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SHOES HAVING LAMINATED SOLES AND METHOD OF MAKING THE SAME

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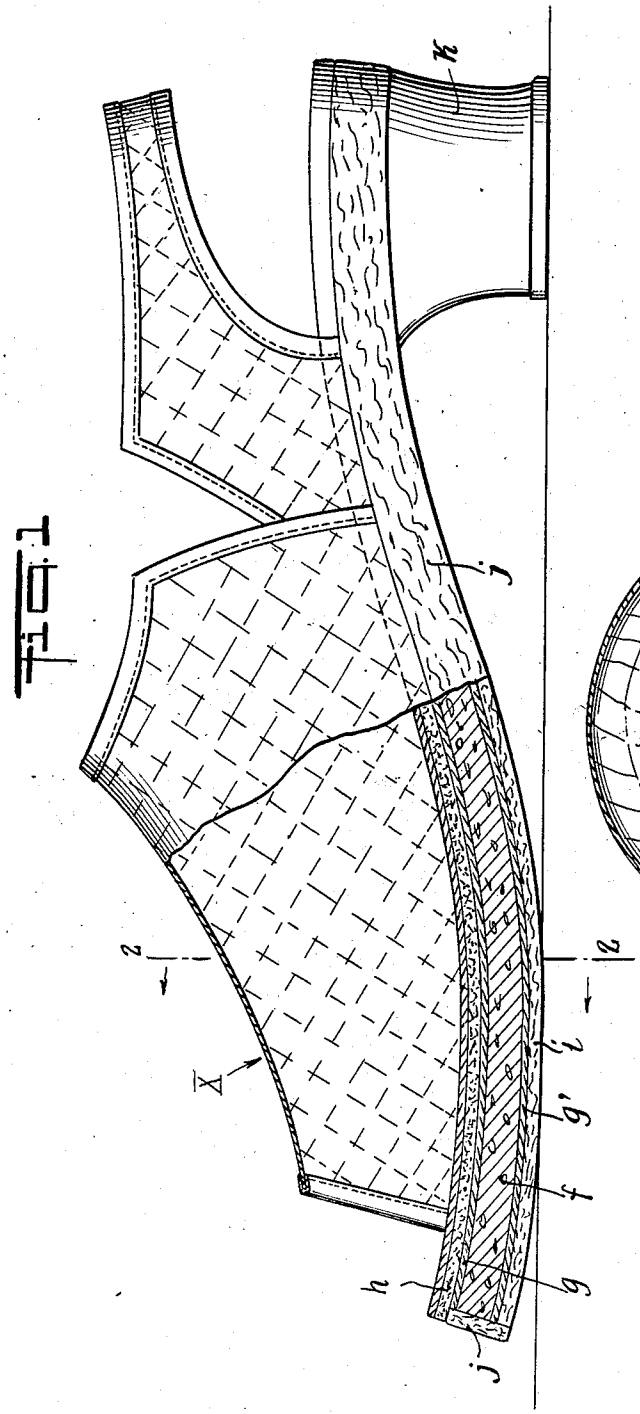
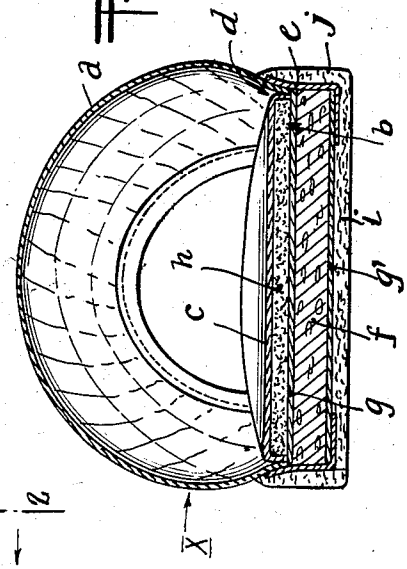


Fig. 1

Fig. 2



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SHOE HAVING LAMINATED SOLE AND METHOD OF MAKING THE SAME

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5 Claims. (Cl. 12—142)

This invention relates to a method and means of attachment of the uppers to the soles of footwear, and particularly of ladies' footwear, and also involves a certain rubber lining sole of mixed composition.

