

UNITED STATES PATENT OFFICE.

HANS TOEPFER, OF ELBERFELD, GERMANY, ASSIGNOR TO FARBENFABRIKEN VORM.
FRIEDR. BAYER & CO., OF ELBERFELD, GERMANY, A CORPORATION OF GERMANY.

PROCESS OF FIXING COLORS.

No. 900,130.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed February 8, 1908. Serial No. 414,997.

To all whom it may concern:

Be it known that I, HANS TOEPFER, citizen of the German Empire, residing at Elberfeld, Germany, Kingdom of Prussia, have invented new and useful Improvements in Processes of Fixing Colors, of which the following is a specification.

As is known, the shades on cotton of substantive coloring matters (with the exception of sulfur dyes and vat-dyes) show the disadvantage of being not sufficiently fast against water and washing. I have now discovered that the fastness against water and washing of such shades is very much improved by treating the dyed goods with magnesium salts, stannates (preparing salts) and alkaline agents.

The following example may illustrate my invention, the parts being by weight: 100 parts of cotton are dyed in the usual way with 4 parts of benzofastscarlet 4BS, 10 parts of Glauber's salt and 2 parts of sodium carbonate and the dyed cotton is then placed for several hours into a bath (heated to 50° C.) which contains 150 grams of $MgSO_4$ in one liter. The goods are centrifugated and placed, without rinsing, into a fresh bath containing in one liter 15 cubic centimeters of $NaOH$ 34° Bé and 1½ grams of sodium stannate (preparing salt), let the goods lie in this bath for some minutes, rinse and dry. The goods might also be treated first with

the sodium stannate alkali solution and afterwards with the sulfate of magnesium solution. Neither the magnesium salt alone nor the stannate alone have any effect as far as increased fastness is concerned. The combined use of these chemicals is necessary to bring about the desired effect, but the application of the chemicals must be carried out in separate baths.

Other substantive coloring-matters, such as benzopurpurine, benzofastorange, benzofastblue etc., other magnesium salts, other stannates and other alkalies or alkaline agents may be used.

Having now described my invention and in what manner the same is to be performed, what I claim, is:

The herein-described process for improving the fastness against water and washing of dyeings obtained on vegetable fiber with substantive colors, which process consists in treating the dyed material with magnesium salts, stannates and alkaline agents, substantially as described.

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

HANS TOEPFER. [L. s.]

Witnesses:

OTTO KÖNIG,

WM. WASHINGTON BRUNSWICK.