(No Model.)

W. BAILEY.

MACHINE FOR SIZING TEXTILE FABRICS.

No. 536,907. Patented Apr. 2, 1895.

Fig 1

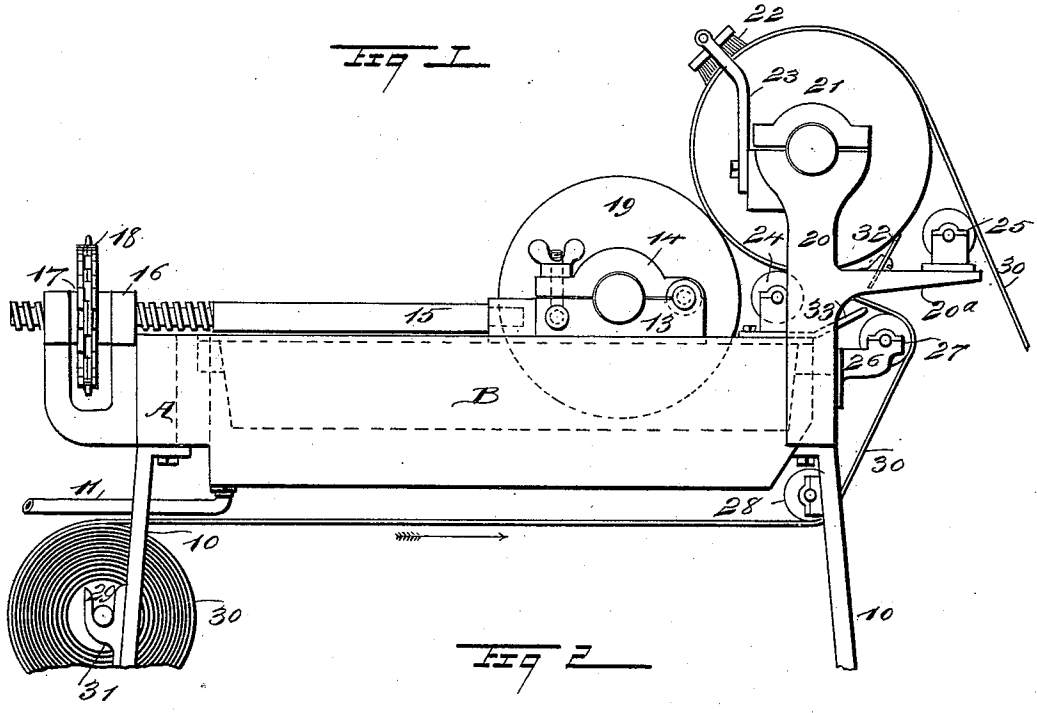
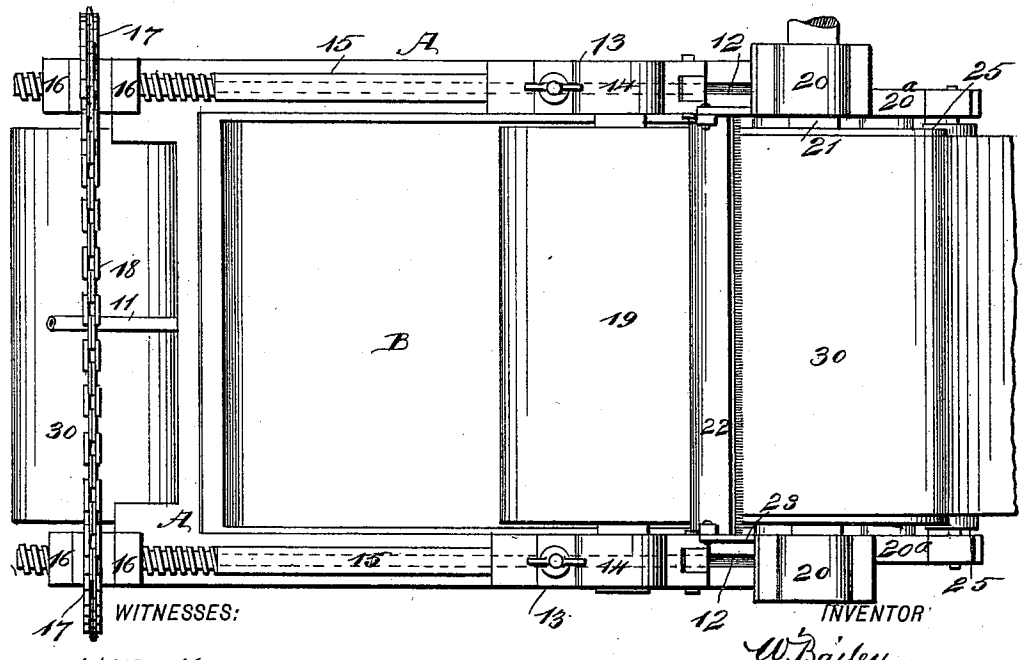


