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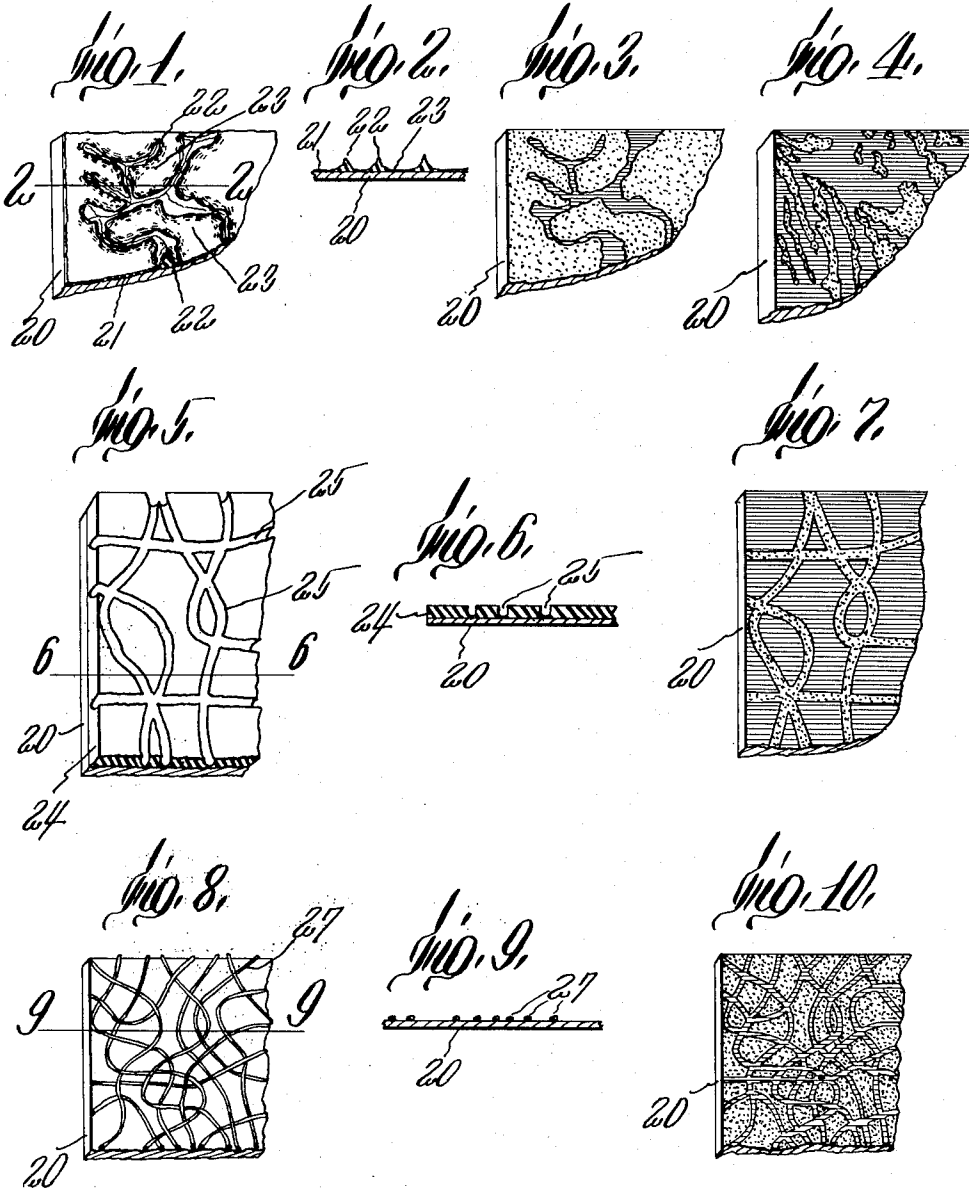
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2,016,092

