Nov. 5, 1940. S. SHAGER 2,220,428

KNITTED FABRIC

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FIG 1

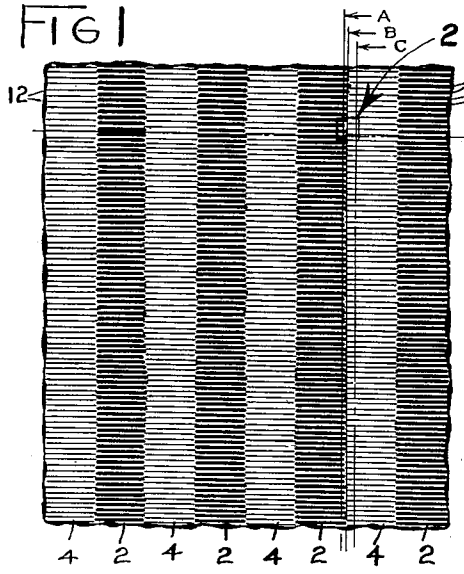


FIG 2

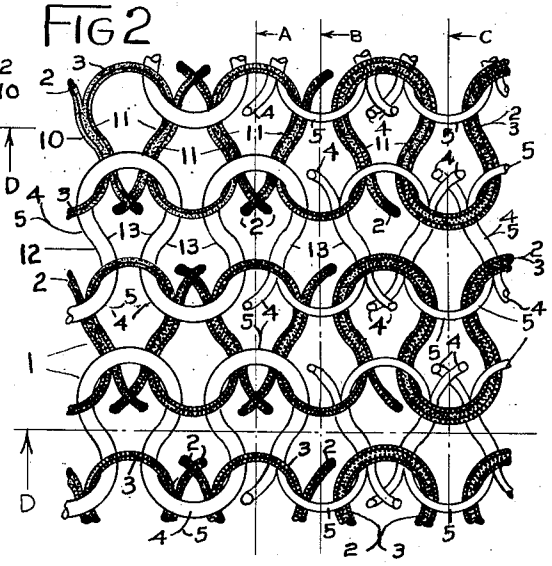


FIG 3

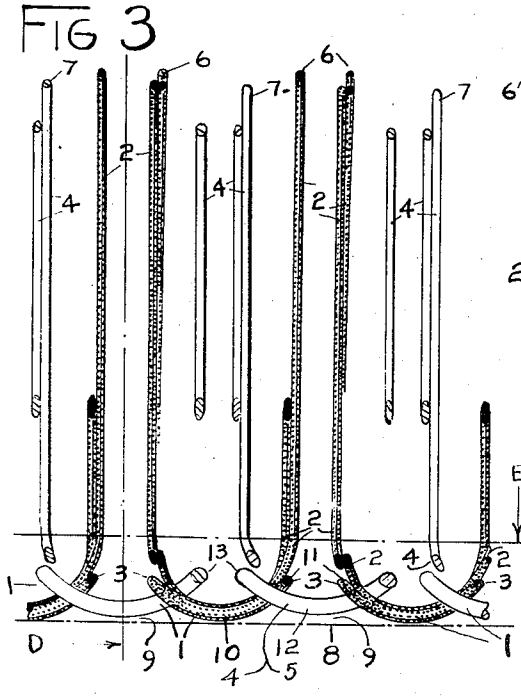
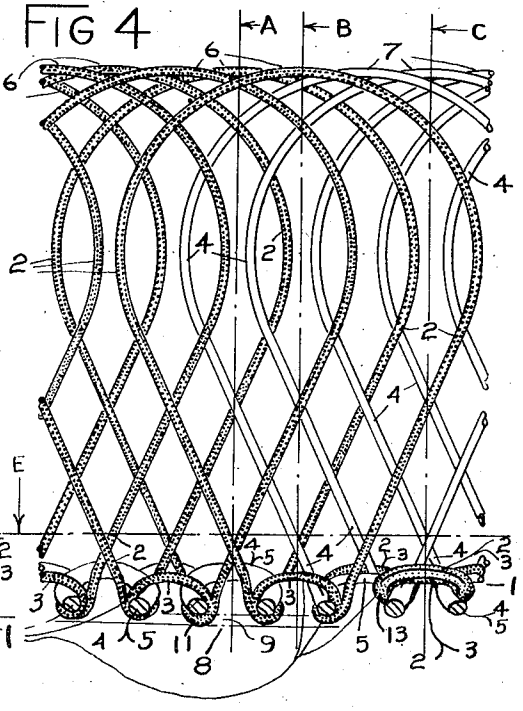


