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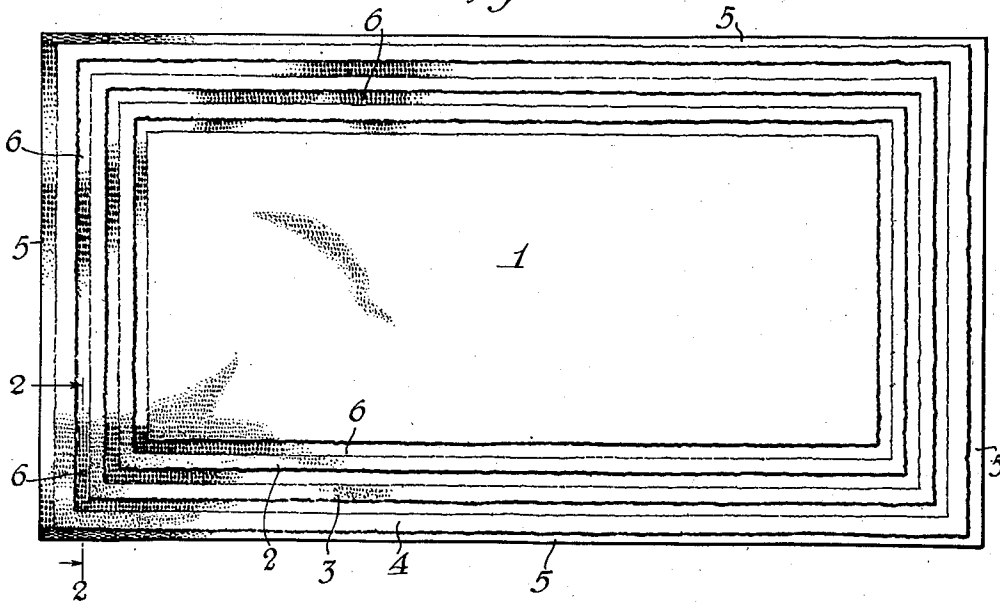
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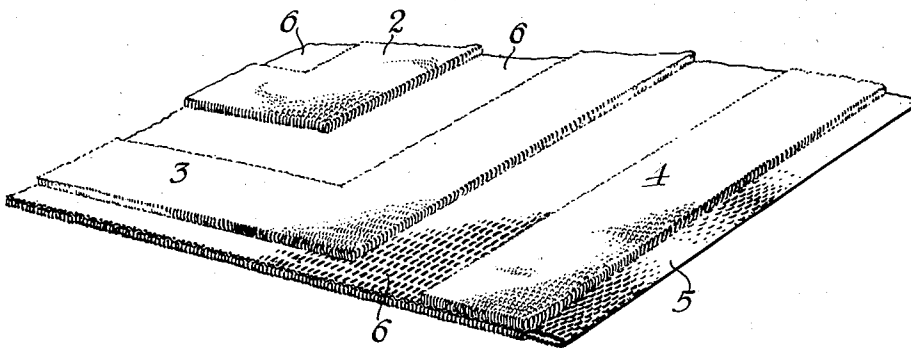
TERRY WOVEN FABRIC

Filed July 9, 1930

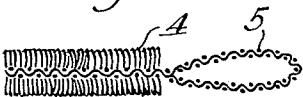
*Fig. 1*



*Fig. 2*



*Fig. 3*



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## UNITED STATES PATENT OFFICE

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## TERRY-WOVEN FABRIC

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This invention pertains to selvages of terry-woven fabrics and articles, and consists in weaving such selvages in tubular form, or each comprising two separate plies, one overlying the other, the two plies being united at their outer longitudinal edge and along the line of their meeting with or merging into the terry ground, and in the finished or commercial product, lying flat and smooth, one upon the other.

The purpose of the invention is to produce terry piece goods and terry-woven articles such as towels, bath mats, wash cloths, and the like, in which the selvages and the intermediate terry ground shall be and remain equal in length throughout the fabric, and hence permit such fabric to lie flat and smooth upon a floor or other surface, without any puckering of the terry-woven or pile-bearing portion, such as is often found in terry fabrics.

The invention will be more readily understood when the description is read in connection with the accompanying drawings, in which:

Figure 1 is a plan view of a bath mat having a rectangular terry surface constituting the main portion of the mat, and three narrow lines of terry or pile weaving encompassing the main or enclosed portion;

Figure 2 is a sectional perspective view, taken on the line 2—2 of Fig. 1, looking in the direction indicated by arrows;

Figure 3 is an enlarged or exaggerated sectional view of the two-ply selvage, opened, or having the plies separated, better to show its tubular character.

Referring to the drawings, the numeral 1 designates the main or central piled surface; the numerals 2, 3 and 4 designate parallel encompassing lines or rows of pile or loops; and the numeral 5 designates the selvages. 6 designates the ground or backing which carries and binds the loops or pile constituting the raised surface. The tubular character of the selvage 5 is seen at the right-hand side of Fig. 2, and on an exaggerated scale in Fig. 3.

