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SILK SCREEN PRINTING

Filed Nov. 4, 1959

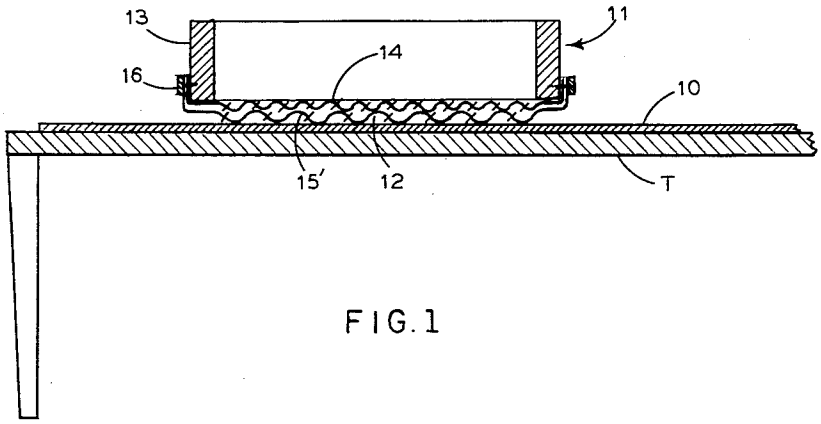


FIG. 1

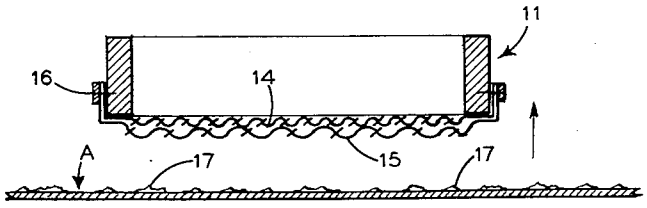


FIG. 2

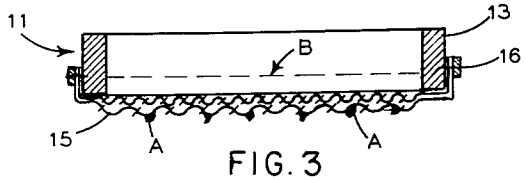


FIG. 3

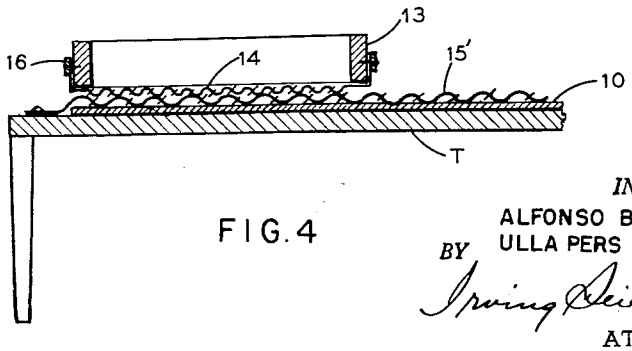


FIG. 4

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SILK SCREEN PRINTING

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This invention relates to silk screen printing; and more particularly, concerns printing in a manner to secure unique effects in the printed material.

With conventional silk screen printing, the printed material exhibits a flat effect, particularly since the color applied to a surface to be imprinted through the stencil screen, is left in an undisturbed condition while drying.

One object of this invention is to attain raised effects in silk screen printing and consequent an enhanced appearance by deliberately disturbing the freshly imprinted colors in a manner to preserve the stencil pattern while raising the pigment from the imprinted surface.

Another object of this invention is to provide an improved method of silk screen printing wherein several colors in a stencil pattern may be blended in a unique and pleasing manner.

Still another object of this invention is to provide an improved method of silk screen printing which avoids waiting while imprinted colors dry, thereby facilitating the application of repeat patterns to a surface with a substantial reduction in the time required for such operations.

Other objects of this invention will in part be obvious, and in part hereinafter pointed out.

In the drawing:

FIG. 1 is a sectional view in elevation showing the arrangement of superposed screens in accordance with the method of the invention;

FIG. 2 is a view similar to that of FIG. 1, showing the screens lifted away from the freshly imprinted surface;

FIG. 3 is a sectional view in elevation showing the screens for applying an imprint of a different color to the freshly imprinted surface.

FIG. 4 is a view similar to that of FIG. 1, showing a modified form of the invention.

In accordance with the instant invention, a surface to be imprinted, as a sheet **10** of paper, fabric, film or the like, supported on a table T, has applied thereto a composite stencil screen generally indicated at **11**, for covering an initial imprint area **12**. Screen **11** comprises the usual frame **13** over which is stretched the screen stencil fabric **14** in the conventional manner. Fabric **14** may be of silk or other suitable material, and has been previously masked to leave color pervious portions in accordance with a predetermined stencil pattern, all in a manner known in the art.

