April 15, 1941. H. S. LYNESS 2,238,274

STRAP SANDAL AND INSOLE THEREFOR

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Fig.1

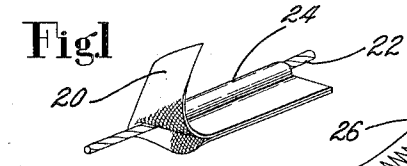


Fig.2

Fig.3

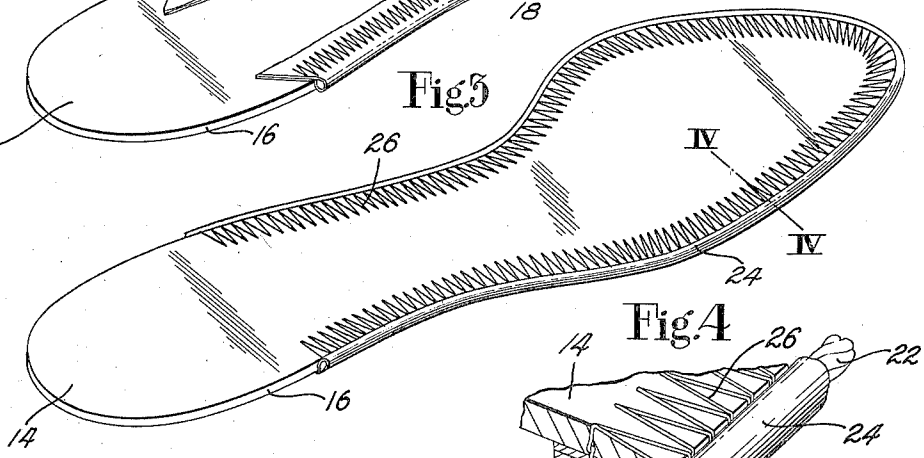


Fig.4

Fig.5

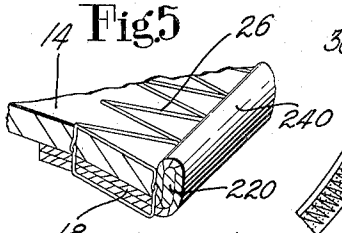


Fig.6

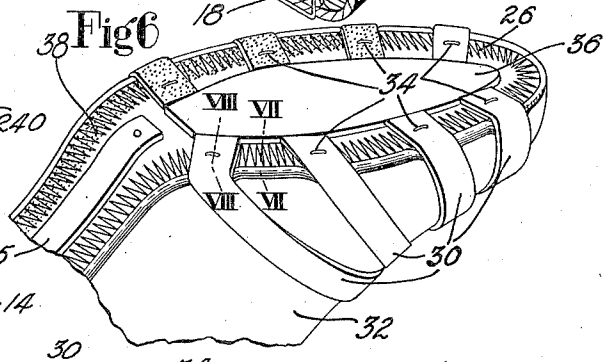


Fig.7

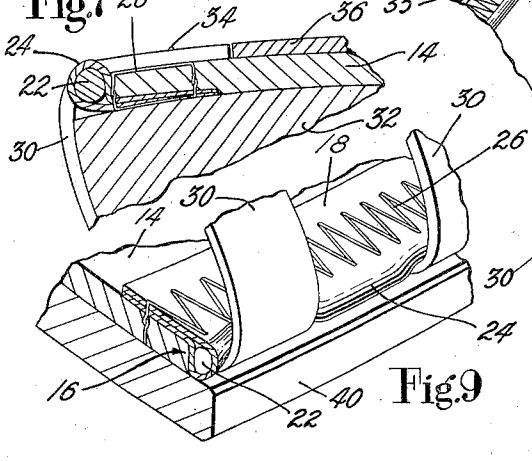


Fig.8

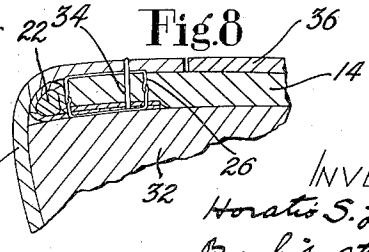


Fig.9

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STRAP SANDAL AND INSOLE THEREFOR

