No. 665,747. Patented Jan. 8, 1901.

E. S. MARTIN.

PROCESS OF PAINTING DESIGNS ON SURFACES.

(Application filed Mar. 12, 1900.)

(No Model.)

FIG. 1.

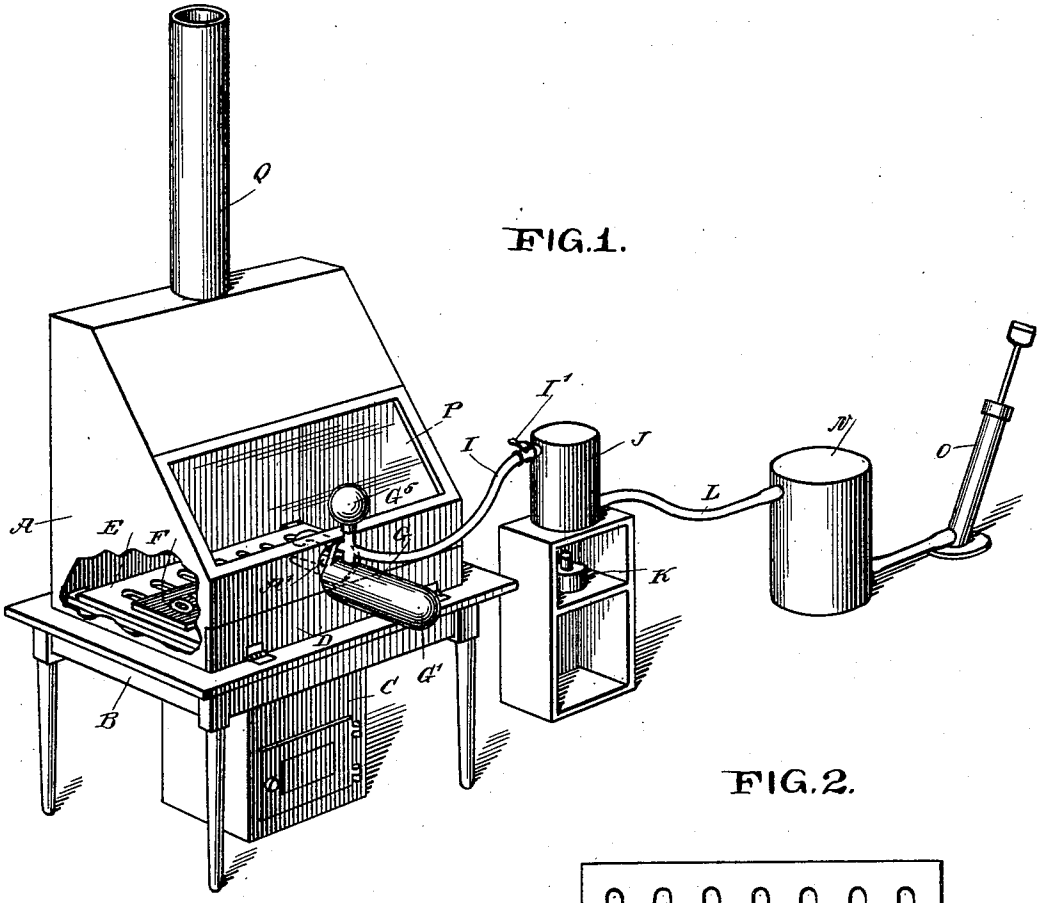


FIG. 2.

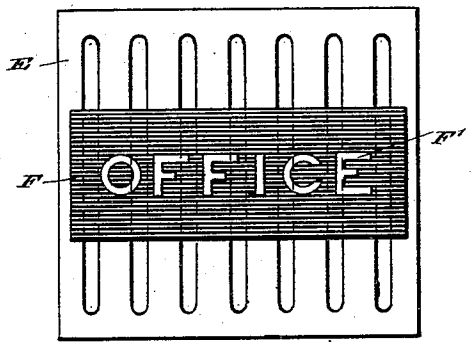
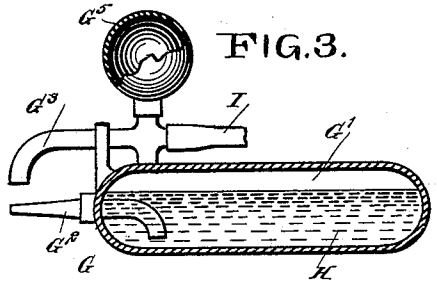


FIG. 3.



WITNESSES:

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PROCESS OF PAINTING DESIGNS ON SURFACES.

SPECIFICATION forming part of Letters Patent No. 665,747, dated January 8, 1901.

Application filed March 12, 1900. Serial No. 8,360. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD S. MARTIN, a citizen of the United States, and a resident of Media, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in the Art of Ornamentation, of which the following is a full, clear, and exact description.

