

UNITED STATES PATENT OFFICE.

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METHOD OR PROCESS OF PRODUCING DESIGNS OR ORNAMENTAL AND COLOR EFFECTS ON FABRICS.

No. 917,298.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIUS HÜBNER, a subject of the King of Great Britain, residing at Ash Villa, Cheadle Hulme, in the county of Chester, England, chemist, have invented new and useful Methods or Processes of Producing Designs or Ornamental and Color Effects on Fabrics, of which the following is a specification.

10 This invention relates to a new method or process of producing designs, or ornamental effects, or it might be both designs or ornamental and colored effects on woven fabrics.

15 The invention is particularly applicable for ornamenting cotton fabrics.

For the carrying out of my invention I treat textile materials and especially cotton fabrics with "mercerizing" agents, such as caustic soda &c. I thereafter free the fabric either partly or completely from the mercerizing agent by washing. Fabrics which have been treated with a weak solution of a mercerizing agent may if convenient be used without washing. Before the treatment with mercerizing agents the fabric may have been bleached, or the bleaching may take place after this treatment.

25 The fabric after the before described treatment and while in the wet state, is embossed or impressed practically without application of any tension on the fabric with a pattern, or with more than one pattern; or with line or other engravings in any known manner. For example the embossing or impressing may be done by means of rollers, plates, blocks or such like, and with or without the aid of heat. This embossing or impressing of the fabric should be carried out while it is still in a wet state.

40 I may dye fabrics treated in the manner already described (1) either direct or (2) by mordanting and then dyeing in the usual manner and either before or after drying. It is found that novel effects are produced by dyeing fabrics so treated.

50 Before this invention dark colored patterns on a light colored ground or vice versa have been produced by various methods and chiefly by so called "half-discharges." Now similar effects can be produced by dyeing cloth treated as before described, because I have discovered that the compressed parts exhibit less affinity for both coloring matters

and for mordants, and the difference in depth of shade is governed to a great extent by the depth of the engraved pattern, the pressure, heat &c. used. A variation in the depth of shade in various situations may therefore be produced on the fabric by a single impression with one roller, etc.

Effects may be produced by using any of the known coloring matters single or in combination such as the direct dyeing cotton colors, alizarins, basic colors, indigo, anilin black &c. &c. Further distinct effects are also produced by first mordanting or dyeing the fabric after the treatment with mercerizing agents and by subsequently embossing or impressing while the fabric is still in a wet condition. Again, colors, mordants &c. may also be applied simultaneously with the impressing of the fabric. Likewise the raised or relief parts of the impressed white or colored fabric may either before or after drying be printed &c. upon by any of the known methods with colors, discharges &c.

While the effects obtained resemble what is produced by "half discharges" they are in reality quite distinct, the compressed parts being more highly lustered, while the other parts are duller and more of a velvety appearance. The patterns produced appear therefore more pronounced than similar effects which have been obtained by any of the known methods.

As a result of the embossing or impressing treatment of the fabric in the wet state and under practically no tension, more or less pronounced effects can be produced which are very similar in appearance to woven patterns or brocade effects. It is also to be noted that the patterns produced in this manner are more resistant to the action of washing than is the case with similar patterns produced on cloth which has been dried after the treatment with mercerizing agents and previous to the embossing or impressing.

I declare that what I claim is.

1. A method or process of producing ornamental effects on textile materials consisting in embossing or impressing the fabric treated with mercerizing agents practically without tension and while the treated fabric is in a wet state in manner herein set forth.

2. A method or process of producing or-

namental effects on fabrics consisting in embossing or impressing fabrics treated with mercerizing agents practically without tension and while in a wet state and thereafter
5 dyeing the embossed or impressed fabric in manner herein described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

JULIUS HÜBNER.

Witnesses:

JOSHUA ENTWISLE,
ALFRED YATES.