

Feb. 16, 1932.

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1,845,016

METHOD OF ORNAMENTING METAL SURFACES

Filed May 21, 1931

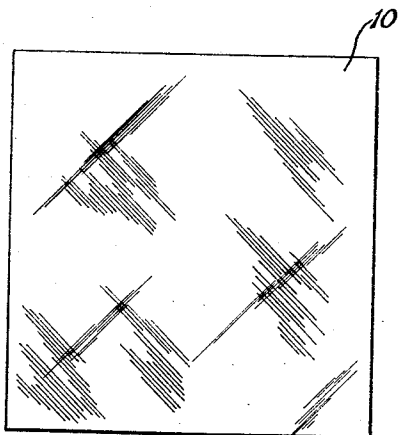


Fig. 1

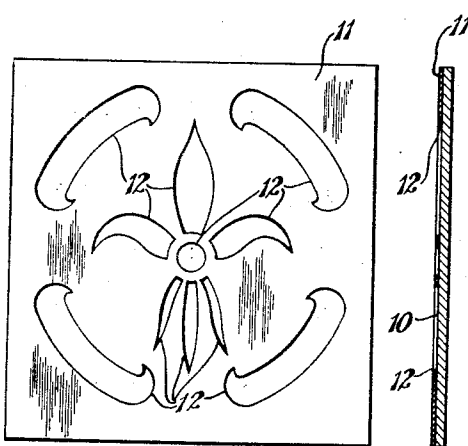


Fig. 2

Fig. 3

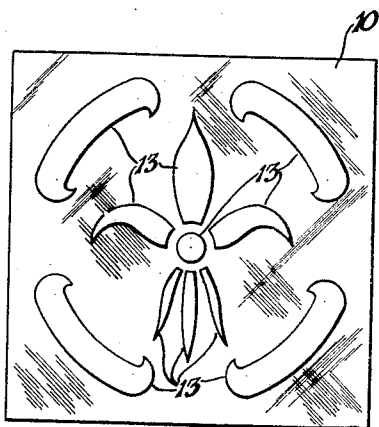


Fig. 4

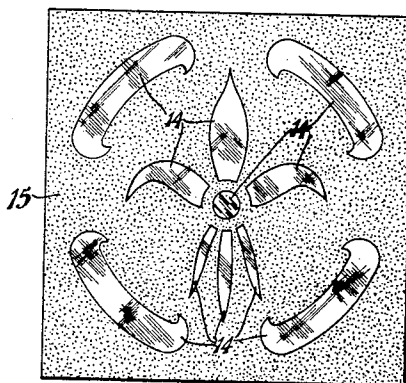


Fig. 5

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METHOD OF ORNAMENTING METAL SURFACES

Application filed May 21, 1931. Serial No. 538,900.

The invention relates to the ornamenting of the surfaces of sheets, plates and the like of stainless steel or other metals to produce an effect similar to etching.

5 The object of the improvement is to provide a method or process for ornamenting metal surfaces which may be carried out quickly and easily and for only a small fraction of the cost of etching metal surfaces.

10 A further object is to provide means for identically duplicating any desired ornamentation innumerable times.

The above and other objects may be attained by first providing a mask or stencil from a sheet of copper or other suitable material of the design or ornamentation to be produced upon a sheet or plate of stainless identically duplicating any desired ornamented.

20 The metallic surface to be ornamented is first polished and the mask or stencil is placed upon the polished surface and a liquid coating which hardens upon drying, and which may be a varnish, paint, enamel or shellac, preferably containing bakelite, is sprayed or otherwise applied to the metallic surface through the openings in the mask or stencil. The metal sheet or plate with the liquid coating thereon is then placed in an oven or furnace and the coating baked thereon. This step of the process is preferably repeated until three coats of varnish or other liquid coating have been applied through the mask or stencil to the same portions of the metal surface, each coat being baked on.

35 The mask or stencil is removed and the metallic surface with the baked coating design thereon is then subjected to a light abrasive action, being preferably acted upon by what is commonly known in the steel industry as a Tampico brush. This brush attacks only the exposed portions of the metal surface but has no effect upon the baked coating covering the other portions thereof, and produces on these exposed portions of the metal surface what might be termed a satin finish.

40 The baked coating is then removed from the portions of the metal surface covered thereby, leaving the ornamentation or design beneath the same in polished surfaces of the

metal sheet or plate while the remaining portion of the sheet has the so-called satin finish. The effect is very similar to etching excepting that there is no portion of the surface eaten away as by etching.

The means for carrying out the improved method or process is illustrated in the accompanying drawings, in which

Figure 1 is an elevation of a polished metal sheet or plate to be ornamented by the improved method or process;

Fig. 2, a similar view of the mask or stencil having the design or ornamentation etched or cut therein;

Fig. 3, a sectional view showing the mask upon the metal sheet or plate to be ornamented;

Fig. 4, an elevation of the metal sheet or plate with the ornamentation or design of the mask or stencil produced thereon by varnish or other coating covering portions of the surface to be ornamented; and

Fig. 5, a similar view showing the ornamented metal surface with the ornamentation or design shown in polished portions of the surface and the background or remainder of the surface having the satin finish.

