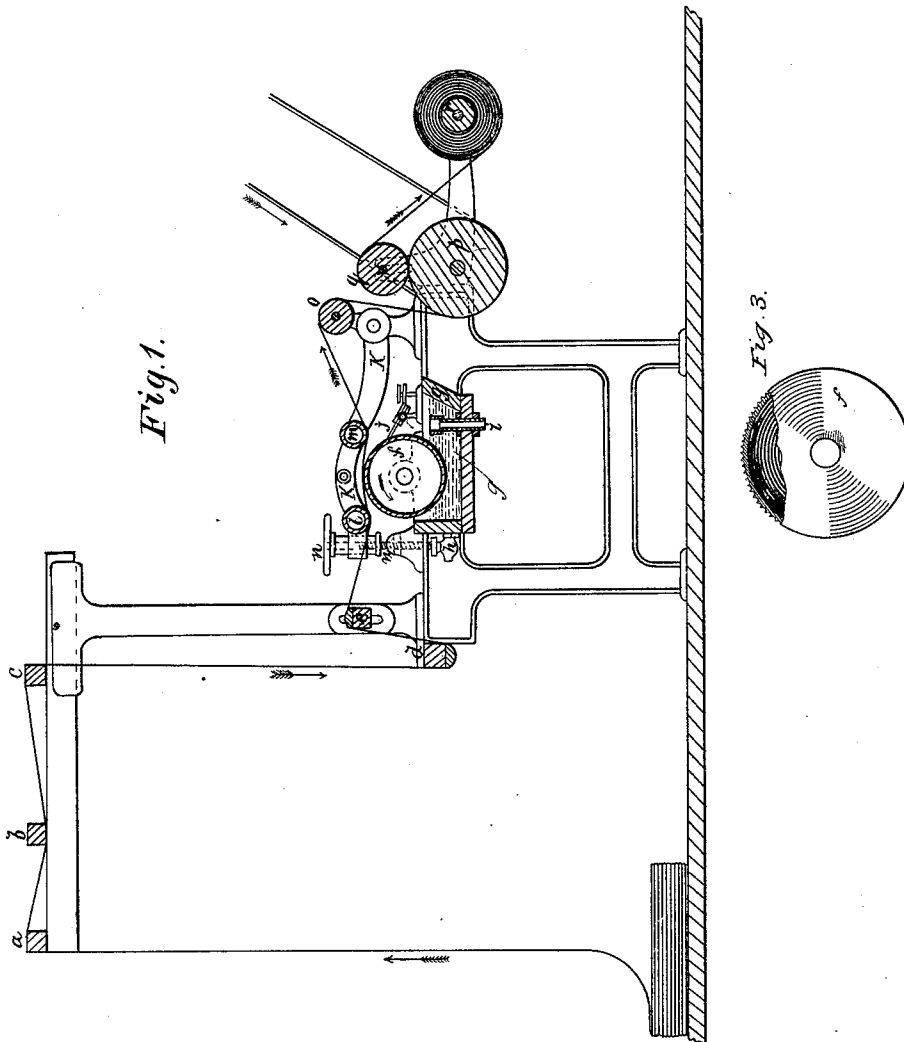


W. MATHER.

Apparatus for Damping Woven Fabrics.

No. 219,963.

Patented Sept. 23, 1879.



WITNESSES:

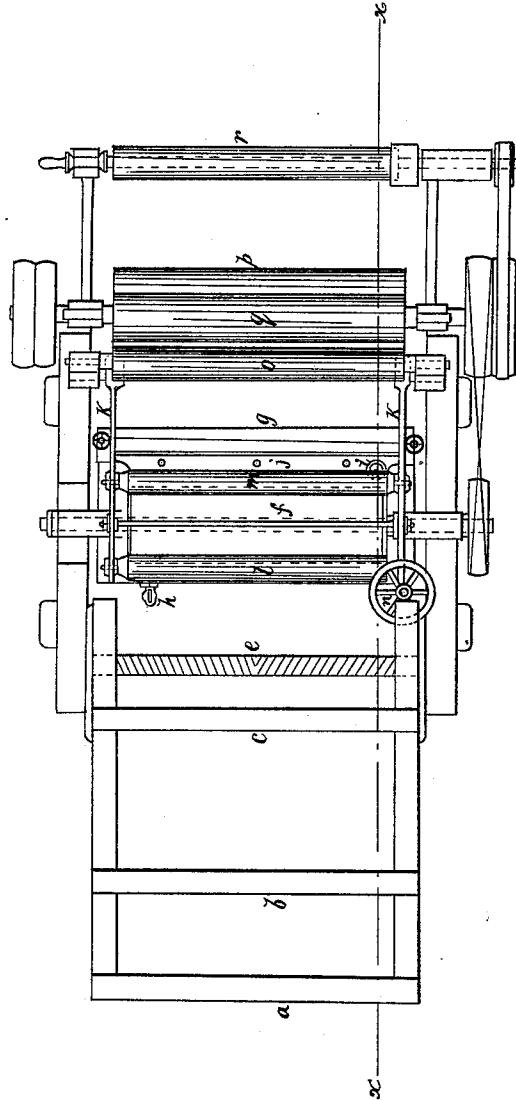
Henry N. Miller
C. S. S. S. S.

