G. F. DUNN.

WELT FOR BOOTS AND SHOES.

APPLICATION FILED APR. 21, 1910.

963,694. Patented July 5, 1910.

Fig. 1

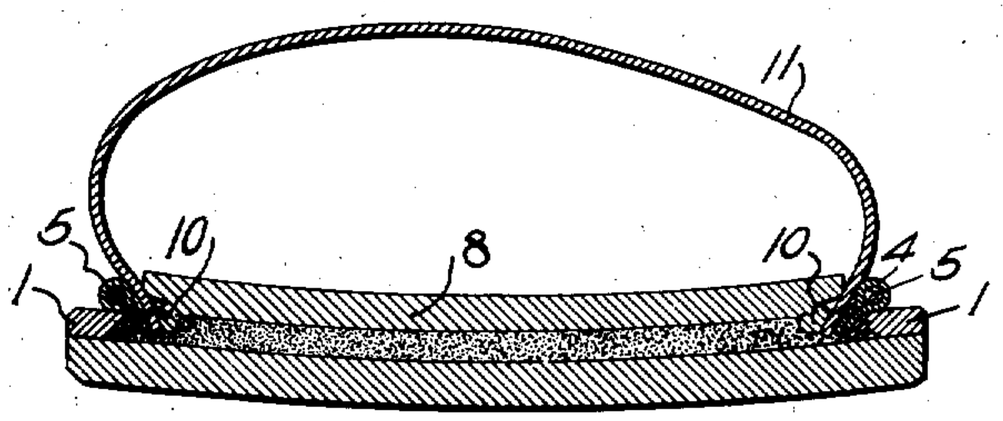


Fig. 2

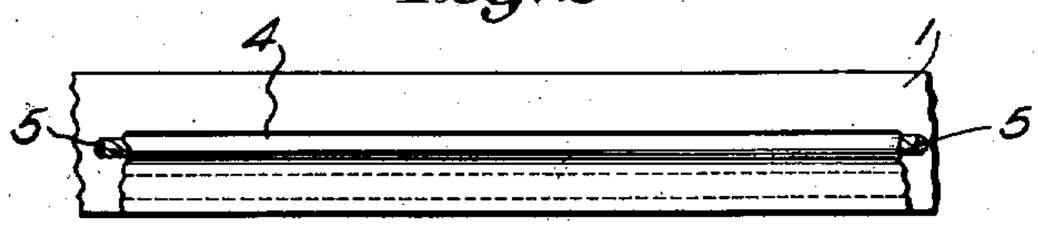


Fig. 3

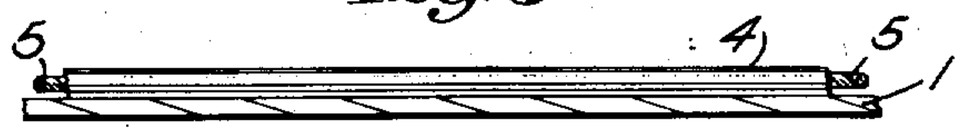


Fig. 4

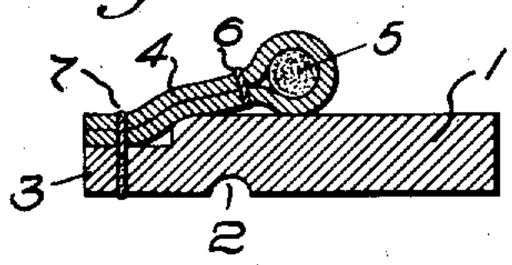
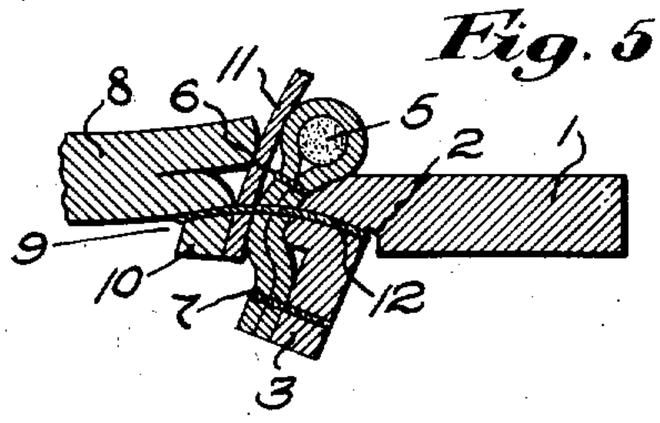


Fig. 5



Witnesses:
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Robert H. Kammler.

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UNITED STATES PATENT OFFICE.

GEORGE F. DUNN, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO WILLIAM B. ARNOLD, OF PLYMOUTH, MASSACHUSETTS.

WELT FOR BOOTS AND SHOES.

963,694. Specification of Letters Patent. Patented July 5, 1910.

Application filed April 21, 1910. Serial No. 556,750.

To all whom it may concern:

Be it known that I, GEORGE F. DUNN, a citizen of the United States, and a resident of Brockton, in the county of Plymouth and State of Massachusetts, have invented an Improvement in Welts for Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

This invention relates to welts for boots and shoes as an article of manufacture.

