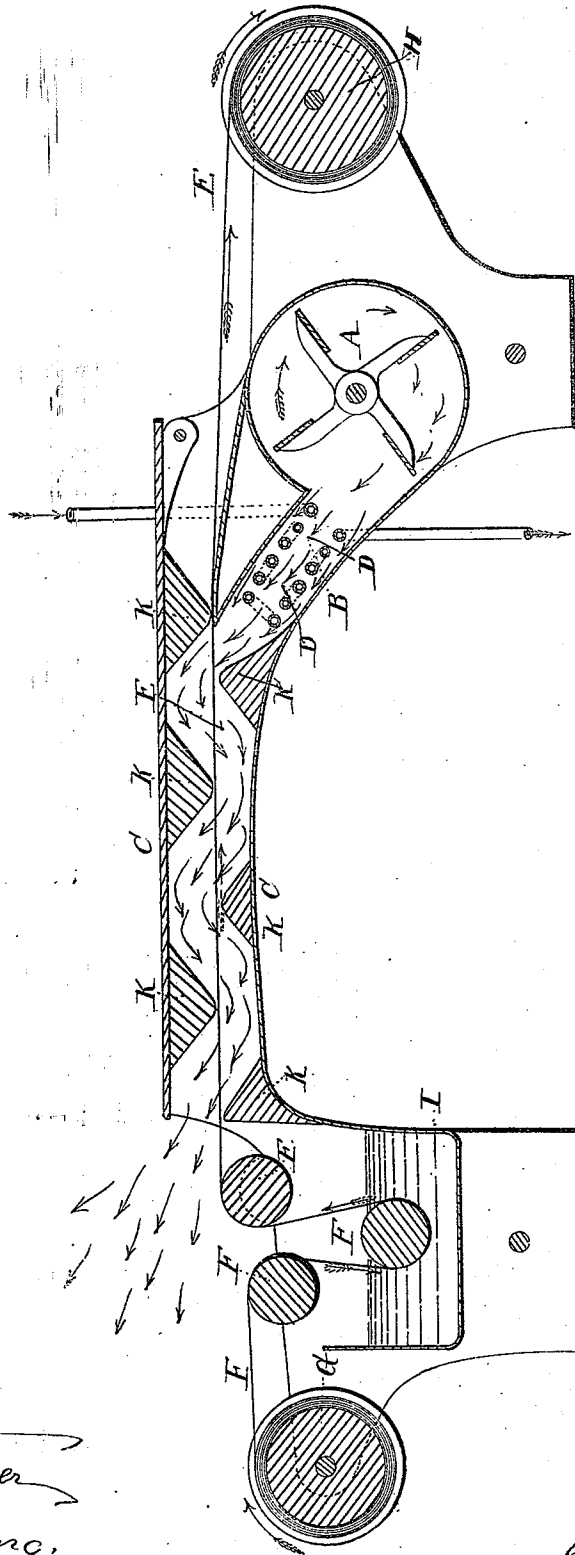


G. Richardson.
Drying Yarn.

Nº 92,210.

Patented Jul. 6, 1869.



Witnesses:

J. W. Springer
Wm. Canning.

Inventor:

Geo. Richardson

United States Patent Office.

GEORGE RICHARDSON, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 92,210, dated July 6, 1869.

IMPROVEMENT IN MACHINES FOR DRYING YARN, &c.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE RICHARDSON, of Lowell, in the county of Middlesex, and State of Massachusetts, have invented a new and useful Machine for Drying Yarns, Twines, Cords, and similar fabrics of fibrous material; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, which is a central longitudinal section of my invention, and to the letters of reference marked thereon.

In order to enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In manufacturing yarns, twines, cords, or other fabrics of fibrous material, it often becomes necessary to immerse them in various fluids, after which they require to be thoroughly dried. Care is necessary, in this process, that the fabrics be not injured by too great heat, yet the degree of heat should be such that no time be unnecessarily lost in the drying-process.

It is also always desirable that as little space as possible be occupied by the drying-apparatus.

My invention consists in providing a more simple, efficient, and economical device for drying yarns, twines, or other fabrics of fibrous material.

It consists in passing the fabric through a current of air, heated by steam, and confined and kept in contact with the fabric by a box, or trunk, provided with transverse ribs on its interior surface.

In the drawing—

A represents a revolving fan.

B, wind-duct.

C, box, or trunk.

D D, metallic pipes, supplied with steam.

E E, fabric to be dried.

F F F, small rolls.

G H, beams containing the fabric.

I, liquor-box

K K K, &c., ribs placed upon the top and bottom of the trunk, interiorly, and at right angles to its length.

The operation of my invention is as follows:

The fan A supplies a strong current of air, which, in passing through the wind-duct B, is heated by the coiled steam-pipes D D; thence it passes into the trunk C at one end. The fabric E is unwound from the beam G, passing in the direction of the black arrows, over and around the small rolls F F F, and is thereby immersed in the fluid contained in the liquor-box I.

After leaving the liquor-box, the fabric is conducted longitudinally through the trunk C. The current of hot air from the wind-duct, as it passes through the trunk, is alternately deflected from the top to bottom, and from bottom to top of the trunk, as it meets the ribs or deflectors K K K, &c.

The course of the hot-air currents is indicated by the small blue arrows.

Thus it will be seen that the fabric, being repeatedly penetrated by the hot-air current, must be rapidly and effectually dried, and the contact with the hot air may be prolonged to any desired extent by lengthening the trunk, and adding to the number of deflectors.

I claim the trunk C, conducting a blast of heated air, said trunk being provided with ribs, or deflectors K K K, placed transversely and arranged alternately, as shown, all combined and operating for the purpose of rapidly and economically drying yarns, twines, or other fabrics of fibrous material, substantially as herein described and set forth.

GEO. RICHARDSON.

Witnesses:

I. W. SPRINGER,

WM. P. CANNING.