UNITED STATES PATENT OFFICE.

OTTO MEISTER, OF ZURICH, SWITZERLAND, ASSIGNOR TO WEIDMANN SILK DYEING COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PROCESS OF PRESERVING SILK WEIGHTED WITH METAL SALTS.

991,220. Specification of Letters Patent. **Patented May 2, 1911.**

No Drawing. Application filed October 4, 1910. Serial No. 585,311.

To all whom it may concern:

Be it known that I, OTTO MEISTER, a citizen of the Republic of Switzerland, residing in Zurich, Switzerland, have invented a certain new and useful Process of Preserving Silk Weighted with Metal Salts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

It is well known that the weighting of color-dyed silk with the so-called tin-phosphate-silicate charge is accompanied by a considerable risk of reducing the strength and elasticity of the silk filaments so that the goods manufactured therefrom, especially if subjected to the influence of heat or light, but also after more or less length of time merely in storage, will become so weak and rotten that they are substantially useless. As a remedy for this, or at least to diminish the likelihood of its occurrence, it is a well-known expedient to treat the tin-weighted silk with rhodan compounds. This treatment, however, involves the disadvantage that, on account of an exceedingly sensitive ferri-rhodan reaction, the silk is exposed to the danger of discoloration in the form of a reddish tinge due to slight traces of iron.

It has been proposed to avoid the disadvantage alluded to by replacing the rhodan ammonium by its isomer, sulfoharnstoff (thiocarbamid), a substance which, having the same composition as rhodan ammonium, can readily be converted from the latter under the influence of heat and quite as readily reconverted to its original form. But this substance, like hydrochinon or hydrochinonsulfonic acid, also heretofore suggested, is too expensive.

My new process has for its purpose to give to the weighted silk the property of more effectively resisting deterioration, in storage and in use, due to the influences of light, air and humidity, without detracting from the feel and luster of the silk or making it sensitive to iron, with accompanying reddish tinge.

The improved process consists in treating the silk with aldehydes, say, aldehydes of the monohydric alcohols, or with compounds containing the same, for instance, the compound of an aldehyde with bisulfite or with ammonia. The aldehyde (for instance, formaldehyde sodium-bisulfite), from 1 to 5% thereof being used, may be added either to the final wash or in the earlier stages of the mordanting or dyeing processes, although it is to be understood that good results may be obtained without strict adherence to this procedure; for instance, the aldehyde may be applied at any stage of the mordanting and dyeing process, or to the silk threads or even to the goods after the process of manufacturing the same is completed.

I claim:

1. In the art of weighting silk by the use of metal salts, the process of preserving the silk which consists in treating the same with an aldehyde of a monohydric alcohol, substantially as described.

2. In the art of weighting silk by the use of metal salts, the process of preserving the silk which consists in treating the same with a compound containing an aldehyde of a monohydric alcohol, substantially as described.

3. In the art of weighting silk by the use of metal salts, the process of preserving the silk which consists in treating the same with a compound of an aldehyde of a monohydric alcohol and a bisulfite, substantially as described.

4. In the art of weighting silk by the use of metal salts, the process of preserving the silk which consists in treating the same with an aldehyde, substantially as described.

In testimony whereof, I have hereunto set my hand this 20th day of September, 1910.

OTTO MEISTER.

Witnesses:
EMIL MEISTER,
JULIUS JÄGGLI.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."