Jan. 11, 1938. H. B. JACKSON 2,105,190

WOVEN FABRIC

Filed July 29, 1935

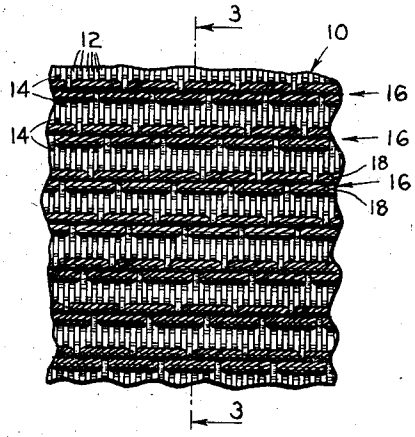


Fig. 1.

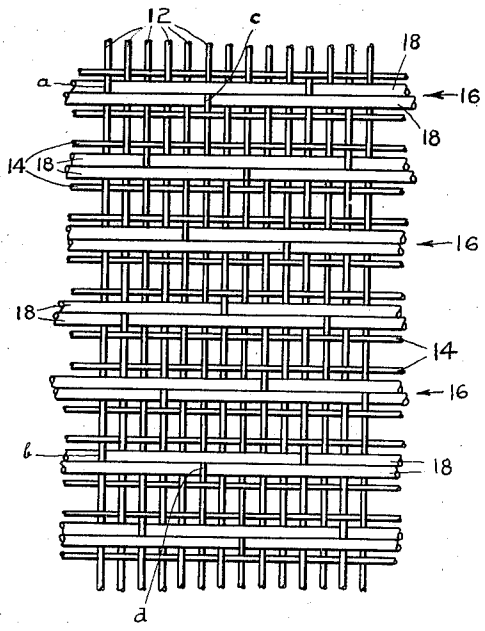
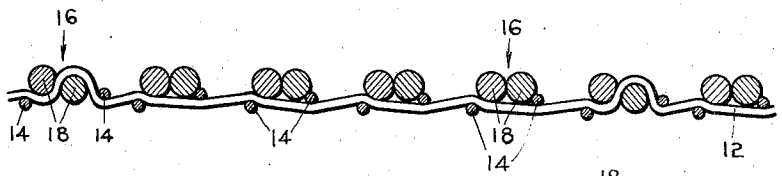


Fig. 2.

Fig. 3.



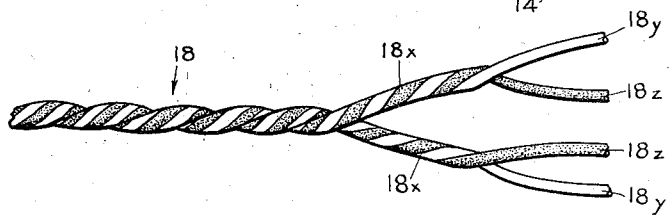


Fig. 4.

INVENTOR
HOWARD B. JACKSON.
BY Edwin Reinstein
ATTORNEY

Patented Jan. 11, 1938 2,105,190

UNITED STATES PATENT OFFICE

2,105,190

WOVEN FABRIC

Howard B. Jackson, Kings Mountain, N. C., assignor to Neisler Mills, Inc., Kings Mountain, N. C.

Application July 29, 1935, Serial No. 33,638

1 Claim. (Cl. 139—418)

The present invention relates to a woven fabric, and more particularly, to a woven fabric intended for use as coverings for upholstered furniture.

One object of the invention is to provide a woven fabric of novel appearance having a ribbed face or "right side" and a smooth back or "wrong side".

Another object of the invention is to provide a woven fabric having a ribbed surface of variegated appearance.

Another object of the invention is generally to produce at low cost a strong woven fabric provided with a ribbed surface of pleasing appearance.

The above objects of the invention and other objects ancillary thereto will best be understood from the following description considered with reference to the accompanying drawing.

In the drawing:

Fig. 1 is a face view on an enlarged scale of a swatch of fabric of the present invention;

Fig. 2 is a more or less diagrammatic face view of the present fabric, showing threads displaced from their normal position, for the sake of clearness in illustration of the weave of the fabric;

Fig. 3 is a sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a fragmentary enlarged view of a rib-forming thread, with parts of the yarn strands shown untwisted, for illustration purposes.

Briefly described, the fabric of the present invention, in one preferred embodiment, comprises a foundation, consisting of fine warp threads disposed in close side-by-side relation and of relatively widely spaced fine weft threads, and rib-forming coarse weft threads of variegated appearance projecting from a surface of said foundation and held thereon by a relatively small number of widely spaced fine warp threads of said foundation. The coarse weft threads are disposed in pairs arranged in close side-by-side relation, each pair forming a single rib. The ribs thus formed are disposed in relatively closely spaced relation, the space between adjacent ribs being substantially equal to the width of one rib. Each coarse weft thread is constituted by a pair of twisted strands of differently colored pre-dyed yarn twisted together with a similar pair of twisted strands whereby each of said weft threads has a variegated appearance and when woven with the foundation threads to form the ribbed fabric, imparts to the latter a variegated appearance. The fabric may be made of any suitable material, such as, cotton, natural or artificial silk, wool, or combinations of such materials.

Referring to the drawing in detail, and first to Fig. 1 the present fabric comprises a foundation 10, consisting of fine warp threads 12 disposed in close side-by-side relation and of fine weft threads 14, and has a ribbed surface provided by ribs 16. Each of said ribs is constituted by two coarse weft threads 18, 18 disposed in close side-by-side relation, the ribs 16 being spaced from each other by an amount substantially equal to the width of a rib or of two of the rib-forming weft threads 18.

