Jan. 11, 1938. L. V. CASTO 2,104,790

SYSTEM OF DERIVING DECORATIVE FINISHES ON ARTICLES OF MANUFACTURE

Filed July 31, 1935 2 Sheets-Sheet 1

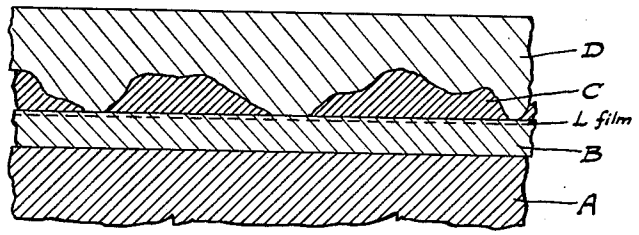


Fig. 1

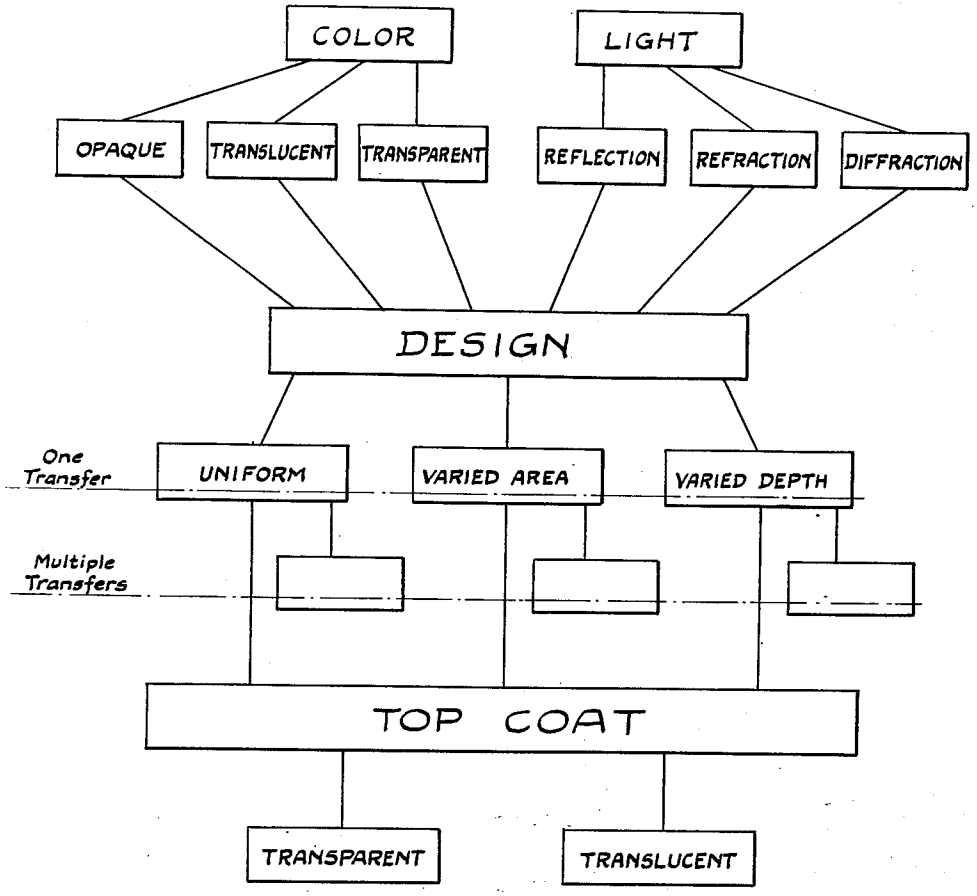


Fig. 4

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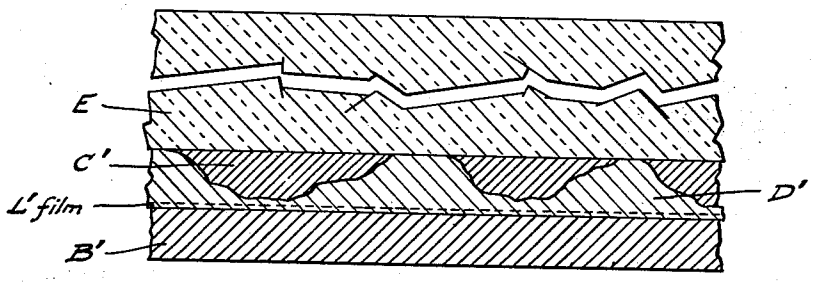