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Fig.11

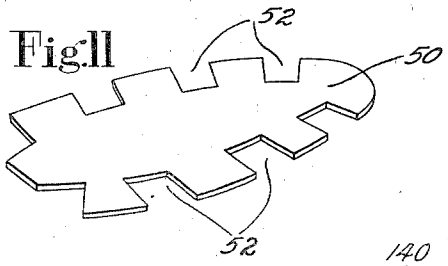


Fig.12

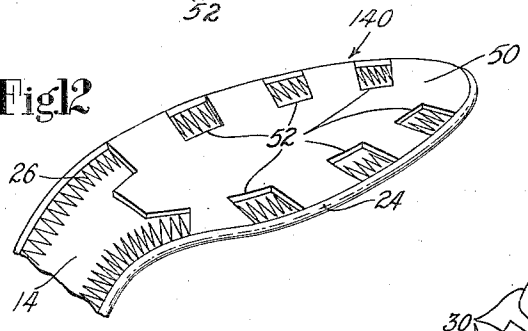


Fig.10

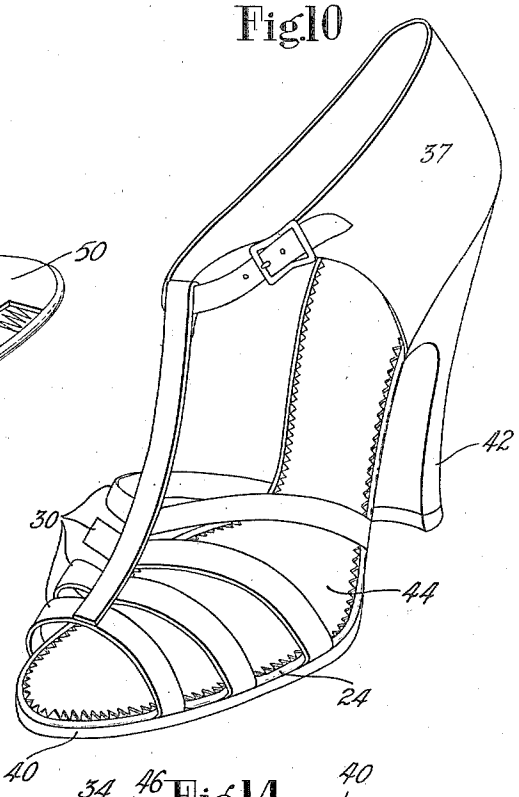


Fig.13

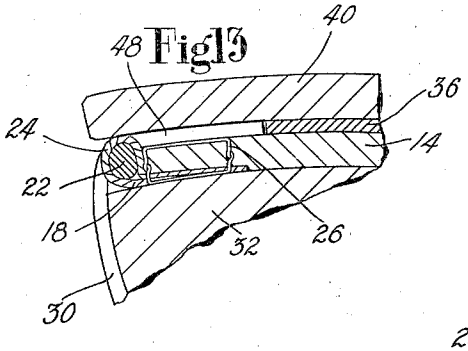


Fig.14

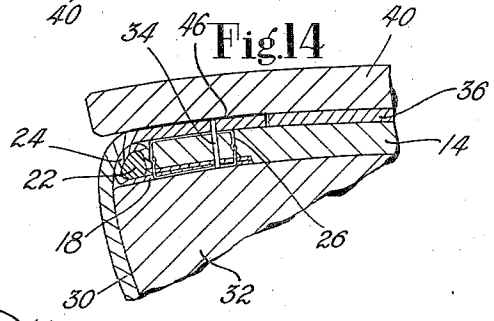


Fig.15

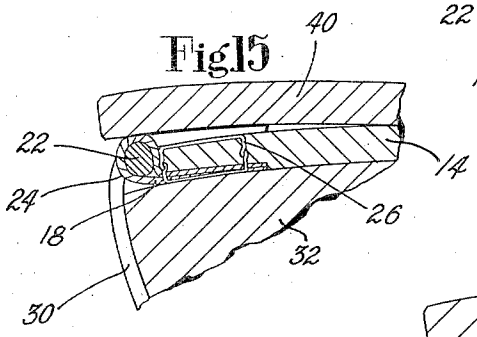
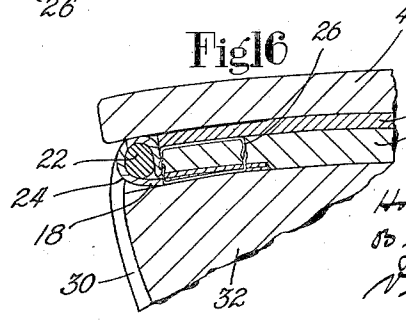


