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ELASTICIZED SHOE CONSTRUCTION AND SHOE GORE THEREFOR

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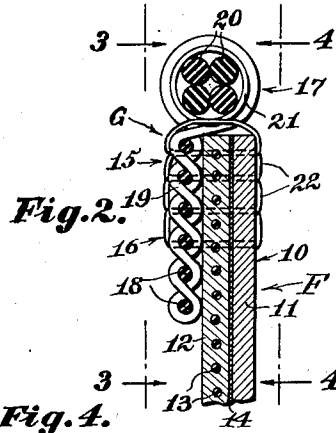
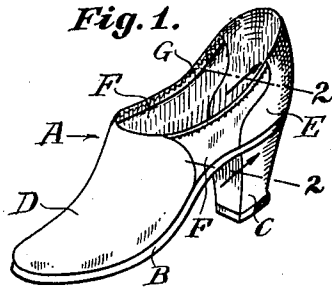


Fig. 3.

Fig. 4.

Fig. 5.

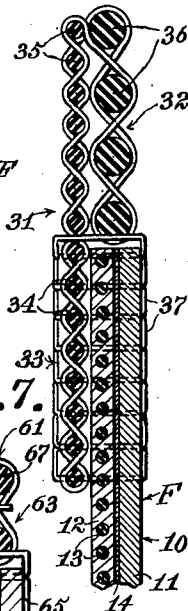
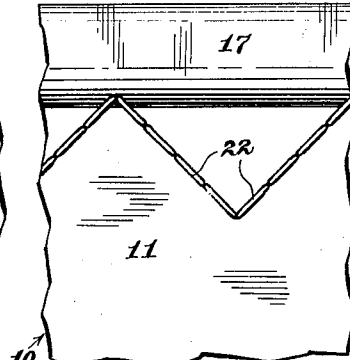
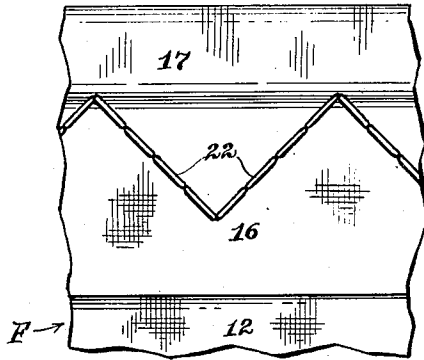
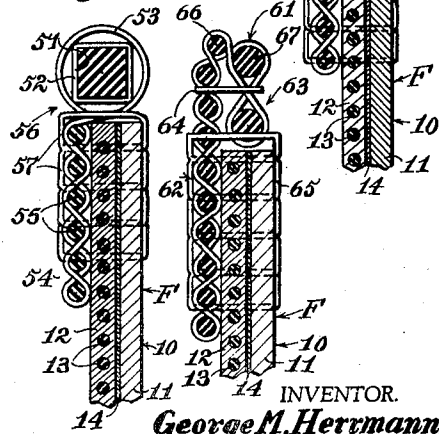


Fig. 6. Fig. 7.



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ELASTICIZED SHOE CONSTRUCTION AND
SHOE GORE THEREFOR

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5 Claims. (Cl. 36—57)

This invention relates generally to an elasticized shoe construction, that is to a shoe having its uppers constituted at least in part of sections of elastic or elasticized material. More particularly it relates to an edging or border construction for sections of elastic or elasticized material as used in elasticized shoes.

While my invention has been described in its application to elasticized shoes, it is to be understood that, particularly as to certain phases thereof, it may have other applications.

It is the general object of my invention to provide a simple, effective and inexpensive edging or border construction for the elastic or elasticized material used in elasticized shoes.

It is a more particular object of my invention to provide in an elasticized shoe an edging construction for the top edge of sections of elasticized material as used in elasticized shoes, whereby a softer top line or edge will result which is easier on the foot.

It is further among the more particular objects of my invention to provide an edging construction for the elasticized material of elasticized shoes whereby waviness of the edge portions of such material will be minimized if not prevented.

It is also among the more particular objects of my invention to provide an edging construction for the elasticized material used in elasticized shoes which will effect a saving in labor over the constructions heretofore used.

