ELASTIC FABRIC HAVING FOLDED THIN ELASTIC RIBBON WARP ENDS

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FIG. 1

FIG. 2

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Elastic Fabric Having Folded Thin Elastic Ribbon Warp Ends

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4 Claims

ABSTRACT OF THE DISCLOSURE

An elastic fabric is woven with a smaller number of elastic warp threads in the form of very thin rubber ribbons which are folded over once, which form a hollow cylinder by passing through eyes as the warp ends are fed to the shed. The ribbons are quite wide but very thin, and when folded once by passing through eyes and/or the eyes of their respective heddles, they are immune to nicking or cutting by a needle when the fabric is sewn.

BACKGROUND OF THE INVENTION

Elastic fabrics are well known, particularly for narrow fabrics, and the elastic threads are usually in the form of warp ends. These threads are quite small, and whether they are covered or bare can easily be nicked or cut by a needle when the fabric is sewn. In this case the thread may be cut through or may be sufficiently nicked so that after repeated stretching it parts and causes an ugly spot in the fabric.

It has been proposed to use somewhat broader rubber warp threads, but with thickness comparable to their width and are also easily nicked or cut. It has also been proposed in the Chisholm Patent 1,811,843 to have a thick heavy rubber ribbon as an occasional warp end which is bound only at a few spots so that it unfolds and sticks above the plane of the weave to form a projecting element which increases friction and is useful in certain fabrics which are to be employed where greater friction is needed. This bulky projection beyond the plane of the fabric is only used where the additional friction makes its other features worth tolerating.

SUMMARY OF THE INVENTION

The present invention uses generally wide elastic warp ribbons which are extremely thin and which are folded by passing through an eye or the eye of their respective heddles. The thin ribbon is woven normally and is wide enough and thin enough so that even when pierced by a needle in sewing, nicking or cutting of the warp end does not take place. Thus the advantage of needleproofness is obtained without undesirable projection of rubber above the plane of the fabric. In general, the number of folded ribbons used as elastic warp ends is considerably smaller than the number of small rubber warp ends in the more usual form of fabric, although the present invention is in no sense limited to the use of any particular number of elastic warp ends. When a relatively smaller number of ends are used, it is possible to produce fancy weaves where there are textile threads as warp ends between the folded rubber ribbons, and the picks lock the textile thread in a tighter weave between the folded rubber ribbon warp ends. When such a fabric is woven with the rubber warp ends stretched and allowed to relax, interesting shirred effects can be produced. The present invention is not limited to such special designs, and an ordinary weave may be employed. However, it is an advantage of the invention that it lends itself readily to such special patterns, which are not practical with the finer rubber ribbon ends in the customary elastic fabrics.
3. Elastic warp threads being interspersed with textile warp threads.

2. A fabric according to claim 1 in a relaxed state, the length of the folded ribbon elastic warp threads being shorter than the textile warp threads, whereby a shirred effect is produced.

3. In a method of weaving a fabric having elastic warp threads, spaced and interspersed with non-elastic textile warp threads, the improvement which comprises passing thin, flat, elastic ribbons through shaped eyes in the shedding area whereby each thin elastic ribbon is folded to produce a folded elastic warp thread of a substantially U shape with two free edges and weaving a fabric including the spaced folded elastic warp threads after they have passed through the eyes.

4. A method according to claim 3 in which the folded elastic ribbon warp threads are stretched during the weaving operation, whereby on relaxation the fabric has a shirred appearance.