FIG. 2

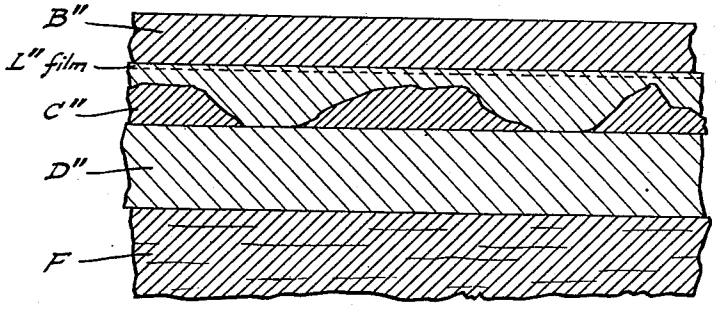


FIG. 3

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UNITED STATES PATENT OFFICE

2,104,790

SYSTEM OF DERIVING DECORATIVE FINISHES ON ARTICLES OF MANUFACTURE

Lloyd V. Casto, Detroit, Mich.

Application July 31, 1935, Serial No. 34,034

31 Claims. (Cl. 41—26)

This invention relates to a method or process of decorating surfaces and includes representation, simulation or suggestion of natural and artificial designs, particularly designs having variable degrees of luster in the surface appearance thereof including wood graining and conventional designs, and to the products of such method or process. The above indicates the general object.

As with practically all surface-decorating methods, a specific object is to faithfully reproduce natural patterns or designs with more natural optical effects or appearances than obtained heretofore.

A further specific object is to provide a less expensive process and one that may be more effectively controlled for commercial work than those previously known, by which the color and/or depth effects present in many natural articles may be more closely reproduced or simulated in a comparatively uniform manner in quantity production.

The invention is, in a sense, a modification of the process of surface decoration disclosed and claimed in my prior application, Serial No. 11,496, filed March 6th, 1935.

In common with the purposes of the invention disclosed in said application, a further specific object is to reproduce substantially accurately the peculiarly subdued pearly luster present in practically all finished natural woods, and in some marbles, tapestry, upholstery, textiles, etc., and to portray the appearance of depth and luster variations thereof.

The subdued luster appearance desired, for simulating wood, for example, is substantially identical with the well-known luster appearance observed in practically all fish scales and nacre or mother-of-pearl when the latter are subdued. This peculiar quality is present, for example, in the pore structures of practically all the finer grades of wood, such as maple, harewood, walnut, cherry, satinwood, mahogany, rosewood, oak, etc., and is most striking in woods having a ripple or wavy appearance, and is brought out largely by the varnishes and lacquers used in finishing such woods. When such coatings are used on wood they emphasize the light reflection and/or refraction when substantially transparent, as in the case of practically all so-called "natural" wood finishes, in association with the finer flake structure of the wood. It has been found that the color variations in woods are due to variations in the amount of crystallin silicates present in the wood fibres, and stained woods when sanded before finishing show the effect in varying degree.

The quality is also present (subdued) in various animal furs, usually spoken of as "glossy", heavy naps on upholstery made largely from animal fibers (as wool or silk), and the same is also present in various natural and artificial silk fabrics. It is present (unsubdued) in the plumage of many birds. It can also be produced artificially on ceramic tiles and porcelains and characterizes so-called "luster wares". The present process is useful in representing any of the above on surfaces other than those on which they naturally appear or have been produced in other arts.

The process of the above mentioned application is based principally on obtaining the peculiar luster effect mentioned by reflection, refraction and/or diffraction of light in connection with a bright or semi-bright metallic surface underlying a translucent e. g. ground coating on the decorated panel. In the practice of said process it is sometimes found that the colors of the flaked or back ground structure parts of various woods of relatively light color, such as ash, birch, maple, cherry and the lighter mahoganies, cannot be as faithfully simulated as desired, because sufficiently light graining colors to properly portray the respective hues, often will fail to sufficiently subdue the metallic luster, resulting in an undesirable appearance. If to remedy this a heavier coat is used or one less translucent, the luster may be lost altogether. In other words, in the reproduction of such light colored subjects a delicacy of balance arises which is difficult to control in commercial practice.

A further object of the present invention, therefore, is to provide a method in which such lighter colored subjects, including a fair representation of the luster effects thereof, may be reproduced or simulated and the practice thereof more effectively controlled.