The main object of our invention is to produce a new and practical form of attachment of the upper of a shoe to the sole which facilitates rapid manufacture as well as to substantially finish the parts, especially the upper first before assembling the same with the sole.

Another object is to build up the sole partly before attachment to the upper and then to complete the sole upon fastening the same to said upper.

A further object is to produce an attractive shoe in such manner that the entire shoe lends itself to any desired design and yet is strong and practical for commerce and use.

Other objects and the various advantages inherent in our invention will appear more fully hereinafter as this specification proceeds.

In conventional footwear such as boots, snow boots, bathing shoes, tennis shoes, etc., the upper and the insole are joined by direct inclosure, being made of rubberized cloth which may or may not be lined with fabric, and having the edge of the upper inserted between the insole and the intermediate sole or the wearing sole.

In contrast therewith, according to the present invention the fully finished upper is simply sewn on the circumference of the insole, and the attachment of this assembly to the outer sole proper is effected by means of a ribbon or strip, preferably of rubberized fabric, sewn to the upper and applied peripherally by cementing on said sole, which is itself fully finished, and that not only over its full height, but also with a turn underneath. A sheet of rubber added subsequently covers the turn mentioned formed by the strip and constitutes the outer wearing surface.

This ribbon or strip is preferably cut on the bias with respect to its warp and weft, so as to be sufficiently extensible to take on perfectly the contour of the sole and under lapping it without causing the formation of folds. In addition, a strip of rubber is placed on the circumference of the sole to cover the mentioned strip and ensure perfect tightness, imparting to it at the same time its definite appearance. The footwear thus produced, vulcanized with hot air, then goes to the finisher for putting on the heel.

Another feature of the invention relates to the composition of the sole itself, which consists of a thick sheet of agglomerated cork interposed between two sheets of cardboard, said assembly receiving moreover a stiffener of any desired form assembled apart in series on the press with solution or rubber latex, imparting to the finished sole its final arching, so as to be ready to be put on the footwear as initially intimated above.

The invention likewise comprises as a new industrial product, footwear particularly ladies' footwear, which has similar arrangements applied wholly or but partly to the same.

In order to facilitate clear comprehension of the invention and its features, the same is diagrammatically shown in the accompanying drawing forming part hereof, and in which,

Fig. 1 is a side elevation of an example of footwear embodying our invention in approved form, a portion being shown in partial longitudinal section taken on line I—I in Fig. 2.

Fig. 2 is a transverse section of the same as taken on line II—II in Fig. 1.

In the practice of our invention, the footwear, generally indicate at X, has first an upper *a* sewed at *b* with its edge the periphery of an insole *c*. All about said upper, a bias ribbon or strip *e* is likewise sewn at *d*, having a rubber facing on both of its surfaces.

The sole *f* proper consists of a thick sheet or layer of agglomerated cork and is independently inserted, preferably with a stiffener (not shown) between two sheets of cardboard *g*, *g'*. These sheets or parts are assembled by cementing the same together in a press and thereby effecting the shaping or arching of the sole.

The upper *a* already mentioned, is mounted on a form, and the sole just described is placed against its insole *c* while interposing a lining *h*, and after applying cement to the same, a rubber covered ribbon or strip *e* is applied against said sole and then turned under it, with the result that when said strip is firmly in place it very efficiently unites the whole assemblage into a unitary coherent structure. A sheet of rubber *i* is then applied with cement beneath the sole *f* to form the wearing surface, while to the periphery of the sole over strip *e* is applied a rubber covering strip *j*, covering said strip *e* and seams *b* and *d*. The heel *k* is attached in a subsequent operation.

This footwear presents both from the point of view of manufacturing and from the point of view of wearing numerous advantages, notably the following:

It is easily manufactured, as it lends itself

to mass production of the upper on the one hand, with its insole and its joining ribbon, and of the sole on the other hand.

It is light on account of the composition of the inner sole consisting of cork held between two pieces of cardboard.

