

UNITED STATES PATENT OFFICE.

CHARLES HENRY, OF PARIS, FRANCE.

PROCESS OF MAKING A COLD DYE.

No. 835,754.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed July 3, 1905. Serial No. 268,188.

To all whom it may concern:

Be it known that I, CHARLES HENRY, a citizen of the French Republic, and a resident of Paris, France, have invented certain new and useful Improvements in the Process of Making a Cold Varnish Dye, of which the following is a specification.

The invention relates to an improved process of making a cold dye; and it consists in the treatment of dyes of primary or combined colors to render them changeable, so that a single dye will when applied give off or produce a great variety of colors other than and including such primary color or colors.

The process is carried out in connection with any of the various kinds of organic dyes before the same has been applied to the fabric or the material to be colored.

To this end the invention consists in mixing a cold dye and sizing agent or varnish and exposing the resultant solution to the action of a reagent.

Heretofore in dyeing a fabric with a view to giving the same colors of a great variety—in other words, giving it an iridescent or changeable color effect—it has been necessary to subject the fabric to a process or processes consisting of a series of separate dyeing steps and also to other expensive and separate actions.

It is the object of this invention to avoid the expense and to save the time involved in the several processes heretofore used in the production of a dye which imparts to the fabric the desired changeable color effects in a single dyeing application.

To this end and with the aforementioned objects in view the process consists, specifically, in the following steps.

Any of the organic dyes of a primary or of a compound color are dissolved in a prepared sizing solution or varnish in proportions dependent upon the results desired and the conditions under which the dye is used. I have found by experiment that the best results have been obtained by using a varnish composed of the following ingredients, comprising the combination of two separate solutions consisting of—

Solution A.		Solution B.	
Gum lac.....	60	Glue.....	30
Colophony.....	10	Water.....	550
Ammonia.....	15	Borate of so-	
Alcohol.....	450	dium.....	10

The ingredients of the separate solutions A and B are combined in any desirable and practical manner, and the two resultant solutions are subsequently combined. The function of this varnish is to act as a sizing agent on the fabric to be dyed and as a solvent for the dye, and it will be understood that a varnish or sizing solution composed of ingredients other than those hereinbefore set forth will be considered within the scope of my invention and will perform the function necessary providing it acts as a sizing agent and as a solvent.

It is furthermore understood that by "sizing" agent is meant any such material or any such combination of materials as may be suitable for imparting a glossy or smooth finish to fabrics, preferably textile fabrics, or may have a stiffening or strengthening effect or may be useful in the fixing and holding of colors or other material desired to be incorporated with and upon the surface of any such fabric.

In order to produce the changeable or shimmering color effect on the fabric, it is necessary to act upon the prepared sizing agent or varnish with dye in solution with a chemical reagent, and I have found that this step in the process can be most effectively and cheaply realized by exposing the combined varnish-dye to the action of a reducing or oxidizing agent. I have found that the best results have been attained by exposing the solution to chlorine either in a dry gaseous or an aqueous condition. This step in the process may be carried out if the chlorine is in a dry state by the ordinary commercial expedient of applying it through the medium of perforated pipes located in the bottom of a suitable receptacle, or if the chlorine be used in an aqueous or liquid state it may be poured into the solution. The intensity of the application and the length of time to which the dye-varnish is subjected to the chlorine when in a gaseous state or the amount of this reagent used if same is to be applied in a liquid state will depend upon the degree of oxidation desired. The resultant product may be termed a "combined" dye and sizing solution or dye-varnish and is ready to be applied to the fabric or material to be colored. The dye, if now applied to the fabric, will impart to the same a great variety of different colors when viewed from different angles, the colors changing and presenting varied and

complex color schemes highly desirable in the production of certain classes of goods, the varnish serving as a sizing agent and imparting to the fabric a glazed or glossy surface, the extent of which may be determined and adjusted in accordance with the results desired.

I claim—

1. The herein-described process which consists of making a cold dye by dissolving the dye in a sizing fluid, and in subjecting the solution to the action of chlorin.

2. The herein-described process which consists in making a cold dye by mixing therewith a varnish composed of gum lac, colophony, ammonia, alcohol, glue, water and sodium borate, and in subjecting the solution to the action of chlorin.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

CHARLES HENRY.

Witnesses:

GREGOÉY PHELAN,
CH. VARTENSEN.