The actual luster sought to be brought out in varying degrees by the present process is comparable to that now commercially produced by the use of finely comminuted natural fish scales in uniform color coatings, which coatings also have a uniform lustre appearance. This material is very expensive and has, so far as I know, been previously used only admixed throughout the ground coat, (i. e. the first layer applied to the article to be decorated; the back-ground effect over which is applied a clear lacquer or varnish). The customary procedure is to mix such natural fish scale product with the ground colored body, maintaining it in suspension therein by constant

agitation during application of the ground coat or by some other inconvenient means, so that the scale content will remain mixed with reasonable uniformity, and it has been the practice also to mix the lustre material with the finishing lacquers which are subjected to a rubbing out operation.

I have found that substitutes for comminuted natural fish scales can be produced when the same exist in the form of suspended mercurous chloride crystals and like metallic salt crystallin materials. Such materials, so far as I know, have been used only in the ground coat, and mixed throughout the body thereof as in the case of the fish scale product. Both materials are costly and their use as previously practiced as above explained is relatively expensive, and wasteful because the larger part of the material so used is merely concealed in the ground coat and other coatings, and thus the major part thereof is rendered ineffective for only the visible part of the total material is effective in imparting a lustre to the final result.

Mercurous chloride comprises (in powdered state) minute crystals, and is less costly than comminuted natural fish scales. Either may be effectively used for the lusterizing treatment in the present process.

I prefer to use the above chloride as the primary luster or lusterizing element to produce in cooperation with the other agents, as will later appear, the desired luster effects above discussed, although other metallic salts of the proper crystallin structure may be used when maintained in suspension in a suitable carrier. Other examples which may be found useful are: Stannous chloride, bismuth chloride, antimony chloride, lead and other iodides, and barium hyposulphite. Other bismuth tin and antimony salts may be used.

As one step in one modification of the process, I spray or otherwise apply the chloride or like functioning material to form a thin film thereof, on or over the ground coat or color before the design tracery or "grain" imprint or at least the final design or grain imprint (in case of multiprint e. g.) has been applied over the ground coat or color. It may be so placed by methods other than spraying and on top of any suitable overlay on the ground coat. It is important, however, that whatever method of application is employed, the carrier and the amount of lusterizer should be such that the crystals will be prevented from unduly agglomerating, and for the following reasons:

Lusterizing materials, such as the specific preferred example referred to, have an elongated crystallin formation with irregular facets which, I believe, function to bring about both diffraction and refraction of a light ray and they have a tendency to agglomerate or cluster in a relatively dense manner if not maintained separated and in suspension by a suitable carrier when applied to the surface being decorated. For instance, should a highly volatile carrier be used and the application be effected by the use of a spray gun, care must be exercised in preventing the loss of too much of the carrier through volatilization before the same reaches the surface being treated. If the spray nozzle is held too far away from the surface being treated, the lusterizer will not be held in suspension and the luster effect thereof will be either greatly decreased or completely lost. Nitrocellulose lacquers have been found to be satisfactory carriers. I have also found that for my present purposes the crystallin material comprising mercurous chloride e. g. when suspended in the carrier, in most instances should not be more than 12½% by weight, and as will specifically be pointed out hereinafter, this quantity should be further reduced when producing certain combinations of translucent and transparent colored coatings for desired effects.

I may also use the luster or lusterizing element in finely comminuted state, in the graining paste, particularly where such graining paste is more or less transparent, as will be hereinafter more fully explained.

I also propose to use the lusterizing material in connection with other light reflecting and/or refracting and/or diffracting substances in small but macroscopic particles, such as bronze or aluminum flake or powders, mica or macroscopic salt crystals (insoluble) or macroscopic prisms for modifying the luster effects. Various transparent dyes are also used and the selection thereof is determined by the general color appearance being sought and the results obtained depend upon which of the above e. g. modifying agents or combinations of the same is or are used. Bright metal flakes, such as mentioned, lend a glistening or sparkling metallic brightness, as distinguished from a pearly luster, but do not optically predominate; and mica, as well as certain crystals, can be used to produce similar effects, but without metallic appearance.

In representing marbles, granite, wood grain, etc., any of the above mentioned modifying agents may be used. In representing wood, the effect is to break up the ground color, in closer simulation of the sometimes rather prominent flake structure, appearing in the zones between the darker "grain" lines, and due, at least in part, to resinous occlusions in the fibrous body of the wood.

