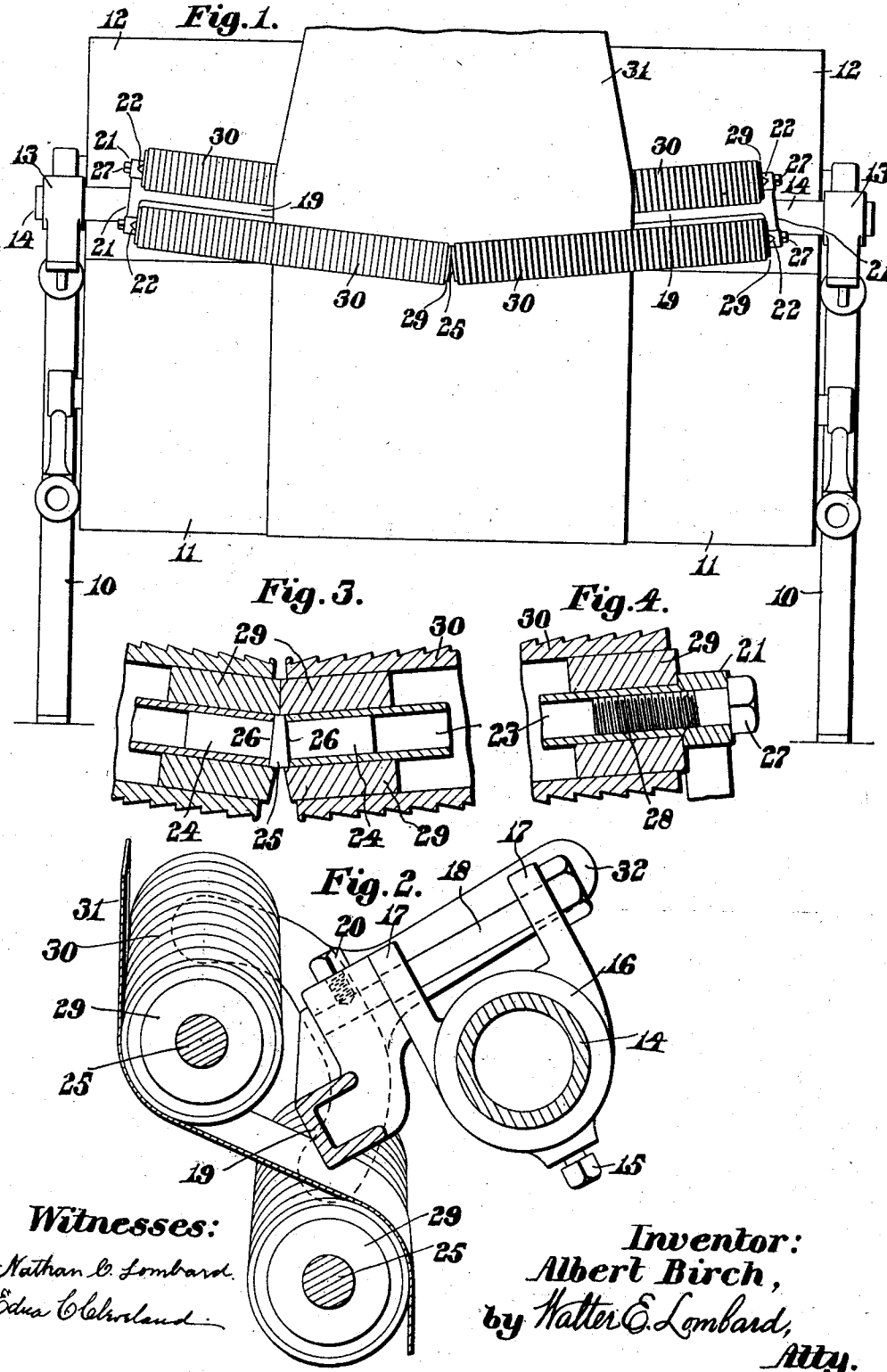


A. BIRCH.
CLOTH SPREADER AND GUIDER.
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992,703.

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UNITED STATES PATENT OFFICE.

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CLOTH SPREADER AND GUIDER.

992,703.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT BIRCH, a citizen of the United States of America, and a resident of Belmont, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Cloth Spreaders and Guiders, of which the following is a specification.

This invention relates to devices for guiding fabrics and incidentally opening and smoothing out the crimps and creases therein, the device being adapted for use in connection with drying machines or a variety of other machines used in the manufacture of textile fabrics.

The particular object of the invention is the construction of the support for the revoluble grooved rollers which guide the fabric as it passes to or from one of the machines to which the device is applied.

The invention consists in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents an elevation of a device embodying the features of the present invention, shown as applied to a drying machine. Fig. 2 represents a transverse section showing the mechanism for pivotally connecting the device to a transverse pipe secured to the frame of the drying machine. Fig. 3 represents a longitudinal section through the opposed ends of two of the rollers and the tubes on which they are mounted and showing in elevation the connection between the tubes, and Fig. 4 represents a similar view of the opposite end of one of said tubes and the roller mounted thereon and showing the means for connecting the tube to the end flange of the pivoted support.