METHOD OF ORNAMENTING SURFACES BY A SAND BLAST

Filed Aug. 14, 1934

2 Sheets-Sheet 1



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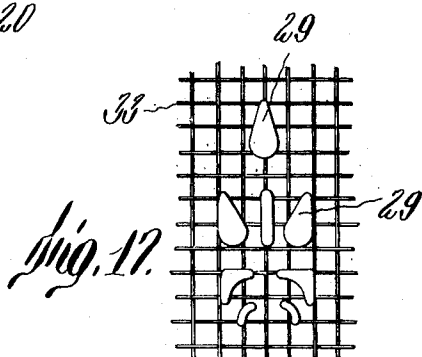
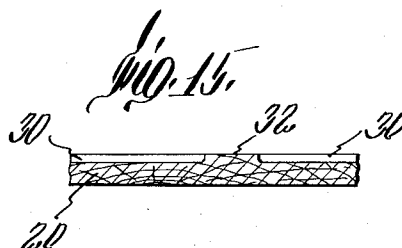
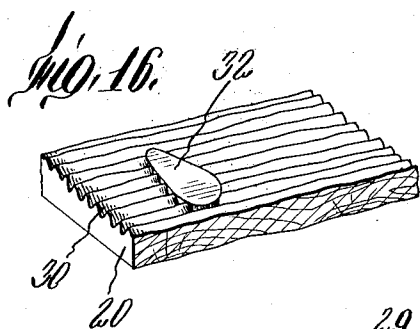
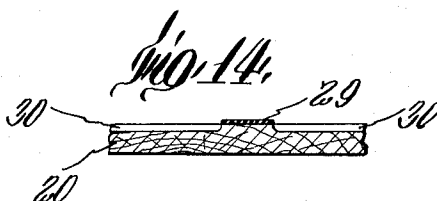
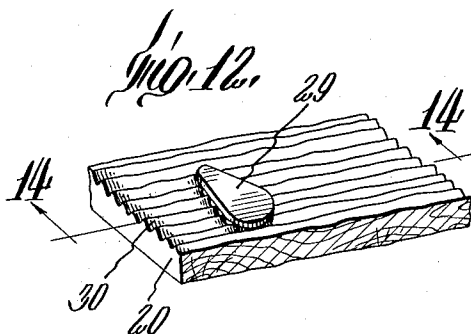
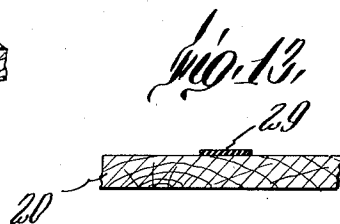
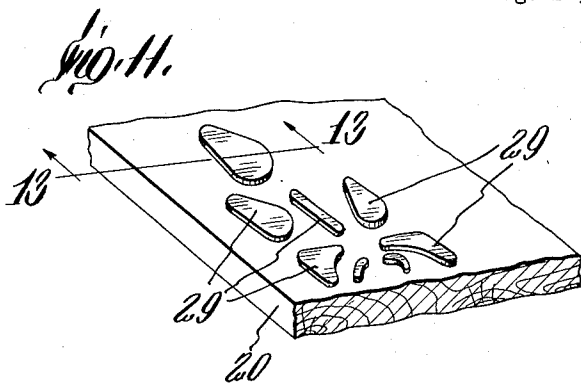
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2,016,092

METHOD OF ORNAMENTING SURFACES BY A SAND BLAST

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,016,092

METHOD OF ORNAMENTING SURFACES BY
A SAND BLAST

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Application August 14, 1934, Serial No. 739,757

6 Claims. (Cl. 41—39)

The object of this invention is to provide an improved method of producing a design on a surface which may be a surface of a metal body in sheet or plate form, or of an encaustic tile, or of a body of wood, or of any other body the nature of which is such that its surface may be abraded by the well known action of a sand blast to distinguish portions of it from other portions protected against sand blast action, and thus produce a permanent design, the method being of such nature that many designs may be produced.

One aspect of the invention involves the application to a surface to be ornamented, of rubber latex which is plastic and adherent to the surface and resistant to a sand blast, the fashioning of protecting portions to cause it to protect portions of said surface and leave other portions unprotected, said unprotected portions being arranged to characterize a design to be imparted to the surface by a sand blast, the application of a sand blast to said surface to impart thereto the design characterized by the unprotected portions of the surface, and the removal of the material from the surface after the action of the sand blast.