These objects and such other objects as will hereinafter appear or be pointed out are attained in the illustrative embodiments of my invention shown in the drawing, in which:

Figure 1 is a view in perspective of an elasticized shoe, showing my invention applied thereto;

Figure 2 is a sectional view, more or less diagrammatic and on an enlarged scale, taken substantially on the plane of the lines 2, 2, looking in the direction of the arrows;

Figure 3 is an elevational view corresponding to Figure 2 as viewed from the direction indicated by the arrows 3, 3;

Figure 4 is an elevational view corresponding to Figure 2 as viewed from the direction indicated by the arrows 4, 4;

Figure 5 is a sectional view on an enlarged scale, similar to Figure 2, showing a second embodiment of my invention;

Figures 6 and 7 are respectively sectional views on an enlarged scale, similar to Figure 2, of still further embodiments of my invention.

Referring first of all to Figure 1, I have shown

at A an elasticized shoe provided with a sole B, a heel C, and an upper portion comprising a toe section D of inelastic material, such as leather, a quarter section E, also of inelastic material, such as leather, and a pair of central sections F, which are of elasticized material and which serve to yieldably connect the quarter and the toe sections and permit expansion of the upper edge of the shoe such as is required in order to put on the shoe or to take it off, and which also assures greater comfort in the shoe during wear.

Elasticized material as conventionally made, of the type incorporated in my improved shoe constructions as disclosed herein, is shown diagrammatically in section on an enlarged scale at 10 in Figure 2. It will be observed that it comprises an outer or face layer 11, which may be of inelastic material, such as leather, or fabric, and an inner layer of elastic or elasticized fabric 12 which is a fabric having elastic threads, such as indicated at 13, interwoven therewith. These two layers are cemented together, as indicated at 14.

Among such materials may be mentioned elasticized suede, in which the outer layer is leather, (suede), and elasticized gingham, in which the outer layer is a fabric.

In using material of this character in elasticized shoes it has been customary to apply an edging or border to the upper free edge or top edge of said material for strengthening the edge and for securing a finished appearance.

One of the constructions for this purpose employs "French binding," which is a form of binding tape. This has been applied by securing the portions adjacent one edge of the tape to the outer face of the elasticized material adjacent one edge thereof so as to form, at those portions where the French binding is secured to the elasticized material, a three-ply construction. The free portions of the French binding are then folded into a doubled-over position over the edge of the elasticized material. The net result may be described as a doubling of the French binding over the said elasticized fabric edge, with the inner edge of the binding doubled inward and cemented to the inner or elasticized fabric layer of the elasticized material.

The French binding, folded as described, is secured in place by stitching. This may be of the zig-zag type, such as will be described later in connection with the embodiments of my invention, or may be of the straight type. In the latter case rubberized thread is used and this type

may also be used optionally in place of plain thread in the zig-zag stitching.

The next and last step in forming this edge construction is to apply an elastic strip known as "top line gore" so as to overlie the inner fold of the French binding and adjacent portions of the inner elasticized fabric layer of the elasticized material. This top line gore is then secured in place by zig-zag stitching passing through the binding and adjacent portions of the elasticized material.

A second construction heretofore used involves the removal of the elasticized fabric layer adjacent the edge portions so as to leave only the outer inelastic layer at the edge, and to double over this inelastic portion over the inner elastic layer and secure it in place. The construction described so far takes the place of the French binding. To complete the edging the top line gore is applied as before.

Both of these forms of edging have the disadvantage that "waving" takes place, that is, an undulation in the top edge, which is unsightly and causes discomfort. Investigation shows that this waving is an effect of the stitching, of which two separate rows are employed. In an attempt to overcome this the top line gore is made heavy, but while this has a tendency to minimize the waving it does not overcome it, while on the other hand the heavy top line gore tends to exert extra pressure on the foot of the wearer and to cut off the circulation.

According to my invention these disadvantages are overcome by securing to the innermost face of the elasticized material adjacent its upper edge a tape or gore which is made of two joined longitudinally extending portions of different thicknesses, the thicker portion being elastically stretchable and constituting the top edge of the upper of the completed shoe and the thinner portion forming the innermost surface of the upper of the completed shoe.

