

[54] **KNITTED FABRIC**
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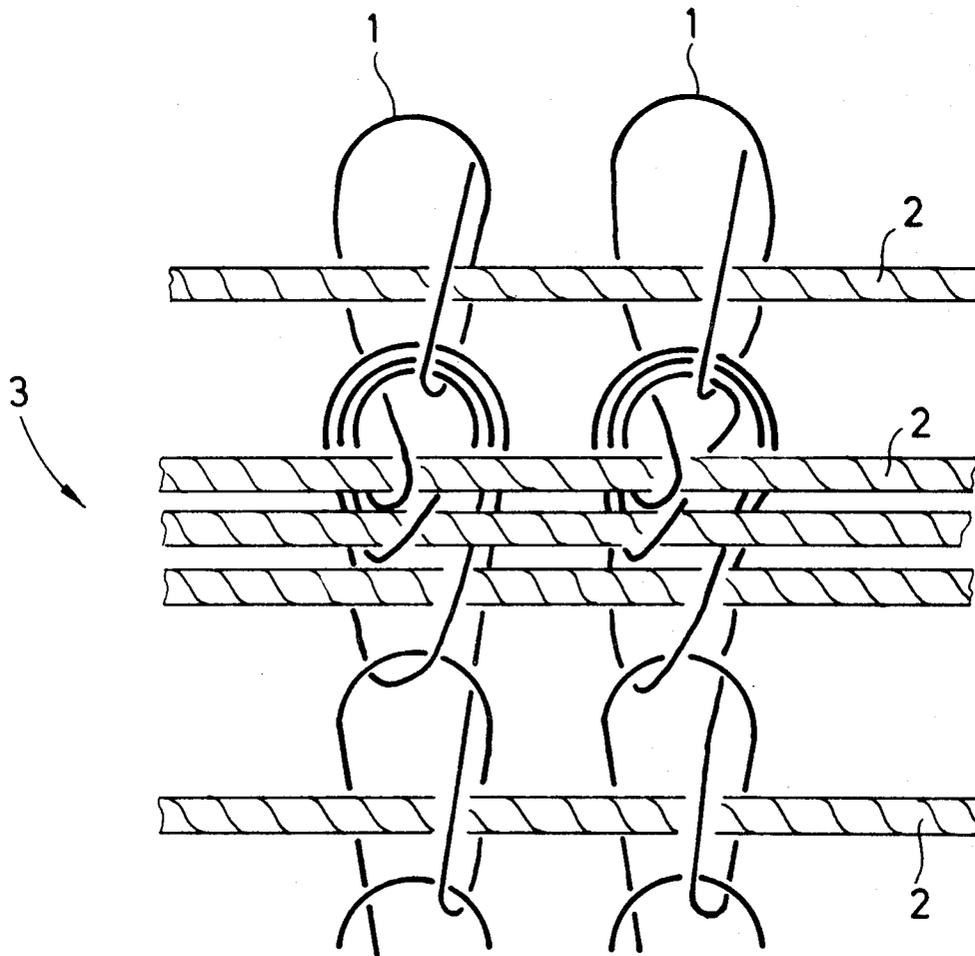
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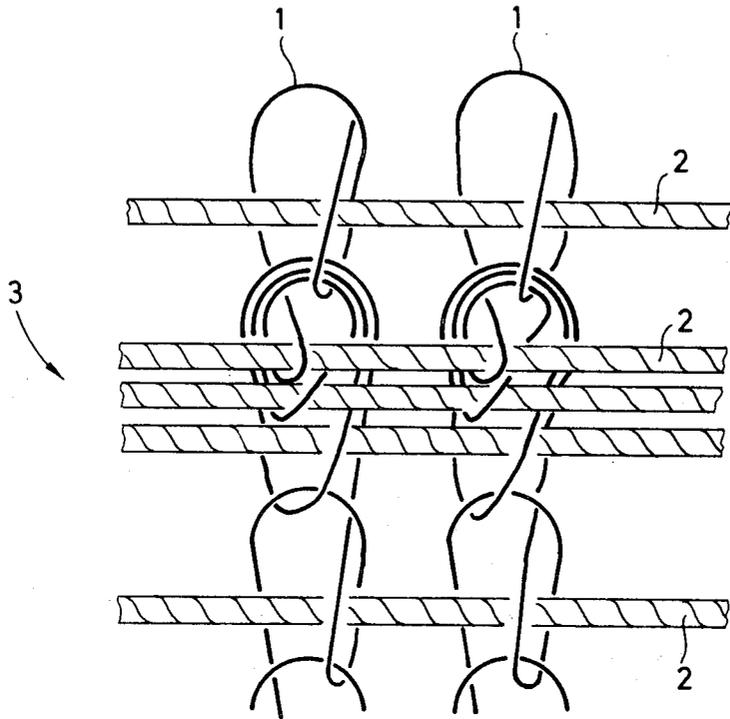
[57] **ABSTRACT**

A knitted fabric of warp wales and weft threads in interengagement with the loops of the warp wale stitches. At intervals, a plurality of the weft threads are bunched together in interengagement with the loops of a single stitch in each warp wale.