A further feature comprises spraying or otherwise applying the crystal carrier (or comminuted fish scale for further example) in such manner that it does not uniformly influence the ground color, but leaves patches thereof entirely uncovered by the luster element. One method of doing this is to spray the material through an open mesh screen held a short distance from the subject, the fineness of mesh and shapes of openings controlling the character and size of the patches. This, in many instances, simulates, to a fair degree, the relatively fine, flaky appearance of the pore or background structure of natural woods and the crystallin structure and/or sub-surface appearances of other natural materials.

It will be obvious that the present process contemplates color control in association with the luster producing materials, and I have found it practicable to use transparent dyes with the carrier and crystallin salts in such manner as not to modify the ground color to any great extent, while producing iridescent and opalescent effects in connection therewith. The same treatment is contemplated in connection with using the carrier and crystallin salts in transparent or translucent inks or graining pastes for producing grain effects and conventional pattern contrasts.

I can also obtain good results, by way of imitation of porous, flaky, crystallin or capillary backgrounds, etc. by using ordinary pigment material, lipochrome or mineral e. g., preferably in the form of sprayed on particles which are spaced sufficiently to be individually clearly apparent

to the eye, and of such color and/or transparency or opaqueness as will be suited to the subject being reproduced or simulated.

Mercurous chloride in solid state, or when applied in a relatively thick coating, is opaque and white, and it should be mentioned that in most instances I do not propose to apply the same or its equivalent in a film or layer of such thickness as to conceal the color of the ground coat, but only in sufficient density per given area to bring about the light refraction and diffraction desired and without unduly interfering with the color reflectivity capacity of the ground coat. Thus, in most instances, the luster element is used in a sufficiently thin film e. g. to permit the ground color to dominate the background, always modified to some extent by the luster element, but in some finishes I have used the lusterizer and carrier tinted with dyes. To more clearly illustrate the versatility of the process I have included in the present disclosure charts showing the general classifications of design results obtainable, as well as charts indicative of specific designs obtained.

In the accompanying drawings, which are by way of example only, Fig. 1 represents one modification of the procedure, wherein a suitable sheet or panel is used as a base upon which to build up the decorative treatment hereof, and the various coatings and imprints are shown in diagrammatic form overlying the base; Fig. 2 shows a transparent base panel, and the decorative treatment is on the side opposite that which is presented to view; Fig. 3 shows one manner in which the treatment may be built up on a detachable base, whereby the treatment itself is adapted to be applied to a different base and caused to adhere thereto, say in the manner of a calcomania, and Fig. 4 is a general classification chart.

In Fig. 1, A represents the upper portion of a suitable base, such as wood, paper, fabric or metal; B a ground coat or covering adhering to the base and having a suitable color quality which, in connection with the other coatings, will produce substantially the background or general underlying color of the specimen to be reproduced or simulated. If the base already has the desired texture and/or color the coating B may be omitted, or texture treatment only given the base, or color treatment only,—depending on which is lacking. In case of reproducing a special high-grade wood pattern on say a gumwood base, the base may require no treatment at all, other than the lusterizing treatment, or, on the other hand, the color only may be modified by suitable dyes.

The film e. g. of luster element (mercurous chloride and carrier) is indicated by small dots at L. This portrayal is highly diagrammatic, for, as a matter of fact, no true structural representation can be made in the drawings on account of the smallness of the luster producing particles and the dispersion thereof in the carrier. (Carrier not specifically shown). The grain or general design tracery may now be applied on top of the L film. This design effect is indicated by disconnected blocks or patches C and one or more suitable locking and/or finishing and/or leveling coats of suitable substantially transparent lacquer or varnish is or are placed over the design imprint or application as at D.

With respect to the design imprint C, this may be applied manually as with a brush or spray. It may be transparent, translucent or opaque. It invariably has a distinctive pigment or color element contrasting fairly sharply with the underlying ground effect, and in commercial practice may be applied by any known printing method, such as intaglio printing, relief printing or planographic printing, as in lithography, etc. Further, the design may be applied in as many steps as desired, with the different imprints e. g. either in or out of registration relationship with each other.