Fig 2



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MACHINE FOR SIZING TEXTILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 536,907, dated April 2, 1895.

Application filed May 11, 1894. Serial No. 510,894. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BAILEY, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Machine for Sizing Textile Fabrics, of which the following is a full, clear, and exact description.

My invention relates to a machine for sizing textile fabrics, particularly adapted for sizing shade cloth; and the object of the invention is to construct such a machine in a manner whereby the sizing material may be kept constantly warm, and whereby also the said material may be taken up by a suitable roller and delivered to the face of a fabric, such as a shade cloth for example, carried by a second roller, and held under proper tension.

A further object of the invention is to provide a means whereby the take-up roller, which is likewise the distributing roller, may be adjusted at one operation equally at both of its ends to or from the roller carrying the shade cloth or other fabric, and whereby further the shade cloth will be carried from the supporting roller over guide rollers in such a manner as to preserve the shade cloth or fabric in smooth condition, and whereby also the sized fabric will be removed from the supporting roller or roll as expeditiously as possible, thus providing against the possibility of the fabric or cloth adhering to that roller.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the views.

Figure 1 is a side elevation of the improved machine, and Fig. 2 is a plan view thereof.

In carrying out the invention a frame A is employed, which is supported primarily by suitable legs 10, and the said frame is provided with an opening at its central portion to receive a tank B, in which the sizing material is to be placed. This tank is made double, the inner tank being narrower and of less dimensions than the outer one; or if in practice it is found desirable the outer tank may constitute a portion of the frame, the inner tank fitting into it and resting upon the upper portion of the frame through the medium of a marginal flange, as shown in Fig. 2. The space between the two tanks is adapted for the reception of steam, or other heating agent supplied thereto, for example, through the medium of a pipe 11, communicating with the bottom of the outer tank.

Upon the upper side margins of the frame A, longitudinal grooves 12, are produced, and in each groove a journal box 13 has guided movement, the boxes being provided with ribs adapted to travel in the said grooves. The boxes are preferably made with a readily removable cover or cap section 14, as shown in Fig. 1, and ordinarily these cap sections are hinged to the boxes, being fastened in closed position by means of a set screw or its equivalent. Each box has attached to one end thereof an adjusting rod or bar 15, and each adjusting rod or bar at its outer extremity is exteriorly threaded, and is passed through openings formed in bifurcated brackets 16, located at one end of the frame, one bracket at each side; and upon the threaded portion of each rod or bar, between the members of the bracket 16 through which it passes, a wheel 17, preferably a sprocket wheel, is mounted upon the rod or bar, having the interior of its hub threaded to correspond with the threaded surface of the bar; and the two sprocket wheels are connected by a belt 18, preferably an endless chain belt, as illustrated in the drawings, whereby upon manipulating the belt 18 both adjusting wheels 17 will be turned simultaneously, and both boxes will be moved simultaneously to or from a given point.

The trunnions of a combined take-up and distributing roller 19, are journaled in the boxes 13, the said roller being of sufficient diameter to extend downward well within the inner box or tank B, in which the sizing material is to be contained. This combined distributing and take-up roller is provided with

a surface covering of carpet, felt, or equivalent material, in order that a sufficient quantity of sizing may be taken up by the roller to cover effectually the face of the fabric to which the sizing is to be applied.

At the opposite end of the frame to that carrying the adjusting wheels, a standard 20, is erected at each side of the said frame; and at the upper end of each standard a journal box is formed, in which the trunnions of a supporting roller 21, are journaled, the said supporting roller being adapted to carry the fabric to be sized during the application of the sizing thereto; and a brush 22, is held over preferably the upper front portion of the supporting roller in such manner that it may engage with the sized portion or surface of the fabric, the brush being supported by means of brackets 23, or their equivalents, attached to the standards. Adjacent to the standards 20 at each side of the frame and in front of the said standards, a guide roller 24, is mounted to turn in suitable bearings, and the said guide roller 24 is so placed that it will hold the material passed between it and the supporting roller 21 in contact with the periphery of the latter.

