April 29, 1969 H. B. ODELL 3,441,467

RIB STRIPPING

Filed July 28, 1964

FIG. 1

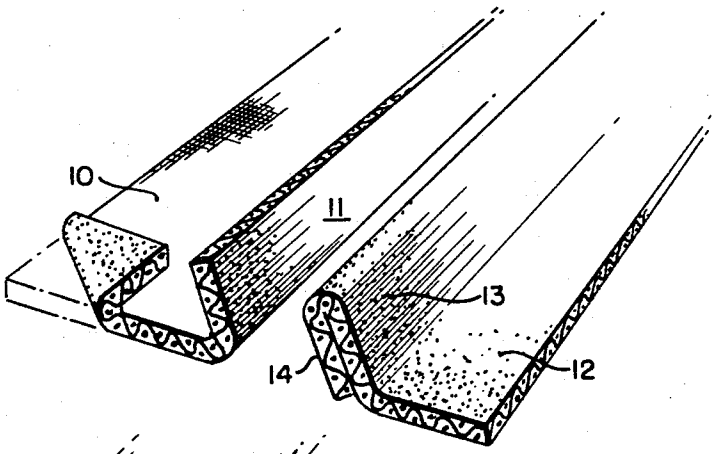


FIG. 2

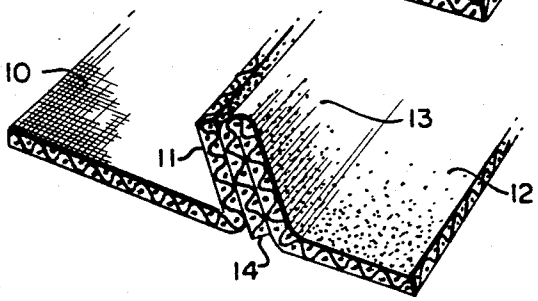


FIG. 3

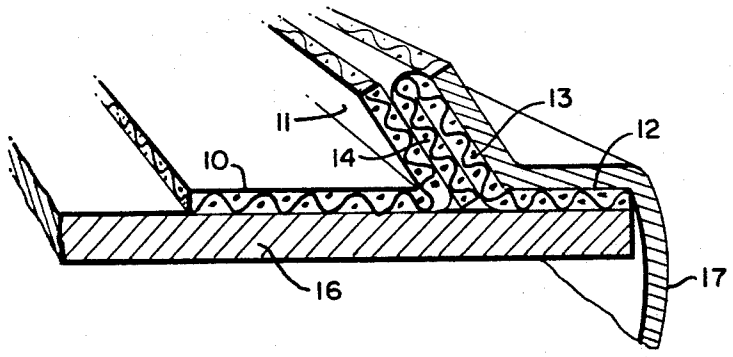
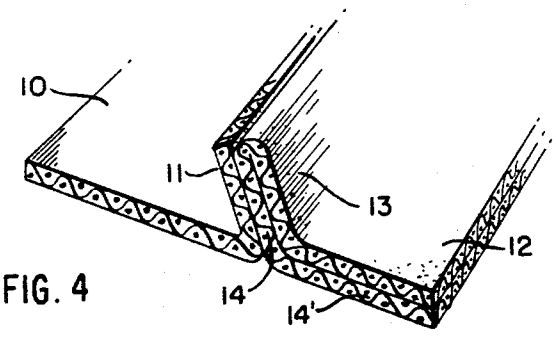


FIG. 4



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RIB STRIPPING

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U.S. Cl. 161—99 2 Claims

ABSTRACT OF THE DISCLOSURE

Rib stripping for attachment to Goodyear insoles that will present a precoated adhesive surface to which the lasted margin of the upper may be directly and securely attached and including an inwardly and downwardly folded intermediate ply.

This invention comprises a new and improved rib stripping for attachment to insoles in providing a sewing rib, particularly for insoles used in Goodyear shoe making which require a rib for welt stitching.

An object of the invention is to provide stripping that will present a rib with a precoated adhesive surface to which the lasted margin of the upper may be directly attached and which will facilitate flat lasting, thus reducing the amount of filler required in the shoe bottom and the over-all thickness of the shoe bottom. These characteristics are particularly desirable in the production of light, flexible, cement-lasted shoes.

The rib stripping of this invention may be formed advantageously from two textile tapes of identical or similar specifications united so as to present (1) a wide single ply flange inwardly directed when attached to the insole and merging into (2) an upstanding single rib ply; together with (3) a narrow single ply flange outwardly directed when attached to the insole and merging into (4) a folded two-ply upstanding rib ply which includes a downwardly directed intermediate ply adhesively united to the single rib ply above mentioned. Both the attaching flanges and the exposed surfaces of the outwardly directed rib and flange are provided with an adhesive coating of activatable cement in readiness for the reception and adhesive attachment of the lasted margin of the upper.