Another aspect of the invention involves the application to a surface to be ornamented, of a coating of rubber latex, the fashioning of said coating to form thereon protecting portions sufficiently thick to protect portions of said surface, and surface-exposing portions alternating with said protecting portions and exposing other portions of said surface to sand blast action, said exposing portions being formed to characterize the design to be imparted to the surface by a sand blast, the application of a sand blast to the coating to impart the design to said surface, and the removal of the coating from the surface after the action of the sand blast, the nature of the protecting material being in all cases such that it can be easily removed from the surface, and does not stain a polished surface portion from which it is removed.

Other aspects of the invention will be understood from the following description.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a perspective plan view of a portion of a body prepared for ornamentation in accordance with one aspect of the invention.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 shows the body portion shown by Figure 1 after the completion of the design and the removal of the coating.

Figure 4 is a perspective view of a portion of a body ornamented in accordance with the aspect of the invention shown by Figures 1, 2 and 3.

Figure 5 is a perspective view of a portion of a body prepared for ornamentation in a manner somewhat different from that shown by Figures 1, 2, 3 and 4.

Figure 6 is a section on line 6—6 of Figure 5.

Figure 7 shows the body portion shown by Figure 5 after the completion of the design and the removal of the coating.

Figure 8 is a perspective view of a portion of a body prepared for ornamentation in accordance with another aspect of the invention.

Figure 9 is a section on line 9—9 of Figure 8.

Figure 10 shows the body portion shown by Figure 8 after the completion of the design and the removal of the elongated protecting members.

Figure 11 is a perspective view of a portion of a body prepared for ornamentation in accordance with another aspect of the invention.

Figure 12 shows a part of the body portion shown by Figure 11 after the application of the sand blast and before the removal of the protecting material.

Figure 13 is a section on line 13—13, Figure 11.

Figure 14 is a section on line 14—14 of Figure 12.

Figure 15 shows the part of the body portion shown by Figure 12 after the removal of the protecting material.

Figure 16 shows in perspective the part of the body portion shown by Figure 15.

Figure 17 shows a portion of a lace-like stencil and design-modifying patches applied thereto.

The same reference characters indicate the same parts in all of the figures.

In Figs. 1 to 16 of the drawings 20 designates a body having a surface to be ornamented, said body being of any suitable material. As shown by Figure 1, the body may be a metal sheet or plate and the surface to be ornamented may be polished.

In carrying out the aspect of the invention shown by Figure 1, I apply to the surface to be ornamented an adhesive putty-like coating 21 composed of an adhesive plastic material adherent to the surface to be ornamented, resistant to a sand blast, and capable of being fashioned as indicated in the opening portions of this specification. The material includes the aqueous dispersion of rubber known as latex, and whiting, starch, or other soft material mixed with the la-

tex in sufficient quantity to provide a material the qualities of desirable consistency, plasticity and tensile strength, these qualities resembling those of putty. A mixture of approximately sixty per cent of latex, preferably that known by the trade as "seventy per cent latex compound" and forty per cent of the powdered inert material (by measure), constitutes a suitable material, particularly if it is to be applied through a stencil.

A small quantity of liquid glue is sometimes desirable as a diluent. When glue is employed, the proportions by measure may be latex, fifty-five per cent, powdered inert material, thirty-five per cent, and liquid glue, ten per cent. While the glue somewhat hardens the mixture, the hardening is not objectionable.

I may vary the proportions of the ingredients of the material in any way suitable to produce a material which has the qualities and capabilities hereinbefore mentioned; said material may include only latex, if desired. While the mixture of latex and powdered material above described is preferred by me, I do not limit myself to said mixture. The protective material applied to the surface to be ornamented may be entirely of latex if desired.

