

April 16, 1935.

F. F. ENO

1,998,125

METHOD OF MAKING RIBBED INSOLES

Filed June 9, 1933

2 Sheets-Sheet 1

Fig. 2

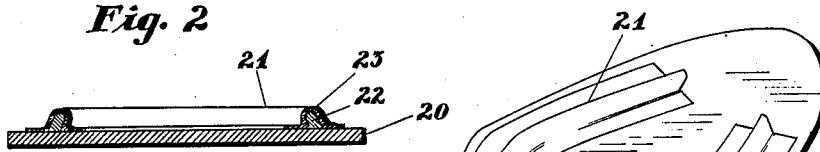


Fig. 1

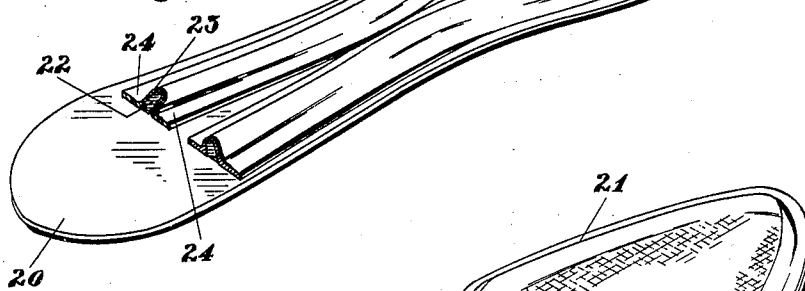


Fig. 3

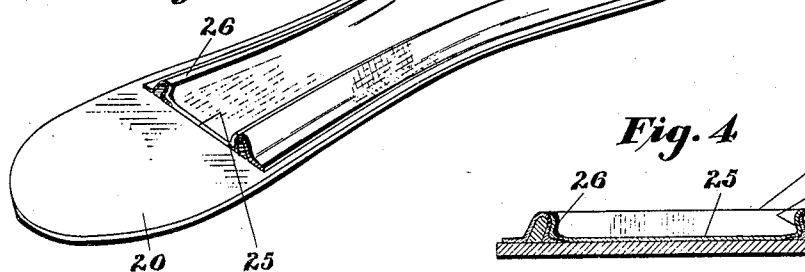


Fig. 4

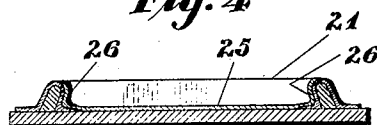
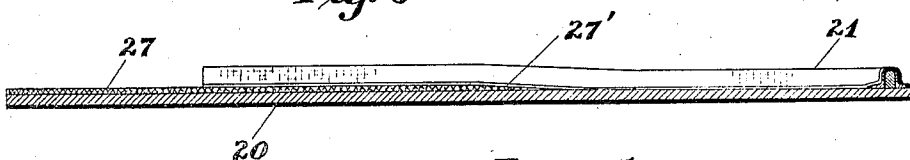


