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J. KESSEL

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METHOD FOR PRODUCING STENCILS FOR PRINTING TEXTILE FABRICS

Filed Nov. 3, 1932

Fig. 1.

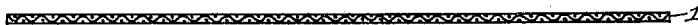


Fig. 2.

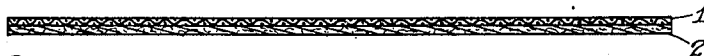


Fig. 3.



Fig. 4.

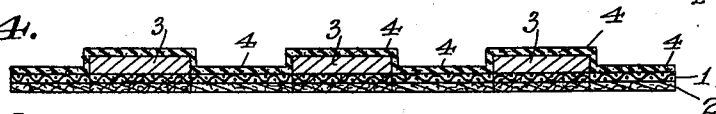


Fig. 5.

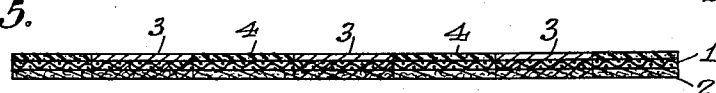


Fig. 6.

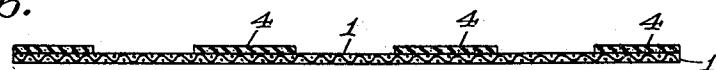


Fig. 7.

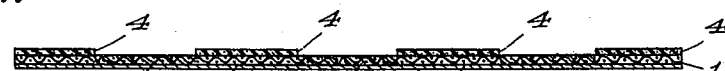


Fig. 8.

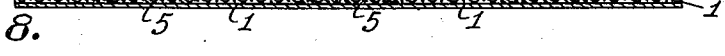
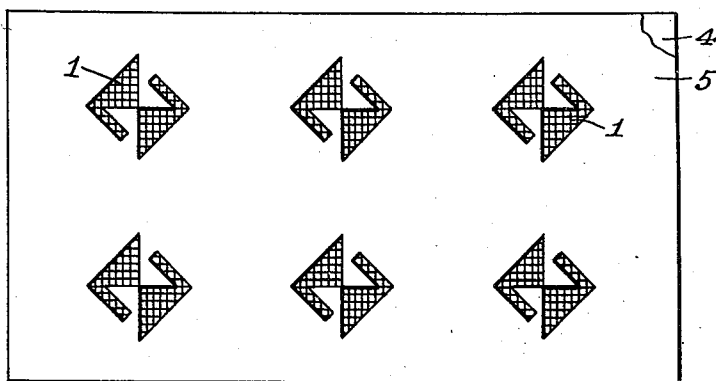
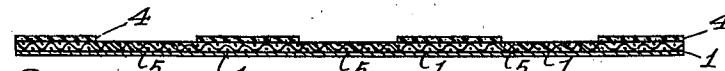


Fig. 9.



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UNITED STATES PATENT OFFICE

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METHOD FOR PRODUCING STENCILS FOR
PRINTING TEXTILE FABRICS

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In Germany November 5, 1931

1 Claim. (Cl. 41—38.5)

In the hitherto known methods for producing printing stencils for cloth printing, the pattern is painted on the plate made of gauze or metal fabric by means of water glass and, after the stencil has been rendered durable by means of a coat of paint is again washed out. This method, however, produces a pattern which is not sharp and consequently cannot be employed for fine patterns because, owing to the washing out of the water glass, the contours of the pattern become damaged or ragged so that fine lines and dots cannot be printed out at all.

It has been found that the patterns can be carried out very much smaller and therefore absolutely sharply if they are not applied directly onto the gauze but onto a soluble auxiliary coating, for example of varnish from which they are removed before the washing out. By the employment of two different auxiliary substances for producing the patterns and the consecutive removal thereof the contours of the individual pictures remain undamaged.

