Feb. 19, 1935. L. BAKKER 1,991,996

PROCESS FOR ORNAMENTING SURFACES WITH A RELIEF PATTERN

Filed Aug. 24, 1933

FIG. 1

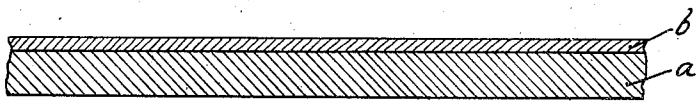


FIG. 2

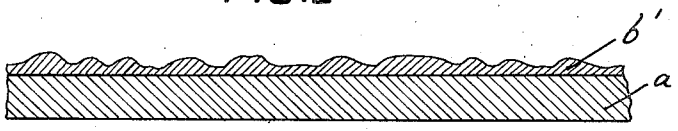


FIG. 3

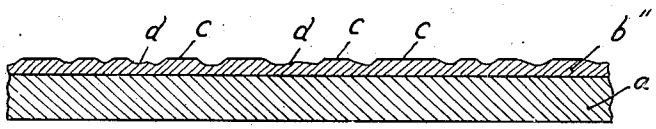
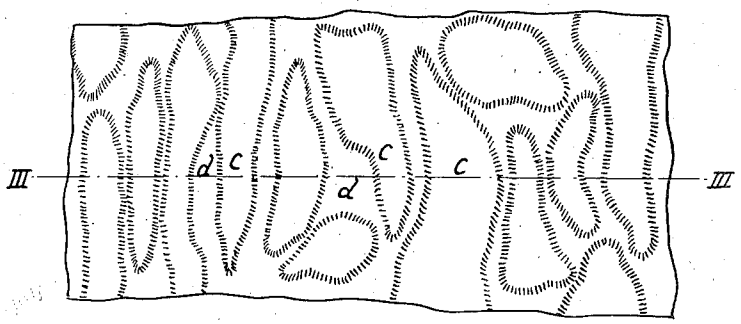


FIG. 4



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Patented Feb. 19, 1935

1,991,996

UNITED STATES PATENT OFFICE

1,991,996

PROCESS FOR ORNAMENTING SURFACES WITH A RELIEF PATTERN

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Application August 24, 1933, Serial No. 686,567
In the Netherlands October 1, 1932

9 Claims. (Cl. 41—24)

The invention relates to a process for ornamenting surfaces with a relief pattern.

A known process for embellishing wainscoting and walls of living rooms, corridors and the like, consists in applying to the wainscoting or walls in question, by means of a priming knife or a brush, a paste or a viscous paint on which a relief design is then worked by means of a brush or any other suitable tool.

After this design has been applied, the paste layer is allowed to dry; in many cases the protruding edges are flattened by smoothing or the like. Then the desired colour effect is obtained by applying paint by means of a brush or by glazing (the application of a thin layer of paint over the whole surface and the scraping off of the paint from the protruding parts) or by painting and glazing, whereupon the work is finished by applying a coating of flat, semi-glossy or glossy varnish.

Another process is known according to which there is first of all applied to the surface to be ornamented a paste consisting of red lead or a white pigment and a binding agent, on which a relief design is then worked.

After the paste has become thoroughly hard, the projecting parts are filed off or ground off, whereupon the surface can be painted, for instance with coatings of different colours, the upper one being again removed from the ground off relief, whereby a decorative effect is obtained.

According to another process, a paste is likewise made from a pigment and a binding agent, which is applied to the surface to be ornamented in a layer of 1–2 mm. thickness; in this paste layer a relief is worked, the protruding parts are flattened down with emery paper, and a decorative effect is obtained by glazing.

The first practically applied process described above involves a number of disadvantages, for instance a large number of operations is necessary in order to produce the final result desired, and the relief requires a great difference in height if it is desired to obtain an effect of any importance. Consequently, dust and dirt can accumulate in the indentations, the cleaning is rendered extremely difficult, and when eventually alterations are made the relief painting must be removed by scraping, burning or in some other manner, because the large indentations in the work cannot be filled up in the usual manner, for instance with a trowel.

