May 12, 1936. E. R. MEINIG 2,040,560

WARP FABRIC

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Fig. 1.

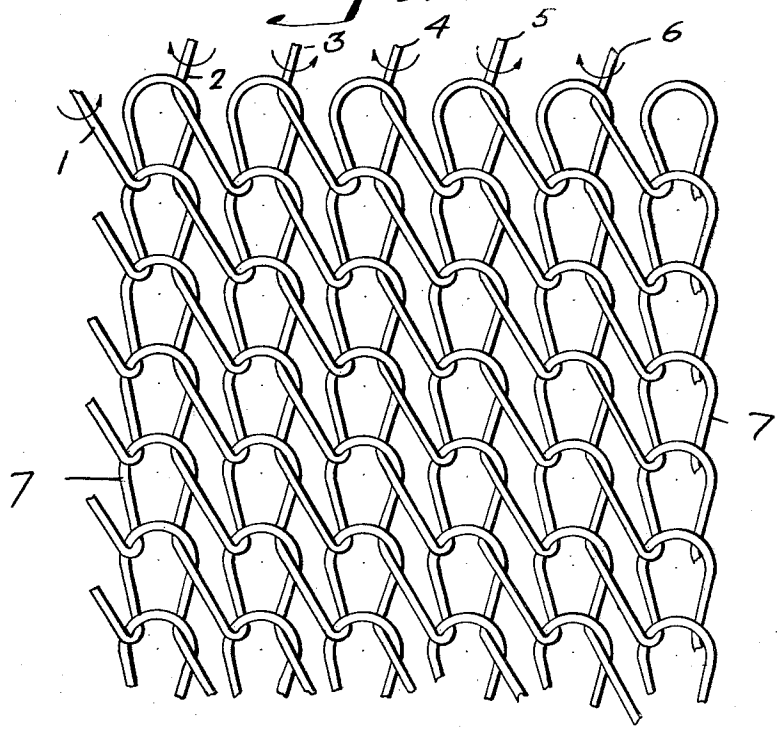
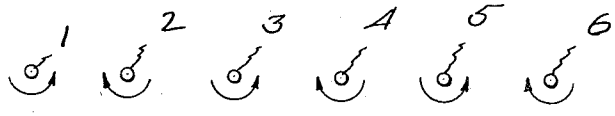


Fig. 2.



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WARP FABRIC

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1 Claim. (Cl. 66—195)

This invention relates to a knitted fabric and more particularly to a warp knitted fabric and has for its primary object to produce a fabric of greater sheerness, greater natural elasticity, greater wear and reduced shrinkage.

An object of the invention resides in providing selective twists to the individual threads of the fabric to eliminate imperfectly performing mechanical operations in the knitting of the fabric.

A feature of the invention resides in highly twisting in opposite directions alternating threads of the warp fabric so as to prevent curling or interwrapping of the individual threads during the knitting operations.

Besides the above my invention is distinguished in the use of oppositely twisted threads in the manufacture of the fabric, giving to the fabric the desired objectives set forth above.

With these and other objects in view the invention will be better understood from the following detail description taken in connection with the accompanying drawing, wherein:

Figure 1 is a diagrammatic view of a portion of the fabric.

Figure 2 is a diagrammatic view illustrating the relative twist of the individual threads.

Again referring to the drawing the numerals 1, 2, 3, 4, 5, and 6 designate the individual threads utilized in the formation of the knitted wales 7. As diagrammatically illustrated in the drawing, the individual single threads are highly twisted previous to their introduction into the finished fabric and I have found it of desired advantage to oppositely twist companion threads so as to prevent knurling or curling in the knitting operations, such knurling or curling quite ofter resulting in the formation of flaws in the fabric, due to imperfect selective engagement of the knitting needles with the traveling threads.

I have found from extensive experiments conducted that if the threads are highly twisted in the same direction, companion threads in their curling action will interwrap with each other, thereby materially interfering with the proper functioning of the knitting needles. I have overcome this objection by twisting companion threads in opposite directions, that is to say, thread 1 is twisted to the right and its companion adjacent thread 2 is twisted to the left. This twisting in opposite directions of the companion threads prevents interwrapping and further balances the finished fabric by producing a fabric of a more even texture and one having greater natural elasticity.

The individual threads may be given any desired twist, for instance, 16 to 40 turns to an inch, but I have found it of advantage to give the individual threads a high twist so as to give a certain degree of hardness to the individual threads for producing greater natural elasticity, greater wearing qualifications and less shrinkage.

As is well known in the art, the individual single threads travel in close proximity to each other in their passage through the knitting operations of the knitting machine and as a result any tendency of an individual thread to curl will result in the interwrapping thereof with its companion single thread and this I have overcome by twisting companion threads in opposite directions. This not only greatly facilitates smooth accurate knitting operations but gives characteristics to the cloth that materially increases its sales possibilities. Due to the fact that the individual threads are highly twisted, the fineness thereof is enhanced resulting in the attainment of a sheer fabric. This high twist also produces a harder thread, thereby giving greater wearing qualities to the fabric and further this hardened characteristic of the thread gives the finished fabric greater natural elasticity. The twisting of the thread in opposite directions enables a balancing of the complete fabric and the formation of more perfect knitted loops, thereby giving a uniform surface appearance to the finished fabric.

Having described my invention, what I claim is:

A warp knitted fabric made entirely from highly twisted threads forming loops diagonally across the fabric, having every other thread highly twisted in one direction and the intermediate threads highly twisted in the other direction, whereby to form alternating loops in each course and each wale from threads highly twisted in opposite directions thus preventing interlooping of the threads during knitting and providing a finished fabric capable of maintaining its shape and form.

ERNST RICHARD MEINIG.