FIG 4



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FIG 5

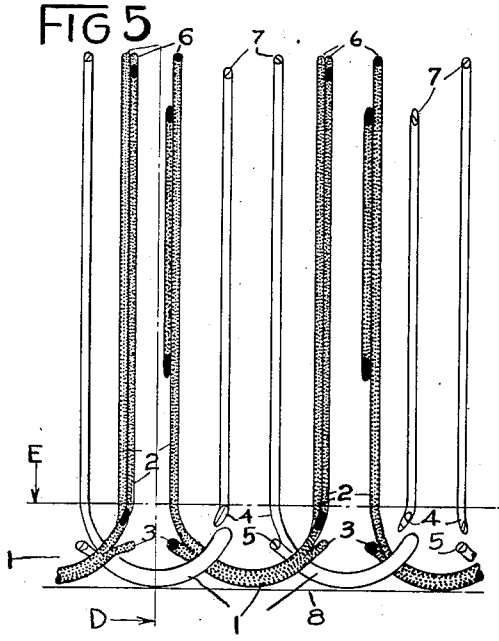


FIG 6

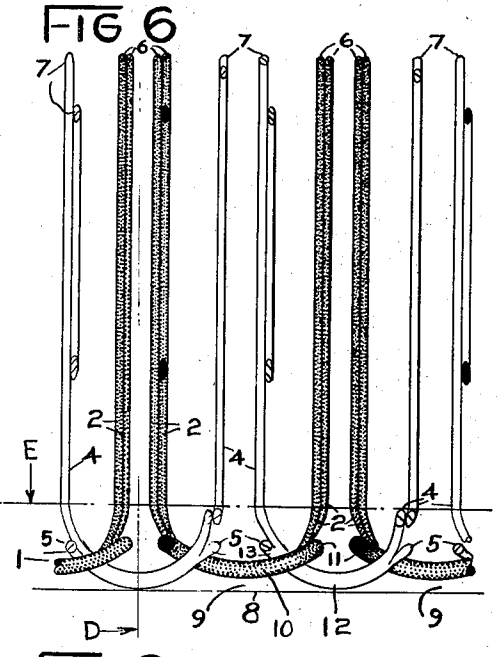


FIG 7

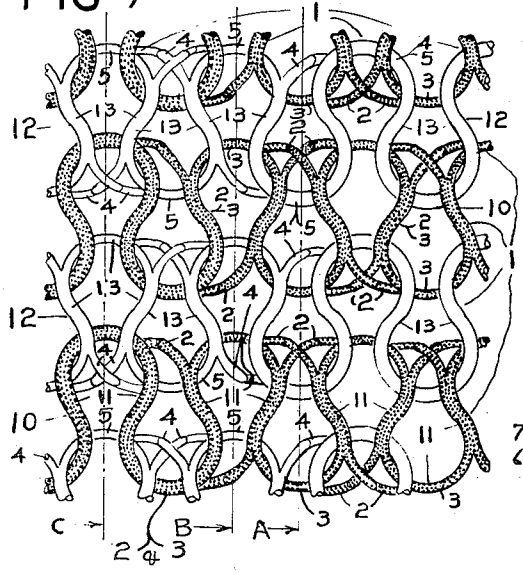
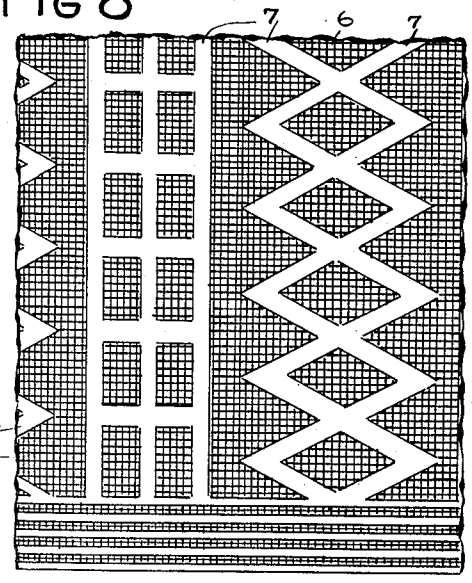