It is not new to make textile stencils by successively treating a surface of gauze, silk or wire fabric with varnishes soluble in water and insoluble in water. These methods have, however, not hitherto been generally introduced because in this instance the pattern is formed by dissolving the paste and consequently the contours of the pattern are likewise damaged and ragged. According to the invention the pattern is applied in relief onto the surface by means of hardening paste and a damaging of its contours is prevented by grinding off.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:—

Figs. 1 to 7 show in cross section a stencil in the different stages of production.

Fig. 8 is a cross section of the finished stencil. Fig. 9 is a top plan view of Fig. 8.

The invention consists in that on one side of the stencil support 1 consisting of gauze or the like a tough but porous auxiliary coating 2 adapted to be washed off and consisting of zinc-white bound with sulphite waste liquor is applied on to which from the unpainted side of the gauze the pattern 3 proper is applied in relief by means of an auxiliary stencil and of a paint which is viscous but capable to be washed out and which consists of the constituents of the auxiliary varnish, the zinc-white of which is preferably colored with aniline red, whereupon the side of the gauze which carries the pattern is coated with caoutchouc 4 and after the drying the raised portions are

ground off, the washable portions being then removed.

Sulphite waste liquor is a commercial product and a residue from the manufacture of cellulose, being the boiling solution from which the finished cellulose is freed.

The method is employed in the following manner:

The printing frame in which the gauze (Fig. 1) is stretched is placed on a marking table with the aid of which the position of the pattern to be prepared is accurately determined. The gauze is then coated with a soluble auxiliary coating of zinc-white bound with sulphite lye (Fig. 2), which has the property of bridging even wide meshes and consequently does not penetrate to the other side of the gauze. The penetration of the coating is prevented by the addition of sufficient zinc white. When the coating has completely dried, the pattern is applied by means of an auxiliary stencil on to the outer side of the gauze, that is on the opposite side to the auxiliary coating (Fig. 3), for which purpose a viscous likewise soluble paint is employed having a similar composition to the auxiliary coating, the zinc-white being however preferably coloured with aniline red, and this pattern enters the meshes of the gauze and penetrates the auxiliary coating with which it intimately unites. After the removal of the auxiliary stencil the pattern remains on the gauze in relief with sharp contours. The pattern must then dry completely. Whereupon the side of the gauze carrying the pattern is then coated with a varnish-like caoutchouc solution (Fig. 4) composed of one part by weight of linseed oil, one part of caoutchouc and three parts of pigments which are intermixed and adhere tightly to the gauze. The blocked out parts of the stencil are therefore protected by the coating of caoutchouc so that they are not affected during the further treatment of the stencil. When the caoutchouc coating has dried, the printing frame is submerged in water and the raised portion of the pattern ground off to the surface of the caoutchouc layer covering the gauze (Fig. 5) by friction using fine pumice stone. The auxiliary coating is then washed off from the inner side of the frame together with the remainder of the pattern paint (Fig. 6). The blocked out parts of the stencil itself remains in the caoutchouc coating with sharp contours as the varnish was applied by means of the auxiliary stencil. In order to prevent the finished stencil from becoming porous, the gauze is coated on the washed inner side with a diluted blue varnish having the composition of the caoutchouc coating

(Fig. 7), and when this blue varnish is dry, the stencil is ready for use (Figs. 8 and 9). The dilution consists of about one further component of the linseed oil.

5 I claim:—

10 A method for producing stencils for printing textile fabrics, consisting in applying to one side of a gauze forming the support of the stencil an adhesive, glutinous but porous soluble auxiliary coating composed of zinc-white bound with sulphite lye, in applying the pattern in relief to the

other side of the gauze with the aid of an auxiliary stencil, by means of a viscous likewise soluble paint having a similar composition to the auxiliary coating but whereof the zinc-white is preferably coloured with aniline red, in coating the side 5 of the gauze carrying the pattern with a caoutchouc coating, in allowing this caoutchouc coating to dry, in grinding off the raised portion of the pattern, and in removing the soluble portions from the gauze.

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