Nov. 21, 1933. A. BAUER, JR., ET AL 1,936,495

TEXTILE FABRIC

Filed July 22, 1933

Fig. 1.

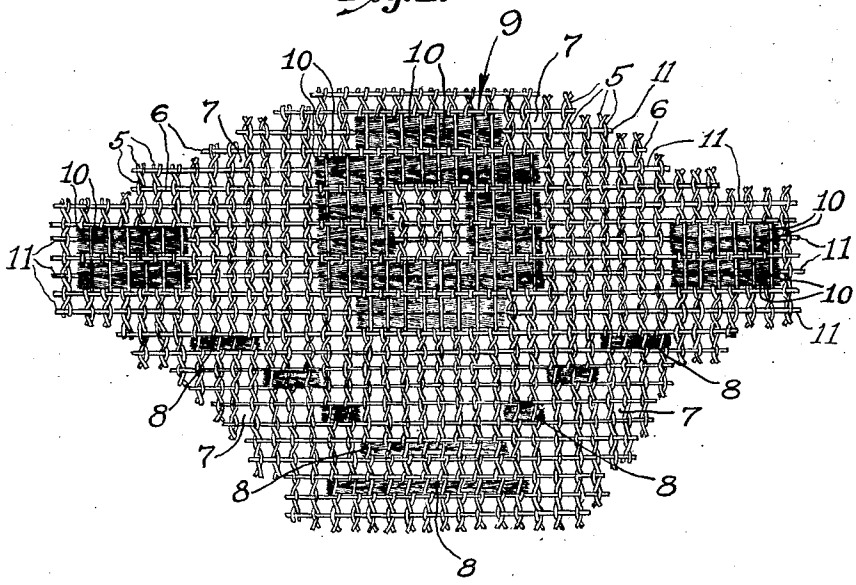


Fig. 2.

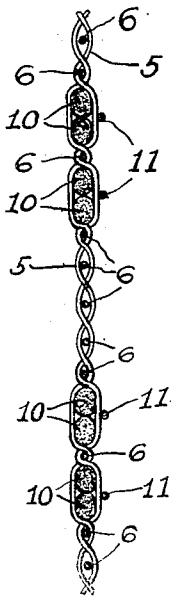
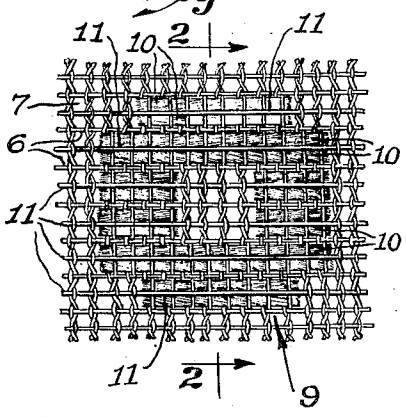


Fig. 3.



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Patented Nov. 21, 1933 1,936,495

UNITED STATES PATENT OFFICE

1,936,495

TEXTILE FABRIC

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Application July 22, 1933. Serial No. 681,786

3 Claims. (Cl. 139—416)

Our present invention relates to improvements in textile fabrics and method of producing the same, and particularly to fabrics of the open mesh or marquisette type having designs formed thereon by incorporating at the time of weaving filling threads or roving.

Prior to our invention, fabrics of the above type have been produced for many years with relatively fine warp and weft threads forming the base of the fabric. The roving, or design filler threads, are relatively heavy so as to fill the openings in the mesh and form designs on predetermined areas of the fabric. The usual method of producing these fabrics is to run shuttles containing the weft or ground picks entirely across the lay from selvage to selvage, and at certain times, according to the setting of the harness, some of the weft threads are floated entirely across the fabric from selvage to selvage so as not to interfere with the roving, and afterwards these floated threads are clipped off at the selvage. This results in considerable waste of yarn and does not produce as attractive design as is possible under our invention.

We have discovered that instead of floating the weft yarn entirely across the fabric from selvage to selvage, but by weaving all of the ground picks or weft in with the warp except at the areas where the roving is inserted, so that the ground picks will be floated only across the back of the roving but woven in with the warp between the ends of the design areas formed by the roving, a material saving in yarn is obtained and the design stands out much better against the open mesh background. The improved appearance is due to the fact that the pairs of roving can float together to make a more compact area and when the fabric is finished the design areas with the weft floated therebehind are more or less puffy. The saving in the yarn is due to the fact that it is not necessary when weaving, in accordance with our invention, to cut off long lengths of floated yarn between the selvages and throw it away. Furthermore, there is a saving in the time of the weaving operation for reasons hereinafter pointed out.

