F6966 OR 396,551
ENHANCEMENT & CHEMICAL MODIFI-
CATION OF TEXTILES & FIBERS,

UNITED STATES PATENT OFFICE.

FREDERICK EUGENE DROWN, OF PAWTUCKET, RHODE ISLAND.

PROCESS OF BLEACHING COTTON.

SPECIFICATION forming part of Letters Patent No. 396,551, dated January 22, 1889.

Application filed May 2, 1888. Serial No. 272,596. (No specimens.)

To all whom it may concern:

Be it known that I, FREDERICK EUGENE DROWN, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Process of Bleaching Cotton Fabrics, of which the following is a specification.

The object of my invention is to bleach cotton fabric expeditiously without materially reducing its strength.

In my application for a patent filed March 19, 1888, Serial No. 267,707, I have described means of treating with caustic soda, soda-ash, or lime, and the washing, chemicing, and souring of cotton fabric in an improved keir having a centrifugal basket inclosed in a vessel which at times can be made steam-tight.

My present invention consists of the following successive steps of operation: I pass the cotton fabric, spread out to its full width and in a continuous manner, through a hot solution of caustic soda having a strength of from 6° to 12° Twaddle; thence through heavy squeezing-rolls, then subjecting it to the action of steam by passing it over perforated steam-pipe in an open vessel where the temperature cannot exceed 212° Fahrenheit; thence into a cold solution of caustic soda having a strength of 6° to 12° Twaddle and a temperature of not over 110° Fahrenheit; thence through heavy squeezing-rolls. I run the cloth during this step of the process continuously at a speed of sixty to one hundred yards per minute. I then run the cotton fabric into the bleaching-keir. I find the keir as described in my application for a patent above referred to very effective, and subject it to a continuously-extracting circulation of a boiling solution of soda-ash and rosin in a closed vessel, about twenty-five pounds of refined soda-ash and ten pounds of rosin to one ton of cotton fabric. This treatment is continued for several hours until the motes are decomposed or destroyed, when I wash the cotton fabric with hot water of not less than 140° Fahrenheit. The cotton fabric is then treated with chlorine liquor having a strength of two-tenths of 1° Twaddle. Then I subject it to the action of steam in an open vessel, where the temperature cannot exceed 212° Fahrenheit. The cotton fabric is then soured, the liquor to be 100° to 110° Fahrenheit and having a strength of two-tenths of 1° Twaddle when at a temperature of 75° Fahrenheit. The fabric is now washed.

Having thus described my invention and the manner of carrying it out in practice, I claim as my invention and desire to secure by Letters Patent—

The improvement in the art of bleaching, consisting in passing cotton fabric spread out wide through a boiling solution of caustic soda, then subjecting it to the action of steam by passing it over perforated steam-pipe, then cooling it by passing it into a cold solution of caustic soda, then boiling in a solution of soda-ash and washing, then subjecting the material to the action of chlorine liquor, then steaming, souring, and finally washing, substantially as set forth.

FREDERICK EUGENE DROWN.

Witnesses:
SAMUEL B. LORD,
CHARLES W. LORD.