Fig.16



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2,238,274

UNITED STATES PATENT OFFICE

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STRAP SANDAL AND INSOLE THEREFOR

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Application April 18, 1939, Serial No. 268,625

8 Claims. (Cl. 36—11.5)

This invention relates to improvements in strap sandals and other shoes the uppers of which comprise portions which are spaced apart lengthwise of the shoe and are inturned between inner and outer soles, and to improvements in insoles for use in such shoes.

Insoles for strap sandals are commonly provided with edge bindings which cover the edges and the adjacent marginal portions of the upper and lower sides of the insoles, the purpose of the edge binding being to present a finished and attractive appearance to the edge of the insole in the localities between the straps where the insole is exposed to view in the finished shoe. Such insole bindings, however, usually have a smooth and glossy surface to which cement will not readily adhere and consequently the portion of the binding which overlies the outsole-facing side of the insole tends to interfere with satisfactory attachment of the marginal portion of the outsole in cases where the outsoles are secured to the shoes by cement. Furthermore, no provision is made in an edge bound insole of the conventional construction for filling in the spaces which are liable to be present between the margins of the inner and outer soles in the localities between the straps where the soles are held apart more or less by the thickness of the interposed end portions of the straps.

One object of the present invention is to impart to an insole a finished edge appearance without interfering with the securing of a satisfactory cement bond between the outsole and the bottom of the shoe. Another object is to provide a strap sandal the insole of which has finished edge portions which closely engage the outsole in the localities between the straps.

With these and other objects in view the invention provides certain improvements in the construction of shoes and insoles therefor such as will be hereinafter described and specifically pointed out in the appended claims.

The invention will be described with reference to the accompanying drawings, in which—

Fig. 1 is a perspective view illustrating the manner in which a strip of sheet material is folded over a cord or core in the process of making an edge piping strip for use in the manufacture of my improved insole;

Figs. 2 and 3 are perspective views of the insole showing, respectively, the upper and lower sides thereof;

Fig. 4 is a fragmentary view, partially in perspective and partially in section, on the line IV—IV of Fig. 3;

Fig. 5 is a view similar to Fig. 4 but showing an edge piping strip of modified construction;

Fig. 6 is a perspective view of a strap sandal embodying my improved insole, the shoe being shown as it appears before the outsole has been applied;

Figs. 7 and 8 are fragmentary cross-sectional views taken along the lines VII—VII and VIII—VIII, respectively, of Fig. 6;

Fig. 9 is a view, partially in cross-section and partially in perspective, of a portion of the completed sandal;

Fig. 10 is a perspective view of the entire sandal;

Fig. 11 is a perspective view of a forepart filler piece provided with marginal notches for receiving the end portions of the sandal straps;

Fig. 12 is a perspective view of a portion of a composite insole comprising an insole, an edge piping and a filler piece of the type shown in Fig. 11;

Fig. 13 is a fragmentary cross-sectional view of a completed sandal in which a filler piece like that shown in Fig. 6 is employed, the section being taken in a plane between two adjacent straps;

Fig. 14 is a view similar to Fig. 13, except that the section is taken through one of the straps;

Fig. 15 is a fragmentary cross-sectional view of a completed sandal in which no forepart filler piece is employed, the section being taken in a plane between two adjacent straps; and

Fig. 16 is a view similar to Fig. 13 but showing a sandal in which there is employed a filler piece of the type shown in Fig. 11.