Similar characters designate like parts throughout the drawings.

In the drawings, 10 represents the side frames of a drying machine on which are revolubly mounted the drying cylinders 11 and 12. In suitable brackets 13 secured to the side frames 10 is mounted a non-revoluble pipe 14 extending transversely of the drying machine in front of one of the cylinders 12. Clamped to the pipe 14 midway between the brackets 13 by means of the set screw 15 is a member 16 provided with two parallel arms 17 in which is mounted an

oscillating stud 18, the inner end of which is secured to the support 19 by means of the set screw 20. At each end of the support 19 is an end flange 21 provided with two notched recesses 22 adapted to receive the projecting outer ends of two parallel tubes 23 extending toward similar tubes extending from the opposite end flange and inclined slightly relative to the first-mentioned tubes. The inner opposed ends of the tubes 23 have inserted therein the shanks 24 of the member 25, said shanks being slightly inclined to each other. The inner ends of the tubes 23 contact with the inclined faces 26 of said member 25, thereby limiting the movement of said tubes toward each other. Through each end flange 21 extend the bolts 27, the shanks of which are threaded as at 28 to the interior of the outer ends of the tubes 23. These threaded bolts or members retain the shouldered ends of the tubes 23 in the notches 22 and prevent the rotation of said tubes. On each end of the tubes 23 is a bushing 29 upon which is mounted a revoluble roller 30 having a plurality of grooves extending around its periphery which are adapted in the revolution of said roller to engage with the fabric 31 passing between the rollers 30 to cause said fabric to be opened up and spread outwardly from the center, thereby removing all of the creases and crimps in the same. These bushings 29 are preferably composed of hard wood soaked with oil which will lubricate the bearing surface upon the tubes 23 so that the rollers 30 will freely revolve. The ends of the bushings 29 at the inner ends of the tubes 23 are tapered and project slightly beyond the ends of the rollers 30, and in their revolution at one point they contact with one another. By this construction the inner opposed ends of the rollers 30 are close to one another so that the fabric being spread has no opportunity of passing between the ends of the rollers.

During the operation of spreading the fabric 31 the support 19 is free to oscillate about the pivot 18, the amount of oscillation being limited by means of the arms 32 extending rearwardly from each end of the support and coming into contact with the pipe member 14, thus limiting the movement in either direction. Normally both of the arms 32 are removed from the pipe member 14 giving slight oscillatory movement to

the device about the pivot 18 as the fabric 31 passes between the parallel rollers 30 and is spread outwardly from the center.

It is believed that the operation and many advantages of the invention will be fully understood without further description.

Having thus described my invention, I claim:

1. In a device of the class described, the combination of a pivoted support having end flanges inclined toward each other; two parallel tubes secured to each flange and extending toward each other at an angle; a member the central portion of which is of the same diameter as the periphery of said tubes and having two faces inclined to each other and projecting shanks positioned within the opposed ends of each pair of tubes; and a grooved roller revolvably mounted on each tube and having a bearing fitting over the periphery of one end of the central portion of said member and the end of one of said tubes.

2. In a device of the class described, the combination of a pivoted support having end flanges inclined toward each other; two parallel tubes secured to each flange and extending toward each other at an angle; a member the central portion of which is of the same diameter as the periphery of said tubes and having two faces inclined to each other and projecting shanks positioned within the opposed ends of each pair of tubes; a grooved roller for each tube; and a bushing in each end of said roller having a central bore one of said bushings fitting over the periphery of one end of the central portion of said member and one end of one of said tubes.

3. In a device of the class described, the combination of a pivoted support having

end flanges inclined toward each other; two parallel tubes secured to each flange and extending toward each other at an angle; a member having two faces inclined to each other and projecting shanks positioned within the opposed ends of each pair of tubes; a grooved roller for each tube; and a bushing of oil-soaked material in each end of said roller having a central bore for one of said tubes.

4. In a device of the class described, the combination of a pivoted support having end flanges inclined toward each other; two parallel tubes secured to each flange and extending toward each other at an angle; a member having two faces inclined to each other and projecting shanks positioned within the opposed ends of each pair of tubes; a grooved roller for each tube; and a bushing in each end of and projecting beyond the end face of said roller having a central bore for one of said tubes.

5. In a device of the class described, the combination of a pivoted support having end flanges inclined toward each other; two parallel tubes secured to each flange and extending toward each other at an angle; a member having two shanks extending into the ends of a pair of opposed tubes and securing them together; means extending through each flange into the bore of said tube and adapted to prevent the rotation of said tubes; and grooved rollers having tapered bushings extending beyond the inner ends thereof and contacting at one point.

Signed by me at 4 Post Office Sq., Boston, Mass., this 6th day of May, 1910.

ALBERT BIRCH.

Witnesses:

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