March 11, 1969 A. J. MURPHY 3,431,570

METHODS OF MAKING WELTED AND OUTSOLED TRUE MOCCASINS

Filed April 11, 1967

Fig. 1

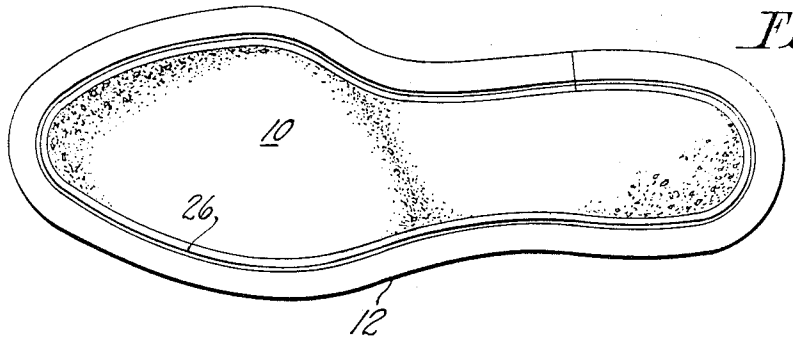


Fig. 2

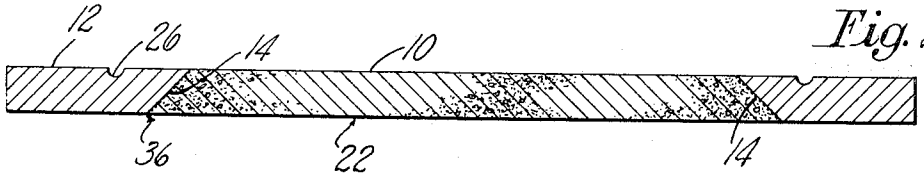


Fig. 3

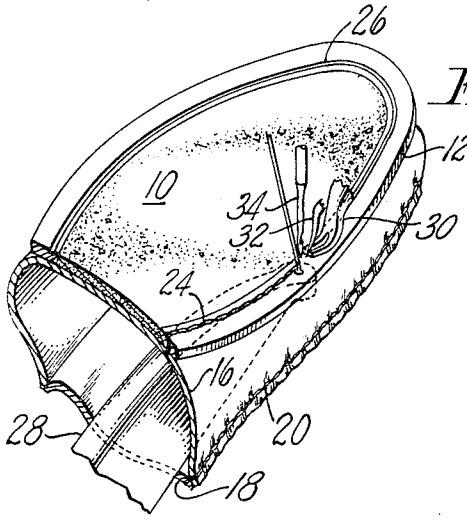


Fig. 4

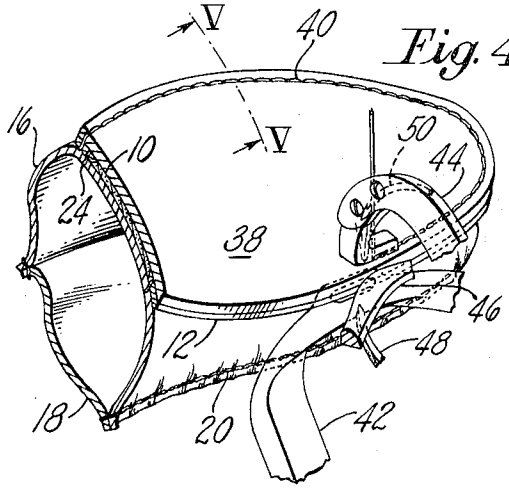
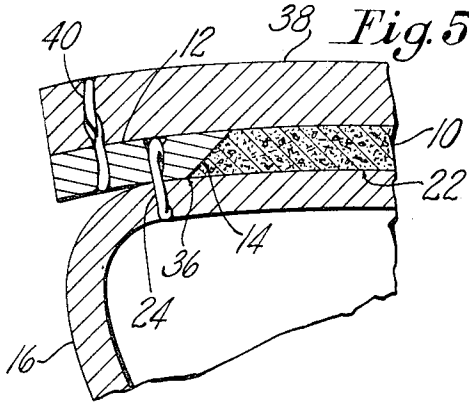


Fig. 5



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United States Patent Office 3,431,570
Patented Mar. 11, 1969

3,431,570

METHODS OF MAKING WELTED AND OUTSOLED TRUE MOCCASINS

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Filed Apr. 11, 1967, Ser. No. 630,112
U.S. Cl. 12—142 3 Claims
Int. Cl. A43d 44/00; A43b 3/14, 13/18

ABSTRACT OF THE DISCLOSURE

A true moccasin having a welt secured by a seam which passes through the tread portion of the vamp and an outsole secured to the outer margin of the welt and in which the welt is joined to a central flexible filler and temporarily attached to the tread surface of the vamp prior to the permanent securement by the seam penetrating the welt and the vamp.

The present invention relates generally to improvements in shoes of the true moccasin type and more particularly to such shoes which include a welt to which an outsole is replaceably secured.