The insole 14 shown in the drawings may be formed of any appropriate insole material as by a die cutting or rounding operation, the insole having a perpendicular edge 16 of substantial thickness corresponding to that of the insole material. The insole is intended for use in shoes, such as strap sandals, open-shank shoes and others the uppers of which comprise members which are spaced apart lengthwise of the shoe so that portions of the insole edge will be uncovered by the upper in the finished shoe. In order that the insole shall present a finished appearance where its edge portions are not covered by the upper members provision is made for covering the insole edge without, however, covering the adjacent marginal portion of the side of the insole which is to face the outsole, thereby leaving that marginal portion of the insole better adapted for receiving outsole attaching cement in such a manner as to insure a more secure at-

tachment of the outsole. For this purpose an edge piping 18 is formed from a strip 20 (Fig. 1) of sheet material of uniform width. Textile fabric or various other materials may be used in making the edge piping and preferably the material is finished at one side as by having applied thereto a glossy coating adapted to provide an attractive display surface where the piping is exposed to view. The strip 20 is doubled over or folded widthwise so that the fold extends in the direction of the length of the strip, the finished or coated side being outermost and the opposite marginal portions of the strip being overlapped upon one another and secured together as by means of cement which may be applied to the unfinished side of the strip before the strip is folded. In folding the strip the portion immediately adjacent to the fold is bent or offset toward one side so as to provide a lip or bead adapted to cover the edge of an insole. Preferably the strip 20 is folded over a core strip or cord 22, in order to provide a more substantial bead formation and one which will have greater tendency to maintain its initial cross-sectional contour. The marginal portions of the strip 20, which may be termed the cover strip, are cemented together at one side of the cord or core 22 so that the bead 24 which is formed by the portion of the cover strip that is wrapped around the core will project beyond the overlapped margins of the cover strip at one side thereof. The completed piping strip may be applied as by sewing or cementing it to the margin of the insole so that the offset bead 24 will closely overlie and entirely cover the edge face of the insole. Advantageously, the piping may be stitched to the insole and preferably a zigzag seam is employed for this purpose, as shown at 26, the stitches extending through the doubled-over portions of the piping strip and entirely through the insole. Such stitching attaches the strip very securely to the insole at points close to the bead 24, as shown in Fig. 4, and also at points spaced inwardly a substantial distance from the bead. Also, as shown in Fig. 3, the stitching 26 is exposed on the side of the insole which is to face the outsole, portions of the stitches extending in directions transverse to the sole edge so that they are adapted to afford effective anchorage for the outsole attaching cement throughout a wide marginal area on the surface of the insole. The zigzag stitching thus contributes to the securing of a satisfactory cement bond between the outsole and the portions of the insole which are engaged by the outsole. The core 22 may be substantially round in cross-section, as indicated in Fig. 4, or it may be of other shapes, for example, in the form of a substantially flat strip 220 as in Fig. 5 in which case the folding of the cover strip over the core will result in the formation of a bead 240 of somewhat flattened appearance.

The bead 24 may be thicker than the width of the sole edge and disposed, as shown in Fig. 5, so that it not only covers the sole edge but projects more or less beyond both sides of the insole, thus better adapting the bead to perform certain functions hereinafter to be referred to. In all cases the piping strip will project outwardly beyond the sole edge to a substantial extent, depending upon the thickness of the bead. Consequently, in order to provide an insole which will be of a desired size after the edge piping has been applied to it, allowance is made for the thickness of the bead in cutting out the insole, the insole being cut shorter and narrower than would otherwise be required with a resulting substantial saving of insole stock.

