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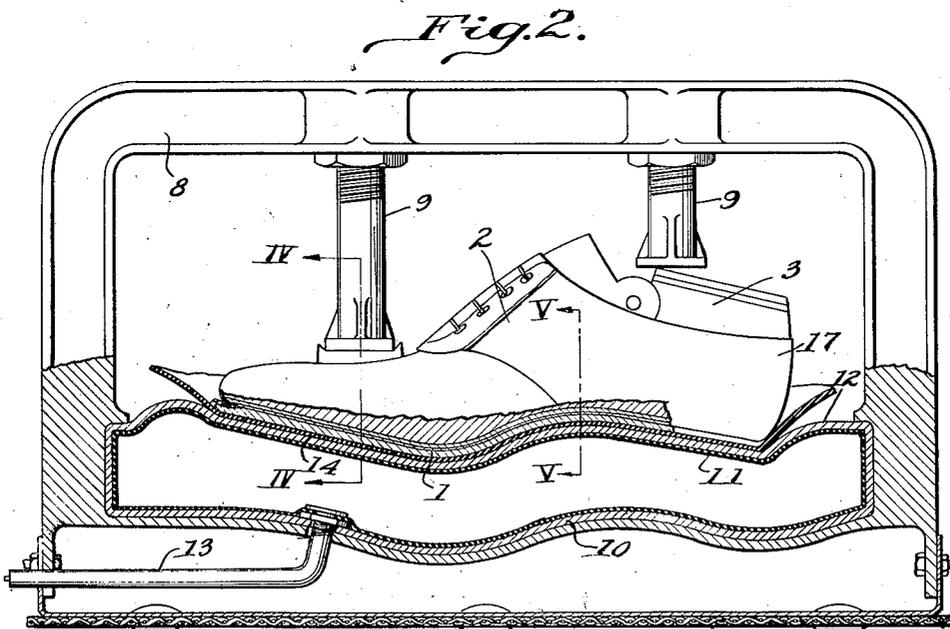
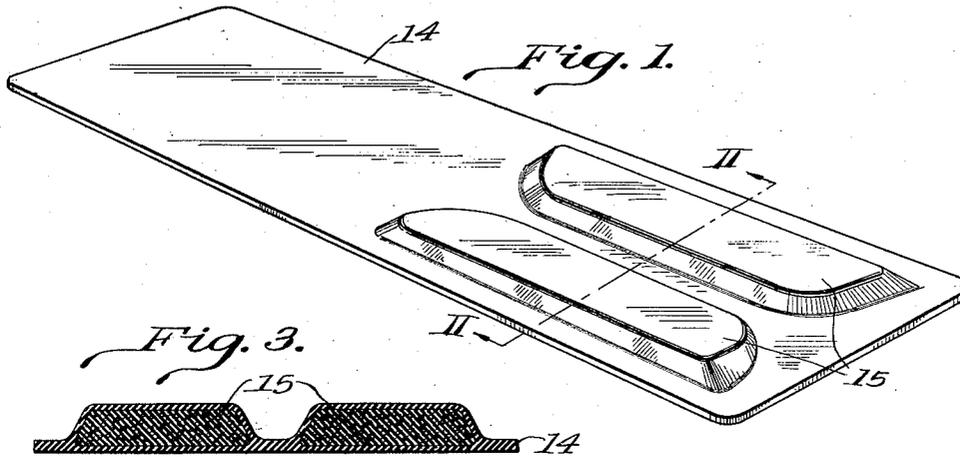
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2,099,393

MECHANISM FOR LAYING SHOE SOLE CHANNELS

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2 Sheets-Sheet 1



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Fig. 9.

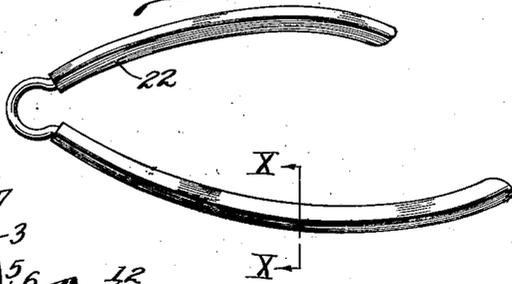


Fig. 4.

