Sept. 27, 1955 J. V. MOORE 2,718,905

ELASTIC SHOE GORE

Filed March 12, 1953

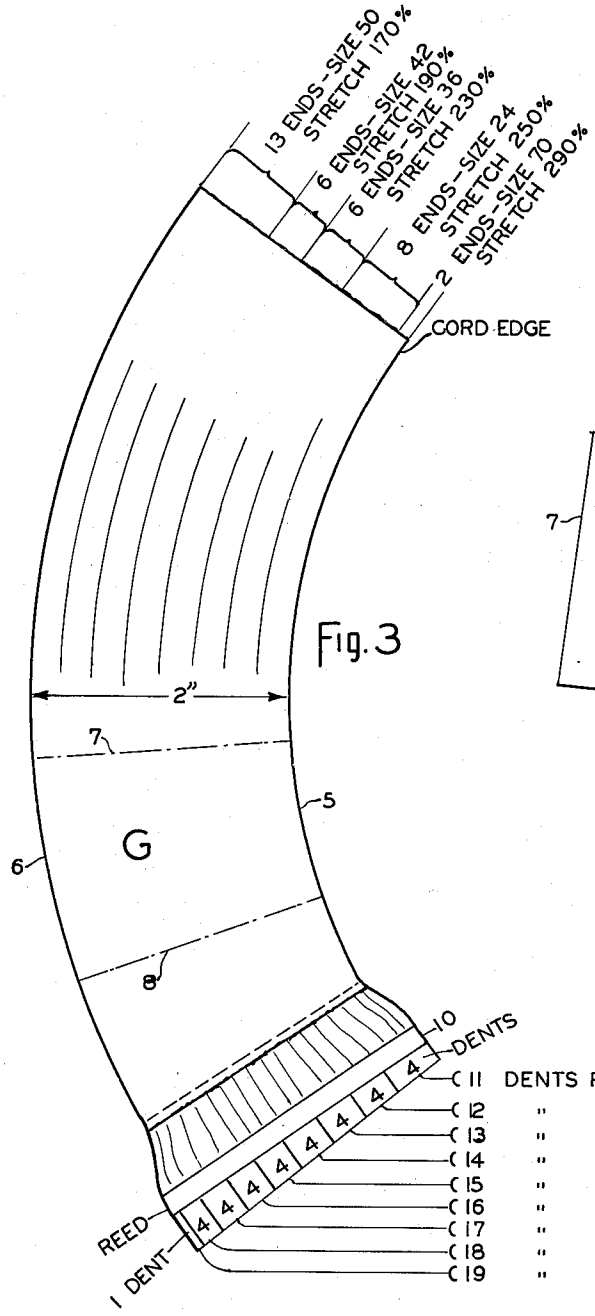


Fig. 3

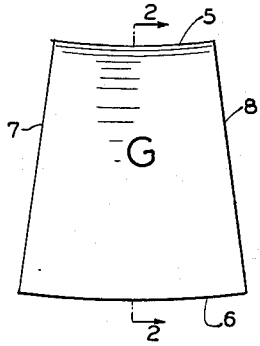


Fig. 1

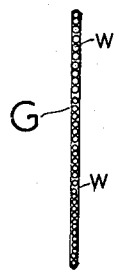


Fig. 2

INVENTOR.

JOHN V. MOORE.

BY

Chas. T. Hawley

ATT'Y.

United States Patent Office 2,718,905 Patented Sept. 27, 1955

2,718,905

ELASTIC SHOE GORE

John V. Moore, Pawtucket, R. I., assignor, by mesne assignments, to Moore Fabrics, Inc., Pawtucket, R. I., a corporation of Rhode Island

Application March 12, 1953, Serial No. 341,897

1 Claim. (Cl. 139—421)

This invention relates to an elastic shoe gore, particularly designed to be inserted in place of the usual laced-front closure of an oxford-type shoe. When thus inserted, the elastic gore forms in effect a frustum of a cone, with its longer and convex edge portion at the bottom.

It is the general object of this invention to provide an elastic shoe gore having a normally curvilinear structure and having its shorter concave edge portion relatively thicker, stronger, and with greater and stronger stretch than its longer convex edge portion.

