

C. FREDERICI.

Processes of Preparing Glass, &c., for Etching.

No. 154,032.

Patented Aug. 11, 1874.

Fig: 2.

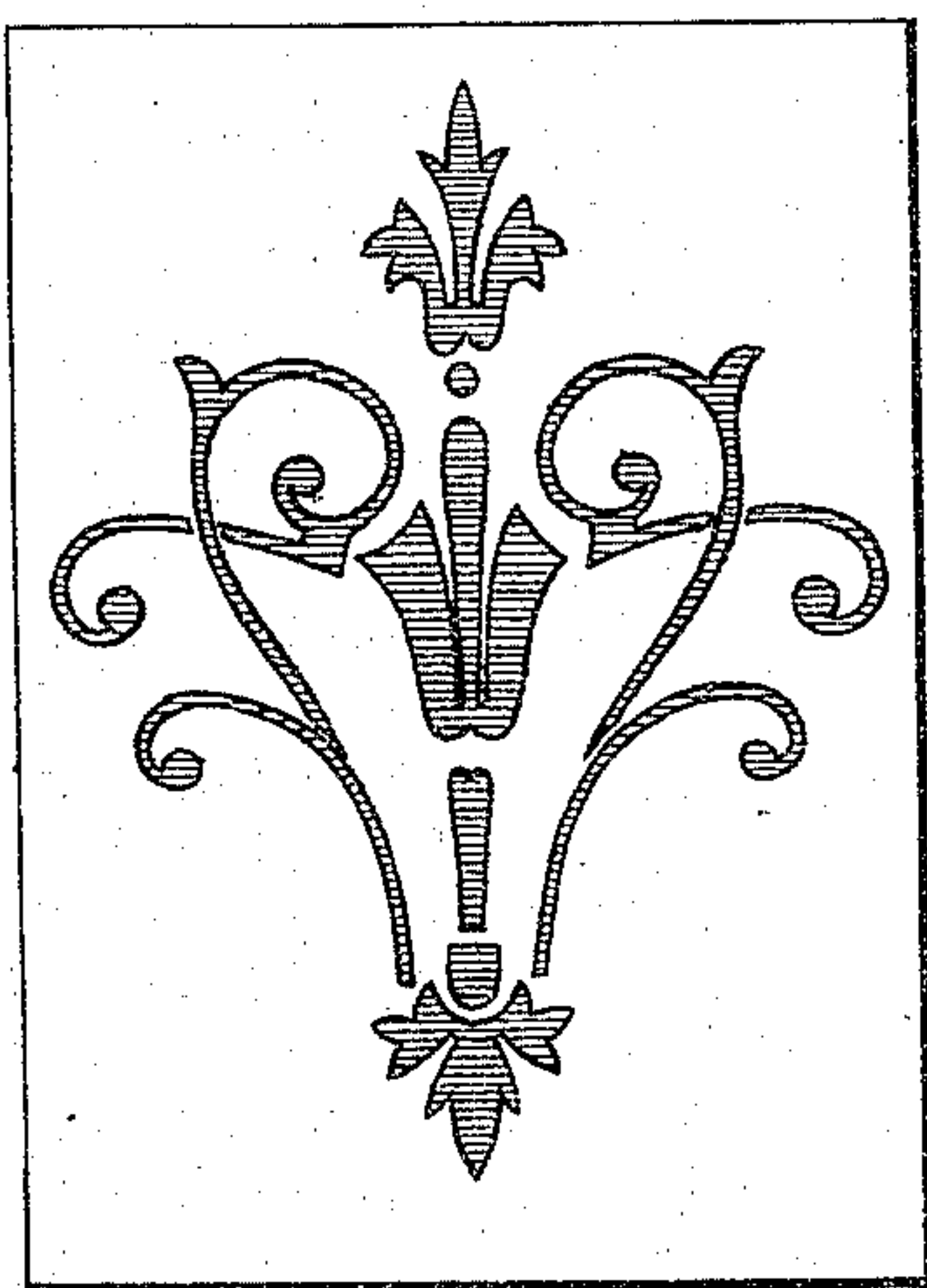
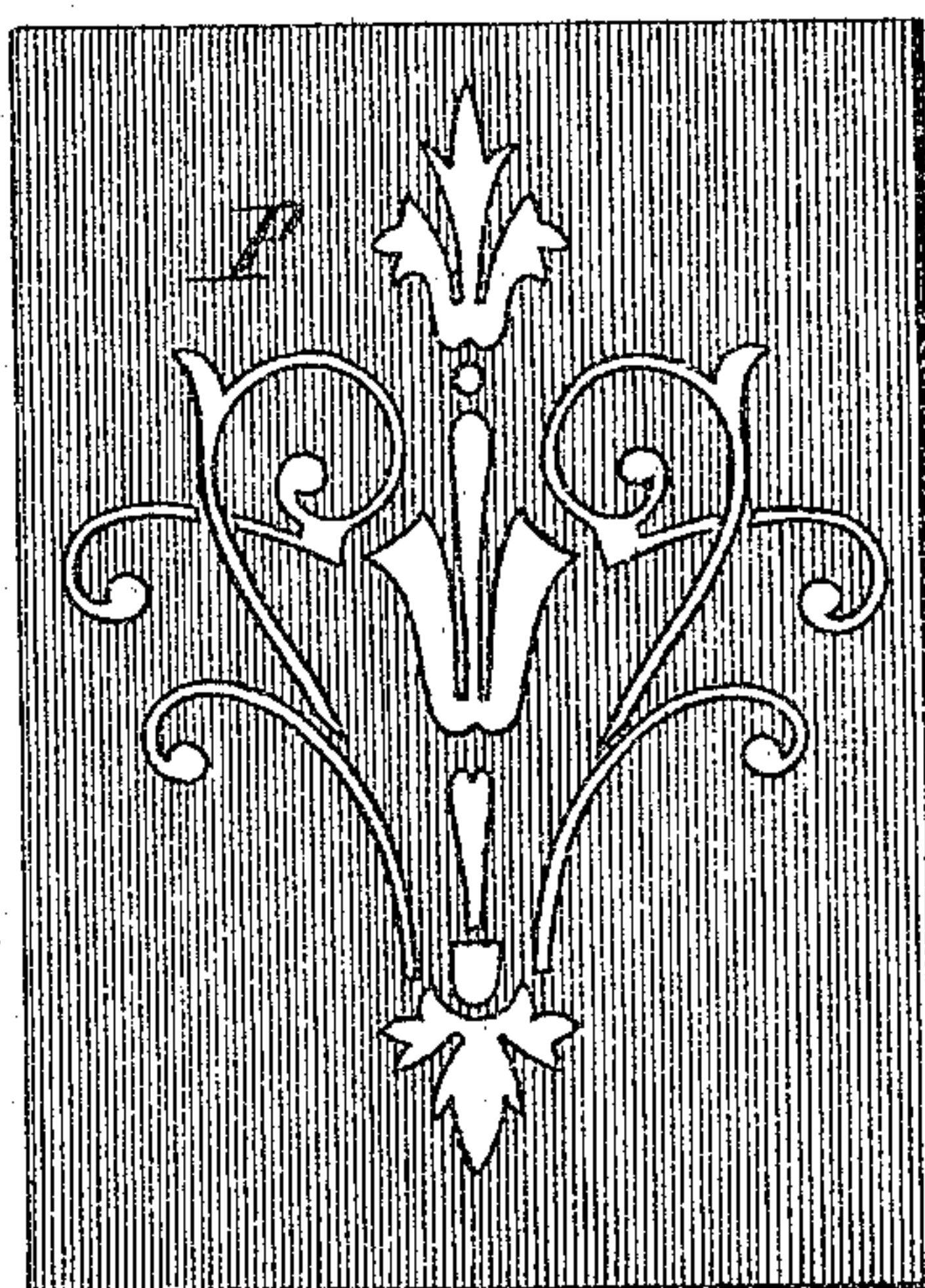


