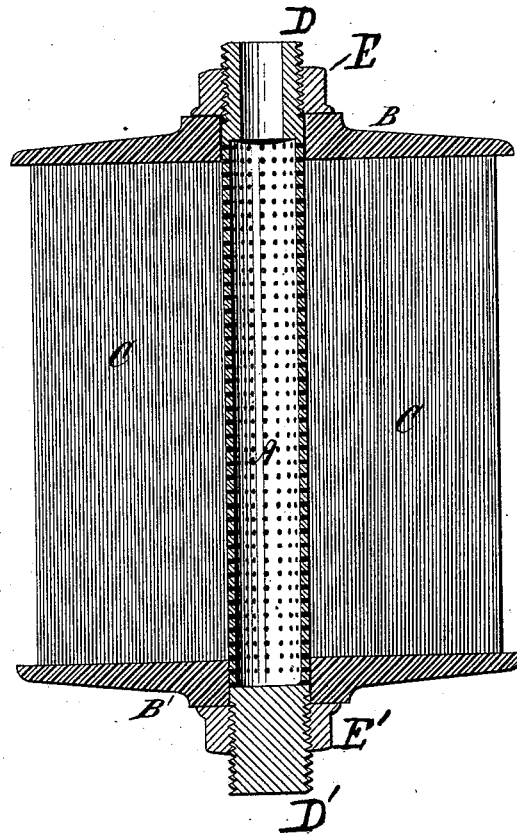


L. W. WRIGHT
Apparatus for Bleaching or Dyeing.

No. 201,973.

Patented April 2, 1878.



Witnesses:

M. S. Adams.
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UNITED STATES PATENT OFFICE.

LEMUEL W. WRIGHT, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR BLEACHING OR DYEING.

Specification forming part of Letters Patent No. **201,973**, dated April 2, 1878; application filed December 5, 1877.

To all whom it may concern:

Be it known that I, LEMUEL W. WRIGHT, of Brooklyn, New York, have invented certain Improvements in Bleaching and Dyeing Apparatus, of which the following is a specification:

My improvement relates to apparatus for bleaching or dyeing woven fabrics in bulk; and its object is to promote the simultaneous and uniform action of the bleaching or dyeing fluid upon all parts of the fabric under treatment.

My invention consists in the combination of a perforated pipe or drum, upon which woven fabric can be wound, with detachable heads or disks capable of being applied to the ends of the roll of fabric wound upon the pipe or drum, and adapted to act as valves for closing the ends of the roll and preventing the escape therefrom of treating-liquor injected into the roll from the pipe or drum.

The accompanying drawing represents a central longitudinal section of a perforated pipe provided with adjustable heads or disks.

The perforated pipe A is closed at one end and open at the other, for connection with a service-pipe through which the treating-liquor is supplied.

It will be seen that two adjustable disks, B and B', form a close contact with the ends of the roll of fabric C; which is represented as being wound upon the perforated pipe.

The perforated pipe A is provided at its opposite ends with the screw-threads D and D', and with screw-nuts E and E', by means of which the disks B and B' are pressed firmly against the ends of the roll after the fabric is wound upon the pipe.

I have not deemed it necessary to show any particular mechanism for conducting fluid into the perforated pipe and forcing it therefrom through the fabric, as devices suitable for this purpose are well known and in common use.

It will, of course, be understood that steam may be supplied by connecting the perforated pipe with a steam-generator, and that a fluid to be injected into the roll of fabric may be pumped into the pipe, or may be forced in by the pressure of steam acting upon the surface of such fluid contained in a neighboring ves-

sel, the bottom of which is connected with the perforated pipe; or the perforated pipe and roll may be mounted in suitable bearings and rapidly rotated, and the treating-fluid conducted into the perforated pipe from a reservoir may be forced through the roll by centrifugal action.

In order to insure that the disks will make tight joints with the ends of the roll, it is desirable that the fabric shall be wound very tightly, and shall be stretched laterally during the process of winding, so that it will form a compact roll of sufficient stiffness to withstand the impact of the heads or disks upon its ends without buckling or yielding in a material degree.

When the roll is thus prepared for bleaching or dyeing, the treating-fluid injected into it from the perforated pipe is forced through the roll from the interior to the circumference radially, in planes at right angles to the axis of the roll, so that each stream of treating-fluid necessarily passes through every fold of which the roll is composed, and in this way the action of the treating-liquor is perfectly uniform and simultaneous upon all parts of the fabric under treatment.

Thus the process of bleaching in bulk is, by my invention, reduced to an exact method, which greatly lessens the time heretofore required in bleaching, and results in the production of a bleached fabric which is not materially diminished in width by shrinkage.

I make no claim to the process herein referred to, as I intend to make that the subject of another application for a patent.

I claim as my invention—

In apparatus for subjecting woven fabrics to the action of bleaching or dyeing fluids, the perforated pipe or drum upon which the fabric is wound, in combination with detachable and adjustable heads or disks, adapted to act as valves for closing the ends of the roll of fabric and preventing the escape therefrom of liquor injected into the roll from the perforated pipe.

LEMUEL W. WRIGHT.

Witnesses:

JOHN S. KING,
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