FIG 8



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UNITED STATES PATENT OFFICE

2,220,428

KNITTED FABRIC

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Application July 3, 1936, Serial No. 88,702

5 Claims. (Cl. 66—194)

My invention relates to a fabric knitted to produce a pattern or design with yarns, etc., having distinct colors and characteristics and has among its objects to provide:

A fabric knitted of yarns or threads having distinctly different characteristics in which the yarn or threads of one or more characteristics is obscured from view by the loops of other yarns or threads.

A fabric of knitted loops concealing the threads of the distinctly different characteristics not looped in the knitting of the fabric.

A Jersey knitted fabric having loops to conceal one or more threads or yarn of colors or characteristics varying from the colors or characteristics of the threads or yarn forming the loop.

An article of manufacture having a Jersey knitted fabric knitted in patterns or designs on one side of which are loops forming the design and on the other side a Jersey knitted back having a similar design.

A fabric having a design on both sides produced by concealing a part of the threads or yarn on one side and by producing the design on the other side by a lessening of the tension of the yarn forming the design.

Knit goods having a design formed by threads or yarn of a characteristic varying from the other threads or yarn without carrying any of the varying threads or yarn back of the knitted base or through it.

I accomplish these and other objects by the construction herein described and shown in the accompanying drawings forming a part hereof in which:

Figure 1 is a fragment of a simple design of my knitted fabric.

Figure 2 is a fragmentary section at E as seen in Figures 3, 4, 5 and 6, removing the tops of the loops to show the base of the knitted fabric.

Figure 3 is a fragmentary section at A as seen in Figures 1, 2, 4 and 7.

Figure 4 is a fragmentary section at D of Figures 1, 2, 3, 5 and 6.

Figure 5 is a fragmentary section at B of Figures 1, 2, 4 and 7.

Figure 6 is a fragmentary section at C of Figures 1, 2, 4 and 7.

Figure 7 is a fragmentary view of the back of the base.

Figure 8 is a fragmentary view of one of the various other designs of my knitted fabric.

Similar reference characters refer to similar parts throughout the views of the drawings and in the specification to follow.

The knitting of yarns of various colors and characteristics into a fabric having a design or pattern is not new and such fabrics as compared to those which are printed in various colors have become quite common and their cost of production reduced. Some have the threads or yarn not appearing on the face of the fabric in forming the pattern carried through the knitted base and others on the back of the knitted base where the threads or yarn are exposed unsupported or stitched into the base fabric.

Unlike other fabrics with the invisible color carried on the back or woven through the knitted fabric my article has the pattern on the back as well as the front in the same color or characteristic. The pattern appearing on the front if black for instance, will also show black on the back.

For the purpose of simplicity and brevity herein, I have chosen to describe but a single simple pattern having two characteristics in this case for instance black and white yarn or threads.

The underlying principle herein described may have many colors and characteristics and in the place of the simple black and white striped pattern may be very elaborate and complex.

Referring to the drawings, the small square 2′ indicated by the arrow in Figure 1 represents the approximate field shown in all of the other views except that shown in Figure 8.

For the purpose of description, the threads or yarns of varying characteristics are shown in the enlarged views as though they were solid like a wire and divided or split where a part or thread of like color or characteristic is separated or divided from the yarns of other characteristics to produce the design.

The knitted base 1, for the purpose of illustration is the well known Jersey fabric most commonly produced on circular and other knitting machines and the yarn or threads may be of any characteristic or color or type or size and herein is therefore referred to as of one or another characteristic it being undestood that yarn having two characteristics only are herein referred to (black and white).

Two threads are herein shown having a single characteristic and two other threads having another characteristic. The black threads or yarn are designated as 2 and 3, and the white threads or yarn as 4 and 5.

The thread 2 is joined with the thread 3 in the

base 1 and the thread 4 is joined with the thread 5 also to form the base.