In order that the principle of my invention may be readily understood, I have disclosed one illustrative embodiment thereof in the accompanying drawing, wherein—

Figure 1 is a vertical cross sectional view of a boot or shoe having my welt applied thereto; Fig. 2 is a plan view of a welt embodying my invention; Fig. 3 is an edge view of said welt; Fig. 4 is a vertical section on an enlarged scale of said welt; and Fig. 5 is a similar view showing the same applied to a shoe.

Welts have, previous to my invention, been made of indeterminate length and sold as articles of manufacture for use in McKay and Goodyear boots and shoes. Such welts have in certain instances been provided upon their inner edges with projections or teeth, as shown for example in the patents to Wm. B. Arnold, No. 646,592, and No. 674,831. While welts constructed in accordance with said patents have been found efficient for the purpose intended, my present invention seeks to improve the same in some respects, but is capable of embodiment in welts generally, whether or not they be provided with teeth or projections and whether or not such teeth or projections be of the character disclosed in said patents. Preferably, however, the welt in which my invention is embodied is provided with projections or teeth not only for the purpose of saving stock, as will be further described, but because of the peculiar coöperation of said teeth or projections with other features of the invention.

Welts constructed in accordance with the patents referred to as well as other welts upon the market have, in the manufacture of Goodyear boots and shoes, been sewed to the insole in the usual manner. For the purpose of anchoring the stitches by which in Goodyear work the welt has been secured to the insole, it has been customary to provide a guide for said stitches in the form of a channel or groove into which the sewing threads are sunk, so that they will not be encountered by the stitching threads that secure the outsole to the welt.

In accordance with my invention, I provide a piping strip of leather and stitch said piping strip to the welt by a line of stitching threads adjacent the inner edges of said piping strip and welt and therefore passing through the teeth or projections upon the inner edge of the welt if, as preferred, the latter be provided. Whether or not the channel in the lower face of the welt be provided and whether or not the inner edge of the welt be provided with teeth or projections, the piping strip and the welt, having previously been stitched together as described, are secured to the insole by a line of sewing threads positioned between said line of stitching threads and the outer edge of the welt and piping strip. In this manner, the sewing threads, which are customarily chain stitching, are reinforced by the stitching threads, and in the event that the sewing threads break in the manufacture of the shoe or in its use or more especially if they break in the repairing thereof, the described line of stitching threads securing the piping strip to the welt will continue to hold the piping strip and welt together.

Referring more particularly to the drawing, the welt, which is of suitable material, is indicated at 1 in the several figures, it being preferably made of indeterminate length as an article of manufacture. If desired, the under face of said welt may be provided with a channel groove 2 to receive the sewing threads, but it is unnecessary because the threads which secure the outsole to the welt are positioned entirely outside the piping strip and cannot therefore interfere with the line of sewing threads securing said welt to the insole. In other words the piping strip acts as a spacing means between the line of sewing threads for the insole and the line of sewing threads for the outsole. Preferably the inner edge of the welt is provided with teeth or projections 3, such as shown in my co-pending application Serial No. 476,650. It will therefore be understood that the toothed edge of the welt is of reduced thickness and that a very mate-

rial saving is effected in cutting the welts from a strip by the formation of teeth as disclosed in said application.

While the saving of stock is important in the formation of welts and for that reason it is important to sever the welt strips from each other by teeth as described, it is of very great importance that the inner edge of the welt be of reduced thickness whether this reduced thickness be effected by the formation of teeth or otherwise, because having formed the inner edge of the welt of reduced thickness, I may secure the inner edge of the piping strip thereto and yet the combined thickness of the inner edges of the welt and the piping strip will not be too great to prevent both being fed as a unit through the usual welt guide or manipulated as a unit. It has heretofore been suggested that a filling strip and a welt may be cemented or otherwise attached prior to the manufacture of shoes, but so far as I am aware, this has never been done in practice, for prior to my invention when a piping strip has been secured to a shoe the piping strip and the welt have been fed through separate guides to the shoe. This necessitates a cumbersome and awkward mode of procedure and has never met with favor. In fact, the objections have been so serious as substantially to preclude the use of piping strips with welts. In accordance with my invention, however, the thin edged welt and previously secured piping strip may be fed as a unit through a single welt guide and may be secured to the shoe as readily as welts devoid of piping strips have heretofore been secured.

The piping strip is indicated at 4 in the several figures and is composed of leather and preferably of the best quality. The said piping strip is folded upon itself and incloses at its outer edge a suitable thread 5, which preferably is of braided cotton. The inner edges of the piping strip are cemented together. It is important that the piping strip should snugly embrace the thread 5 at all points. This cannot be effected by the use of cement alone, as the cement cannot extend into close proximity to the thread 5, and moreover there is a tendency of the faces of the piping strip to separate from each other adjacent such thread. I secure a permanently rounded bead like effect by a line of stitching 6 extending through both portions of the piping strip as close as practicable to the thread 5.

