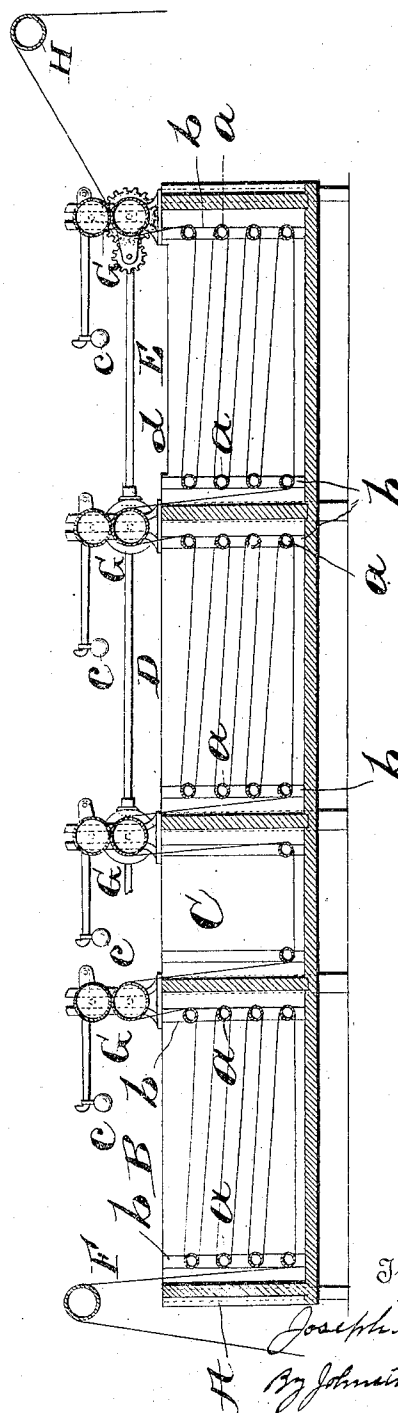


(No Model.)

J. A. MYRICK.
PROCESS OF BLEACHING.

No. 481,414.

Patented Aug. 23, 1892.



Witnesses
J. A. Taubenschmidt
H. B. Reinohl

Inventor
W. A. Myrick
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH A. MYRICK, OF SALISBURY, NORTH CAROLINA.

PROCESS OF BLEACHING.

SPECIFICATION forming part of Letters Patent No. 481,414, dated August 23, 1892.

Application filed April 1, 1892. Serial No. 427,354. (No specimens.)

To all whom it may concern:

Be it known that I, JOSEPH A. MYRICK, a citizen of the United States, residing at Salisbury, in the county of Rowan and State of North Carolina, have invented certain new and useful Improvements in Processes of Bleaching Cotton-Chain Warp; 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.

My present invention relates to the art of bleaching cotton-chain warp and analogous fiber, and has for its object certain improvements which will be fully disclosed in the following specification and claims.

For the purpose of illustration I have shown one form of apparatus for carrying out my invention in the accompanying drawing, which forms part of this specification, and said drawing represents a vertical longitudinal section of such apparatus.

Reference being had to the drawing and the letters thereon, A indicates a tank or trough separated into compartments or baths B, C, D, and E, each of which is provided with rolls *a*, suitably supported in a frame *b*, attached to the sides of the tank to revolve freely as the warp, filling, or fiber F is drawn through the several baths by the drawing-rolls G, a pair of which is attached at one end of each bath. The upper roll of each pair is provided with a weight *c* to press the liquid out of the warp as it passes through the rolls and return the same to the bath from which the warp last emerged. After leaving the last or rinsing bath the warp is passed over a roll or spool H and is then dried. The compartment B contains chloride of lime of a strength of from 1° or 1½° to 3° Baumé. The second compartment C contains hot water kept at or near the boiling-point to remove the chloride of lime contained in the warp. The third compartment D contains a solution of sulphurous acid and water (preferably cold water) of a strength of from 1° to 2° Baumé and the fourth compartment E contains pure clear water. Cotton-chain warp, filling, or fiber F to be bleached is drawn through the compartment B, passing back and forth over the rollers *a* and through the chloride of lime until

it emerges at the surface of the bath or liquid where the initial bleaching is effected, when it passes between the first pair of rolls G, which express the liquid from the warp, which falls back into the compartment B. After leaving the rolls the warp is exposed to the atmosphere and liquid evaporated until it enters the compartment C, in which it is conducted near the bottom, crosses the tank, is exposed to the hot water, which extracts the chloride of lime remaining in the warp, and passes out at the surface of the bath and between the second pair of rolls by which the water is expressed from the warp and returned to the compartment C. It is then conducted into the compartment D, passes over the rolls *a* back and forth through the weak solution of sulphurous acid, where the bleaching is completed, emerges therefrom at the surface of the liquid, and passes between the third pair of rolls, which express the liquid from the warp, which liquid falls back into the compartment D and the warp exposed to the atmosphere and liquid evaporated from the time it leaves the rolls until it enters the compartment E. The warp is then conducted into compartment E, where it passes back and forth over the rolls *a* through the pure water, is thoroughly rinsed, and emerges at the surface of the bath. It then passes between the fourth pair of rolls in which the water is expressed from the warp and the warp conducted over the roll or spool H on its way to the drying apparatus. In the latter compartment E fresh water is constantly supplied while the operation of bleaching is carried on, and the impurities derived from rinsing the warp pass off in a thin sheet or film through the overflow-passage *d*.

I am aware that a dilute solution of oxychloride of calcium and sulphurous-acid vapor has been used for decolorizing straw. This process is slow and tedious, and I therefore do not claim it as of my invention.

Having thus fully described my invention, what I claim is—

1. The process of bleaching cotton-chain warp or analogous fiber, which consists in subjecting the fiber to a solution of chloride of lime, then to hot water, then to a solution of sulphurous acid, and finally rinsing the fiber.

2. The process of bleaching cotton-chain
warp or analogous fiber, which consists in
subjecting the fiber to a solution of chloride
of lime, expressing the liquid from the fiber
5 and exposing it to the atmosphere, then sub-
jecting the fiber to hot water and expressing
the water, then subjecting the fiber to a weak
solution of sulphurous acid, expressing said

acid and again subjecting the fiber to the at-
mosphere, and finally rinsing the fiber. 10

In testimony whereof I affix my signature in
presence of two witnesses.

JOSEPH A. MYRICK.

Witnesses:

D. C. REINOHLE,
H. B. REINOHLE.