

# UNITED STATES PATENT OFFICE.

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## MANUFACTURE OF DYED FABRICS.

SPECIFICATION forming part of Letters Patent No. 262,791, dated August 15, 1882.

Application filed April 22, 1882. (No specimens.)

*To all whom it may concern:*

Be it known that I, MARTIN LANDENBERGER, Jr., a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in the Manufacture of Dyed Fabrics, of which the following is a specification.

My invention relates to an improvement in the manufacture of that class of fabrics which are made of undyed woolen yarn and afterward dyed in the piece or after manufacture into different articles of wearing-apparel, the object of my invention being to obtain a greater variety of color in the pattern than is now possible.

In the manufacture of some fabrics it is a common plan to knit or weave the piece with undyed woolen yarn, or, as it is termed, yarn "in the grease," and to afterward dye the piece or the articles made therefrom.

Hitherto the only attempt to produce patterns in fabrics of this class has been by combining undyed cotton yarn or mixed yarns of undyed cotton and wool with the woolen yarn in the weaving or knitting operation, the cotton being unaffected by the subsequent operation of dyeing the wool, so that in the piece or the article of manufacture when completed the cotton threads appear white and the woolen threads colored. The range of patterns possible under this plan is necessarily very limited, and the patterns lack boldness and effect.

My invention consists in using dyed cotton yarns in connection with the undyed woolen yarns in the production of the fabric, the dye used in treating said cotton yarns being such that the latter will not be injuriously affected by the subsequent operations resorted to for dyeing the wool. I am thus enabled to produce a much greater variety of patterns than has hitherto been considered possible in the manufacture of fabrics of this class.

As illustrating my invention, I will describe a method of proceeding when it is desired to combine Turkey-red cotton with wool which is afterward to be dyed to a bronze color.

The cotton is first dyed with alizarine dye by saturating the yarn with a compound of one pound of "Turkey-red oil A" to ten pounds of water. The yarn is then dried and subjected for six or eight turns to the action of a red-liquor preparation consisting of thirty-six pounds of alum, twenty-one pounds of white sugar of lead, and twelve gallons of water, the preparation being heated to about 170° Fahrenheit. After being wrung out and dried the yarn is treated with a solution of biarseniate of soda, the yarn being given six or eight turns. The yarn is then finished in the alizarine bath, entering at 110° Fahrenheit, and the temperature being raised in an hour to 170° Fahrenheit. After leaving this bath the yarn is wrung out and given two or three turns in the Turkey-red oil solution, and is finally steamed for about two hours prior to scouring.

The wool is dyed in the usual manner by a combination of indigo, yellow, and orange dye in proper proportions to produce the required bronze shade, this dye having no effect on the cotton yarn dyed in the manner above set forth.

I claim as my invention—

As an improvement in the manufacture of figured composite fabrics of cotton and wool, the mode herein described of imparting variety to the patterns produced, said mode consisting in first imparting to cotton yarn a dye which will not be affected by the dye for the wool, combining such dyed cotton yarn with the undyed woolen yarn in the manufacture of fabric, and subsequently subjecting the fabric to the action of a dye for the wool, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

MARTIN LANDENBERGER, JR.

Witnesses:

HARRY DRURY,  
HARRY SMITH.