

UNITED STATES PATENT OFFICE.

FRIEDRICH EDUARD SCHMÜCKERT, OF PRITZWALK, PRUSSIA, GERMANY.

PROCESS OF PREPARING A SOLUTION OF INDIGO FOR DYEING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 386,933, dated July 31, 1888.

Application filed May 28, 1887. Serial No. 239,607. (No specimens.) Patented in England May 19, 1887, No. 7,333; in Belgium May 31, 1887, No 77,476; in Luxemburg September 9, 1887, No. 889; in Germany October 11, 1887, No. 42,002, and in Sweden November 18, 1877, No. 1,140.

To all whom it may concern:

Be it known that I, FRIEDRICH EDUARD SCHMÜCKERT, a subject of the King of Prussia, residing at Pritzwalk, in the Kingdom of Prussia, Empire of Germany, have invented certain new and useful Improvements in Process for the Solution of Indigo for Dyeing Purposes, also substitute for Woad-Vat, (for which I have obtained patents in the following countries, to wit: Great Britain, No. 7,333, dated May 19, 1887; Belgium, No. 77,476, dated May 31, 1887; Germany, No. 42,002, dated October 11, 1887; Luxemburg, No. 889, dated September 9, 1887; Sweden, No. 1,140, dated November 18, 1887,) of which the following is a specification.

This invention relates to improvements in the woad-bath used in dyeing with indigo. It is a well-known fact that it is very difficult to make a perfect woad-bath, as the slightest error or defect in the fermentation, which lasts several days, destroys the bath, and the indigo in the same is lost irretrievably.

The object of my invention is to provide a new and improved method of preparing the woad-bath in which the fermentation need not be watched, and which requires no attendance whatever.

In carrying out my invention I proceed as follows: For example, one hundred liters of water are poured into a suitable vat, and to it are added from one to three kilograms of Peruvian guano, especially that kind containing much ammonia, the water being stirred continually and the guano being added gradually. When the guano is thoroughly mixed with the water, so that there are no lumps of guano in the water, about from five hundred to one

thousand grams of zinc-dust or other bodies having an affinity for oxygen and from one hundred to two hundred and fifty grams of fine indigo are added, the liquid being gradually heated to about 65° to 75° Celsius at the same time. The ammonia gases which are liberated from the guano combine or unite with the indigo and dissolve the same. From this solution the guano cannot be separated, and the solution can be used at once for dyeing wool or woollen goods or fabrics. By means of this bath a permanent and brilliant blue can be produced which is in no way inferior to the blue obtained by means of the ordinary old-style woad-bath.

It is evident that the quantities herein given need not be used in all cases, as they are given as an example only, and as the proportions must be changed more or less under different circumstances.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The method, substantially as herein described, of preparing a woad-bath for dyeing with indigo, consisting in mixing guano salts with water, and then adding zinc-dust and indigo or other bodies having an affinity for oxygen, and then heating the mixture, the ingredients being mixed about in the proportions given.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRIEDRICH EDUARD SCHMÜCKERT.

Witnesses:

ALEX. SCHULZE,
F. VON VERSEN.