In the aspect of the invention shown by Figures 1 to 4, inclusive, the coating 21 is fashioned to provide it with surface protecting portions or ridges 22 which are sufficiently thick to protect portions of the surface of the body 20 against the action of a sand blast, and surface exposing portions 23 alternating with the portions 22 and exposing other portions of the surface to sand blast action, the exposing portions being formed to characterize the design to be imparted to the surface of the body 20 by a sand blast. The exposing portions 23 may be films of the material which are so thin that they are readily removed by the sand blast.

When the body and coating are conditioned as shown by Figures 1 and 2, a sand blast is applied and imparts a design to the surface portions of the body under the exposing portions 23. The portions of Figure 3 indicated by longitudinal shade lines are those protected from the sand blast, while the portions indicated by stippling are those acted on by the sand blast.

The portions 22 and 23 of the coating may be formed by dipping a sponge in the plastic material and tapping the saturated surface of the sponge lightly against the surface of the body 20. An operator after suitable practice can quickly fashion on the body 20 a coating layer having a wide variety of designs. The material may be applied by first applying it with a brush to the surface of the body 20 to form a coating of suitable thickness and then rolling on the coating a cloth or a sheet of paper crumpled to form an approximately cylindrical roll having in its periphery numerous recesses adapted to leave relatively thick protecting portions 22 on the body surface and surface exposing portions 23 alternating with the portions 22.

The material may be spattered onto the body surface by a brush operated by hand to deposit surface protecting portions alternating with surface exposing portions, a design being produced by the sand blast action on the coating portions.

The body 20 shown by Figure 4 may be a sheet of glass or an encaustic tile. The glazed outer surface of the body may be ornamented in the manner shown and described with reference to Figures 1, 2 and 3, portions of the glazed or glossy surface covered by the protecting portions of the

coating retaining their gloss, while the portions under the exposing portions of the coating are abraded and more or less indented and roughened by the sand blast.

Figures 5 and 6 show a coating layer 24 on the body 20, said coating being thicker than the portions 23 of the coating shown by Figures 1 and 2, and adapted to protect the portions of the body surface which it covers. The coating in this example is provided with grooves 25 which are deep enough to permit the sand blast to act on the portions of the body surface under the grooves, and thus form a design such as that indicated by stippling in Figure 7. The grooves may have any arrangement that the fancy of the maker thereof may dictate, and may be made by any suitable tool, whether sharp or blunt, and single or multiple, as in a garden rake, a small weeder, or a comb.

The consistency of the material is preferably such that it may be extruded by a paint gun to form attenuated elongated members or threads 27, which may be arranged to constitute a net work on the body surface, as shown by Figure 8, the surface not covered by said members being exposed to the sand blast action. When the members 27 are removed after the sand blasting, the body surface will have the design shown by Figure 10. A paint spray gun may be used instead of a hand operated brush to spatter the material upon the body surface.

Figures 11 to 16 illustrate another aspect of the invention in which the body 20 may be of wood. To the surface to be ornamented I apply protecting members or patches 29 composed of the material previously described, and formed to collectively characterize a design to be imparted to said surface by a sand blast. Other portions of the body are left bare and unprotected. When a sand blast is applied, the unprotected portions of the body are worn away in such manner as to form grooves 30 parallel with the grain of the wood. The portions protected by the members 29 form smooth surface areas 32 (Figure 16), which are substantially flush with the angles formed by the sides of the grooves 30, and retain the color and finish of the material of the body.

The patches 29 may be superposed on, and adhesively united to a lace-like stencil 33 (Figure 7), which may be composed of latex-coated lace, or of latex only, as described by my Patent No. 1,954,672, dated April 10, 1934, said patches and stencil modifying a design imparted by a sand blast through the stencil to a surface on which the stencil is placed.

To retard the drying of the protective material, I may add a small percentage of glycerine to the mixture, preferably two per cent by measure.

The coating, whether applied in a layer or in spaced apart members or patches 29, or threads 27, possesses sufficient tensile strength to enable it to be readily stripped or peeled from the body 20 without leaving any traces of the protecting material on the body surface.