As one example, a practical and effective method of obtaining an accurate design is disclosed in the patent to J. P. Henry, No. 1,548,465, issued August 4th, 1925. This process comprises etching a suitable roll or plate by using a carbon tissue or resist exposed through a photographic film or plate bearing the light and dark contrasts and tonal effects to be reproduced. This produces a printing member to which may be applied a color having a predetermined degree of transparency as will be disclosed. After the application of the color, the plate or roll is scraped to remove excess pigment, leaving a pigment design in the etched pockets, which design is then transferred to the work to be decorated in a suitable manner. It is to be understood that other forms of printing media may be used in connection with the present process, but I have found the so-called Henry process when used in conjunction with the present process, gives very satisfactory results. Other processes than that mentioned above may be employed. For instance, the so-called "half-tone process" or any of its variations may be utilized. The printing member may likewise be such as to enable the use of a direct printing mechanism or an offset printing mechanism, the only requirement being that the result will be a true reproduction of the design in color and tonal variation of the same.

A modification previously mentioned but not illustrated consists in mixing the lustering element with the graining paste, particularly where this graining paste is substantially transparent or highly translucent. Examples of practical utility for the modification just described are: representation of animal furs, bird plumage, fish or reptile skins and various concretions (nacres, marbles, etc.) wherein the luster effect to be reproduced may be present only in the full or deeper tone portions of the subject. It may also be used to advantage in producing countless artificial designs on paper, fabric, metal, etc.

The ground coating is, of course, omitted when the base has the desired ground color complement and it may be here mentioned that usually when the present process is practiced to decorate web material, as fabric, paper, Cellophane, etc., the luster element is included in the design imprint material (corresponding to C) which is, in such case, transparent or translucent to furnish the necessary complement to the lusterizing element to give it full effect and depth. Alternatively, the lusterizing agent may be used as the ground color in the form of an opaque or nearly opaque layer, which layer may be appropriately dyed.

Referring to Fig. 2, the coatings and/or applications are made on a transparent base E, which may be glass or Celluloid e. g. The design tracery C' may be applied directly to the surface of E, which will, in use be outermost, or to any suitable, say transparent, underlay coating. The locking or leveling coat D' for the design imprint supports the lusterizing element film indicated

at L' by small dots. Such film may be applied on top of the coat D' (shown below it) and any of the aforesaid special treatments may be utilized to vary or control its effect. The "ground" coat or treatment, shown at B', is, of course, applied last, and it may be noted that this, instead of being applied as a coating of paint e. g. may comprise a suitably colored paper or other sheet or web material. In such case, instead of applying the luster element L' to the coat D', the film L' may be applied to the "ground" sheet before it is secured to the coating D' or to the design imprint and base as the case may be.

In the modification just described, the coating D' may be omitted if the transparent base is of such hue (say having an amber tinge) as will complement the lusterizing film in producing the desired luster appearance.

The ground coat and lusterizing coat may be applied to the surface of the article being decorated and thereafter the surface may be finished by the application of the design through the use of a decalcomania film.

Referring to the arrangement of Fig. 3, the entire treatment is applied in a manner substantially the reverse of that shown in Fig. 1, to a suitable sheet F, adapted to be dissolved or disintegrated say by the use of a suitable solvent, but in any event removed. The sheet may be paper, gelatin or practically any membraneous material capable of being removed without disturbing the order or arrangement of the various coatings and/or imprints.

As shown, the finish coat D'' is first applied to the sheet F. The design tracery C'' is then applied on the coat D'' and an intermediate coat of say varnish or lacquer which may contain mixed therewith the luster or lusterizing element L'' may then be applied. Alternatively the lusterizing element may be applied, as previously described to the surface of D'' opposite the base F. The whole is then covered by a ground coating or sheet B''. The ground coat may be omitted since this may not be needed, or may be applied to the surface to be decorated, as by dipping, spraying or otherwise.

The composite sheet of Fig. 3 may be applied to the surface to be decorated by causing the ground layer B'' to adhere to such surface as with a suitable adhesive; and the sheet F finally removed as by softening it with water and peeling it off, in case it is paper e. g. or by dissolving it and washing it away in case it is say gelatin.

As to the luster or lusterizing treatment in any of the above described forms, it may be stated that this may be uniform or non-uniform. Good results are obtained when this is so applied that a ripple effect is produced, that is to say, by for example, applying the lusterizing coating in alternating bands (relatively heavy and light deposits). Alternatively the luster element and its vehicle may be so applied that the luster element appears only in certain definite areas of the panel to be decorated, whether in producing artificial designs or simulating the high and low luster areas of certain finished woods e. g. (as mahogany, burl walnut, curly maple, satinwood, etc.) or wave effects in furs.