Fig. 5



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2 Sheets-Sheet 2

Fig. 6

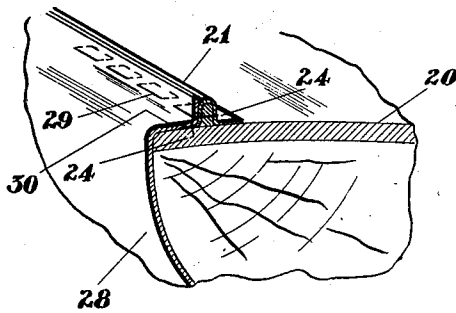


Fig. 9

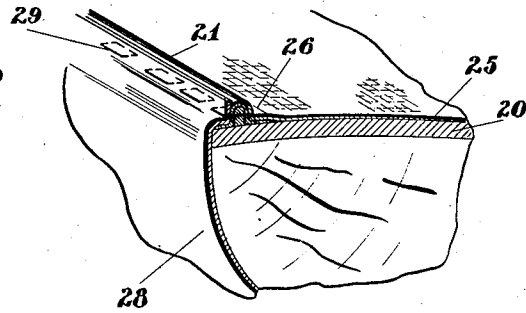


Fig. 7

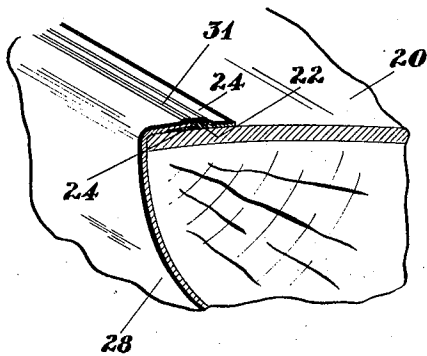


Fig. 10

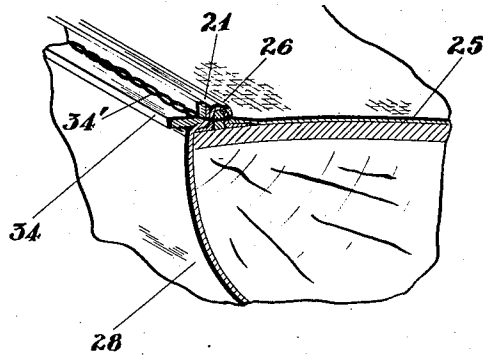


Fig. 8

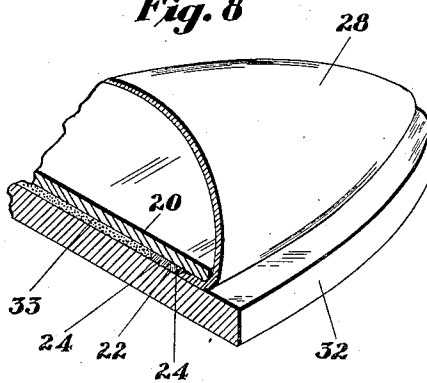
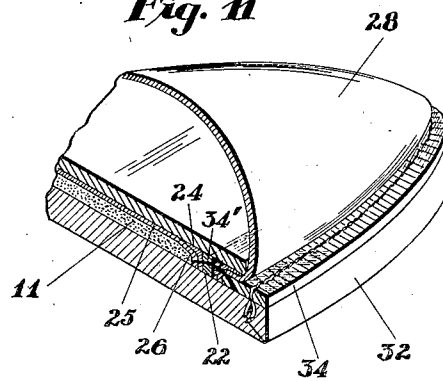


Fig. 11



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UNITED STATES PATENT OFFICE

1,998,125

METHOD OF MAKING RIBBED INSOLES.

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Application June 9, 1933, Serial No. 675,049

2 Claims. (Cl. 12—146)

Heretofore it has been proposed to use as a substitute for the channeled insole employed in shoe making an insole having a stitch-receiving rib distinct from the insole itself and attached thereto by stitches passing through the rib and the insole or through a fabric envelope enclosing such rib.

By following the teaching of this invention an insole is provided having an upstanding rib distinct from the insole body and secured thereto by means other than stitching. In this way the cost of the shoe is reduced by eliminating the stitching operation and by rendering unnecessary a sock lining of leather or other material that must be cemented or otherwise secured to the upper or tread surface of the insole to provide a smooth bearing for the foot. The sewing rib is secured to the insole by adhesive only and in the preferred form of my invention a core member of any suitable material, for example leather, leather board, or cord, is laid on an unchanneled insole near the edge thereof with an adhesive-faced strip which is bent around the top and sides of the core member and the edge portions thereof which extend laterally from the base of the core member are adhesively secured to one face of the insole.

By this construction cheaper, lighter, more flexible material may be employed for the insole than heretofore has been feasible for a channeled insole.

The object of this invention is to provide a method of making an insole having the characteristics above specified by simultaneously laying on an unchanneled insole, near the edge thereof, a core member of any suitable material and a strip of flexible material having adhesive over one face, and then progressively bending the strip around and adhesively securing the same to the top and sides of the core member and adhesively securing the edge portions of said strip which extend laterally from the base of the core to one face of the insole.

A shoe made with this improved insole is lighter and more flexible than shoes involving in their construction a channeled insole, and the cost of manufacture of the same is materially reduced.

In the drawings accompanying and forming a part of this specification—

Figure 1 is a prespective view of an insole manufactured according to the method hereof, particularly adapted for a cemented shoe;

Fig. 2 is a transverse section on an enlarged scale of the ball portion of the insole shown in Fig. 1;

Fig. 3 is a perspective view of an insole manufactured according to the method hereof, particularly adapted for a welted shoe;

Fig. 4 is a transverse section on an enlarged scale of the insole shown in Fig. 3;

Fig. 5 is a longitudinal section of a modified form of insole embodying my invention;

Figs. 6, 7 and 8 are perspective views showing various stages in the process of making a shoe having a cemented outsole;

Figs. 9, 10 and 11 are perspective views showing various stages in the process of making a shoe having a stitched outsole.

In the particular drawings selected for more fully disclosing the principle underlying this invention, 20 represents an unchanneled insole which may be formed of leather, felt, leather board, or the like, and if of leather, it may be much thinner than would be required for a channeled insole and therefore the forepart of the shoe will be more flexible than if a channeled leather insole were used and the shoe will be correspondingly lighter and cheaper. A composite sewing rib 21 extending around the insole body near the edge thereof, as indicated in Fig. 3, or only part way around, as shown in Fig. 1, is permanently attached to the insole body in the following manner: A core member 22 and a flexible, adhesive faced strip 23 are simultaneously applied to the under face of the insole, preferably by a taping machine, and as the insole is moved through the machine, the strip is progressively bent around the top and sides of the core and simultaneously therewith the edge portions 24, 24 are bent out laterally from the base of the core and caused to adhere to said under face of the insole by means of the adhesive over the inner face of the strip. The core member preferably consists of a strip of leather board, although any suitable material may be employed.

