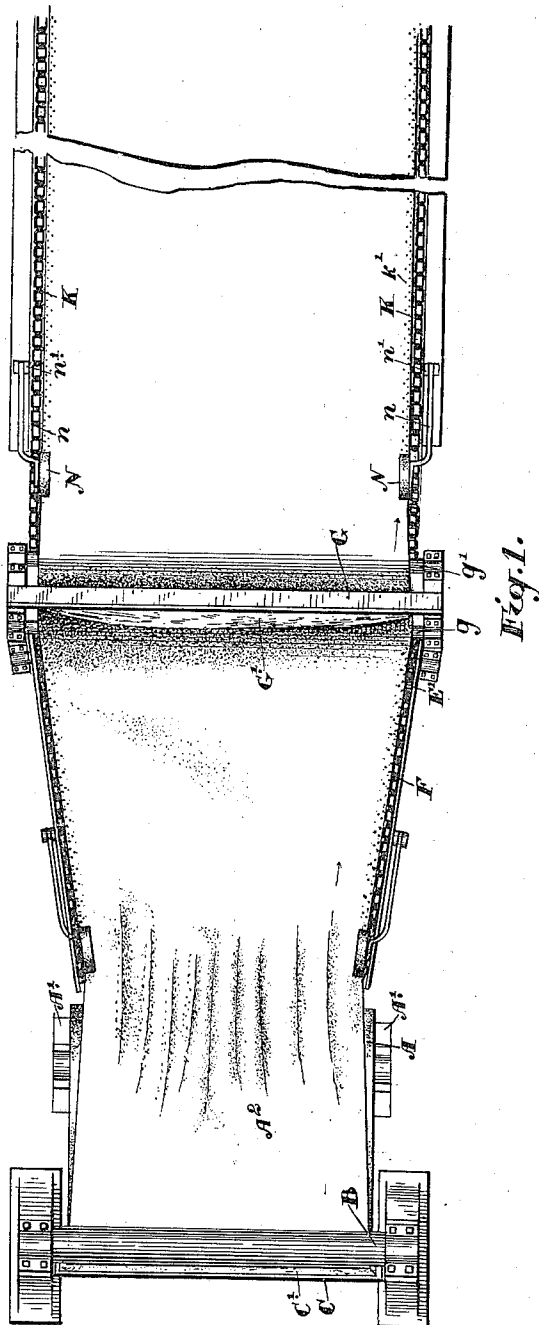


(No Model.)

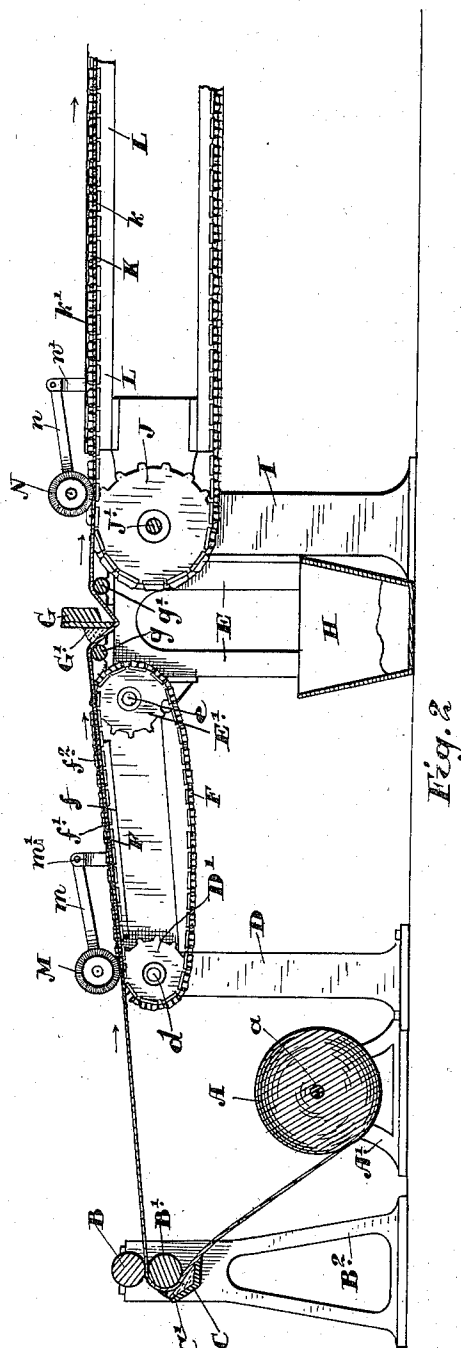
R. E. MENZIE.
APPARATUS FOR SIZING CLOTH.

No. 600,676.

Patented Mar. 15, 1898.



Witnesses.
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UNITED STATES PATENT OFFICE.

ROBERT E. MENZIE, OF TORONTO, CANADA.

APPARATUS FOR SIZING CLOTH.

SPECIFICATION forming part of Letters Patent No. 600,676, dated March 15, 1898.

Application filed May 17, 1897. Serial No. 636,842. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. MENZIE, manufacturer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Methods of and Apparatus for Sizing Cloth, of which the following is a specification.

