Sept. 6, 1938. W. D. CLEMENT 2,129,344

FABRIC FOR USE IN THE MANUFACTURE OF SHOES

Filed March 9, 1938

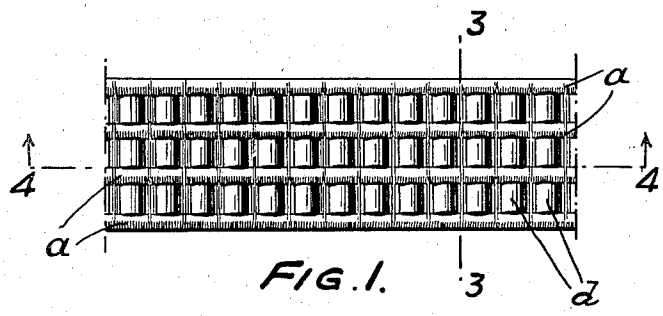

FIG. 1.

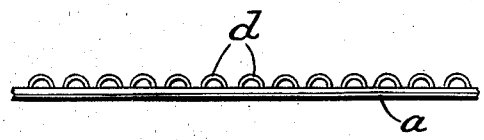

FIG. 2.

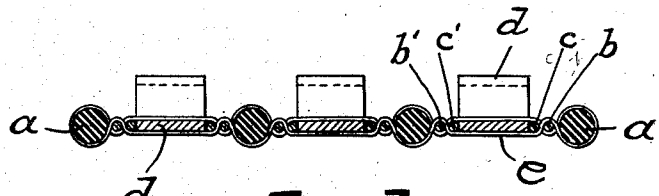

FIG. 3.

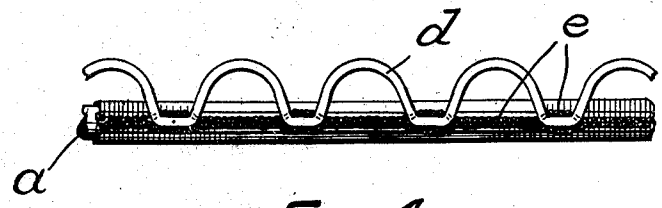

FIG. 4.

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FABRIC FOR USE IN THE MANUFACTURE OF SHOES

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2 Claims. (Cl. 139—421)

The object of the invention is to provide a fabric for use in the manufacture of shoes adapted to impart thereto, or to certain selected parts thereof, a substantial degree of elasticity. In the manufacture of shoes it is desirable to improve the fit by incorporating in certain parts thereof elastic sections which yield to permit the insertion of the foot into the shoe and thereafter contract to hold the shoe in a neatly fitting position. The fabric embodying my invention is especially adapted for this use. It is usually supplied to the shoe manufacturer in strips of various widths and is utilized by him in the parts of the shoe upper to which it is desired to impart elasticity. One characteristic feature of the fabric is that it presents an ornamental appearance, especially acceptable in ladies' dress shoes, which harmonizes with the main body of the upper; but the main function of the material is utilitarian rather than ornamental.

A preferred embodiment of the invention is shown in the accompanying drawing, in which—

Fig. 1 is a plan view of an area of the fabric, which may be of the width shown, or narrower, or more usually wider, and is of indefinite length.

Fig. 2 is an edge view, looking transversely, of the fabric of Fig. 1.

Fig. 3 is a magnified cross-section on line 3—3 of Fig 1.

Fig. 4 is a magnified longitudinal section on line 4—4 of Fig. 1.

The warp comprises repeats, each comprising an elastic warp thread *a* (such as rubber, lastex or duprene, which may be cotton-covered) of comparatively large diameter, a plurality of relatively inelastic small diameter threads *b*, *c*, a wide, thin strip *d* of relatively inelastic but flexible material, preferably of leather, real or artificial, and less preferably of some other material, such as satin, and a plurality of relatively inelastic threads *c*, *c'*. The weft comprises two series of fine filler threads *e* which form with the warp threads and wide strip a one-and-one weave, each strip *d* being preferably in the same shed as the immediately contiguous non-elastic warp threads *c* and *c'*. Only relatively short spaced-apart lengths of the strip *d* are bound in by the filler threads *e*, the alternate longer spaced-apart sections of strip *d* floating on the face of the fabric.

In weaving the fabric the elastic warp threads *a* are placed under tension and the strips *d* are interwoven while substantially flat. When the tension on the elastic threads is released, the floating sections of the strips *d* assume the form shown in the drawing and the fine filler threads *e* are drawn close together, as indicated in Fig. 4, giving the fabric the ribbed appearance illustrated in Fig. 1. The completed fabric has a pronounced degree of elasticity, being capable of stretching toward a flat contour to between 50 and 100% of its length when not under tension.

What I claim and desire to protect by Letters Patent is:

1. An elastic fabric for use in the manufacture of shoes composed of repeats each comprising an elastic warp thread, one or more relatively inelastic warp threads, a relatively wide, flexible and substantially inelastic strip and one or more relatively inelastic warp threads, and transversely extending fine filler threads all of which are interwoven with said warp threads, some of which are interwoven with and conceal the wide strip on face and back for part of its length, and the remainder of which extend under the wide strip for part of its length, the latter named part of the wide strip being exposed on its face and arched, by the contraction of the elastic warp after weaving, to present a ribbed appearance.

2. An elastic fabric for use in the manufacture of shoes composed of repeats each comprising an elastic warp thread, a plurality of inelastic warp threads, a relatively wide, flexible and substantially inelastic strip and a plurality of relatively inelastic warp threads, arranged in the order enumerated, and transversely extending fine filler threads all of which are interwoven with said warp threads, some of which are interwoven with and conceal the wide strip on face and back for a minor part of its length and the remainder of which extend under the wide strip for the major part of its length, the said minor part of the length of the wide strip being in the same shed as the two warp threads immediately adjacent its opposite longitudinal edges, the said major part of the length of the wide strip being exposed on its face and arched, by the contraction of the elastic warp after weaving, to present a ribbed appearance.

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