At the line where the thicker and thinner portions adjoin, the lower edge of the thicker portion extends outwardly a distance which is substantially equal to the combined thicknesses of the lining or elasticized fabric 12 and the inelastic material 11 to thereby conceal the upper edges of these materials. The inner face of the thinner portion of the gore is located in a plane which is substantially in line with the innermost surface of the thicker portion so that a substantially smooth inner surface is presented for contact with the foot of the wearer. The thinner portion of the gore may be thinner than the conventional top line gore because there is no tendency for the top edge to wave.

The effect of having an edging construction in which the outer edge is yieldable and in which the thickness is more uniform and freer from bulges and excrescences, and which moreover is thinner than in the constructions heretofore known, is a top line on the shoe that is softer and easier on the foot, and that is smoother inside the shoe and does not cut off the circulation because it is thinner.

Referring now to the drawing for the details of the various embodiments of my invention, which generically have been indicated by the letter G in Figure 1, it will be observed, on viewing that figure, that it is used on the top edges of the elasticized sections F.

In Figures 2, 3 and 4, I have shown more or less diagrammatically and on an enlarged scale one embodiment of my invention in which I use a

flanged or beaded gore 15 comprising a body portion 16 and a flange or head 17 and which may be produced either by weaving or knitting.

The body portion is shown as constituted of elastic threads, 18, of rubberized material by way of example bound together by inelastic threads 19 which also serve as the outer covering of the flange 17. The inner portions of the flange 17 are constituted by elastic threads 20, shown as of rubber by way of example, and also shown as four in number, and which may be bound into a single thread by a wrapping of threads 21. I have found four elastic threads 20 to be of advantage because thereby the bead may be given a more or less square section which will blend with the edge of the elasticized fabric F. While this conformation might be even better obtained by using a single square elastic thread, as in the embodiment of Figure 6, I have found that when a single strand is used there is more danger of its breaking when it is nicked at one point, as by the needle in the sewing operation passing through a portion thereof.

This beaded gore 15 is then secured to the edge of the elasticized material 10, and this may be done as shown in Figures 2, 3 and 4, by "zig-zag" stitching 22, preferably passing through the inner portions of the bead 17 so as to avoid the elastic threads 20 thereof. It will be understood that the stitching 22, if desired, may extend the full width of the body portion 16 of the gore, rather than terminating short of its lower edge, or it may extend to any intermediate point or be of less extent than shown, in accordance with particular requirements.

It will be observed that the flange 17 has a diameter of the order of the thickness of the elasticized material. It will therefore merge more or less with the outlines thereof.

In the form of my invention shown in Figure 5, I have shown what I term a "collar top" gore 31 applied to the elasticized material. In this construction the flange or bead 17 of the form of Figure 2 is replaced by a flat top section 32 which is carried on the body portion 33. The body portion has elastic threads 34 incorporated therein and the flat top section is shown as having elastic threads 35 and 36 incorporated therein. The elasticized material and its parts have been numbered similarly to Figure 2 and the collar top gore 31 is secured thereto by the zig-zag stitching 37, which may be similar to the stitching 22 of the embodiment of Figure 2.

As clearly appears from Figure 5, the collar top 32 has a thickness of the order of the elasticized material.

The embodiment of Figure 6 resembles that of Figure 2 in many respects, and has already been discussed in connection therewith. In place of the four elastic threads 20 in the flange 17 of the embodiment of Figure 2, this form of my invention has a single elastic thread 51 square in cross section. This thread may be surrounded by the wrapping 52 and surrounded by inelastic threads 53 which extend into the body portion 54 of the gore with which are incorporated elastic threads 55. Zig-zag stitching by which the gore, designated as a whole by the numeral 56, is secured to the section F, is indicated at 57.

Still another form of my invention is shown in Figure 7. In this form the gore 61 comprises a body portion 62 the upper edge portion 63 of which is doubled over. While the upper edge portion is shown as thicker and differently constructed than the rest of the body portion 62,

it is to be understood that it may be of the same thickness and construction or that, if desired, it may be thinner. Stitching 64 is shown as securing the doubled-over edge portions in that position. The gore 61 is shown as secured to the section F, the parts of which are numbered as before, by stitching 65 which may be zig-zag, as in the other embodiments. The gore 61 is shown as having elastic threads 66 and 67 therein, the latter being positioned in the doubled-over edge portion. It will be observed that the thickness of the doubled over portion has again been shown as of the same order as the thickness of the section F.