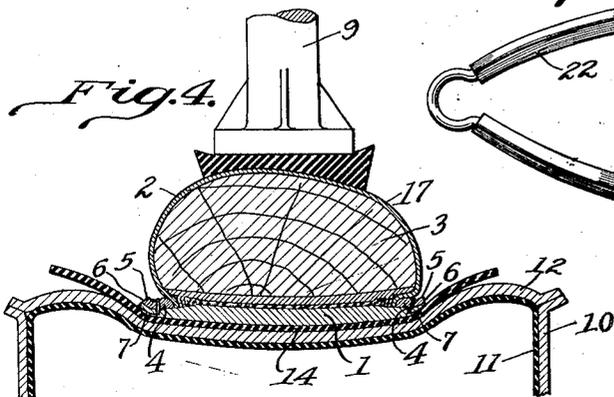


Fig. 5.

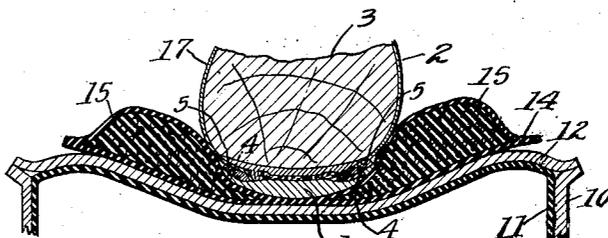
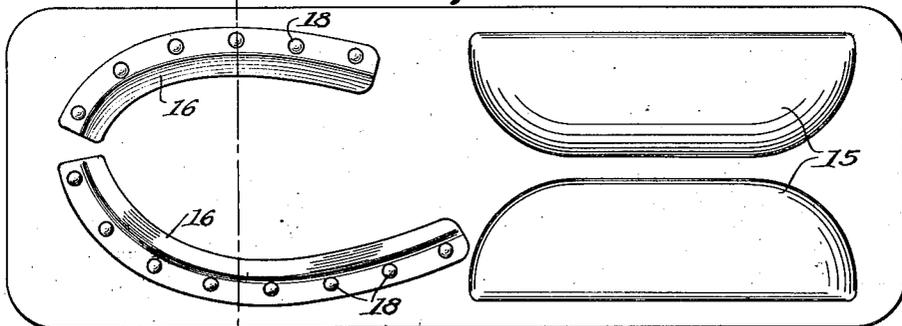


Fig. 10.



Fig. 6.



VII-

VII-

Fig. 8.

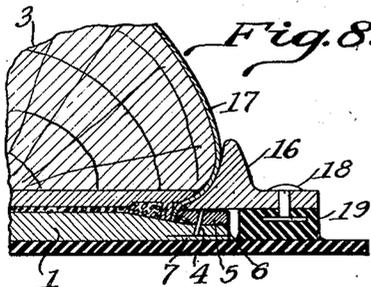
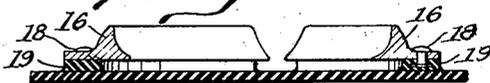


Fig. 7.



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MECHANISM FOR LAYING SHOE SOLE CHANNELS

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Application November 8, 1934, Serial No. 752,086

2 Claims. (Cl. 12—33)

This invention relates to an improved pad for use in the operation of pressing the stitch-concealing channel strip or flap of a sewed shoe outsole in smooth cemented engagement with the adjoining surfaces of the shoe outsole.

In the manufacture of shoes wherein the outsoles thereof are stitched in secured relationship with the shoe proper, particularly in the manufacture of welt, "Littleway" or "McKay" shoes, the marginal stitching of the outsole is concealed and protected, when the shoe is viewed from the bottom, by what is known as a channel strip. Thus in shoe manufacture, it is customary in the formation of such shoes and while the leather of the outsoles is in a moist or tempered state, to slit the outsoles horizontally and inwardly from the lower marginal edge thereof along the fore part and shank regions of the outsole to form the channel strip. This strip is bent upwardly during the shoe forming operations to permit of the sewing of the marginal portions of the outsole to the upper portions of a shoe body. Following this sewing or stitching operation, a cement, either of rubber or pyroxylin base, is supplied to the adjoining surfaces of the channel strip and the outsole, after which, the channel strip is stretched and subjected to pressure in order that it may be adhesively held in united relationship with the adjoining portions of the outsole and so that the bottom of the shoe will present a smooth even and flush appearance with the stitching entirely concealed.

