BLAIR, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 79,303, dated June 30, 1868.

IMPROVEMENT IN GILDING AND ORNAMENTING GLASS SIGNS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. B. BLAIR, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented a new Process and Style of Gilding Glass and other Signs, which process includes the painting thereof; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the adaptation of the process of chromo-gelatin photography to the execution of ornamental gilding and painting, especially as applied to the manufacture of that class of glass signs which require a number of duplications.

In order to have a full understanding of the purpose and processes of this invention, it is necessary to refer to what has been done heretofore by the photographic process herein referred to, and to compare my process and results therewith.

The glass sign is coated with a photo-sensitive substance, well known as the photographic mixture of the chromate of potash and gelatin. This substance has hitherto been used mainly for the purpose of making pictures which represent the effects of lights and shades as seen in nature, and for this purpose but a single negative is required, which negative necessarily embraces all of the elements of the design, and consequently but a single impression can be made upon the same plate, and that impression is also necessarily monochromatic. On the contrary, I use this substance to print a gilded and many-colored ornamental design, and to do this I use a series of negatives, through which I make a succession of impressions, corresponding to the number of colors in the design.

Further, while heretofore the application of color to the design was either by mixing it with the gelatin, or, in a dry state, it was rubbed upon the gelatin image, and made to adhere thereto by virtue of the glutinous property of the gelatin, I, on the contrary, in addition to this mode of coloring, also mix the color with an asphaltic or resinous varnish, in a manner hereinafter described.

Further, while hitherto, if the metals were used instead of color, it was only in the form of so-called "bronze," or in a "finely-divided state," and "used as a pigment," that is to say, rubbed upon the gelatin print to produce the effect of light and shade in the picture, I, on the contrary, apply the metals in leaf, and produce the effect of gilding by a novel process hereinafter described.

Furthermore, while heretofore the uses to which the art of chromo-gelatin photography was applied were in producing pictorial effects, I, on the contrary, apply it to gilding and ornamental painting, and thereby produce a new article of manufacture.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same, and the process thereof.

Figure 1, in the drawings, represents a finished sign on glass,

Figure 2 a negative design, and

Figure 3 a supplemental negative design.

The negative design may be any print, photograph, or drawing, and must be used as a negative, in manner of photographic printing. But as the design will frequently, in whole or part, be required to be diaphanous on a dark ground, I make such a drawing as follows: With a thick solution of gum-arabic, I mix a little indigo, to give it color, and make the drawing therewith in the same manner as with India ink, and then I mix lamp-black and turpentine, and a very little drying-oil, into a thin paint, and spread it over the drawing with a soft brush. After giving it four or five minutes' time for the excess of turpentine to evaporate, I immerse it in water, where I allow it to remain four or five minutes, when the gum of the drawing can readily be removed by passing a soft brush over the surface, leaving the design diaphanous on an opaque ground, fig. 2. When dry, it is ready for use. The photo-sensitive coating-solution is made of one ounce of gelatin dissolved in eight ounces of water, to which is added one-half ounce of the saturated solution of one of the chromates, (chromate of ammonia, bichromate of ammonia, chromate of potash, or bichromate of potash.) This solution must be kept and used in a dark room.

Printing. Coat the plate with the solution in the usual manner of coating with collodion, and when dry place it on a printing-board, with the negative design adjusted upon it, which must be secured in position by being covered with another piece of glass. Expose the plate to the light for a few seconds; then return to the dark room, and wash it in water warmed to a temperature of from 100° to 150°. The plate can now be set aside, to be gilded at any future period, or it can be immediately proceeded with.

Gilding. 1. If the plate is dry, wet it, and lay on the gold or other metallic leaf, and allow it to dry. Then, with a wad of cotton, gently rub the gilding, to give it a polish. The design will now be shown in frosted lights on a burnished ground, A, B, and C, fig. 1.

Gilding. 2. When the gilt ground is not to be retained, and the letter or design is only to be in gilt on some other ground, then I proceed as follows: After having laid the leaf on the glass, in the usual way practised by workmen, I spread over the leaf a strong asphaltic or resinous varnish, and when dry, I print thereon the gelatin, after which the glass is placed in turpentine, when the varnish that is unprotected by the gelatine will be dissolved off, and leave the leaf exposed, so that it may be removed by rubbing with a wad of damp cotton, in the usual manner as practised by gilders.

Color. 1. Those portions of the design requiring color may be printed with a supplemental negative design, fig. 3. The desired color must be mixed with the solution, and the plate coated therewith, exposed to light, and washed, all as before described.

Color. 2. Should the effect of oil-color be required, then the color or pigment should be mixed with the asphaltic or resinous varnish, before specified with reference to gilding, and then spread over the several parts of the glass appropriated to the respective colors, after which the gelatin print must be made upon the colored varnish. The glass must now be immersed in turpentine, which will dissolve off the colored varnish that is unprotected by the gelatin print. Any number of supplemental designs, to print letters, shadows, or ornaments, can in like manner successively follow each other, each imprinting a different color, and thus giving the desired complexity to the work, which may now be finished by painting over the back of the sign any suitable color, to secure and give support to the general work.

I do not claim glass signs for commercial advertising, for they are made in the ordinary way by hand, but in a style necessarily differing from those resulting from the process herein described; nor do I claim the chemical substances herein specified as photographic agents, for their properties have been known; neither do I limit my claim to the chemicals specified, for other combinations will produce similar results; but

What I do claim, and desire to secure by Letters Patent, is—

The production of duplicates in plain or ornamental gilding or painting, substantially as and for the purposes set forth.

J. B. BLAIR.

Witnesses:

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J. KLEM PORTER.