INVENTOR:

W. Mather
BY *[Signature]*
ATTORNEYS.

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Fig. 2.



WITNESSES:

Henry N. Miller
C. Seligman

INVENTOR:

W. Mather
BY *Mum & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM MATHER, OF SALFORD, COUNTY OF LANCASTER, ENGLAND.

IMPROVEMENT IN APPARATUS FOR DAMPING WOVEN FABRICS.

Specification forming part of Letters Patent No. **219,963**, dated September 23, 1879; application filed May 16, 1879.

To all whom it may concern:

Beit known that I, WILLIAM MATHER, of the firm of Mather & Platt, of Salford, in the county of Lancaster, in England, machine-maker, have invented certain new and useful Improvements in Apparatus for Damping with Water all Kinds of Woven Fabrics and other Materials after they have been starched or stiffened; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification.

This improved apparatus is intended to supersede all the hitherto known processes of damping by means of a spray or sprinkling of water upon the fabric after starching or stiffening; and consists of a damping-roller, which is made by preference of metal, with an engraved pin-point or other surface. The damping-roller revolves in a trough containing the water, and a doctor, of india-rubber or other suitable material, is applied to the damping-roller to remove the excess of moisture. The fabric or other material is pressed against the damping-roller by a roller or rollers supported in a swing-frame. After leaving the swing-frame the fabric or other material is taken between two friction-rollers, one of which is driven, and then it is wound on a batch-roller, or it is otherwise disposed of. The damping-roller may be attached to the drying-machine, which dries the fabrics after stiffening, so as to make one continuous process of stiffening, drying, and damping.

Figure 1 of the accompanying drawings is a vertical section of my machine on line *x x* of Fig. 2. Fig. 2 is a plan view thereof, and Fig. 3 is an enlarged cross-section of the damping-roller.

a, b, c, d, and *e* are guide-bars, around which the fabric or other material passes to the damping-roller *f*, which is made by preference of metal, and the surface of which is engraved in pin-point or other fine pattern. The damping-roller revolves in the trough *g*, containing the water, which is supplied by the pipe *h*, and kept to the desired level by the adjustable pipe *i*. The damping-roller is also provided with a doctor, *j*, made of india-rubber or other suitable material. The object of the doctor is to remove the excess of moisture from the surface of the damping-roller, and to leave the required supply in the recesses of the engraved surface.

The damping-roller is turned round in the direction of the arrow, and, consequently, it moves in the opposite direction to the fabric or other material passing over it.

Above the damping-roller is the swing-frame *k*, supporting the two rollers *l m*. The position of the swing-frame can be regulated by the screw and hand-wheel *n*, to vary the amount of contact of the fabric or other material on the surface of the damping-roller, so that the friction of the damping-roller against the fabric can be increased to any extent, and the requisite amount of moisture forced into the fabric.

After leaving the roller *m* the fabric or other material is taken over the guide-roller *o*, and then around the friction-roller *p*, above which is the pressure-roller *q*. The roller *p* is turned round by steam or other power, to draw the fabric or other material through the machine and deliver it to the batch-roller *r*, or it may be plaited down or otherwise disposed of.

Having thus stated the nature of my invention, and described a convenient manner of performing the same, I wish it to be understood that what I claim herein as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the roller *f*, having its surface engraved in pin-point, and revolving in the trough *g* in an opposite direction to the fabric, the doctor *j*, and the adjustable swinging frame *k*, provided with the rollers *l m*, with the said trough, the frame, and the driving mechanism, substantially as and for the purpose set forth.

2. The combination, in an apparatus for damping woven fabrics, of the guide-bars *a b c d e*, the trough *g*, the engraved roller *f*, the adjustable swinging frame *k*, provided with the rollers *l m*, the guide-roller *o*, the friction-roller *p*, the pressure-roller *q*, and the batch-roller *r*, with the frame and the driving mechanism, substantially as herein shown and described, and for the purpose set forth.

In testimony whereof I have hereto set my hand before two subscribing witnesses.

W. MATHER.

Witnesses:

JOHN PLATT,
J. W. APPLEBY.