In rib stripping of this kind it is important to have the structure of the rib as solid as possible at the base thereof where the welt sewing needle is to pass. I have discovered that this base portion of the rib is rendered solid by employing a downwardly directed intermediate ply in the formation of the rib, that is to say, a ply terminating in a square cut bottom edge rather than a rounded fold vertex.

The precoated rib stripping of my invention lends itself particularly well to thermoplastic side and toe lastings now becoming popular among shoe manufacturers. It has the advantages of ease and economy of manufacture, desirable flexibility and requires no fibrous filler. It facilitates the formation of a tighter inseam than heretofore. The precoated stripping may be applied to the insole with existing equipment and the welt seam, no matter how low, passes through three thicknesses of fabric.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawings, in which:

FIG. 1 is a view in perspective of the two component tapes, shown as precoated and creased preparatory to being united, and on an enlarged scale.

FIG. 2 is a similar view showing the tapes united to form the ribbing.

FIG. 3 shows the ribbing as laid and attached to the portion of an insole, and

FIG. 4 is a veiew similar to FIG. 3 showing another embodiment of the invention.

In the following description the terms "inner" and "outer" are used with reference to the rib stripping in its position when attached to the insole. As shown in FIG. 3 the wide attaching flange **10** is directed inwardly in the insole from the rib and the narrower attaching flange **12** is directed outwardly.

The rib stripping in its preferred form may be constructed from two component tapes of duck or similar fabric. Of these the inner component is first precoated on one side with an adhesive which is normally nontacky but which may be readily activated by solvent or heat. The tape is then creased forming a fold vertex that defines a relatively wide attaching flange **10** and an upstanding rib ply **11**.

The fabric of the outer component is first precoated on both sides with the same or different activatable adhesive. It is then folded forming the outwardly directed attaching flange **12** defined by a fold vertex from which rises the rib ply **13**. This is folded at its upper edge and merges into the inner downturned ply rib **14**. The latter extends flush with the lower surface of the attaching flange and has a square cut bottom edge. The plies **13** and **14**, being both adhesively coated, are at once and permanently united.

The stripping is completed and made ready for immediate use or for intervening storage by adhesively uniting the precoated surface of the rib ply **14** to the precoated surface of the rib ply **11** as shown in FIG. 2. Here again a fast and permanent bond is effected by laminating the two plies with their precoated surfaces in engagement.

It will be understood that in practice the fabric of the component tapes may be precoated as above described in sheet form and then slit to form precoated strip or tapes of the required width. A solvent neoprene based cement may be used advantageously since it readily penetrates the fabric and so becomes well anchored therein. Other commerically available solvent or heat activatable cements may be employed within the scope of the invention.

FIG. 3 depicts the ribbing as attached to a flat insole **16**, showing the outer attaching flange **12** as substantially flush with the edge of the insole and the rib standing at about 45°. The rib may be folded flat against the insole **16** in the rib-laying step and may be drawn into its inclined position by tension of the upper **17** in the lasting operation. If desired it may be again flattened carrying with it the margin of the upper.

In precoating the outer component **12, 13** different types of adhesive may be employed on the two surfaces of the fabric; the adhesive upon the exposed faces being selected for best adherence to the lasted margin of the upper, while that applied to the surface forming the downturned ply **14** being selected for best uniting the internal plies forming the rib.

The adhesive uniting the rib plies of the two component tapes and attaching the upper is also formulated for secure attachment of the ribbing to the insole. The same adhesive formulation is found to be satisfactory in some cases for all adhesive bonds of the stripping.

A modified form of stripping is shown in FIG. 4 wherein the downturned ply **14** is provided with an extension **14'** folded under the flange **12** and so providing the ribbing with an outwardly extending two-ply attaching flange **12, 14'**.

In both forms of stripping it will be seen that the exposed surfaces of the plies **12** and **13** are precoated with an adhesive which is presented in convenient manner for direct bonding attachment to the overlasted margin of the

upper. This, as already pointed out, is an important advantage of the novel sewing rib herein described.

Having thus disclosed my invention and described in detail illustrative embodiments thereof, I claim as new and desire to secure by Letters Patent:

1. An insole sewing rib strip comprising inner and outer components of textile tape, the tape of the inner component having a wide flat flange for attachment to an insole and a single upstanding rib ply, and the tape of the outer component having a narrow flat attaching flange merging into two upstanding rib plies folded at their top edge and forming with the said single rib ply of the inner component a laminated three-ply inwardly inclined rib including a downwardly extending intermediate ply adhesively secured both to the upstanding single rib ply of the inner component and to the outer two-ply rib of the outer component, the surface of the outer attaching flange and upstanding rib ply of the outer component having an exposed precoated adhesive face for adhesive attachment to the lasted upper, and the adhesively precoated bottom surfaces of the inner and outer components being adapted for adhesive attachment to the insole.

2. An insole sewing rib as defined in claim 1, further characterized in that the downwardly extending intermediate rib ply has a square cut bottom edge enclosed in the base of the three-ply rib.

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