METHOD OF ELIMINATING STRAIN IN FABRIC
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When subjecting fabrics and knitted goods to different processing procedures and when handling such goods between or following the various processing stages, for example, in textile factories and ready-made-clothing factories, great difficulty is encountered in preventing the occurrence of the strains or in removing such strains that arise, for example, when handling or when treating the goods in different machines.

When a fabric passes through textile measuring machines strains may arise by reason of the action of certain controlling members, or strains may be created by the weight of the cloth itself.

A method that has been employed to eliminate certain of these strains has involved the step of allowing the fabric to lie folded in loose reverse folds for a sufficiently long time between the individual processing steps that the strains have been partly released. This has, however, increased the time of processing and consequently has also increased the processing cost.

When it is being handled, a fabric can be considered to be affected chiefly by two types of forces, i. e.:
1. Outer forces, for example attraction forces, that arise between the bed and the fabric.
2. Inner forces that arise between the different threads or fibers of which the fabric is formed.

It is the object of the present invention to solve the above-mentioned problem.

The present invention relates to a method of handling or treating knitted fabrics and the like while resting on or moving across a bed, to eliminate and/or prevent the creation of length-changing stretching in the goods caused by the friction against the bed having to be overcome by an outer force.

In accordance with the method of the invention, the bed over which the goods pass is subjected to horizontal and/or vertical vibrations. In this way the strains in the fabric are eliminated and/or prevented.

The fabric can during this treatment be loaded with weights, if desired. These weights can suitably be of any angular shape and may be movably fastened to the vibrating bed. The weights can be formed from strips of pasteboard or metal or the like and are advantageously balanced in such manner that movement of the fabric under the weights is not prevented when the bed is vibrating.

The method of arrangement according to the invention has many applications in accordance with the various treatments to which textiles and knitted fabrics are subjected. The method can thus be used in connection with the measuring control of textile and knitted fabrics, which are measured in different types of measuring machines. When measuring textiles and knitted fabrics during continuous processing in, for example, textile plants and factories for ready-made-clothing, the method according to the invention also offers considerable advantages. This is also the case when laying out and cutting or laying out and chalking patterns on such fabrics.

In processing steps involving measuring in combination with cutting, the process of the invention insures that the lengths are accurately measured and that the spreading out around an average value is reduced to a minimum.

The method according to the invention will be found advantageous also in connection with the processing of moving fabrics.

The method can furthermore be applied between two or more textile processing steps. Thus, vibration can take place according to the invention during the step of fulling and darning and/or after fixing, decatizing, drying and pressing. The method according to the invention can also be used for other textile procedures. For example, after fixing, the fabric is vibrated and thereafter dried mechanically. In accordance with another embodiment decatizing takes place first, whereupon vibration follows, and thereafter the goods are stored. Further, the textile can be vibrated after drying and then steamed. Still another procedure involves vibrating the textile after pressing has taken place and then drying it. After pressing the goods can in known manner be rolled on to a rotating cylinder. This cylinder can be subjected to vibration in accordance with the invention.

The invention is more fully explained in connection with the drawings, which show diagrammatically different adaptations of the process according to the invention.

Fig. 1 shows the method applied to the measurement of fabrics;
Fig. 2 shows the method applied to the cutting of fabrics;
Fig. 3 shows the method applied to the step of moving the fabric;
Fig. 4 shows the placing of the folded goods on a plane bed between two textile processing stages;
Fig. 5 shows the placing of the folded goods on a curved bed between two textile processing stages;
Fig. 6 shows the continuous placing of the goods on a plane bed between two textile processing stages.

In Fig. 1 the folded cloth 2 is shown lying on a table 1. The cloth extends from table 1 across a shaking table 3, and at 5 is shown again folded and lying on a table 6. By reason of the vibration of the shaking table 3, the strains in the piece of cloth lying on the table will at least be partly eliminated. Weights 4 are shown diagrammatically and are placed on the cloth in order to eliminate creases or the like on the surface of the goods. These weights can be movably fastened to the shaking-table in such a way, for example, that they can be tilted to one side when not in use.

According to Fig. 2, the folded cloth 2 is conducted from table 1 across the shaking-table 3. In this case also, longitudinally extending weights 4 can be arranged, which, as in the arrangement of Fig. 1, can extend along the entire length of the shaking-table. A cutting arrangement is marked 7. After having been subjected to vibration in accordance with the invention, the cloth can be cut by this device.

In Fig. 3, the folded goods 2 pass from table 1 via a tilted shaking-table 3.

This type of treatment is generally intended to lead the material to a measuring member. Weights 4 can also, in this case, be used. The tilting angle α of the shaking-table depends on the quality of the material and can vary between 0° and 45°.

Instead of being folded on the table 1, as shown in the figures, the goods can, of course, also be rolled.

In Fig. 4 the textile processing step takes place at 8. After this treatment the material is folded on a shaking-table 3. The folded material 9 is subjected to vibrations.

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according to the invention. After vibrating, the goods can be subjected to the next textile process at 10.

As shown in Fig. 5, the goods after a processing stage at 11 are folded on a shaking-table 3, the top construction 12 of which forms a curved surface for the folded material 13, and the material can, after vibration, be treated in the next textile processing step at 14.

Fig. 6 shows a length 16 of goods coming from a treatment at 15 and passing via a shaking-table 3 on to the next treating step at 17. Weights 4 are advantageously applied to the goods.

The vibrations can occur in a horizontal and/or vertical direction. Horizontal vibrations can also occur in the longitudinal direction of the bed as well as cross-wise or in an intermediate direction. The direction of the vibration can also lie at an oblique angle with respect to the plane of the table. In this case, the vibrations are composed of horizontal as well as vertical components.

The bed on which the material is treated according to the method of the invention can, as mentioned above, be plane or curved, but it is, of course, also possible to shape the bed in any other convenient manner.

We claim:

1. In the processing of fabrics in a plurality of processing stages, a process of eliminating strains from a dry fabric and preventing the occurrence of further strains which comprises the steps of passing the fabric being processed over a planar bed with said fabric extending in a plane longitudinally of said bed and parallel thereto and at least temporarily in contact therewith, and simultaneously vibrating said bed with the fabric lying in a plane thereon, whereby said vibrations are transferred to said fabric throughout said plane.

2. In the processing of fabrics in a plurality of processing stages, a process of eliminating strains from a fabric and preventing the occurrence of further strains which comprises the steps of passing the fabric being processed over a bed with said fabric extending in a plane longitudinally of said bed and at least temporarily in contact therewith, and simultaneously vibrating said bed with the fabric lying in a plane thereon, whereby said vibrations are transferred to said fabric, static pressure being applied to said fabric during the vibration thereof while over said bed.

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