A second guide roller 25, is located upon an extension projected rearwardly from each standard 20, the extensions being designated as 20^a; and this latter roller is adapted to receive the fabric after it has been sized, holding it out of contact with the supporting roller, and guide the fabric to a drying and stretching machine of any approved description. The machine to which the fabric is fed for such purpose is preferably that for which Letters Patent were obtained by me, No. 498,609, dated May 30, 1893.

At the end of the frame near which the standards 20 are located, brackets 26, are projected from each side, and in suitable bearings in each bracket a guide roller 27, is journaled, while similar rollers 28, are journaled preferably in bearings located upon the legs 10 at that end of the frame; while the reel or roll 29, upon which the fabric or shade cloth 30 is rolled, is supported in hangers 31, usually located upon the legs at the opposite end of the frame. The fabric is conducted from the said roll or reel 29 under and in contact with the guide roller 28, thence upward and over the end guide roller 27 and around the supporting roller 21, between it and the upper inner guide roller 24. The fabric or shade cloth is adapted to travel around the supporting roller beneath the brush 22 and downward in contact with the extreme rear guide roller 25.

In operation, the sizing roller 19 is fed forward by means of the adjusting devices heretofore described, until it properly contacts with the fabric upon the forward lower portion of the supporting roller, and the supporting roller is then rotated in any approved manner, whereupon the sizing roller is likewise rotated, and through the medium of its covering will apply the sizing from the tank B evenly, uniformly and effectively upon the exposed face of the fabric, the brush 22, serving to distribute the sizing if such distribution is necessary. A doctor 32, is supported by the brackets 20^a of the standards, and engages with the rear under surface of the supporting roller to remove any sizing that may cling to it, maintaining said roller with a smooth dry surface; and a lip 33, is projected from the rear end of the frame to engage the fabric 30 and take off therefrom any sizing that may flow down the fabric, whereby the said sizing will be conducted into the inner tank containing the sizing.

It will be obvious that sizing can get on the supporting roller only near the ends thereof, where the roller is not covered by the fabric. Therefore, if any sizing should drip from the doctor, it will fall clear of the fabric that runs beneath it.

This machine is exceedingly simple, durable and economic in its construction, and it is capable of performing exceedingly effective work.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a machine for sizing shade cloth or other textile fabrics, the combination, with a sizing tank, a sizing roller held to revolve in said tank movable boxes in which the said roller is journaled, rods connected with one end of the boxes, threaded for a portion of their length, bearings in which the threaded portions of the rods are held to turn freely, wheels having the interior of their hubs threaded to correspond to the threads of the rods mounted thereon and held in the said rod bearings against longitudinal movement, and an endless belt connection between the wheels, whereby through the movement of the belt both boxes will be simultaneously and equally moved, of a supporting roller adapted to carry the fabric, to and from which the sizing roller is adjusted, and guide rollers adapted to support the fabric in position to engage with the supporting roller, as and for the purpose set forth.

2. In a machine for sizing shade cloth, or other textile fabrics, the combination, with a jacketed tank adapted to contain sizing, a frame supporting the tank, boxes having sliding movement upon the frame bifurcated bearings secured to the frame, a sizing roller journaled in said boxes, adjusting rods connected with the boxes, threaded for a portion of their length, the threaded portions of the rods being held to turn in the said bifurcated bearings, wheels having their hubs interiorly threaded, located between the members of the rod bearings and mounted upon the threaded surfaces of the rods, and an endless belt connecting the wheels, of a supporting roller adapted to carry the cloth or fabric, and to

and from which the sizing roller is adjusted, guide rollers adapted as supports for the cloth or fabric prior to its contacting with the supporting roller, guide rollers located in front of and at the rear of the supporting roller for the purpose described, a doctor engaging with the supporting roller, and an extension from the sizing tank adapted to receive material that may flow down the fabric, as and for the purpose set forth.

WILLIAM BAILEY.

Witnesses:
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