

(Model.)

W. F. WEBER.

METHOD OF INLAYING AND EMBOSSING CELLULOID.

No. 275,343.

Patented Apr. 3, 1883.

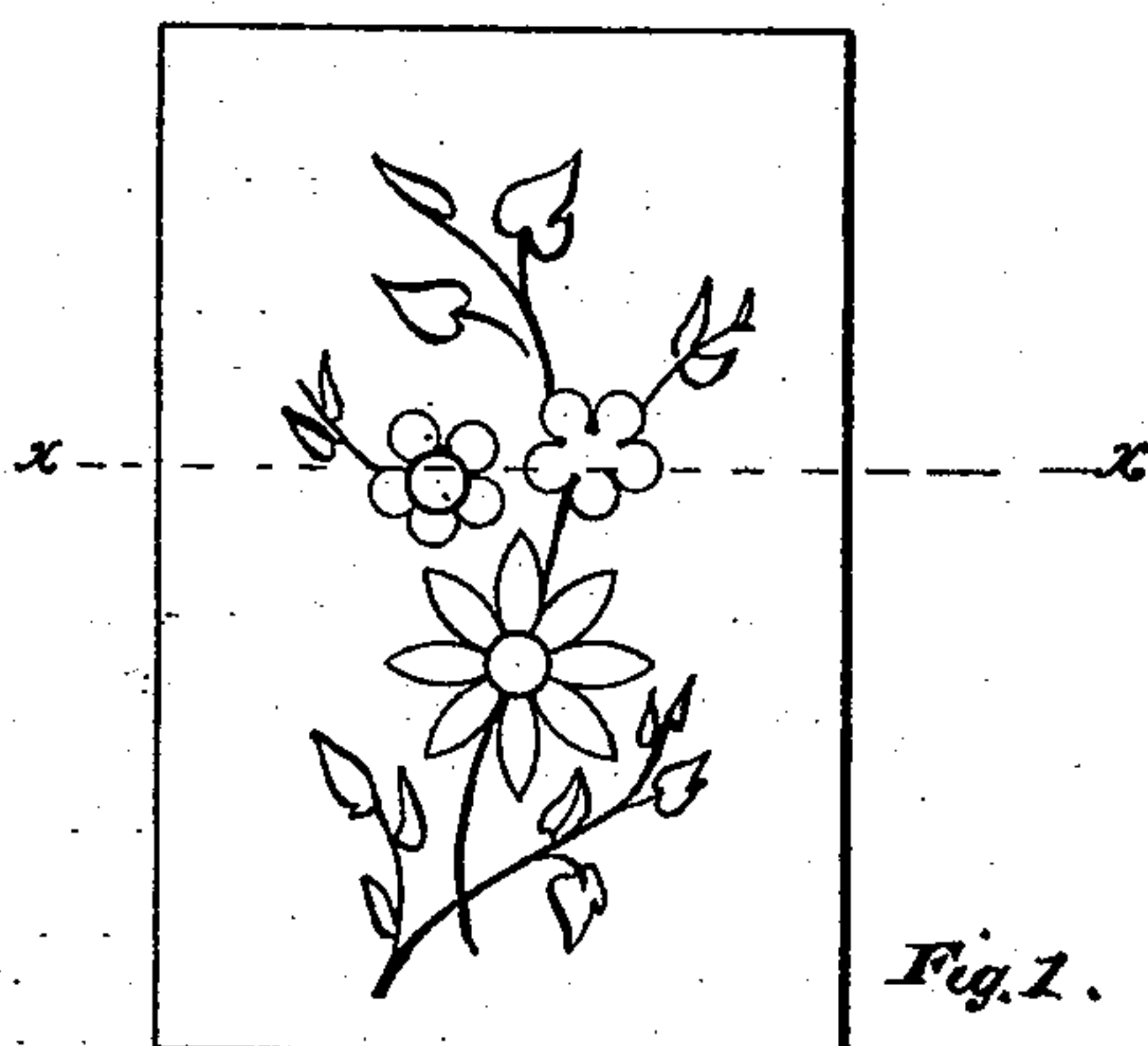


Fig. 1.



Fig. 2.



Fig. 3.

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UNITED STATES PATENT OFFICE.

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METHOD OF INLAYING AND EMBOSSING CELLULOID.

SPECIFICATION forming part of Letters Patent No. 275,343, dated April 3, 1883.

Application filed August 30, 1882. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM F. WEBER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Method of Inlaying and Embossing Celluloid; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates more especially to an improved method of inlaying and embossing with and upon celluloid, lignoid, zylanite, bon-silate, ~~coralline~~, or other plastic, semi-plastic, or compressible materials or articles made therefrom, whereby a great saving in the cost, as well as a very superior finish, and other advantages are secured as compared with methods heretofore practiced.