The invention relates to the manufacture of signs, tiles, dials, ornaments, and the like of glass, wood, or other material; and the object of the invention is to provide certain new and useful improvements in the art of ornamentation whereby high-grade and exceedingly desirable articles are produced in a very short time and at a comparatively small cost.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of an apparatus for producing the article, part being broken out. Fig. 2 is a plan view of the slide with the finished article thereon, and Fig. 3 is an enlarged sectional side elevation of the spraying device.

The improved apparatus illustrated in Fig. 1 consists, essentially, of a suitable box A, set on a table or other support B, below the top plate of which is arranged a heater C of any approved construction for heating the interior of the box A through an opening in the top of the table B. On the front of the box A is arranged a hinged door D, through which a slide E is introduced into the box A and removed therefrom, and said slide is preferably slotted or otherwise perforated and is adapted to receive a blank F, the surface of which is to be ornamented, as hereinafter more fully described.

Above the door D is arranged an opening A′ in the front of the box A and through which is projected into the interior of the box the discharge end of a spraying device G for spraying a solution of a soluble adhesive substance and a volatile liquid upon the surface of the blank F, held on the slide E, contained in the box A. On the blank F is placed a pattern F′, representing the ornamentation to be produced, and made of oiled paper, lead, or other material, so that when the apparatus is in use and the box A is heated and the solution is sprayed into the box upon the exposed portion of the surface of the blank F then a coating is formed thereon around the ornament. As the box is heated, as well as the blank, it is evident that the volatile liquids contained in the solution readily evaporate, while the solid matter is quickly precipitated on the blank and is quickly dried thereon and firmly adheres thereto to form a coating around the ornament, and when the latter is removed the coating appears in relief, said ornament appearing in high contrast to the coating, which may be opaque or not, according to the solid adhesive matter used in the solution.

The spraying device G consists, essentially, of a closed vessel G′, containing the solution H, and from the front end of the vessel G′ projects a nozzle G^2, having its inner end below the level of the liquid solution H. Over the front or outer end of the nozzle G^2 is arranged a blowpipe G^3, supported from the vessel G′ and having a compressible bulb G^5, the nozzle being connected by a flexible tube I with a vessel J, set over a suitable lamp K, and connected by a tube L with a compressed-air reservoir N, charged by a pump O or other suitable device or machine.

It is evident that the air from the reservoir N passes into the vessel J to be heated therein by the heat from the lamp K, and this heated air passes through the tube I to the blowpipe G^3 down over the end of the nozzle G^2 to draw the liquid solution by suction from the vessel G through the nozzle and to spray the solution as the same leaves the nozzle. The sprayed solution passes in a downward direction directly upon the blank F, located below the nozzle on the top of the slide E, so that the solid matter contained in the solution is quickly precipitated on the surface of the blank, while the volatile liquids are readily evaporated and rise in the box A. The heat from the heater C quickly dries the precipitated matter, which forms a coating on the surface of the blank F, so that the article is quickly finished and can then be readily re-

moved from the box A by withdrawing the slide E through the door D.

A portion of the top of the box A is inclined, as shown in Fig. 1, and this portion contains a glass pane P to permit of viewing the working of the apparatus, so that the operator can remove the spraying device from the box A whenever the coating process and the blank is finished. A suitable valve I′ in the pipe I is provided for cutting off the supply of compressed air from the blowpipe G^3 and the vessel G′ whenever the process of coating is completed and previous to removing the spraying device from the box A.

The vaporized liquids are carried off from the box A through a suitable outlet-pipe Q, leading from the top of the box. In practice I have found that varnish, alcohol, and ether in equal proportions form a very fine solution, but other suitable ingredients may be used—such, for instance, as liquid, celluloid, or any matter soluble in alcohol, either gasolene or volatile or easily evaporated liquid. It is understood that the ornament to be produced on the surface may be in the shape of a scroll, letter, figure, design, or ornament of any form.

By the arrangement described suitable signs and glass ornaments can be produced which are a perfect imitation of stained glass, it being understood that any desired color can be given to the ornamented surface by using suitable pigments in the solution.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The herein-described method of producing ornamented surfaces on glass, wood and other materials, consisting in spraying by means of heated compressed air a solution of soluble adhesive matter and a volatile liquid upon the surface to be ornamented, and at the same time subjecting the article and the volatile liquid to heat, to cause a uniform deposit of adhesive matter on the surface to be ornamented, a quick drying thereof, and an evaporation of the volatile liquid, as set forth.

2. The herein-described method of producing ornamented surfaces on glass, wood and other materials consisting in applying a pattern to the surface of the article to be ornamented, subjecting the article to heat and at the same time forcibly spraying a solution of a soluble matter and a volatile liquid upon the surface of the article not covered by the pattern, whereby the volatile liquid is evaporated and a coating in relief is formed on the article at the exposed places, as set forth.

3. The herein-described method of producing ornamented surfaces on glass, wood and other materials, consisting in spraying a solution of varnish alcohol and ether upon the surface to be ornamented to coat the same on exposed places, and while the article and said solution are being subjected to heat, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD S. MARTIN.

Witnesses:
A. P. OTTEY,
M. H. MARTIN.