Frame **13** also carries a netting **15** suitably stretched over and in contact with stencil screen **14**. Netting **15** may be formed of nylon, metal, plastic, or the like, and may have openings of the order of about 1/32" to 1/16" in size. An elastic band **16** secured to the periphery of netting **15**, removably holds the netting on frame **13**.

With screen **11** positioned so that netting **15** is in contact with sheet **10**, color is squeegeed through stencil screen **14**, passing through the pervious portions thereof and through the openings in netting **15**, onto sheet **10**. While the applied color is still wet, composite screen **11** is lifted from imprint area **12** on sheet **10** and is relocated on the next adjacent imprint area, where the operation is repeated. Thus, the screen **11** is lifted in each case while the applied color is still wet.

It was found that the lifting of screen **11** produced a slight lifting effect in respect to the fresh color, thus raising the color material in imprint area **12** slightly from the sheet **10** as at **17**; which upon drying, gave a unique and novel color effect to the imprint as a whole.

When using the novel process with multicolor designs, it was found that superposed pattern portions of different colors resulted in a novel continuous blending action of the different colors. When a composite screen **11** for applying subsequent colors was lifted from one imprint area to the next adjacent imprint area, initial color from the first area was transferred by way of the netting **15** to the second imprint area, resulting in a blending action of the initial color carried by the netting **15** and the subsequent color forced through the screen **14**.

Thus, after a first composite screen **11** is used to apply color A in accordance with the pattern of its stencil screen **14**, to adjacent imprint areas **12**, a second composite screen having a different pattern for its stencil screen **14** is used to apply another color B to each of the imprint areas **12**.

In the use of the second composite screen, each time it is lifted from an imprint area, it will carry away on its netting **15** some color A, and when color B is sequeegeed through the screen, colors B and A will be blended, at least in portions of the stencil screen **14**.

As an alternative to mounting both stencil screen **14** and netting **15** on a single frame **13**, as previously described; the frame **13** may only carry stencil screen **14**, in the conventional manner. In this case, netting **15'** in continuous sheet form may be applied to cover the entire length of sheet **10** and held in place over sheet **10** by securing the same to the table T or other support for sheet **10**. The several screens carrying the stencil fabrics **14** for each color, are applied in successive fashion over netting **15** to repeatedly imprint sheet **10** throughout its length, all in a successive manner without delay for drying of color. The netting **15** is then lifted from the entire imprinted sheet **10**, while the colors are still wet, thereby lifting the color, in the manner previously described.

More than one netting **15** may be mounted on a single screen **11**, thereby varying the spacing of stencil screen **14** from the surface of sheet **10** and accordingly modifying the lifting effect of the wet pigment when the screen is lifted from each imprint area.

The elastic band **16** on netting **15** facilitates mounting and removing the netting with respect to frame **13**, thereby allowing the netting **15** to be washed to remove color therefrom and prepare the same for use with other stencil screens.

It is understood that the procedure herein disclosed is well adapted for use in machines which automatically place the screens in their successive imprint positions.

It is understood that the colors are formulated to leave them wet during the time intervals necessary to apply the successive composite screens **11**, to insure lift of wet color on their nettings **15**.

As various changes might be made in the embodiments of the invention without departing from the spirit thereof, it is understood that all matter herein disclosed is illustrative and not limiting except as set forth in the appended claims.

What is claimed is:

1. The method of silk screen printing comprising interposing a netting between a stencil screen and a surface to receive printing, the netting having openings larger than that of said screen, forcing dryable color through said stencil screen and netting, and lifting said stencil screen and netting away from the printed surface while said color is still wet to lift at least portions of the deposited color away from said surface.

2. The method of silk screening a sheet with multicolor stencil patterns comprising contacting adjacent imprint

areas of said sheet with a first composite screen comprising an inner stencil screen and an outer netting, applying a first color through said composite screen to each imprint area, and lifting said composite screen from each area while the color is wet, contacting each fresh imprint area with a second composite screen, applying a second color through said second composite screen to each imprint area, lifting said second composite screen from each imprint area while said first and second colors are wet whereby to transfer first color by way of the netting of said second composite screen to successive imprint areas to blend said first and second colors in at least portions of each imprint area.

3. The method of silk screen printing comprising interposing a netting between a stencil screen and a surface to be printed, forcing dryable color through said screens to imprint said surface, removing said netting and screen from the imprinted surface, the netting being lifted out of contact with the color while the color is still wet to lift at least portions of the deposited color away from said surface and to carry other portions of the deposited color away on said netting.

4. The method of silk screen printing comprising covering a surface, to be printed with repeats of a selected screen stencil in adjacent relation, with a netting covering, applying said screen stencil over a first area of said netting, forcing dryable color through said screen and netting, moving said stencil screen to another area of said netting and repeating the application of color through said screen and netting, removing said stencil screen and then lifting said netting from the entire surface while the applied color is still wet in each area to lift at least portions of the deposited color upwardly away from said surface.

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