According to the present invention, these disadvantages are overcome in that first of all a sufficiently thick white or coloured coating consisting of pigment with a binding agent capable of being polished and rolled is applied by means of a brush, a spraying device, or any other suitable means, next a light relief is produced in this layer by means of a roller or by other means, which relief may, if desired, be so deep that in places the underground is visible, and after the mass has been left for a certain time to dry, the protruding parts of the relief are smoothed, whereby they assume a lustre.

In the accompanying drawing forming part hereof,

Figure 1 is a section of a wall or any object having the surface thereof covered with an initial flat coating according to the invention.

Figure 2 is a similar section showing the relief effect resulting from the passage of a roller or other tool over the coating.

Figure 3 shows in similar section, as taken on line III—III, for example of Figure 4, the appearance of the coating of Figure 2 after the protruding parts of the relief have been burnished to a polished condition.

Figure 4 is a plan view of the decorated surface member shown in section in Figure 3.

Throughout the views, the same indicia refer to the same or corresponding parts.

In the practice of my invention, a support *a* such as a wall, ceiling or other object has a coating *b* applied thereto which is of course flat as indicated in Figure 1 and tends to dry with a matt surface. When applied, a relief roller or other tool is rolled or pressed on the coating so as to produce the relief coating *b'* of Figure 2. Subsequently, the coating is burnished to polish and generally level the high spots or protruding portions as indicated in coating *b''* at *c*, *c* in Figures 3 and 4, leaving the lower parts *d*, *d* untouched by the burnishing tool.

If desired, the process may be combined with glazing or with other methods of operation. It is also possible to apply coatings of different colours together or one over the other, whereby a large variety of decorative effects can be obtained. But even if the coating consists only of a single colour, a very decorative effect is obtained by the difference between the lower parts of the relief which have remained matt and the higher parts which have assumed a lustre.

The success of the process is due to various requirements demanded of the binding agent, which are mainly expressed in the idea "polishable". A polishable binding agent is so constituted that, when mixed in correct proportion with white and/or coloured pigments, it has the property of

imparting lustre to matt paints when the almost dry surface is polished. Secondly, the binding agent should be "rollable", i. e. it must be possible to produce in the binding agent, by rolling, the desired relief design, when the said binding agent is mixed in the proper proportion with white and/or coloured pigments. A binding agent which fulfils these requirements can be made from about three parts by weight of wood oil, about two parts by weight of linseed oil, about one part by weight of resin, artificial resin or copal and the necessary quantity of drying agent and diluent. This binding agent can be mixed with any of the ordinary pigments. Any colour such as even pure white and black can be obtained with it.

The paint used for decorating a surface has a thick consistency and is applied in a moderately thick coating by means of a brush, or a spraying device, for which latter purpose the material may be diluted with benzine or other volatile diluent. Immediately after the coating has been applied a relief design is worked therein by means of a roller or other tool. The texture shows no tendency whatever to become less effective by running and dries in a short time with a matt surface. The relief is shallow so that no dust can accumulate therein. Shortly after the relief has been produced it is rubbed over with a smooth object, for instance a polishing steel whereby a lasting lustre is imparted to the higher parts showing an attractive contrast against the lower parts which are matt. One may also first of all apply a coating of a certain colour, then one or more coatings of other colours, and finally design the relief so that the lower coatings are visible at certain places. As soon as the coating in which the relief was worked is sufficiently dry it is polished with a polishing steel whereby the higher parts receive a lustre. If the relief is formed of one colour only, the contrast is based on the difference between the lustrous and matt parts, whereas, when the relief exhibits more than one colour there is also the effect of the various colours.

In contrast to the known process of ornamentation described above, the process according to the present invention offers the following advantages:—

The number of the operations is reduced to two main operations and one secondary operation which can easily be performed by unskilled labour.