Preferably the rib is inclined slightly away from the edge of the insole body, as indicated in Figs. 1 to 4. While the improved method of making ribbed insoles may be carried out by hand, preferably a taping machine of the type shown in the patent to Andrew R. Ridderstrom, 1,794,204, February 24, 1931, is employed, in which case a suitable guide will be used for giving the rib the desired inclination.

For making a welted shoe in which the outsole is stitched to the welt, the rib 21 preferably extends around the toe portion of the insole but for a shoe of the cemented outsole type the rib preferably stops short of the toe portion.

As indicated in Fig. 3 a reinforcing fabric

sheet 25 may be cemented to that portion of the surface of the insole body enclosed by the sewing rib and the edge portion 26 thereof preferably is carried up the inner side of the rib so that when a welt is stitched to the marginal portion of the upper and the rib, the stitches will pass through the upstanding edges of the reinforcing sheet, as hereinafter more fully explained.

If desired the shank and heel portion of the insole 20 may be reinforced by a sheet 27 of any suitable material which preferably is adhesively secured thereto and the forward edge thereof skived, as indicated at 27'.

The insole above described may be used in making shoes of various types. Referring to Figs. 6, 7 and 8 showing the use of said insole for making a shoe having a cemented outsole, 28 represents the shoe upper, the marginal portion of which is secured in lasted position to the rib 21 by means of staples 29, by way of example, although it will be understood that any suitable means may be employed in place of said staples. The portion 30 of the upper overlying the edge portion of the insole between the edge thereof and the base of the rib is cemented to the insole, then the surplus material is trimmed from the rib and the margin of the upper, as indicated in Fig. 7, the plane of the remaining portion of the rib being but slightly above the plane of the lower face of the insole, as indicated at 31. The outsole 32 is then cemented to the shoe bottom, a layer of filler 33 being interposed between the insole and outsole, if desired.

Referring to Figs. 9, 10 and 11 showing the use of my improved insole for making a welted shoe having a stitched outsole, the marginal portion of the upper is temporarily secured in lasted position to the rib by staples 29, or otherwise, and then the welt 34 is stitched to the marginal portion of the upper, the rib, and the upstanding edge 26 of the reinforcing sheet 25, if the latter is employed, as indicated at 34'.

The surplus material is then trimmed from the rib, the margin of the upper, the portion of the welt adjacent thereto and the upstanding edge 26 aforesaid and then the outsole 32 is stitched to said welt, as shown in Fig. 11.

It will be obvious without further illustration that the insole may be used for making a shoe having a cemented outsole by stitching the marginal portion of the upper to the rib, without

using a welt, after the same has been stapled or otherwise temporarily secured to the rib, instead of cementing the same to the edge of the insole, as above described in connection with Fig. 6.

Those skilled in the art of making shoes will recognize that in any type of shoe manufactured with this insole, the importance of the novel method resides in the production of a composite sewing rib that is cemented to one face of the insole and is retained in upstanding position thereon without additional securing means. Thus, while the addition of a reinforce within the sewing rib may be advantageous in the manufacture of certain types of shoes its presence, as hereinbefore indicated, is not essential and when used it is merely added to the ribbed insole that has been produced according to the method herein described and claimed.

Having thus described the novel method and one mode of practising it when employing its underlying principles, yet recognizing that some modifications and changes may be made without departing from its spirit and scope, what is claimed as new, is:—

1. The method of making ribbed insoles which comprises supplying an unchanneled insole, a strip of flexible material having adhesive over one face and of such width as to be capable of being folded to form a sewing rib between inner and outer base flanges and a core member for strengthening said fold, then progressively folding the adhesive face of said flexible strip closely about and against the sides and top of the core while simultaneously forming said out-turned base flanges thus cementing the core within the fold and progressively forming a unitary, cored sewing rib presenting two base flanges having an adhesive under face and continuously laying said sewing rib as it is progressively formed on one face of the insole adjacent to its edge under sufficient pressure progressively upon said flanges to cause adherence to the insole and to retain the cored rib in upstanding position thereon without additional securing means.

2. The method of making ribbed insoles according to claim 1 in which the encased core of said sewing rib is bent to an oblique position relative to the plane of the insole in a direction to form a sewing rib inclined away from the edge of the insole.

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