Heretofore, in the operation of "laying" such channel strips, that is, adhesively uniting the same with the outsole in stitch-concealing relationship, it has been customary to perform the operation mainly by manual means or by the use of small hand wielded tools, and in my prior co-pending application, Serial No. 678,802, filed July 3, 1933, I have set forth a method of laying channels wherein the latter, following the application of a cement thereto, are placed in a press and subjected to machine pressures simultaneously over the full area thereof to improve and expedite the securing of the channel strips or flaps to the contiguous marginal regions of the outsoles.

It is an object of the present invention to provide an improved elastic pad with which the channel strips are brought into engagement during the pressing or laying operation in a process of the type set forth in my aforesaid application, the pad comprising the present invention being formed from an elastic material so that when the shoe is under pressure, the stretching or yielding of the pad will cause the channel strip or flap to

be drawn outwardly, bringing it into smooth, taut and unwrinkled engagement with the shoe outsole and in which condition the strip or flap is cemented to said outsole.

It is another object of the invention to form the pad with resilient enlargements contiguous to the portions thereof which engage with the arch or shank regions of the shoe sole, whereby the channel strips in that particular portion of a shoe may be likewise stretched and evenly and tightly forced into firm closing engagement with the shoe outsole, to the end of materially improving the appearance of the finished shoe and preventing subsequent separation of the channel strip or flap from the outsole.

For a further understanding of the invention, reference is to be had to the following description and the accompanying drawings, wherein:

Fig. 1 is a perspective view of the pad or cushion comprising the present invention;

Fig. 2 is a longitudinal sectional view disclosing the pad operatively positioned in a shoe press during the securing of a channel strip or flap to a shoe outsole;

Fig. 3 is a transverse cross sectional view of the pad on the plane indicated by the line II—II of Fig. 1;

Fig. 4 is a vertical transverse sectional view on the plane indicated by the line IV—IV of Fig. 2;

Fig. 5 is a similar view on the plane indicated by the line V—V of Fig. 2;

Fig. 6 is a plan view of a modified form of the pad comprising the present invention;

Fig. 7 is a transverse sectional view on the line VII—VII of Fig. 6;

Fig. 8 is a transverse sectional view showing a shoe in operative position on the modified form of pad;

Fig. 9 is a detail view of another form of clamp adapted for use in connection with the pad;

Fig. 10 is a detail sectional view on the plane indicated by the line X—X of Fig. 9.

Referring more particularly to the drawings, the numeral 1 designates the outsole of a shoe 2 which, in the drawings, has been shown in process of manufacture and contained on a last 3. In this instance, the shoe is of a welt type and is marginally stitched as at 4 to the welt 5, producing thereby an extension edge 6 on the shoe which extends marginally around the forward and shank regions thereof. The stitching is concealed by the channel strip or flap 7 which constitutes, as usual, an integral part of the outsole, being slit or cut from the latter and then later secured to the outsole by means of suitable

cements such as are well known in the industry or one as set forth in my aforesaid application.

In order to force the channel strip into firm unwrinkled engagement with the outsole, use is made of a press comprising a frame 8 having spaced depending supporting heads 9 which engage with the lasted shoe over the heel region and fore part thereof. The bottom of the press includes an inflatable cushion 10, which is formed to include an inner air-receiving tube 11 and an outer casing 12 of a relatively strong material such as leather. A valved connection 13 extends outwardly through the casing 12 from the tube 11 permitting of the ready introduction of compressed air into said tube to effect the inflation of the cushion to pressures usually in excess of 12 to 15 pounds per square inch.