It is hygienic on account of the presence of the cork.

It is durable because of the wearing sheet, which may be of very high-class rubber, or plastic, such as vinylite sheet, etc

Finally it has an esthetic effect on account of the surrounding rubber strip which forms an ornament and the color of which may match that of the fabric of the upper.

It is obvious from the foregoing that the invention is not limited to the one form disclosed and shown in the drawing only by way of example but is susceptible of variations within the scope of the appended claims.

Having now fully described our invention, we claim:

1. A method of manufacturing footwear of fabric or rubber, particularly ladies' footwear, which consists in sewing the lower edge portions of an upper to the peripheral portion of an insole, then sewing a rubber covered bias ribbon about the edge portions of said upper, independently cementing a sheet or layer of agglomerated cork between two sheets of relatively thinner compact cellulosic material to form a sole, placing the sole against said insole while interposing a lining between the two, cementing a portion of said bias ribbon to the peripheral edges of said sole and also turning the lower edge of the bias ribbon under said sole and cementing the same in place, cementing a rubber covered covering ribbon or strip in place about the bias strip, and cementing a sheet of rubber to the lower surface of said sole within the outline thereof to form the wearing surface of the footwear.

2. A method of manufacturing footwear of fabric or rubber, particularly ladies' footwear, which consists in sewing the lower edge portions of an upper to the peripheral portion of an insole, then sewing a rubber covered bias ribbon about the edge portions of said upper, independently cementing a sheet or layer of agglomerated cork between two sheets of cardboard to form a sole, placing the sole adjacent to and parallel with said insole, cementing a portion of said bias ribbon to the peripheral edges of said sole and also turning the lower edge of the bias ribbon under said sole and cementing the same in place, cementing a rubber covered covering ribbon or strip in place about the bias strip, and cementing a sheet of rubber to the lower surface of said sole within the outline thereof to form the wearing surface of the footwear.

3. As an article of manufacture, footwear comprising a layer of agglomerated cork cemented between a pair of sheets of cardboard forming a sole, an insole overlying the major portion of the upper surface of said sole, an upper having the lower edge portions sewed to the edges of said insole, a bias ribbon sewed to said lower edge portions of said upper and extending downward about and being cemented to the peripheral edge of said sole with the lowest portion of said bias ribbon folded under the edge of the sole and cemented to the bottom surface thereof within the edges of said sole, a rubber wearing sheet cemented to the entire bottom surface of the sole, and a rubber covered covering ribbon or strip cemented in place about said bias ribbon and sole to finish the appearance of said sole.

4. A method of manufacturing footwear of fabric or rubber, particularly ladies' footwear, which consists in sewing the lower edge portions of an upper to the peripheral portion of an insole, then sewing a rubber covered bias ribbon about the edge portions of said upper, independently cementing a sheet or layer of agglomerated cork between two sheets of cardboard to form a sole, placing the sole adjacent to and parallel with said insole, cementing a portion of said bias ribbon to the peripheral edges of said sole and also turning the lower edge of the bias ribbon under said sole and cementing the same in place, cementing a rubber covered covering ribbon or strip in place about the bias strip, and cementing a sheet of plastic resilient material of the class consisting of rubber, synthetic resinous material and vinylite sheet to the lower surface of said sole within the outline thereof to form the wearing surface of the footwear.

5. As an article of manufacture, footwear comprising a layer of agglomerated cork cemented between a pair of sheets of cardboard forming a sole, an insole overlying the major portion of the upper surface of said sole, an upper having the lower edge portions sewed to the edges of said insole, a bias ribbon sewed to said lower edge portions of said upper and extending downward about and being cemented to the peripheral edge of said sole with the lowest portion of said bias ribbon folded under the edge of the sole and cemented to the bottom surface thereof within the edges of said sole, a wearing sheet of plastic material of the class consisting of rubber, synthetic resinous material and vinylite sheet cemented to the entire bottom surface of the sole, and a rubber covered covering ribbon or strip cemented in place about said bias ribbon and sole to finish the appearance of said sole.

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