The loops 6 formed from the black thread 2 and the loops 7 formed from the white thread 4 are visible and produce the design on the face or front of my fabric and also appear most predominant on the back of the base of the fabric.

It will be noted in Figures 2 and 7 that the row 10 of stitches 11 of black yarns 2 and 3, alternates with the row 12 of stitches 13 of white yarns or threads 4 and 5. Each row of stitches thus comprises yarns of one characteristic as distinguished from the other row or rows. Likewise many separate rows of stitches all of different characteristics may be knitted as contrasted from the black and white alternate rows of stitches shown and herein described in a simple form of my fabric.

Both the black thread 3 and white threads 5 are invisible from the face of the fabric being hidden in the knitted base because of the loops 6 and 7. Then too, the slacking of the tension of the threads 2 and 4 which when released from the sinkers or wheels set to form the design, cause this as well as their companion threads 3 and 5 to predominate on the back of the base. Thus the loops form the pattern or design on the face and the same pattern or design predominates on the back because of the lessening of the tension caused by dropping the loops.

The difference in predominance as well as tension is shown by the difference in the relative distance from a common base line 8. Thus in Figures 3, 4, 5 and 6, the spaces 9 between the base line 8 and the threads show that no loop has been formed on that particular stitch, while the stitches near the base line 8 predominate and project beyond the other stitches forming the knitted base 1.

The invisible threads 3 and 5 are hidden by the visible companion threads 2 and 4 which form the pile above the knitted base.

In Figure 7, showing the back of the base and a portion of the loops only, the division of the parts 2 and 3 as well as 4 and 5 are easily distinguished.

The loops forming a pile above the base in many yarns used instead of solid "wire-like" threads are so loosely twisted that the pile is difficult to distinguish as separate threads particularly when my fabric is brushed.

In brushed fabrics knitted using my invention, even the loops are invisible. The height of the loops of the brushed fabric may be reduced yet the invisible yarn having a different characteristic is completely hidden in the base under the pile of brushed loops forming the design.

I do not wish to be limited to the construction herein described in its simplified form as I may wish to depart from the construction to suit the various types, colors and characteristics of yarns and material used as well as the number and size of the material and designs and patterns which may comprise my knitted fabric. I may wish to depart from the details of construction within the scope of the appended claims which succinctly set forth my invention.

I claim:

1. A knitted pile fabric comprising a first thread and a second thread having the same characteristics, a third thread and a fourth thread differing from the first thread and the second thread, the third thread and the fourth thread having the same characteristics, the first thread and the second thread being knitted into stitches with one thread forming base loops and the other thread forming pile loops, the third thread and the fourth thread being knitted into stitches in the same manner as the first thread and the second thread and the stitches of the first and second threads and the stitches of the third and fourth threads occurring in alteration in the fabric.

2. A knitted pile fabric comprising a plurality of pairs of threads each pair of threads having the same characteristics and each pair of threads varying in character from the other pairs of threads, one of the threads of each pair of threads being knitted into stitches in which one of said threads is knitted into the base of said fabric and the other of said pair of threads is knitted into pile loops, said pile loops being so knitted as to form a pattern of said pile loops, said pattern having a plurality of characteristics in the threads of the loops forming it.

3. A knitted pile fabric comprising a plurality of pairs of threads each pair of threads having the same colors and each pair of threads varying in color from the other pairs of threads and a pattern formed in said fabric by knitting one of the threads of a pair of threads into stitches, with one thread knitted into and comprising the base loops of the fabric and the other of said pairs of threads knitted into pile loops.

4. A knitted pile fabric comprising a plurality of pairs of threads each pair of threads having the same colors and each pair of threads varying in color from the other pairs of threads, one of the threads of each pair of threads being knitted into stitches in which one of said threads is knitted into the base of said fabric and the other of said pairs of threads knitted into pile loops, said pile loops being so alternated as to form a pattern.

5. A knitted pile fabric comprising pairs of threads each of the threads of a pair having the same colors and each pair varying in color from the other pairs of threads, one of the threads of each pair of threads being knitted into stitches in which one of said threads is knitted into the base of said fabric and the other of said pair of threads being knitted into pile loops, said pile loops being so knitted as to form a pattern of said pile loops and said pattern having a plurality of colors.

SAMUEL SHAGER.