

UNITED STATES PATENT OFFICE.

AUGUSTE DEMEURS, OF HUYSSINGHEN, BELGIUM.

PROCESS OF BLEACHING PAPER-STOCK.

SPECIFICATION forming part of Letters Patent No. 266,782, dated October 31, 1882.

Application filed September 11, 1882. (No specimens.) Patented in Belgium March 24, 1882, No. 57,431, and June 26, 1882, No. 58,304; in England April 14, 1882, No. 1,775, and in Germany June 19, 1882.

To all whom it may concern:

Be it known that I, AUGUSTE DEMEURS, of Huyssinghen, Belgium, have invented a new and useful Improved Process of Bleaching Paper-Stock, (for which I have obtained patents in Belgium, No. 57,431, bearing date 24th March, 1882, and No. 58,304, bearing date 26th June, 1882, a patent in Great Britain, No. 1,775, bearing date 14th April, 1882, and a patent in Germany, bearing date 19th June, 1882,) of which the following is a specification.

My invention relates to an improved process of bleaching applicable to materials composed of hemp, flax, or other products containing stalks, straws, or the like, (which generally resist bleaching by chlorine alone,) and permitting the said materials to be utilized in the manufacture of the finest white paper.

The said process is carried into effect in the following manner—that is to say: The materials, having previously been subjected to steeping or boiling in lye more or less strong, according to their quality, and then suitably bleached with chlorine gas, are introduced into the chlorous vat, or subjected to a primary washing of the pulp in the ordinary manner. When this first operation has been suitably effected—that is to say, when the pulp has completely lost its yellow color, produced by the action of the bleaching with gas, and when the washing-water, at first acid and cloudy, has become clear and neutral, the supply of water is stopped, the washing drums or rollers being still allowed to operate until the half-stuff has attained in the vat the degree of concentration desired. It is at this moment that the straws are attacked, the color of which has become almost completely black by reason of the washing. For this purpose a caustic lye composed of equal parts of carbonate of soda and lime is introduced into the vat. This bath, the degree of which is in proportion to the kind of material to be treated, is generally prolonged for two or three hours, at the end of which it will be impossible to discover in the pulp the least trace of straws. After a second washing, which destroys the brown color produced by the lye, the bleaching of the pulp is proceeded with by means of

a solution of chloride of lime, the quantity of which can be considerably reduced, because the filaments have acquired a certain degree of whiteness by the action of the alkali, and there is no longer any fear of the presence of straws, which resist the action of the bleaching.

This process, which is much more economical than the ordinary methods, offers also the great advantage of bleaching the straws in such a manner that they do not reappear at the end of several months, which enables the manufacturer to keep his pulp in stock or on sale with impunity.

Although I can obtain the same result by the use of other alkalies, I consider the caustic lye of carbonate of soda and lime the most advantageous. The manufacturer should choose that alkali which appears to be most advantageous for his purpose.

The bleaching with chlorine gas which usually follows the reduction of rags into half-stuff can be dispensed with and replaced by a solution of chloride of lime. The result is a sensible diminution in the cost of the operation, its duration, and the cost of labor, without taking into account the difficulties and inconveniences heretofore experienced by a number of manufacturers, who can now employ the above-described process without requiring new plant.

What I claim is—

1. The process herein described of treating materials composed of hemp, flax, or other products to transform them into paper-pulp completely bleached, the said process consisting in first treating them in the usual manner with chlorine or with chlorides, washing them with water, and then attacking the straws, stalks, or other impurities by means of a caustic lye, and proceeding afterward in the ordinary manner, substantially as set forth.

2. The employment, in the above-described process, of a lye composed of caustic soda or other alkali, according to the nature of the materials to be treated, substantially as set forth.

AUGUSTE DEMEURS.

Witnesses:

ADOLPH STEIN,
GOVOURT.