It is to be understood that the design imprint or treatment may be omitted and that means other than the application of an imprint may be used to bring out the contrasting light and dark effects to produce a design. For example, crystallin effects or wrinkled finish effects may be used to produce desired surface design contrasts.

The process also contemplates in some instances special treatment of the ground coatings,—that is to say, instead of being generally smooth, they may be rough, as pitted or wrinkled, or may have suitable treatment applied thereto, such as a deposit of crystals or flakes of any sort to break up the uniformity of color effects and flatness of surface, or a second ground coat may be applied which is variegated in cross-section or thickness by variation in spray density or the same may comprise a ground coat transfer of uneven thickness, but of predetermined arrangement or design.

In the chart shown by Fig. 4, I have attempted to illustrate the range of combinations of colors, coatings and lusterizing media which will be referred to as "L". As hereinbefore stated, the order of usage of L and its position in the coating assembly is dependent upon the particular design or appearance being simulated. L may be fish scale, metallic salts of the crystallin classification or other luster producing means in suspension in a carrier.

The base A may be metal or other construction material with or without color appearance, depending upon coatings B.

The coating B can serve as the usual ground coat, in which instance it would be opaque insofar as any color influence or light reflection capacity of the surface of the base material A is concerned. Hence, coating B would have a thin film of carrier and "L" applied over the surface thereof.

The coating B may in some instances have "L" incorporated or admixed therein in lieu of a thin film of carrier and "L".

The coating B may be transparent or translucent, may contain pigments or dyes as a color component or be clearly transparent if the base surface has the desired ground color. The coating B may also contain light reflecting media, such as metallic flakes.

The coating B and/or other coatings hereof containing "L" may operate in part by reason of a metal bright surface thereunder, as in my above identified application.

The coating C may comprise one design transfer or may comprise several design transfers in or out of register. This coating C has a color which contrasts with the underlying coatings or the light reflecting surface of the base material A. In some instances, the coating C may contain "L" and metallic flakes or only "L" or the metallic flakes. If more than one imprint is being used, only one imprint may contain "L" while the other or others may contain the metallic flakes, etc.

The finishing coating or coatings D may be clearly transparent i. e. without having as a component thereof a transparent dye or it may contain such a dye or dyes and this coating may or may not contain some "L".

In the chart shown by the drawings, Fig. 4, there is another variable introduced and by the control of which further exactness of desired reproduction or repetition of decorative effect may be obtained, and that is the control of the degree of depth or thickness of the coating comprising the design coating. While this depth or thickness variation would not be obtainable when direct or half-tone printing is utilized, nevertheless the same is practical by the use of intaglio printing, so that by following the predeterminations above indicated as to color, translucency, the use of "L" and/or flake materials and modi-

fying the results by variation in the depth of the transfer or transfers, a further practical exercisable factor becomes available in obtaining the desired results.

I claim:

1. A surface decoration, comprising a substantially opaque ground color material, a translucent film of mercurous chloride and carrier therefor, overlying the ground color but unmixed therewith and through which the ground color is visible and a substantially transparent finishing coat overlying said film.

2. A surface decoration, comprising a substantially opaque ground color material, a colored film of material comprising mercurous chloride overlying the ground color but unmixed therewith and through which the ground color is visible and a colored translucent finishing coat overlying said film.

3. In surface decoration, suspending microscopic non-glittering lusterizing particles in a fluid vehicle in which the particles may move freely and become uniformly dispersed and applying said vehicle and contained particles in a thin film above a base color, and then applying a translucent coating and a design having a color contrasting with the base color over said film, one after the other.

4. The method of lusterizing decorative coatings built up on a highly reflective ground color surface, and including a contrasting design tracery as one of the coatings, consisting of substantially uniformly distributing light-diffracting and refracting particles between such light-reflecting surface and the outer surface of the final coating, and thereby diffracting and refracting the light reflected by the ground color.

5. The method of artificially producing fiddle-back or ripple-effects in wood graining by application of a plurality of coatings to suitable bases, said coatings including a contrasting grain line figure applying a succession of streaks of uniformly lusterizing, non-glittering media of the class described as one of the coatings, said streaks extending generally transversely of the predominating directional extent of the grain lines and being in optical effect spaced from each other longitudinally of the grain lines.

6. In surface decoration, suspending microscopic non-glittering lusterizing particles in a fluid vehicle in which the particles may move freely, whereby the particles will become uniformly dispersed and coloring said vehicle and applying said vehicle and contained particles in a thin film above a base color, and then applying a transparent coating and a design having a color contrasting with the base color over said film, one after the other.

