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J. H. ANDRESEN

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APPARATUS FOR TREATING TEXTILE FABRICS

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Fig. 1.

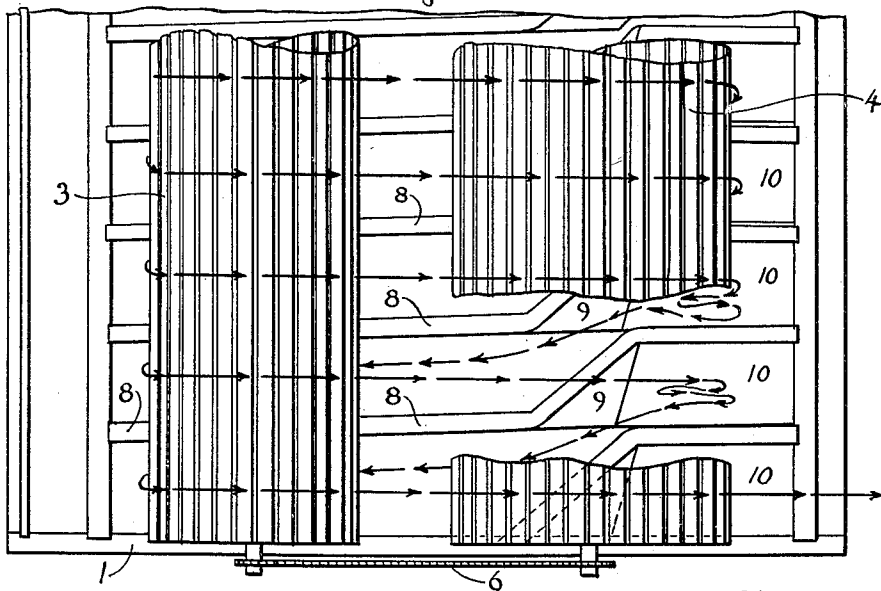


Fig. 2.

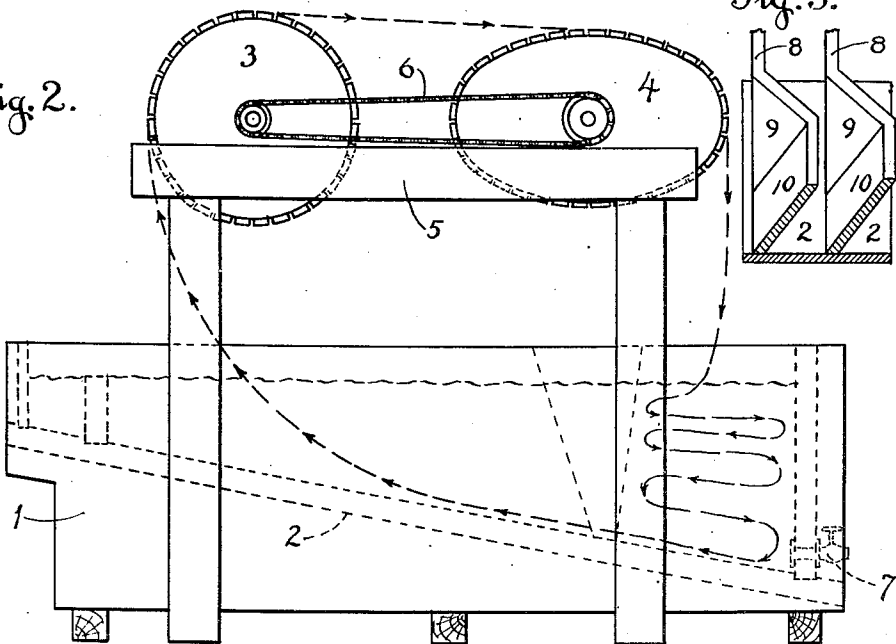
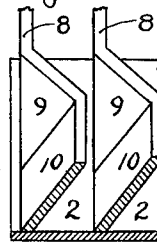


Fig. 3.



Inventor
JOHN H. ANDRESEN
By Attorney
Francis C. Boyle

UNITED STATES PATENT OFFICE

JOHN H. ANDRESEN, OF GLEN ROCK, NEW JERSEY

APPARATUS FOR TREATING TEXTILE FABRICS

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This invention relates to improvements in apparatus for treating textile fabrics, and particularly to that type of apparatus in which the fabric is caused to travel repeatedly from one side to another of a liquid-container, said container being provided with a plurality of partitions dividing it into separate compartments, the fabric passing through successive compartments during its travel from one end of the container to the other. The principal object of the invention is to provide a container having partitions of special form and so disposed relatively to the bottom of the container as to be of material assistance in directing the movement of the fabric through the liquid in the container.