The welt and piping strip are secured together by a line of stitching threads 7 extending the entire length of the welt, said stitching threads passing through the thin edge of the welt. It will be apparent that were the inner edge of the welt of the full thickness of the body thereof, this line of stitching would so increase the combined thickness of the inner edges of the welt and piping strip that it would be impossible to feed them through a single welt guide of usual construction. By reducing the thickness of the inner edge of the welt as previously stated, however, it becomes possible to feed the combined piping strip and welt even when secured together by stitching, through welt guides of ordinary construction. In other words, it is not necessary to alter the machines in order to permit the use of my improved combined welt and piping strip.

The combined piping strip and welt prepared and secured together as described are secured to the insole 8 which is provided with the usual stitch receiving and retaining channel 9 and shoulder 10, the latter receiving the edge of the upper 11 in the usual manner. The combined welt and piping strip having been applied thereto in the manner indicated in Fig. 1, the several parts are secured by a line of through and through sewing threads as indicated most clearly at 12 in Fig. 5. The said sewing threads are customarily of chain stitching. These sewing threads sometimes break in the sewing operation, but much more often in the use of the shoe and particularly in repairing the same. After the shoe is finished the welt is held in position by the said line of sewing threads which secure it to the insole and also by the threads securing the welt to the outsole. If the said line of sewing threads 12 should break at one or more points, the welt would still remain held because secured to the outsole, but the piping strip would be released from the welt at one or more points, were it not for the provision of the line of stitching threads 7,which secure said piping strip to the welt. Therefore said line of stitching threads not only serves to secure the piping strip to the welt, but also to reinforce the action of the line of sewing threads 12. The line of stitching threads 7 being positioned between the line of sewing threads 12 and the inner edge of the welt not only are far less subject to breakage than the line of sewing threads, but being positioned as stated they do not interfere with the application of the sewing threads 12 when securing the welt to the insole.

It will be apparent that when my combined piping strip and welt is used, the line of sewing threads securing the welt to the outsole is necessarily positioned outside the outer edge of the piping strip, and hence is so far removed from the line of the sewing threads 12 securing the welt to the insole that there is no danger of interference of said two lines of threads, and hence there is no need of providing the channel 2 to receive and position said line of sewing threads 12. Inasmuch, however, as many workmen are accustomed to use welts having a channel

and prefer to operate therewith, I may and preferably do provide such channel.

It is apparent that by providing the welt with teeth or projections, or otherwise fashioning it with a thin edge, the welt is rendered more flexible at said edge in its own plane. Therefore even though the piping strip be secured thereto, the combined piping strip and welt present a sufficiently flexible inner edge to permit them to be bent as a unit about the toe of the shoe and properly applied and secured thereto. In other words, the combined inner edges of the welt and piping strip are substantially as flexible and as easy of application to the shoe as the unthinned edge of the usual welt. Moreover, the piping strip conceals the teeth or projections and in fact is secured thereto and serves to position the same. Therefore, the welt may be fed through its guide without any possibility of the entangling of said teeth in the guide or any other parts of the mechanism.

The piping strip is secured to the grain face of the welt and not only enhances the appearance of the shoe but renders the same substantially water tight because the piping strip is wedged as it were, in between the welt and the upper in such manner as to prevent access of water at that point.

Having thus described one illustrative embodiment of my invention, I desire it to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

Claims.

1. As a new article of manufacture, a welt of indeterminate length having a piping strip secured to its grain face by a line of stitching thread in proximity to the inner edge of said welt and piping strip, whereby space is left for a line of sewing threads between said stitching thread and the outer edge of the piping, for securing the welt and piping strip to the insole.

2. As a new article of manufacture, a welt of indeterminate length having its inner edge of reduced thickness and a piping strip of less width than said welt secured to its grain face along said inner edge by a row of stitching threads passing through said piping strip and said edge of the welt, whereby a minimum thickness of the inner edge of the combined welt and piping strip is secured and whereby space is afforded between said line of stitching threads and the outer edge of the welt for the passage of the through and through sewing threads.

3. As a new article of manufacture, a welt of indeterminate length having a piping strip secured to its grain face by a line of stitching thread in proximity to the inner edge of said welt and piping strip, whereby space is left for a line of sewing threads between said stitching thread and the outer edge of the piping, for securing the welt and piping strip to the insole, said piping strip being composed of leather folded upon itself and inclosing a strand to form a bead-like outer edge, there being a line of stitching through said piping strip adjacent said strand for the purpose stated.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE F. DUNN.

Witnesses:
ROBERT H. KAMMLER,
IRVING U. TOWNSEND.

Correction in Letters Patent No. 963,694.

It is hereby certified that in Letters Patent No. 963,694, granted July 5, 1910, upon the application of George F. Dunn, of Brockton, Massachusetts, for an improvement in "Welts for Boots and Shoes," the residence of the assignee was erroneously given as "Plymouth, Massachusetts," whereas said residence should have been given as *North Abington, Massachusetts;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 26th day of July, A. D., 1910.

[SEAL.]

F. A. TENNANT,
Acting Commissioner of Patents.

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