In connection with a press of this type, I have found it necessary to employ a pad 14 formed from an elastic material such as rubber. In the form of the invention disclosed in Fig. 1, the pad 14 is constructed from a relatively thick, rectangular flat sheet of rubber. That portion of the pad which engages with the forward regions of the outsole is substantially flat and is capable of freely conforming to the configuration of the engaging portions of the outsole. However, that portion of the pad which is adapted for engagement with the shank regions of the outsole is transversely thickened and enlarged by the insertion during manufacture of the pad of a pair of slightly spaced sponge rubber members 15 which are also relatively soft, resilient and yieldable and which are sufficiently spaced relative to each other so that the intervening thin portions of the pad may stretch or expand, permitting of relative separation of the members 15, during the operation of pressing a shoe to lay the channel thereof.

The pad 14 is placed directly on the upper surface of the inflatable cushion 12, and the shoe on which the operations take place is placed with its outsole directly in engagement with said pad, with the shank region of the outsole immediately adjacent to the transverse enlargements 15 of said pad. Following adjustment of the heads 9 to maintain this order of the pads within the press, the cushion 10 is inflated to a pressure varying between 12 to 25 pounds per square inch. This results in causing the elastic pad to stretch transversely to some extent so as to place the channel strip 7 of the shoe 2 under an outwardly drawing tension while at the same time forcing the strip upwardly into cementing engagement with the adjoining portions of the outsole. This pressure is maintained for an appropriate interval of time, varying from 1 to 5 minutes and which depends somewhat on the nature of the cement employed in laying the channel strips, so that when the shoe is subsequently removed from the press through deflation of the cushion 10, it will be found that the channel strip will be in firm, positively held and unwrinkled engagement with the adjoining portions of the outsole. By the use of this construction and method of procedure, considerable time is saved over the ordinary hand method of laying channels and in addition a shoe product of improved appearance and construction is presented. The sponge rubber members 15 of the pad provide a very important feature in

that they enable the pad to closely hug and conform to the curvature of the shank regions of a shoe outsole which are rather difficult to reach and properly shape, particularly in the highly arched, narrow shanks of women's shoes.

In the form of my invention disclosed in Fig. 6, the fore part of the pad is provided with a pair of edge engaging clamps 16 which are shaped to conform to the curvature of the extension edge 6 of the shoe outsole. During the pressing operation, as above described, it may be desirable, particularly when the shoe possesses a medium weight outsole, to support the upper and outer edges of the outsole so that the latter will be prevented from rolling, curling or wrapping around the shoe upper and thus disturbing the desired flat shape of the extension edges. To accomplish this result, the clamps 16 are of metallic form and in cross section are substantially triangular in configuration so that the same may, with a wedge-like action, engage closely simultaneously with the upper surfaces of the extension edge 6 and also with the adjoining portions of a shoe upper indicated at 17. The clamps 16 are mechanically secured as at 18 to rubber strips 19, the latter, in turn, being preferably vulcanized in connection with the upper surface of the pad 14.

Due to the fact that the clamps 16 are spaced relatively to each other and are directly mounted on the elastic material constituting the pad, the said clamps are permitted to expand relatively in order to accommodate shoes of varying widths, the elasticity of the pads serving to maintain the clamps in their operative positions as disclosed in Fig. 8. If desired, when a pad of the type disclosed in Fig. 1 is employed, separate clamps 22, as disclosed in Fig. 9 may be utilized in order to hold down the extension edges of a shoe during the pressing operation.

Other variations in the construction and method of carrying out my invention may be resorted to in accordance with the dictates of practice without departing from the scope of my invention as the latter has been defined in the following claims.

What is claimed is:

1. As a new article of manufacture, a press pad for laying shoe channels comprising a flexible elastic body formed to closely engage the lower surfaces of a shoe outsole during a channel pressing operation, one end of said pad being provided with spaced cushions of increased cross sectional area to engage with the shank regions of shoe outsoles, and holding clamps carried by said pad for engagement with the upper extension edges of a shoe outsole.

2. A press pad for use in laying channel shoe soles comprising a flexible sheet of rubber-containing material formed for engagement with the lower surfaces of a shoe outsole during a channel pressing operation, and resiliently separable clamps carried by said pad and conforming to the configuration of the marginal portions of the extension edge of a shoe outsole, said clamps serving to engage with the upper edges of said extensions to prevent curling thereof during the channel pressing operation.

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