Other objects and advantages of the invention will appear as the description proceeds, reference being had to the accompanying drawing, in which

Fig. 1 is a plan view of a portion of a fabric-treating vat embodying the features of the present invention;

Fig. 2 is an end elevation of the vat; and

Fig. 3 is a fragmentary sectional view of two of the partitions.

Referring to the drawing, 1 designates a vat provided with the usual inclined bottom 2, and a pair of feeding reels 3 and 4 mounted for rotation in end frames 5 which extend above the vat, the reel 4 being shown of oval form in cross section. It will be understood, however, that both of said reels may be round or both oval if desired. The reels are shown herein connected by a sprocket chain 6 running over sprockets secured to the shafts of the respective reels, motion being received by one of said shafts from a suitable source of power, not shown. The vat is provided with a valved liquid-supply inlet 7 disposed near its bottom at that side of the vat where the bottom is lowest. All of this mechanism is well known in the art and further description is therefore unnecessary.

Vats such as that above described are usually provided with partitions dividing the same into a plurality of compartments containing a liquid, and the fabric to be treated is conveyed across the vat once through the liquid in each compartment.

However, in transferring the fabric from one compartment to the next it has been found difficult in practice to avoid damaging the fabric by friction with the partitions or undue strain caused by leading the fabric from one reel to the other at an angle to the axes of the reels. The present invention is intended to overcome these disadvantages by providing a special form of partition whereby there will be no friction between the fabric and any part of the vat and, which partition will so direct the fabric as it falls from the delivery reel that it will pass to the take-up reel in a line practically at right angles to the axis of said reel.

As shown herein, each partition comprises three distinct parts 8, 9 and 10. The part 8, disposed below the take-up reel, is disposed in a vertical plane substantially at right angles to the side walls of the vat. The opposite end portion 10 of each partition is displaced so as to be out of alinement with the portion 8 of the same partition and practically in alinement transversely of the vat with the portion 8 of the next adjacent partition. Moreover, the portion 10 is disposed in a plane inclined with relation to the portion 8, the angle of inclination being such that the extreme lower edge of each portion 10 is almost in a vertical line with the upper edge of the portion 10 of the next adjacent partition. The portions 8 and 10 of each partition are connected together by the intermediate portion 9, which consequently is angularly disposed relatively to both of said portions 8 and 10, the said portion 9 being also disposed in a plane inclined from the vertical in the same manner as the portion 10. With the partitions so disposed, the top portion of each compartment at one side of the vat will be out of alinement with the same compartment at the other side of the vat and practically in direct alinement with the adjacent compartment at the latter side.

The operation of the apparatus above described is as follows:

Assuming that the reel 4 is the delivery reel and the reel 3 the take-up, and that the fabric is traveling in the direction indicated by the arrows shown in the drawing. The

fabric will drop from the reel 4 on to the inclined portion 10 of each partition, and, owing to the inclination of said portion the coils of the fabric delivered by reel 5 cannot
 5 "pack" on the lowermost coil, but the latter will slide down the inclined wall of the portion 10 into a position beneath the top of the adjacent portion 10 of the next partition and in a line approximately at right angles with
 10 the axis of reel 3. The lowermost coils of the fabric are thus able to get away from the crowding or packing action of the coils subsequently delivered and therefore are free to move toward the reel 3 without any straining
 15 pull and without any friction whatsoever.

Having thus described my invention, what I claim is:

1. In an apparatus for treating textile fabrics, a vat, and a plurality of transversely
 20 extending partitions dividing said vat into a series of compartments, each of said parti-

tions comprising a vertical portion, a portion lying in a plane inclined with relation to said vertical portion and out of longitudinal alinement therewith, and an intermediate portion connecting said vertical and inclined portions. 70

2. In an apparatus for treating textile fabrics, a vat, and a plurality of transversely extending partitions dividing said vat into a series of compartments, each of said partitions comprising a vertical portion, a portion
 75 lying in a plane inclined with relation to said vertical portion and out of longitudinal alinement therewith, and an intermediate portion connecting said vertical and inclined
 80 portions, said intermediate portion also lying in a plane inclined with relation to the vertical.

In testimony whereof I have signed my name to this specification. 85

JOHN H. ANDRESEN.

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