My invention relates to improvements in the method of sizing cloth more particularly adapted for window-shades and apparatus therefor; and the object of the invention is to design a method and apparatus for sizing the cloth which will render it perfectly opaque, soft, and pliable by running it through the sizing-machine but once and thereby save not only time and labor but produce a superior cloth; and it consists in the method and apparatus hereinafter described, and particularly pointed out in the claims.

Figure 1 is a plan view of a portion of the apparatus of a sizing-machine, showing the parts involved in my invention. Fig. 2 is a longitudinal sectional elevation through Fig. 1.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the roll of cloth, which is supported on a suitable spindle *a*, journaled on suitable standards A'. The cloth A is carried through the rollers B and B', journaled on the standards B'. A suitable trough C, filled with size C' for primarily dampening the cloth underneath the roller B', is provided.

D are suitable standards, which carry on studs *d* the sprocket-wheels D'.

E are suitable standards, upon the studs *e* of which are journaled the wheels E'. The standards D are closer together than the standards E.

F are sprocket-chains connecting the sprocket-wheels D' and E'. The sprocket-chains F pass over the side bars *f*, which maintain them in their movement in a straight line from the top of one sprocket-wheel to the top of the other. The sprocket-chains F have inwardly-extending lateral projections *f'*, forming part of each link, from which project pins *f*². As the sprocket-wheels D' are situated laterally within the position of the sprocket-wheels E', it will be seen that the sprocket-chains F from the sprocket-wheel D' take an

outward course to a point near the standard E. Upon the top of the standards E are secured the depressing-bar G and supporting-rollers *g* and *g'*.

H is a trough situated beneath the depressing-bar G.

I are standards situated behind the standards E, and J are sprocket-wheels secured on the shaft J', journaled on the standards I.

K are sprocket-chains, each link of which is provided with inwardly-extending lateral projections *k*, having pins *k'* extending outwardly from same. The sprocket-chain is supported on the side bars L of the frame.

M are gravity compression-brushes pivoted on the bar *m*, swung on the upright *m'*. The compression-brushes M are situated directly over the center of the sprocket-wheels D' at each side. N are similar compression-brushes pivoted on the bar *n*, pivotally swung on the uprights *n'*, extending upwardly from the frame L.

The roll of cloth A is shown exaggerated in thickness and is gathered at A², after being dampened by the size C', so as to permit of the edges entering upon the pins *f*² of the projections *f'*, immediately above the sprocket-wheels D'. As the sprocket-chains now run in the direction indicated by arrow and extend obliquely outwardly, it will be seen that the now dampened cloth will be stretched from edge to edge until it reaches the point above the center of the sprocket-wheels E', whence it is carried over the roller *g* down beneath the depressing-knife G and up again over the roller *g'* to a point about the center of the sprocket-wheel J.

G' is the size, which is fed in any suitable manner upon the expanded cloth in the depression formed between the roller and the front edge of the depressing-bar. The size enters the interstices between the weft and warp threads of the cloth, thereby filling such interstices. The overplus passes over the edge of the cloth as it is being carried forward, down into the receptacle H. As the cloth is carried forward in the direction indicated by arrow the size G' has a sort of rolling motion over the cloth and as it is used may be supplied by any suitable feeding-machine. From the roller and depressing-bar G

to the sprocket-wheel J the edge of the dampened and filled cloth of its natural tendency will contract, so as to reduce the width, as indicated in the drawings, until it reaches the
 5 pins k' of the lateral projections k on the inner side of the links of the sprocket-chain, whence it will be carried along in its contracted state and dried in its course in the
 10 usual manner. The contracted state of the cloth when it passes over the sprocket-wheel J (as will be necessarily seen and clearly understood from the drawings) will be expanded very much more than the width in which the
 15 cloth is taken from the roll, as in front of the depressing-bar G the interstices of the cloth are filled with size, which maintains the cloth in its greater width.

Heretofore cloth in order to be sized had to be run through a machine several times and
 20 when so treated became stiff and hard. By my method of applying the size to the interstices of the warp and weft threads of the cloth when the width is expanded to its fullest extent it serves not only to make the cloth
 25 perfectly opaque, but also leaves it soft and pliable, and this, too, by only once running it through the machine. The advantages of this method and apparatus will be readily understood by those engaged in the manufacture

of window-shades, as the cloth is not coated, 30 but filled.

What I claim as my invention is—

1. In combination, the roll carrying the fabric with means for feeding the same therefrom, a bath in the path of said fabric to give 35 the same a preliminary wetting, a frame for guiding and stretching said fabric, said fabric being unsupported between the bath and said frame, a sizing-bath arranged at the discharge end of the stretching-frame to apply 40 the sizing while the fabric is stretched and means for carrying the cloth forward and supporting the same after it leaves the sizing.

2. In combination, the roll carrying the fabric, a bath in the path of said fabric, a 45 carrying-frame for the fabric of less width at the entrance of the fabric thereon than the normal width of the fabric, said frame widening toward its discharge end to fully stretch the fabric, a sizing-bath in proximity to said 50 discharging end and a second carrying-frame adapted to receive the fabric from the sizing, substantially as described.

ROBERT E. MENZIE.

Witnesses:

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