The invention will be hereinafter fully explained, and finally pointed out in the claims.

In the drawings, Figure 1 is intended to represent a plan view of a piece of inlaid celluloid or other material; Fig. 2, a section of the same through line *x*, and Fig. 3 a sectional view of an embossed article.

Similar letters of reference indicate corresponding parts in each of the several figures.

By the methods heretofore employed it has been very difficult to attain satisfactory results in the use of celluloid, &c., in consequence of the tendency of the inlaying material to flow and blend with the surrounding material caused by the heat to which the materials are subjected, while other compressible materials not affected by heat are liable to become damaged by the pressure applied to them. It is also very tedious in cases where small pieces or particles are to be inlaid or embossed, to cut the separate pieces out and place and keep them in the desired positions before or while the process of inlaying or embossing is being conducted.

In carrying out my invention, when the design or ornament is to be inlaid, matched or male and female dies are employed, the figure or ornament being sunk in one material and raised on the other material of a contrasting

color, and it is requisite that the height of the raised portion of the male die and the depth of the sunken portion of the female die should be equal. When more than two colors are desired, as in forming a bouquet, more female dies are required—*i. e.*, one for each color—excepting in certain cases which will be hereinafter described. The figure to be shown as inlaid is first sunk in the surface of the article or material to be so ornamented with a male die, as already described, and then a piece of material of contrasting color, large enough to cover the design in the female die and somewhat thicker than the depth of said design, is embossed by means of said female die, and then cemented by any suitable adhesive substance into the sunken design made by the aforesaid male die. After being dried hard the surplus material or film attached or adhering to the embossed design is ground off or cut down until the design and the article or material ornamented are flush or level, and a perfect piece of inlaying is the result, as the embossed figure fits into and penetrates the corresponding sunken figure, as will be understood. By this method of inlaying the imperfections and disadvantages incident to the old methods are avoided and the use of cutters and other tools than the dies is not required, except where small pieces are to be inlaid separately—as, for example, to indicate a simple line, square, or other form, in which cases the said square or other form may be sunk into the article or material to be ornamented with a male die and the said line, square, &c., may be cut out with a cutter or other tool from material of contrasting color, and then cemented into the said sunken form, as hereinbefore described. When a small piece to represent the center of a flower or other design is to be inlaid, that portion of the female die corresponding with said center piece or other part is left raised instead of sunk therein, so that when an impression is taken from the said die the said center, &c., will be sunk in the material, leaving a recess for the before-mentioned small piece cut from a material of contrasting color, which is then inlaid, as before described.

When a design is to be embossed upon an article, and of a different color from the background or article, the thickness of the material of which the design is formed should slightly exceed the desired height of said design, so

that after the latter has been secured thereon by means of some adhesive substance or otherwise, there will be left adhering a film thick enough to hold, if necessary, the design or ornament in all its delicate parts intact, and thus facilitate the placing and retaining of the same in position upon the surface of the material or article to be embossed, as will be understood. After the design has been properly secured to the surface of the said article, the film may be easily removed by grinding, lapping, or other appropriate means. If it be desirable to secure the opposite surface of the ornament to the article, the face of the ornament, after it has been removed from the die, may be cemented to a piece of card-board or stiff paper to hold the parts intact, when the film on the other side can be removed and the ornament be secured to the article, as before. After the parts have been allowed to dry and harden, the paper or card-board may be easily removed, as will be manifest, and the face of the ornament polished or finished.

If it be desired to have the surface of the article or ornament roughened or figured, the surface of the die may be prepared accordingly, as will be understood.

In some cases the process of affixing and securing an ornament in position will be facilitated by first making a slight impression or indentation with a male die upon or in the surface to be ornamented, thereby forming a recess or seat to receive and prevent the embossed figure from moving after it has been placed in position or while being secured.

Having thus described my invention, what I claim as new, and wish to have secured by Letters Patent, is—

1. The method herein described of inlaying plastic or other compressible materials, the same consisting in making an impression of a design into the material or article to be inlaid, then embossing the said design upon a piece of the same or another material, then securing the two together, the embossed design entering the sunken design, and, after being dried and hardened, cutting down, polishing, and finishing the face of said design, substantially as and for the purposes herein set forth.

2. The method herein described of inlaying plastic or other compressible materials of contrasting colors, the same consisting in making an impression of a design into the material or article to be inlaid, then embossing the said design upon materials of one or more contrasting colors, then securing the said embossed design or designs into the said sunken design, then removing the surplus material and finishing the face of said design, substantially as and for the purposes set forth.

3. The method herein described of embossing plastic and other materials, the same consisting in embossing a design on plastic or other compressible material, then securing the same upon the surface of the article to be ornamented, and, after being dried, finishing the same, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of August, 1882.

WILLIAM F. WEBER.

Witnesses:

OLIVER DRAKE,
E. L. ROFF.