I claim:

1. That improvement in the method of surface ornamentation which consists in applying to a surface to be ornamented a plastic putty-like mixture adherent to said surface and resistant to a sand blast, said mixture including rubber latex and an inert powdered material imparting suitable body to the mixture, distributing the mixture to cause it to protect portions of said surface against a sand blast, and leave other portions unprotected, applying a sand blast to impart to

said surface a design characterized by the unprotected portions thereof, and finally removing the protecting portions of said mixture, the latex imparting sufficient tensile strength to the mixture to permit the stripping or peeling of the protecting portions from said surface without leaving any of the mixture thereon.

2. That improvement in the method of surface ornamentation which consists in applying to a surface to be ornamented a coating composed of a plastic putty-like mixture adherent to said surface and resistant to a sand blast, said mixture including rubber latex and an inert powdered material imparting suitable body to said coating, fashioning the outer surface of said coating to cause portions of the coating to protect portions of said surface against a sand blast, and leave other portions unprotected, applying a sand blast to impart to said surface a design characterized by the unprotected portions thereof, and finally removing the protecting portions of said coating, the latex imparting sufficient tensile strength to the coating mixture to permit the stripping or peeling of the protecting portions of the coating from said surface without leaving any of the mixture thereon.

3. That improvement in the method of surface ornamentation which consists in applying to a surface to be ornamented a plastic putty-like extrudable mixture adherent to said surface and resistant to a sand blast, said mixture including rubber latex and an inert powdered material imparting a suitable body to the mixture, extruding said mixture in the form of a fine cord or thread approximately a thirty-second of an inch in diameter, and disposing the extruded cord or thread in irregular lines crossing each other on said surface and protecting portions thereof, leaving other portions unprotected, the protected surface portions characterizing a design to be imparted to said surface, applying a sand blast to impart to said surface a design characterized by the protected portions thereof and finally removing the cord or thread from said surface, the latex imparting sufficient tensile strength to the cord or thread, and sufficient resistance to a sand blast to permit the cord or thread to not only resist the sand blast, but also to be stripped or peeled from said surface without leaving any of its material thereon, when the cord or thread has a diameter of approximately a thirty-second of an inch.

4. That improvement in the method of surface ornamentation which consists in applying to a surface to be ornamented a plastic protective coating adherent to said surface and resistant to a sand blast, said coating being composed

wholly or chiefly of rubber latex, distributing said coating to cause it to protect portions of said surface against a sand blast and leave other portions unprotected, applying a sand blast to impart to said surface a design characterized by the unprotected portions thereof, and finally removing the protecting portions of said coating, the deposited coating comprising the rubber solids of said latex and deriving from said rubber solids sufficient tensile strength to permit the stripping or peeling of the protecting portions thereof from said surface substantially without leaving any residual coating thereon.

5. That improvement in the method of surface ornamentation which consists in applying to a surface to be ornamented a plastic protective coating adherent to said surface and resistant to a sand blast, said coating being composed wholly or chiefly of rubber latex, fashioning said coating to cause portions thereof to protect portions of said surface against a sand blast and leave other portions unprotected, applying a sand blast to impart to said surface a design characterized by the unprotected portions thereof, and finally removing the protecting portions of said coating, the deposited coating comprising the rubber solids of said latex, and deriving from said rubber solids sufficient tensile strength to permit the stripping or peeling of the protecting portions thereof from said surface substantially without leaving any residual coating thereon.

6. That improvement in the method of surface ornamentation which consists in applying to a surface to be ornamented a plastic protective extrudable substance adherent to said surface and resistant to a sand blast, said substance being composed wholly or chiefly of rubber latex, extruding said substance in the form of a fine or attenuated cord or thread, and disposing the latter in irregular lines crossing each other on said surface and protecting portions thereof, leaving other portions unprotected, the protected surface portions characterizing a design to be imparted to said surface, applying a sand blast to impart to said surface a design characterized by the protected portions thereof, and finally removing the cord or thread from said surface, the rubber solids of said latex imparting sufficient tensile strength to the cord or thread, and sufficient resistance to a sand blast, to permit the cord or thread to not only resist the sand blast, but also to be stripped or peeled from said surface substantially without leaving any of its material thereon when the cord or thread has a thickness of approximately a thirty-second of an inch.

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