Fig: 1.



Witnesses:
W. J. Payton.
A. C. Norris.

Inventor:
Carl Frederici.
By Van Santvoord & Hauff.
Atty.

UNITED STATES PATENT OFFICE.

CARL FREDERICI, OF NEW YORK, N. Y.

IMPROVEMENT IN PROCESSES OF PREPARING GLASS, &c., FOR ETCHING.

Specification forming part of Letters Patent No. **154,032**, dated August 11, 1874; application filed November 17, 1873.

CASE D.

To all whom it may concern:

Be it known that I, CARL FREDERICI, of the city, county, and State of New York, have invented a new and useful Improvement in Preparing Glass, Stone, and other materials for the Sand-Blast Process; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a face view of a pane of glass having the pattern attached to it and before the wax is applied. Fig. 2 is a similar view of the same when ready for being etched or cut.

Similar letters indicate corresponding parts.

This invention consists in preparing the surface of a piece of glass, stone, or other material for being etched or cut by first attaching to the surface to be prepared a pattern of tin-foil, or other equivalent material, corresponding to or containing the design to be produced in or on said surface, then spreading over the same a thin film or layer of bees-wax, or other equivalent material, and finally stripping off the pattern in such a manner that those parts from off of which the pattern has been stripped or removed will be in proper condition to be exposed to the etching or cutting process, while the remainder of the surface will be protected by the wax or other material, and by these means designs with sharp and clearly-defined contours are produced in or on the glass or other material with comparatively little trouble or loss of time.

In carrying out my invention, I take a piece of glass, stone, or other material the surface of which is to be prepared for a process of etching or cutting—say, for being cut by means of the sand-blast process—and on this surface I secure patterns P, cut out of tin-foil, or other equivalent material, and corresponding to the designs or characters to be produced by the sand-blast or etching process. These patterns should be cut out with great care, in order that their edges may remain sharp and clearly defined. After the patterns have been attached in the required position to the surface to be prepared by means of gum-arabic,

or other suitable cement or substance, or by damping them with water or other suitable liquid, I spread over the entire surface, patterns and all, a thin layer or film of bees-wax, or equivalent material, and after this film has set I strip off the patterns. Those parts of the surface which had been protected by the patterns will now be exposed to the action of the sand-blast or etching-liquid, while the remaining portion of said surface is protected by the film of wax, so that the surface on being exposed to the sand-blast or etching-liquids will only be acted upon at such place or places as correspond to the design of the patterns.

By these means I am enabled to produce, by the action of the sand-blast as well as by the etching process, designs with sharp and clearly-defined contours; and it requires no great skill to prepare the surface of a piece of glass, stone, or other equivalent material, since the patterns, after having been cut out, can be attached to the surface to be prepared with little trouble. Furthermore, these patterns can be used several times in succession without becoming worn or torn.

I will here merely state that I prefer to use bees-wax as the protecting substance; yet more or less desirable results may be obtained by using as an equivalent for the bees-wax stearine, paraffine, spermaceti, tallow, paint, varnish, soap, &c.

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

The within-described process for preparing the surface of a piece of glass, stone, or other material for the sand-blast by first attaching to said surface patterns made of tin-foil, or other equivalent material, and corresponding to the designs to be produced, then spreading over the whole a film of bees-wax, or equivalent material, and finally stripping off the patterns, substantially as set forth, so as to expose the surface formerly occupied by them to the action of the sand-blast or etching-liquid.

CARL FREDERICI.

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.

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mdo.