The invention will be better understood after reading the following description in connection with the accompanying drawing, wherein

Fig. 1 is an enlarged fragmentary plan view of the front or face of a fabric embodying our invention;

Fig. 2 is a view taken on the line 2—2 of Fig. 3; and

Fig. 3 is a fragmentary plan view looking at the rear of a portion of the swatch of Fig. 1.

In the drawing, the numeral 5 designates the warp threads which, as is well known, pass through and are manipulated by the harness of the loom to engage the weft threads 6 which, in connection with the threads 5, form a marquisette or open mesh fabric. The spaces 7 between the ground picks or weft threads 6 have heretofore been filled by roving or larger threads to form designs, and the numeral 8 designates roving threads inserted in the open mesh of the fabric in known manner. The roving threads 8 are engaged by such of the warp threads 5 as the set-up of the harness determines, and usually there are two strands of the roving 8 between adjacent ground picks 6 filling the openings 7 predetermined distances across the fabric. Part of the roving is floated and is clipped off after the weaving, so that the completed fabric presents the appearance of an open mesh background with filled in areas forming dots or designs thereon.

The numeral 9 designates generally a geometrical figure formed on the fabric in accordance with our invention by the roving strands 10. It will be noted that whereas the roving strands 8 occupy a line of spaces 7 between adjacent weft threads 6, that each pair of roving strands 10 forming part of the design 9, occupy two lines of spaces and that the weft thread 11, which is the same in diameter as the thread 6, is woven in with the warp threads 5 and is also floated behind and between the pairs of roving strands 10. In other words, under our invention, all of the weft threads are woven in with the warp threads between the selvages except at the points where those of the weft threads corresponding to the thread 11 pass or float over and between a pair of roving strands 10. This permits the rovings 10 to slide together and produces a puffy area more solid in appearance than where the rovings are inserted in the manner shown in connection with the rovings 8. If the design is formed entirely by weaving the rovings and the weft threads in the manner disclosed in connection with the rovings 8, it would be necessary on alternate picks to float the weft thread entirely across the fabric between the selvages and subsequently to shear off the entire length of floated weft threads. It is to be understood, of course, that if the space between the pairs of rovings 8 was also filled with roving, that the foregoing condition would exist, namely, that it would be necessary to float out alternate picks of the weft and subsequently shear them off and throw

them away. If both of the ground picks have been allowed to weave in, then we obtain the space between the rovings 8 and the rovings are definitely separated. Under our invention, all of the ground picks or weft threads are woven in with the warp threads up to the points where they pass across and between the rovings, and it is only a relatively short length of the ground pick, under most designs, that is floated out. This floated length of the ground pick being relatively short does not have to be sheared off, does not detract from the appearance of the finished fabric, but rather tends to puff the design out and to fill in any space which may accidentally occur between the pairs of rovings.

Under the old process, the shuttles must make approximately twice as many trips across the lay as under our invention in pattern on ground picks, and, therefore, we obtain in addition to the improved appearance and saving in yarn, also a saving in time in the weaving operation.

We wish it to be understood that the invention is not limited to the formation of any particular design in the open mesh of the fabric nor to the use of any particular type or color of roving, and that the figure illustrated in the drawing is purely illustrative. For instance, the larger figure in the drawing shows an open center, whereas the roving to the right and left of the main figure are arranged in short parallel stretches, and the invention covers both forms and any other design that may be produced so long as the weft threads are all woven in, except at the points where certain ones are floated across predetermined lines on the design or between the woven in pairs of roving.

We claim:

1. A textile fabric comprising warp and weft threads interwoven to form an open mesh base, filler threads of different character than the weft threads arranged in parallel rows of the open mesh between certain of the weft threads and interwoven with certain of the warp threads to form designs on the fabric where they fill the openings between the weft threads, and some of the weft threads being floated across and between the filler threads but also interwoven with the warp threads between the ends of the designs formed by the filler threads.

2. A textile fabric comprising relatively fine warp and weft threads interwoven to form an open mesh base relatively heavy, filler threads arranged in parallel rows of the open mesh between certain of the weft threads and interwoven with certain of the warp threads to form designs on the fabric where they fill the openings between the weft threads, and some of the weft threads being floated across and between the filler threads but also interwoven with the warp threads between the ends of the designs formed by the filler threads.

3. A textile fabric comprising relatively fine warp and weft threads interwoven to form an open mesh base relatively heavy, filler threads arranged in parallel rows of the open mesh between certain of the weft threads and interwoven with certain of the warp threads to form designs on the fabric where they fill the openings between the weft threads, and some of the weft threads being floated across and between the filler threads but also interwoven with the warp threads between the ends of the designs formed by the filler threads, there being one pick of the weft woven in with the warp in alinement with the division between each pair of picks of the filler.

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