7. The method of lusterizing a decorative finish built up on a reflective ground color surface, and including a contrasting design tracery as part of the finish, consisting of substantially uniformly distributing light-diffracting and refracting particles in substantially disconnected zones between such light-reflecting surface and the outer surface of the final coating, and thereby diffracting and refracting the light reflected by the ground color.

8. The method of lusterizing a decorative finish built up on a reflective ground surface, and including a contrasting design tracery as part of the finish, consisting of substantially uniformly distributing microscopic lusterizing particles in definite zones between the light-reflecting surface and the outer surface of the final coating, and thereby breaking up the light reflected by the ground surface.

9. A decorative finish, comprising an opaque ground color layer, a layer of material of varying thickness overlying the ground color and portraying a predetermined design when contrasted with the ground coating color, said material having embodied therein light diffracting crystals, and a top layer of clear lacquer or varnish.

10. A decorative finish, comprising an opaque ground color, a layer of translucent material of varying thickness overlying the ground color and portraying a predetermined design when contrasted with the ground color, said translucent material having embodied therein light diffracting crystals, and a top layer of clear lacquer or varnish.

11. A decorative finish adapted for application on a suitable base surface, comprising a layer of material formed of a carrier having in suspension a crystallin metallic salt, the crystals of which have light refracting characteristics, the layer being of such thickness that it is substantially opaque to light rays passing toward the base surface, a superposed layer of translucent material of varying thickness portraying a predetermined design when contrasted with the layer of crystallin material, and a top layer of transparent lacquer or varnish.

12. A decorative finish adapted for application on a suitable base surface, comprising a layer of material having suspended therein a crystalline metallic salt, the crystals of which have light diffracting characteristics, the layer being of such thickness that it is substantially opaque to light rays passing toward the base surface, a superposed layer of translucent material of varying thickness portraying a predetermined design when contrasted with the layer of crystalline material, and a top coating of substantially transparent lacquer or varnish.

13. A decorative finish adapted for application on a suitable base surface, comprising a layer of color material having suspended therein a crystalline metallic salt, the crystals of which have light diffracting and refracting characteristics, the layer being of such thickness that it is substantially opaque to light rays passing toward the base surface, a superposed layer of translucent material of varying thickness portraying a predetermined design when contrasted with the layer of crystalline material, and a top coating of substantially transparent lacquer or varnish.

14. A decorative finish adapted for application on a suitable base surface, comprising a layer of color material having suspended therein a crystalline metallic salt, the crystals of which have light diffracting characteristics, the layer being of such thickness that it is substantially opaque to light rays passing toward the base surface, a superposed layer of material of varying thickness portraying a predetermined design when contrasted with the layer of crystalline material, and a top coating of substantially transparent colored lacquer or varnish.

15. A decorative treatment comprising a colored ground layer, having thereover a substantially transparent finishing layer whereby the ground color is visible through the finishing layer, and a film of material between said layers comprising a carrier having mixed therein a crystallin metallic salt, the film being wholly unmixed with both said layers and of such thickness that the ground color is visible through said film, whereby a sub-

dued luster effect is imparted to the ground color.

16. A decorative treatment comprising a colored ground layer, having thereover a colored transparent finishing layer, whereby the ground color is visible through the finishing layer, and a film of material between said layers comprising a colored carrier having mixed therein a crystallin metallic salt, the film being wholly unmixed with both said layers and of such thickness that the ground color is visible through said film, whereby a subdued luster effect is imparted to the ground color.

17. A decorative treatment, comprising a colored ground layer, having thereover a translucent finishing layer, and a film of material comprising a carrier having mixed therein a crystallin metallic salt, the materials of the film adhering to one of said layers, but unmixed therewith, the film being of such thickness that the ground color is visible through said film, whereby a subdued luster effect is imparted to the ground color.

18. A decorative treatment for surfaces, comprising a colored ground layer and a substantially transparent finishing layer in superposed relation to the surface to be decorated, an interposed thin film of lusterizing material between said layers, wholly unmixed with the ground layer, the film comprising a suitable colored carrier bonded to one of said layers, said carrier having mixed therein a crystallin metallic salt which imparts to the ground color when viewed through the finishing layer the characteristic luster effect of colored mother-of-pearl.