To make clear the purpose and beneficial effects of the present invention, it may be stated that the universal practice in the weaving of terry fabrics down to the present time,

so far as I have been able to ascertain, has been to employ a loom equipped with a single warp beam carrying both those warp threads which carry and tie in the loops or pile of the terry area and constitute the ground thereof, and the warp threads of the selvages, said beam letting off both sets of warp threads simultaneously and equally.

In such weaving, the ground warp threads are taken up or shortened by the bends which they make in passing alternately over and under the weft thread, influenced of course by the tension or tautness of the warp threads. If fewer or shallower bends are made, there will be less take-up of the warp threads than if more or deeper bends are produced. It is customary to lift and lower the warp threads of the terry ground so that they shall pass alternately over two and under one weft pick, then over one and under two weft picks, and so on continuously. In this way but two bends are made in the warp threads of the terry ground for three picks or three stretches of the weft threads, laid transversely of the fabric.

The warp threads of the selvages, however, raised and lowered by harnesses distinct from those which raise and lower the terry ground warp threads, are actuated by means which cause the selvage warp threads to be lifted and lowered to pass alternately or successively over and under successive stretches of the weft thread, and between each two stretches or picks thereof, so that the number of bends of the warp threads of the selvages equals the full number of picks of weft thread.

It is found in actual weaving that this greater number of bends of the selvage warp threads causes a contraction of the selvages to the extent of about one inch more to the lineal woven yard than is caused in the terry ground warp threads. This unequal contraction of the terry and of the selvage warp threads is obviated by the tubular selvage produced in the manner now to be described.

In weaving this selvage two distinct sheds are formed, one-quarter of the selvage warp threads being operated jointly, and the four series of such threads being designated as first, second, third and fourth. On the first

pick, the first series is lifted and the second, third and fourth series are lowered. On the second pick, the first, second and third series are lifted, and the fourth series is lowered.

On the third pick, the second series is lifted and the first, third and fourth series are lowered. On the fourth pick, the first, second and fourth series are lifted and the third series is lowered. This sequence is repeated to the desired extent, two separate pieces of cloth being woven, joined together of course at the outer longitudinal edge by the filling thread as it goes first into one and then into the other layer constituting the tubular selvege. The result is a plain weave such as is commonly used for producing sheeting, the difference being that in forming the tubular selvege four series of warp threads are used instead of two, thus producing two layers of cloth instead of one.

The tubular selvege accordingly has only one-half the number of weft threads in each layer of cloth as compared with the usual type of selvege. In other words, if there be sixty threads of filling to the inch, there will be only thirty threads of filling to the inch in each layer of the tubular selvege, and the warp threads are therefore required to bend around only thirty filling threads instead of sixty. This of course reduces the contraction or take-up of the warp threads one-half.

With this method of weaving a selvege, actual practice has demonstrated that the take-up of the selvege warp threads is no greater than the take-up of the ground warp threads in the terry-woven area of the fabric, bath mat, towel, or other types of terry-woven fabrics, thus leaving the selvege the same length, or practically the same length as the terry-woven area, and preventing the puckering or crinkling of the terry-woven portion next to the selvege.

The order or sequence in which the selvege warps are lifted may be varied to produce different effects, as, for instance, a twilled effect, without departing from the spirit and scope of my invention.

So, too, four-pick cams, or dobby mechanism, or jacquard mechanism may be employed instead of three-pick cams, for actuating the harness controlling the ground warp threads. This is in some cases desirable, since sharper or more distinct and upstanding boundaries of the terry areas are thus produced.

The design of the woven product may of course be varied at will, and that illustrated is merely typical of many.

It is practicable, and may be desirable, to employ jacquard and dobby mechanism, or mechanisms of like character, for lifting and lowering the selvege warp threads. Mechanism suitable for weaving terry fabric with tubular selvages may, in other words, vary somewhat widely in its construction, but as

the present application is confined to the product, and as weaving mechanism appropriate to the production of such tubular selvege is well-known to those engaged in textile weaving, it is deemed unnecessary to illustrate or describe the same.

It is possible, and conceivably may be desirable in some instances, to form the selvages with more than two plies, and this is within the scope and spirit of my invention, though it is believed that the tubular or two-ply selvege meets all requirements and produces the most satisfactory product.

It is particularly to be noted that the tubular selvege herein set forth is of integral structure, woven simultaneously with and as a part of the main body of the fabric, the weft threads of the selvege or selvages being common thereto and to the body of the terry fabric. No further or after treatment of any character is required or employed for uniting the longitudinal outer edge of the two plies of the selvege, and nothing is added thereto. It is made complete and integral in the single weaving operation and without added expense or cost.

What is claimed is:—

1. As a new article of manufacture, a terry fabric having a tubular selvege formed integral with the body of the fabric, of the weft thread of said body carried outward to the outer longitudinal edge of the selvege and thence back into said body.

2. A terry fabric having selvages woven integral therewith, each selvege comprising at least two plies, said plies united at their outer and inner longitudinal edges by the weft threads of the ground of the fabric.

3. A terry fabric having a selvege of tubular form, composed of a plurality of plies joined at their outer and inner longitudinal edges by weft threads common to the selvege and to the ground of the terry-bearing portion of the fabric.

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

JOHN L. PATTERSON.