In making a strap sandal having an insole embodying some or all of the features of construction already described, an upper forepart assembly comprising a plurality of straps 30 is provided. If desired, the straps 30 may be initially cut to size without surplus lasting allowance and assembled with the insole off the last. Alternatively the insole may be tacked in place upon the bottom of a last 32, as illustrated in Fig. 6, the side of the insole to which the piping strip is applied being placed next to the last. The strap assembly will then be placed upon the last, the straps progressively tensioned over the last, and the ends of the straps turned inwardly over the bead 24 and secured in overlasted positions upon the insole as by means of cement or by fastenings, such as lasting staples 34. Before the straps were lasted the bead 24 of the edge piping occupied a position more or less spaced from the last bottom, the relation of the bead to the last bottom at that time being substantially as shown in Figs. 13, 15 and 16. After lasting, the portions of the bead which underlie the straps are pressed down close to the last bottom, as indicated in Fig. 8, and may be somewhat deformed by the tensioning of the straps over the bead. In the spaces between the straps, however, the bead will remain in an upstanding and undeformed condition, as indicated in Fig. 7. The inturned or overlasted ends of the straps may be trimmed and roughened to prepare them for the reception of outsole attaching cement and a shank stiffener 35 may be secured in place upon the insole. Advantageously, the end portion of each strap may be beveled to a thin edge, as indicated in Fig. 15. If the inner end portions of the straps 30 are beveled it will be unnecessary to apply a filler piece to the forepart of the insole but if the ends of the straps are not beveled a forepart filler piece 36 may be employed, the piece being shaped in marginal contour so as substantially to fill the bottom cavity within the trimmed ends of the straps. A suitable back part, such as the quarter 37 (Fig. 10), is provided and its bottom margin turned inwardly and secured in overlasted position upon the insole. A coating of adhesive 38 (Fig. 6), such as pyroxylin cement, is applied along the margin of the shoe bottom, the cement being applied to the overlasted end portions of the straps and the bottom margin of the quarter and to the surface of the insole between the straps in the open-shank portions of the shoe where the zigzag stitching 26 is located and the cement is allowed to dry. A dried coating of cement which has previously been applied to the marginal portions at the attaching side of an outsole 40 is activated by the application thereto of a suitable solvent, the outsole is properly located upon the bottom of a shoe, and the shoe is put in a press and subjected to pressure in the usual manner. After a sufficient interval of time has elapsed, the shoe is removed from the press, the outsole is heel-seat fitted, a heel 42 is attached, and a sock lining 44 may be applied to cover the foot-facing side of the insole. As indicated at 46 in Fig. 14, the outsole is secured by cement to the overlasted end portions of the straps. In the localities between the straps the marginal portions of the inner and outer soles are shown at 48 in Fig. 13 as being spaced apart an amount corresponding approximately to the thickness of the strap material. The width of the space 48 may, in many instances, be substan-

tially reduced by distortion and compression of the sole and strap materials under the action of the sole attaching pressure but almost invariably an opening or gap of appreciable size is present between the edge portions of the soles in the regions between the straps. Any such gaps or openings as may be present, however, between the margins of the soles will be covered and entirely concealed from view by the portions of the edge piping bead 24 which are between the straps and which, not having been distorted or deflected by the straps, closely engage the outsole, as indicated in Figs. 9 and 13. The finished shoe, as shown in Fig. 10, will be unmarred by openings or gaps of any sort between the edges of the inner and outer soles.

If the straps are secured to the insole off the last, it will be found, upon the subsequent insertion of the last preparatory to attaching the outsole, that the bead will lie close to the edge of the last bottom in those portions where the inturned ends of the straps extend over the bead, as in Fig. 8, while in the localities between the straps the bead will be spaced away from the last bottom and will be positioned for close engagement with the outsole, as in Fig. 7.

As indicated in Figs. 13 and 14, the filler piece 36 fills the bottom cavity inwardly of the ends of the straps and supports the central forward portion of the outsole so that no undesirable depression will be formed therein. If the end portions of the straps are beveled, as shown in Fig. 15, there will be no bottom cavity formed in the forepart of the shoe bottom and consequently no forepart filler will be required.

In Fig. 11 there is shown a filler piece 50 of novel formation which may be employed between the inner and outer soles of the forepart of the shoe. As shown, the marginal contour of the filler piece 50 corresponds to that of the forepart of the insole but the filler piece is provided with a plurality of marginal notches 52 for receiving the end portions of the straps. The filler piece 50 may be cemented to the lower side of the insole before the straps are overlasted upon the insole. Thus, the notches 52 will serve to determine the locations of the end portions of the straps and after the straps have been located within the notches and secured to the insole the exposed surfaces of the straps will be flush with the lower surface of the filler piece so that a smooth flat surface is presented at the bottom of the forepart of the shoe for engagement with the outsole. When a filler piece of the type shown in Fig. 11 is employed the insole will be provided with an edge piping having a beaded portion which is offset sufficiently to cover the edge of the filler piece as well as the edge of the insole so that in the spaces between the straps the beaded portion of the edge piping will closely engage the outsole, as shown in Fig. 16.