Similar numerals refer to similar parts throughout the drawings.

Recently metal sheets or plates, particularly stainless or rustless steels and irons, have come into great favor for ornamenting not only the exteriors of office buildings and the like but also the interiors thereof, particularly for lobbies, elevator entrances and the like of office buildings, hotels, apartment houses and other structures, taking the place of stone, wood and other materials commonly used for such purposes.

Ornamental panels and the like of metal, particularly stainless or rustless steel or iron, are being used especially for such interior decorations, the panels being ornamented by etching, which is a very costly and tedious process.

The present invention contemplates a method or process for ornamenting stainless or rustless steel or iron sheets and plates or other metallic surfaces to produce an effect

similar to etching but at only a fraction of the cost and labor required for etching.

The improved method or process may be carried out by first polishing the metallic surface to be ornamented as indicated at 10 in Fig. 1. A mask or stencil is then provided, being formed from a sheet of copper or other material as indicated at 11 in Figs. 2 and 3, this mask or stencil being of the same size and shape as the metal surface to be ornamented. The design or ornamentation to be produced is cut, etched or otherwise removed from the sheet forming the mask or stencil as indicated at 12 in Figs. 2 and 3.

This mask or stencil is then placed upon the polished metal surface to be ornamented, entirely covering said surface excepting for the openings in the mask representing the design.

A liquid coating which hardens upon drying, such as paint, enamel, shellac or varnish, preferably containing or having a bakelite base, is then sprayed or otherwise applied to the exposed portions of the polished metal surface through the openings 12 in the mask or stencil, producing the design in varnish or other coating upon the polished metal surface as indicated at 13 in Fig. 4.

After the mask is removed the metal sheet or plate with the varnish or other coating design thereon, as shown in Fig. 4, is then placed in a furnace or oven and the varnish baked and hardened thereon. To obtain the best results this process may be repeated, preferably three coats of varnish or other coating being thus applied to identically the same portions of the metal surface by replacing the mask in the exact position upon the metal surface and again spraying or otherwise applying the varnish to the exposed portions of the surface to be ornamented, each coating of varnish or the like being baked before the next coat is applied.

The metal surface with the baked varnish, or other coating, design thereon is then subjected to a light abrasive action which is preferably produced by means of what is commonly known in the steel trade as a Tampico brush, this being a rotary brush formed of Tampico fiber which is obtained from a Mexican jalap plant.

The exposed surfaces of the metal sheet, that is those not covered by the baked coating or varnish or the like, are slightly abraded by the action of this brush, producing a very beautiful satin finish, although the brush has no effect at all upon the coating of baked varnish or the like, covering the portions of the sheet which produce the design or ornamentation.

To produce the most desirable results, the metallic surface is preferably given about twelve passes beneath the brush, after which the baked varnish, or other coating 13 is removed from the covered portions of the metal

surface by varnish remover or the like, leaving the design upon the surface in polished areas as indicated at 14 in Fig. 5, the remaining portion of the metal surface having the satin finish as indicated at 15 in said figure.

The metal surface thus ornamented by the improved method or process has an appearance very similar to etching but, as will be obvious from the above, is produced at only a very small fraction of the cost and labor required for etching the same design or ornamentation upon a metal surface.

By actual experience it has been found that the ornamentation or design can be applied to a metal surface by the improved method or process, to which the invention pertains, for about fifteen per cent of the cost and labor required for etching.

The same mask may be used over innumerable times to produce the identical ornamentation upon any desired number of metal sheets, plates or surfaces, the ornamentation upon all of the surfaces being of course identical.

I claim:

1. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to an abrasive action, and then removing the coating from the surface.

2. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to an abrasive action, and then removing the coating from the surface.

3. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to the action of a brush, and then removing the coating from the surface.

4. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to the action of a brush, and then removing the coating from the surface.

portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to an abrasive action, and then removing the coating from the surface.

12. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, spraying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to the action of a brush, and then removing the coating from the surface.

13. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, spraying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to the action of a rotary brush, and then removing the coating from the surface.

14. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, spraying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to the action of a fiber brush, and then removing the coating from the surface.

15. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, spraying a liquid coating which hardens upon drying upon the portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to the action of a Tampico brush, and then removing the coating from the surface.

16. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying and containing bakelite upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to an abrasive action, and then removing the coating from the surface.

17. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying and containing bakelite upon the portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to the action

of a brush, and then removing the coating from the surface.

18. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying and containing bakelite upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to the action of a rotary brush, and then removing the coating from the surface.

19. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying and containing bakelite upon the portions of the metal surface exposed through the openings in the mask, removing the mask, drying the coating, subjecting the surface to the action of a fiber brush, and then removing the coating from the surface.

20. The method of decorating metal surfaces which consists in placing a mask, having openings therein, upon a polished metal surface to be decorated, applying a liquid coating which hardens upon drying and containing bakelite upon the portions of the metal surface exposed through the openings in the mask, removing the mask, baking the coating, subjecting the surface to the action of a Tampico brush, and then removing the coating from the surface.

In testimony that I claim the above, I have hereunto subscribed my name.

UMBERTO D'ATRI.

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