19. A decorative treatment for surfaces, comprising a colored ground layer and a translucent finishing layer in superposed relation to the surface to be decorated, and an interposed thin film of colored lusterizing material between said layers wholly unmixed with the ground layer and the finishing layer, the film comprising a suitable carrier bonded to the ground layer material and the translucent finishing material and having mixed therein minute non-glittering light diffracting crystals which impart to the ground color when viewed through the finishing layer the characteristic luster effect of colored mother-of-pearl.

20. A decorative treatment for surfaces, comprising a colored ground layer and a substantially transparent finishing layer, in superposed relation to the surface to be decorated, and an interposed thin film of lusterizing material between said layers wholly unmixed with the ground layer, the film comprising a suitable carrier bonded to the ground layer material and the substantially transparent finishing layer and the carrier having mixed therein minute non-glittering light reflecting crystals which impart to the ground color when viewed through the finishing layer a luster effect.

21. A decorative treatment for surfaces, comprising a colored ground layer and a colored substantially transparent finishing layer, in superposed relation to the surface to be decorated, and an interposed thin film of lusterizing material between said layers wholly unmixed with the ground layer and the finishing layer, the film comprising a suitable colored carrier bonded to the ground layer material and the transparent finishing layer and the carrier having mixed therein minute non-glittering light reflecting and diffracting crystals which impart to the ground color when viewed through the finishing layer a luster effect.

22. A decorative treatment for surfaces, comprising the application of a translucent ground layer and a substantially transparent finishing layer in superposed relation over a metal bright surface and an interposed thin film of lusterizing material between said layers, the film comprising a suitable carrier having mixed therein minute faceted non-glittering particles which impart to the ground color when viewed through the finishing layer a luster effect.

23. A decalcomania transfer, comprising a ground color having thereover a transparent finish layer so that the ground color is visible through the finish layer, a thin film of material adjacent one of said layers and through which the ground color subsequently is visible, said film containing non-glittering lusterizing particles substantially uniformly distributed therethrough.

24. In a decorative treatment, comprising a ground color layer, a contrasting pigment design tracery, and a translucent finishing layer overlying a base in the order mentioned, a crystallin metallic salt in suspension in a carrier which is sufficiently translucent so that it does not change materially the color value of the ground, said carrier being bonded to one of said layers.

25. In a decorative treatment, comprising a ground color layer, contrasting pigment design tracery layer, and a translucent finishing layer in superposed relation to a base in the order mentioned, a non-glittering film of uniformly lusterizing material between two of said layers sufficiently translucent so as not to change materially the color value of pigment material which it overlies.

26. In a decorative finish comprising a reflective ground color, a contrasting design tracery, and a substantially transparent finish layer, minute, lustering particles uniformly distributed in definite spaced zones between the light-reflecting surface and the outer surface of the finish.

27. A decorative finish adapted for application on a suitable base surface, comprising a layer formed of a vehicle having suspended therein minute lusterizing particles in sufficient proportion to render the layer continuously oqaque to light rays passing toward the base surface, a layer of material of varying opacity portraying a predetermined design, and a top layer of substantially transparent protective material.

28. A surface decoration, comprising a base color coat, a film overlying said coat comprising lusterizing particles of mercurous chloride uniformly dispersed in a colored vehicle, and a design layer having a color contrasting with the base color, lying on top of said film.

29. In the method of obtaining a decorative surface, comprising the application over a ground color of a contrasting pigment design tracery, and a substantially transparent finishing coat in the order mentioned, the step of applying, between the said substantially transparent coat and ground color, a substantially continuous film of lusterizing material characterized by the absence of sparkle and glint, and sufficiently translucent so as not to change materially the color value of the ground.

30. A decorative finish comprising superimposed layers, one of which supports an open design tracery, one layer including microscopic crystalline particles in sufficient quantity to ef-

fect an iridescent lusterous but non-glittering appearance, and one layer including macroscopic faceted particles having a pronounced reflective quality, whereby to impart a flaky appearance to the finish.

31. A decorative finish, comprising a ground color layer, a non-uniform layer containing pigment contrasting in operative effect with the ground color, a substantially transparent protective layer overlying the design, and a film adjacent one of said layers, thinner than the layer to which adjacent, said film containing a substantially uniform dispersion of lusterizing particles characterized by the property of imparting to the finish when illuminated and viewed from various angles a substantially uniform glowing appearance over relatively large areas of the subject without appearing to sparkle at any portion of such areas.

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