The rib-forming weft threads 18 are secured to the foundation 10 in such manner as to project maximally beyond the surface of said foundation. For this purpose, said threads are secured to the foundation 10 by a relatively small number of widely spaced warp threads 12, the arrangement being such that the particular warp threads which engage one of a pair of rib-forming threads 18 do not engage the other thread of said rib, but float under the latter and under several other pairs of rib-forming threads before engaging another of a pair of such threads. Thus, for example, referring to Fig. 2, it will be observed that a warp thread 12 engages one of the weft threads 18 at the point *a*, then floats under the companion thread 18 and under four pairs of ribbed threads, after which it engages at *b* a rib thread 18. The rib-forming thread 18, which is the companion of the thread engaged at *a*, is secured at *c* by a foundation warp thread 12, which is relatively widely spaced from the warp thread 12 which engages the other thread 18 of said pair and, like the latter, the warp thread 12 which engages the thread 18 at *c* then floats under four pairs of threads 18 and under the thread 18 which is engaged at *b*, and then engages at *d* the companion thread 18 of the thread engaged at *b*. In like manner the other pairs of rib-forming threads are engaged by different warp threads at relatively widely spaced points whereby the weft threads 18, while securely held to the foundation, project maximally beyond the surface of the latter. It will be noticed that the fine weft threads 14 of the foundation layer are arranged in pairs so that there is a weft thread 14 disposed close to each weft thread 18 of a rib 16. As best shown in Fig. 3, the weft threads 14 are interwoven with each of the warp threads 12 and thus constitute binder threads and cause the warp threads 12, which engage the several weft threads 18, to engage

the latter throughout substantial portions of their peripheral surfaces.

An important feature of the present invention resides in providing the ribbed surface of the present fabric with a variegated appearance, which is produced simultaneously with the weaving of the fabric and without subsequent dyeing or printing processes. This is accomplished by utilizing a special weft thread which is constructed to have in itself, a variegated appearance, so as to obtain the desired effect when a plurality of such weft threads are woven into the fabric in producing the ribbed surface thereof. Accordingly, in accordance with the present invention, each coarse weft or rib-forming thread 18 comprises a pair of threads 18*x* formed by twisting together a pair of differently colored strands 18*y*, and 18*z*, respectively, the threads 18*x* being twisted together to form the thread 18. The strands 18*y* and 18*z* may differ in color or may differ with respect to the shades of the same color, and for the purpose of convenience in description, the term "differently colored" as used herein, refers either to different colors or to different shades of the same color. Thus, for example, a fabric of particularly pleasing appearance was produced in accordance with the present invention by weaving the foundation, including the fine warp and fine weft threads, of green threads of the same shade and in utilizing in conjunction therewith rib-forming weft threads 18 in which one of the yarn strands 18*y* was of the same color as that of the foundation threads, and the other yarn strand 18*z* was of a lighter shade of the same color. The fabric thus produced was found to have a pleasing variegated appearance, and by thus introducing into the rib-forming threads a yarn strand of a lighter shade it was found that the ribs appear to project further from the surface of the foundation thereby accentuating the ribbed surface. It was also found, by arranging the weft threads 18 in pairs that in addition to increasing the width of each rib the variegated appearance thereof was enhanced by reason of the displacement in companion weft threads of the differently colored portions thereof so that a portion of lighter color of one rib-forming thread did not coincide, except occasionally by chance, with a similar portion of the companion rib-forming thread. Other fabrics made in accordance with the present invention were provided with surface designs introduced during the weaving of the fabric by jacquard apparatus, portions of the ribs being dropped into the foundation for that purpose.

In Fig. 1 of the drawing, the fabric has been represented on an enlarged scale in the approximate ratio of 3 to 1, and in Fig. 4 of the drawing, the weft thread 18 has been represented on the enlarged scale approximately in the ratio of 6 to 1. Fig. 2 is drawn to about the same scale as Fig. 1, except that the threads have been displaced from each other for the purpose of more clearly illustrating the weave of the fabric. It will be understood, therefore, that in the actual fabric the threads are finer than as illustrated and that the ribs 16 are more closely spaced than as shown by Fig. 1. Also, in the finished fabric the warp threads which engage the rib-forming threads are substantially invisible and the foundation, as a whole, is virtually concealed, although readily seen upon close inspection.

Thus, it is seen that the fabric herein disclosed, is well adapted to accomplish the several objects of the invention, but it will be understood that while I have disclosed the preferred embodiment of the invention, certain changes which may occur to those skilled in the art in view of the present disclosure, may be made therein. Therefore, I do not wish to be limited to the precise fabric construction herein shown and described, except as may be required by the appended claim considered with reference to the prior art.

What is claimed as new and useful is:

A woven ribbed fabric comprising a ground of fine warp threads disposed in close side by side relation, ribs formed by pairs of relatively coarse weft threads which are held on one surface of said ground by a few widely spaced warp threads and projecting substantially maximally from said surface, the threads of each pair being disposed in contiguous relation, said pairs of weft threads being disposed in spaced relation on said ground whereby the latter is exposed to view between successive pairs of said weft threads, a fine weft thread lying close to a coarse weft thread of each pair, each of said coarse weft threads comprising a pair of twisted strands of differently colored pre-dyed yarn twisted together with a similar pair of twisted strands whereby the ribs have a variegated appearance, said exposed portions of the ground between successive ribs being composed substantially exclusively of said closely arranged fine warp threads.

HOWARD B. JACKSON.