By the contrast between lustrous and matt surfaces the effect of a very deep relief is obtained, whereas in actual fact the difference in depth is extremely slight, and cleaning can easily be carried out.

Nothing need be removed on the subsequent application of another ornamentation. The shallow depths can easily be filled up in a single operation with a trowel-applied mass, and further work can be carried out on the surface in the usual manner.

Example

	Parts by weight
Wood oil	2000
Refined linseed oil	1400
Resin, artificial resin or hard copal, of which so much more should be taken as corresponds to the loss which ocurs in the melting	600

are heated together until the mixture has a refractive index of approximately 1.5100, and then the mixture is diluted in the usual manner with:—

2000 parts by weight of a suitable diluent, for instance turpentine, tetraline or a benzine of high boiling point or a mixture of these diluents, whereupon

	Parts by weight
Drying agent are added	218
The binding agent thus obtained	100

are mixed with:—

50–900 parts by weight of dry pigment, according to the oil absorbing capacity of the pigments used. If necessary, a small quantity of diluent may still be added.

With a little practice the correct proportion can easily be determined for each pigment or combination of pigments.

What I claim is: —

1. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste having good adhesive and cohesive qualities and capable both of being worked and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then making a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

2. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste having good adhesive and cohesive qualities and capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then making a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing the higher parts or crests of the relief in partly dry condition and thereby bringing them to a common level by means of a smoothing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

3. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste comprising a pigment and a binding agent composed of a drying oil and resinous material, said paste having good adhesive and cohesive qualities and capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then making a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by

flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

4. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste comprising a pigment and a binder composed of resinous material and wood oil and linseed oil, said paste having good adhesive and cohesive qualities and capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then making a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

5. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste composed of a pigment and a binding agent containing approximately 3 parts by weight of wood oil, 2 parts of linseed oil, one part of resinous material, together with a drying agent and one or more diluents, which paste has good adhesive and cohesive qualities and is capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then pressing a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

6. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste composed of a pigment and a binding agent containing approximately 3 parts by weight of wood oil, 2 parts of linseed oil, one part of resinous material, together with a drying agent and one or more diluents, which paste has good adhesive and cohesive qualities and is capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then rolling a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

7. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of a plastic material in the form of a paste composed of a pigment and a binding agent containing approximately 10 parts by weight of wood oil, 7 parts of linseed oil, 3 parts of resinous material, 1 part of a drying agent and 10 parts of a diluent, which paste has good adhesive and cohesive qualities and is capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then rolling a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

8. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a coating of plastic material in the form of a paste composed of fifty to nine hundred parts by weight of a pigment together with a binding agent containing about 33% of wood oil, 22% of linseed oil, 10% of resinous material 3% to 4% of drying agent and 32% to 31% of diluent, which paste has good adhesive and cohesive qualities and is capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then rolling a light relief in said coating by partly displacing portions of the same, thereafter allowing the coating to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the coating and also avoiding any filling of the spaces between the crests of said relief.

9. A process for ornamenting the surfaces of walls, ceilings and various objects, which in a combined group of steps, consists in applying to the surface to be ornamented, a basic background and upon the same a layer of a plastic material in the form of a paste comprising a pigment and a binding agent composed of wood oil, linseed oil, a resinous material, a drying agent and a diluent, which paste has good adhesive and cohesive qualities and is capable both of being worked smoothly while in a workable condition and of drying hard, and in addition, on hardening, also capable of receiving a polish of high lustre, then making a relief in said layer to such depth as to expose portions of the background in various places by partly displacing portions of the layer, thereafter allowing the layer to dry partly, and subsequently smoothing and polishing the higher parts or crests of the relief by flattening said crests in partly dry condition by means of a polishing tool while avoiding removal and loss of any of the material of the paste layer and also avoiding any filling of the spaces between the crests of said relief.

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