All of the embodiments of my invention disclosed herein relate to the application of my invention to the elasticized portions of elasticized shoes. However, it will be obvious that the constructions shown are also adapted as an edging construction for shoe portions that are of inelastic material. For example, shoes made entirely of inelastic material, such as leather, may with advantage have an elastic gore secured to the free edge or portions of the free edges thereof. A construction in which the portion of the elastic gore that extends beyond the edge of the leather is made of substantial width is particularly useful and desirable.

While I have herein disclosed several illustrative embodiments of my invention, it will be understood that the same be embodied in many other forms without departing from the spirit thereof, as will be obvious to those skilled in the art. It will further be understood that the disclosure herein is by way of illustration merely, and is not to be interpreted in a limiting sense, and that I do not limit myself other than as called for by the language of the appended claims.

I claim:

1. In a shoe, the combination of an elastic gore with a portion of the shoe upper, said gore comprising longitudinally stretchable strip material having two longitudinally extending portions of different thicknesses with one edge of the thicker portion extending outwardly from one face of the thinner portion at the line where the thicker and thinner portions adjoin, said outstanding edge extending outwardly a distance which is substantially as great as the thickness of the upper edge of the shoe upper, said gore being secured to the shoe upper with said face of the thinner portion abutting the innermost face of the shoe upper, the opposite face of the thinner portion of the gore being located in a plane which is substantially in line with the innermost surface of said thicker portion of the gore, said outstanding edge of the thicker portion abutting the upper edge of the shoe upper and said thicker portion of the gore extending upwardly from said edge of the shoe upper whereby said thicker portion of the gore forms an upwardly extending longitudinally stretchable edge portion of the finished shoe.

2. In a shoe, the combination of an elastic gore with a portion of the shoe upper, said gore comprising longitudinally stretchable strip material having two longitudinally extending portions of different thicknesses with one edge of the thicker portion extending outwardly from one face of

the thinner portion at the line where the thicker and thinner portions adjoin, said outstanding edge extending outwardly a distance which is substantially as great as the thickness of the upper edge of the shoe upper, said gore being secured to the upper by zigzag stitching which passes through the upper and the thinner and the thicker portions of the gore to hold said face of the thinner portion of the gore against the innermost face of the shoe upper and said outstanding edge of the thicker portion of the gore against the upper edge of the shoe upper with said thicker portion of the gore extending upwardly from said edge of the shoe upper whereby said thicker portion of the gore forms an upwardly extending longitudinally stretchable edge portion of the finished shoe.

3. An elastic shoe gore comprising strip material having two longitudinally extending portions of different thicknesses, the thicker portion at least being elastically stretchable lengthwise, one face of the thinner portion being located in substantially the same plane as the corresponding face of the thicker portion, and the edge of the thicker portion which adjoins the thinner portion extending outwardly from the adjacent face of the thinner portion a distance which is substantially as great as the thickness of the edge of a shoe upper with which the gore is designed for use.

4. As an article of manufacture, elastically stretchable edge gore for shoe uppers, said gore being a ribbon-like strip material comprising a relatively thin body portion of substantially uniform thickness and a relatively thick edge portion integrally united to one border of the body portion, one surface of said edge portion being substantially flush with the plane of one face of the body portion and said edge portion projecting beyond the opposite face of the body portion to form an overhanging shoulder designed to abut and to conceal the edge of the shoe upper, the body portion being designed to contact the inner surface of the upper adjacent to the edge thereof and to receive sewing stitches for uniting the gore to the upper.

5. As an article of manufacture, elastically stretchable edge gore for shoe uppers, said gore being a ribbon-like strip material comprising a relatively thin body portion of substantially uniform thickness and a relatively thick edge portion integrally united to one border of the body portion, one surface of said edge portion being substantially flush with the plane of one face of the body portion and said edge portion projecting beyond the opposite face of the body portion to form an overhanging shoulder designed to abut and to conceal the edge of the shoe upper, the body portion being designed to contact the inner surface of the upper adjacent to the edge thereof and to receive sewing stitches for uniting the gore to the upper, the gore comprising elastically stretchable longitudinally extending strands both in the body portion and edge portion, and textile strands common to both body portion and edge portion and which are so intermeshed with the elastically stretchable strands as to form a coherent fabric structure.

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