The filler piece 50 may be laid upon the bottom of the insole after the insole has been tacked to the last, or, as indicated in Fig. 12, it may be secured to the insole before the insole is applied to the last. In the latter case a composite insole 140 is provided as an article of manufacture which comprises a full length insole, an edge piping strip and a marginally notched forepart filler piece. In either case an edge piping will be employed having a bead sufficiently offset, as indicated for example in Fig. 5, to cover the edges of the filler piece as well as the edge of the insole itself.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A strap sandal comprising an insole having an edge of substantial thickness, an edge piping comprising a strip of sheet material folded widthwise and having marginal portions overlapped upon one another and secured to the upper side of the insole, the portion of said strip adjacent to the fold projecting beyond the insole and being offset toward the lower side of the insole so as to form a bead closely adjacent to and covering the edge of the insole, a plurality of straps having end portions inturned over said bead and secured to the lower side of the insole, and an outsole attached to said inturned end portions of the straps.

2. An insole having an edge of substantial thickness and having an edge piping comprising a strip of sheet material folded widthwise and having marginal portions overlapped upon one another and secured to the upper side of the insole, a portion of said strip adjacent to the fold projecting beyond the insole and being offset toward the lower side of the insole so as to form a bead lying against and covering the edge of the insole, and zigzag stitching extending through said insole and said strip only and securing the overlapped portions of said strip to the insole at points close to said bead and at other points spaced from said bead, said stitching being exposed at the lower side of the insole to provide anchorage for outsole attaching cement.

3. A strap sandal comprising an insole having an edge of substantial thickness, an edge piping comprising a core strip and a cover strip, said cover strip being folded widthwise and having marginal portions overlapped upon one another at one side of said core strip and secured to the upper side of the insole, said core strip forming a bead in the cover strip and said bead being offset toward the lower side of the insole to rest against and cover the edge of the latter, a plurality of straps having end portions inturned over said bead and secured to the lower side of the insole, and an outsole attached to said inturned end portions of the straps.

4. For use in the manufacture of strap sandals, a composite insole comprising a full length insole, a filler piece secured to the forepart of the insole at the side which is to face the outsole, said filler piece having a plurality of marginal strap-receiving notches and having the edges of its unnotched portions registering with the edge of the insole, and a piping strip secured to the margin of the opposite side of the insole and having a beaded edge portion covering the registering edges of the insole and the filler piece.

5. A strap sandal comprising an insole having an edge of substantial thickness, an edge piping strip folded widthwise and having marginal portions overlapped upon one another and secured to the upper side of the insole, said overlapped portions projecting beyond the insole and being offset toward the lower side thereof, thereby forming a bead against and covering the edge of the insole, a plurality of straps having end portions inturned over said bead and secured to the lower side of the insole, and an outsole attached to said inturned end portions of the straps.

6. A strap sandal comprising an insole, an edge piping secured to the upper side of said insole and having an offset outer marginal portion covering the edge of the insole, a plurality of straps having end portions inturned over said marginal portion of the edge piping and secured

to the lower side of the insole, and an outsole secured to said inturned strap portions but having its margin spaced somewhat from the insole in the localities between the straps so that openings are formed between the edges of said soles, said offset portion of the edge piping closely engaging the outsole in said localities thereby concealing said openings.

7. A strap sandal comprising an insole, a plurality of straps having inturned end portions secured to the lower side of said insole, an outsole having its margin secured to the inturned end portions of said straps and spaced more or less from the margin of the insole in the localities between said straps, and an edge piping covering the edge of the insole, said piping being compressed to insole thickness where the straps underlie it and projecting below the insole and closely engaging the outsole in the localities between said straps and thereby concealing the spaces between the soles, said piping being exposed to view in the localities between the straps.

8. A strap sandal comprising an insole having an edge of substantial thickness, a forepart filler piece secured to the insole at the lower or outsole-facing side of the latter, said filler piece having a plurality of marginal strap-receiving notches and having the edges of its unnotched portions registering with the edge of the insole, an edge piping strip folded in the direction of its length and having marginal portions overlapped upon one another at one side of the fold and secured to the upper side of the insole, the portion of said strip adjacent to the fold projecting beyond the insole and having an offset marginal bead covering the edge of the insole and the edges of the unnotched portions of said filler piece, a plurality of straps having end portions inturned over said bead and secured to the lower side of the insole, and an outsole secured to said insole and to the inturned end portions of said straps.

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