1 Claim, 1 Drawing Figure

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KNITTED FABRIC

The present invention relates to a knitted fabric comprising a multiplicity of substantially parallel warp wales constituted by rows of stitches forming loops and a multiplicity of substantially parallel weft threads in interengagement with the loops of respective ones of the stitches, the weft threads extending perpendicularly to the warp wales.

In the type of knitted fabric of this invention, the weft threads extend through the fabric to produce a kind of transverse nap effect.

This has been accomplished heretofore by alternating thin and thick weft threads. However, such fabrics have considerable disadvantages and, therefore, have had no commercial success. While heavier yarns, which produce the napping effect, are held in position by the stitches of the warp wales of these known fabrics, the low-denier yarns are necessarily loose in such a fabric. Furthermore, the napping effect cannot be limited to a single side of the fabric so that an unnecessarily heavy yarn must be used for the patterning effect, thus making the thinner yarns even looser in the fabric. Finally, once the pattern has been determined, it must be kept unless the pattern chain is changed.

It is the primary object of this invention to overcome these disadvantages and to provide a novel knitted fabric of the initially described type, which may have various and changing patterns on a single side of the fabric and without causing any looseness in any of the weft threads of the fabric.

The above and other objects are accomplished in accordance with the invention with a plurality of weft threads which are bunched together at intervals in interengagement with the loops of a single one of the stitches in each of the warp wales. Each such stitch is a knock-off lap and a respective weft thread is interengaged with a respective loop of the knock-off lap.

In such a fabric, no particular patterning thread need be used and the pattern may be produced on one side of the fabric only with two or more regular weft threads. Each weft thread is equally and uniformly held in the stitch loops. At each desired location, a plurality of weft threads are bunched together at a knock-off lap to provide a desired pattern on one side of the fabric.

The single FIGURE of the accompanying drawing shows a portion of a knitted fabric according to the present invention.

The drawing shows an enlarged elevational view of a portion of the fabric comprising warp or wale chain 1 constituted by rows of stitches forming loops and weft

threads 2 in interengagement with the stitch loops. At desired intervals, a bunch 3 of weft threads 2 is in interengagement with the loops of a knock-off lap in each of the warp wales.

The novel knitted fabric of this invention may be produced on knitting machines with bearded needles or latch needles, i.e., Raschel knitting machines. The warp wales 1 may be produced by a guide bar mechanism of conventional type and the weft threads 2 are either also laid by a guide bar or by a weft thread laying mechanism which reciprocates over the entire width of the machine.

The illustrated fabric is produced with the use of a weft thread laying mechanism and a warp knitting machine with bearded needles, requiring only a single guide bar for laying the warp wales 1, the guide bar cooperating with a presser which is so controlled by a pattern chain that it presses the knitting needles over one or more rows of stitches while being disengaged over one or more rows of stitches. The lapping movements are as follows:

Guide bar: 1-0-0/0-1-1/0-1-1/1-0-0

Presser: 0-0-0/0-0-0 (actuation of the presser)
/16-16-16/16-16-16 (presser disengaged)
/0-0-0 (re-actuation of the presser)/.

If the fabric is produced on a Raschel machine, it is also necessary to use a single guide bar only, in combination with a creping mechanism, i.e., a patterning control permitting the usual stitch loop formation for one or more rows of stitches while this stitch formation by the guide bar is interrupted subsequently for one or more rows. This produces the following lapping movements:

Guide bar: 2-0/0-2/0-2/0-2/2-0

Creping mechanism: 0-0/0-0 (stitch formation as usual) /24-24/24-24 (no stitch formation)/0-0 (usual stitch formation).

I claim:

1. A knitted fabric comprising a multiplicity of substantially parallel warp wales each constituted by a row of stitches forming loops and a multiplicity of substantially parallel weft threads in interengagement with the loops of respective ones of the stitches, selected ones of the stitches at intervals along the rows being knock-off laps each having a plurality of loops, and a like plurality of the weft threads at said intervals being bunched together in interengagement with respective ones of the loops of the knock-off laps in each of the rows, the weft threads extending perpendicularly to the warp wales.

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