I also provide an elastic gore in which the converging side edges of the gore closely coincide with the lines of the weft threads adjacent said edges, whereby the cutting of weft threads is largely avoided.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claim.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a front view of my improved shoe gore;

Fig. 2 is a section on the line 2—2 in Fig. 1; and

Fig. 3 is a diagrammatic plan view of a suitable fabric from which the improved gores may be manufactured.

Referring to the drawings, my improved shoe gore is shown in Figs. 1 and 2 and is best formed from a piece of curvilinear elastic fabric of the very special construction shown in Fig. 3.

As shown in Fig. 1, the shoe gore G has a shorter concave edge portion **5**, a longer convex edge portion **6**, and side edges **7** and **8** which are disposed along lines substantially radial to the concentric curved edges **5** and **6**.

The fabric of the gore G preferably has covered elastic warp threads, binder warp threads, and non-elastic weft threads. The elastic warp threads W are indicated in Fig. 2 and are of larger diameter, wider spacing and greater and stronger stretch near the shorter concave edge **5**, and of relatively smaller diameter, closer spacing and less streach near the longer convex edge **6** of the gore.

My improved gore may conveniently be formed by cutting a curvilinear elastic fabric to provide side edges **7** and **8** substantially along the weft lines and radial to the curve of the fabric. A sample curvilinear elastic fabric from which my improved gore may be manufactured is shown in Fig. 3 and will now be described.

In the production of this fabric, a graduated reed **10** is used, with the number of reed dents per inch increasing outward as indicated. I have also indicated in Fig. 3 the increase in diameter and stretch of the elastic warp threads from the longer convex selvage edge to the shorter concave selvage edge of the fabric, the warp threads at the longer convex edge being size 50 with 170% stretch, whereas the warp threads adjacent the concave edge of the fabric are size 24 with 250% stretch.

The extreme inner or cord edge may be formed of a double warp of size 70, with a stretch of 290%.

It will thus appear that the warps adjacent the shorter edge of the fabric are of greater size, wider spacing and greater and stronger stretch than the warps at the longer convex edge of the fabric, and that a reasonably uniform graduation is provided in both size and stretch from one edge to the other.

All of the elastic warps are woven under tension and approximately at full stretch, and the binder warps are preferably supplied from a cone warp roll, with the smaller end of the roll at the longer or convex edge of the fabric. As the fabric is released, the larger elastic warps along the concave edge contract more strongly than the smaller elastic warps along the convex edge which are also bound more firmly by the shorter binder warps.

The fabric thus assumes a definite curvilinear shape, with strong contraction and maximum stretch along the shorter concave selvage edge, and with relatively less contraction and shorter stretch adjacent the longer convex selvage edge.

It will be understood that the specification as to reed-spacing, size of warp, and relative stretch are illustrative only, and that the fabric may be substantially varied within the scope of my invention. The type of weave may also be varied, but is commonly a plain weave, one-up and one-down.

A shoe gore G manufactured from a fabric similar to Fig. 3 will disclose the section of Fig. 2 and will have the desirable qualifications previously described.

In particular, the shoe gore G will have strong contraction and greater stretch along the shorter concave edge which goes at the top of the shoe, and will have less stretch and more limited relative expansion along the longer convex edge where the gore is joined to the front part of the shoe and where no substantial stretch is needed.

The disposal of the side edges **7** and **8** of the gore along weft lines substantially radial of the fabric is particularly important, as it largely prevents cutting of the weft in manufacturing the gores.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

As an article of manufacture, a shoe gore comprising a wedge-shaped piece of elastic fabric having a shorter concave selvage edge, a longer convex selvage edge, and converging side edges, said gore comprising covered elastic warp threads, binder warp threads, and non-elastic weft threads, the elastic warp threads adjacent the shorter concave selvage edge of the gore being of larger diameter, wider spacing and with greater and stronger stretch than the elastic warp threads at the longer convex selvage edge of the gore, and the elastic warp variation in size, spacing and stretch being progressive from one selvage edge to the other selvage edge of the gore, and the binder warp threads being of greater relative length and under less tension toward the shorter concave selvage edge of said fabric.

References Cited in the file of this patent

UNITED STATES PATENTS

1,322,202	Roche	Nov. 18, 1919
1,770,740	Moore	July 15, 1930

FOREIGN PATENTS

794,626	France	Dec. 12, 1935