In the present context a true moccasin shoe is one having a vamp or upper extending beneath the foot of the wearer at least in the forepart of the shoe. Such shoes are generally of relatively thick upper leather and are hand lasted by sewing a toe plug to the upturned edge of the upturned margin of the vamp.

A common form of outsole for such moccasins consists of relatively thin stock secured directly to the vamp by a single or double seam passing through the outsole and the vamp. Such a construction offers the advantages of a high degree of flexibility and comfort to the wearer. However, such an outsole being thin wears out relatively quickly and further is difficult to replace since the repair requires a horn type sole stitching machine which is uncommon in the shoe repair trade.

In order to improve the repairability and hence the durability of moccasins, one expedient has been to stitch a midsole to the vamp by a seam which passes through the midsole and the vamp and thereafter to attach an outsole by a seam which passes through the marginal portion of the outsole and midsole only. Such a shoe can be readily resoled by securing a new outsole to the midsole using an outsole stitcher which is a common type of machine in shoe repair establishments. However, the midsole adds substantially to the cost and at the same time detracts from the flexibility which is one of the main advantages of the true moccasin construction.

In order to obtain both flexibility and repairability, efforts have been made to provide a welt which is sewed to the vamp and receives, sewed to its margin, an outsole which may be readily replaced when worn. These attempts have not been entirely successful, however, because the welt attaching steps are somewhat incompatible with the moccasin production procedures or with the machines and materials which are employed. Thus, for example, attempts have been made to stitch the welt to the vamp while the vamp is in the flat before being closed by insertion of its back seam. The subsequent steps of assembling pre-welted vamps to the last and of lasting the vamp by sewing in the plug, which is accomplished manually, tends, however, to introduce a very serious irregularity in the placement of the welt. In order to compensate for this, very wide welts are used and trimmed after the lasting of the vamp has been completed so as to provide an acceptable sewing margin. The high cost of the wide welt, the difficulty of manipulating during the

sewing of the plug, a vamp stiffened by the addition of the wide welt, and the reduction in flexibility of the resultant moccasin have combined to limit the advantages of this process.

Another alternative has been that of spotting a template, either one which is removable or a cork filler piece which is later incorporated into the completed shoe, on the central area of the tread surface of the vamp. Thereafter, guiding from the edge of the template, the welt is sewn to the vamp. While this process has the advantage of more accurate inseam location than that obtained in the prewelt process, the results are not entirely satisfactory in that sole stitching machines are not ideally suited for the direction of a welt to the sewing point. Although an adaptation may be made in the machine, the result is a lower production rate than would be obtained in attaching an outsole for example by a single seam directly to the vamp. In addition, shoes produced by this process include a void between the inner edge of the welt and the edge of the filler template. This void is usually filled with the ground cork composition which tends to migrate under severe flexing of the shoe and thus detracts from the comfort to the wearer. In the case of shoes made by the use of a removable template the entire central area is filled with a ground cork composition, the migration of which is even more likely to occur under flexure of the shoe.

It is accordingly a general object of the present invention to enhance the repairability of moccasin type shoes while maintaining their inherent flexibility.

Another object is to improve the stability of fillers in moccasin type shoes to withstand conditions of strenuous flexure.

Still another object is to provide a durable form of bottoming for moccasin type shoes in a manner which is compatible with machines available both for manufacturing and for repair.

A further object is to achieve the foregoing goals while obtaining improved production, a general improvement in quality and a reduction in manufacturing costs.

In the achievement of the foregoing objects a feature of the invention relates to an assembly of a welt to a filler before assembly with the shoe. The filler portion is typically of sheet material such as reconstituted cork chamfered at its edge to fit a complementary fillet on the welt which is united to the filler, for example, by an adhesive joint. The assembly of welt and filler is temporarily secured to the tread surface of the vamp after the vamp has been lasted by sewing in of the plug and before the vamp is removed from the last. Thereafter a seam is inserted through the welt and the vamp and the shoe is completed by the attachment of the outsole to the outer margin of the welt. A feature of the invention resides in the shape and placement of the chamfered joint between the welt and the filler with the result that the inseam passes only through the welt and the vamp but not the filler and therefore remains tight and secure over extended periods of wear. At the same time, without detracting from the inherent flexibility of the shoe the chamfered joint retains the filler securely in position until the outsole is attached and later during the wearing of the shoe.

The objects and features of the present invention will be more fully understood from the following illustrative embodiment taken in connection with the accompanying drawing, in which:

FIG. 1 is a plan view of a welt and filler assembly according to the present invention;

FIG. 2 is a view in longitudinal section and on an enlarged scale of the assembly of FIG. 1;

FIG. 3 is a fragmentary detail view of the assembly of

FIGS. 1 and 2 being united to a moccasin vamp on a sole stitching machine;

FIG. 4 is a view of a succeeding step in the manufacturing of the shoe of FIG. 3, the attachment of the outsole on an outsole stitcher; and

FIG. 5 is a view in cross section on an enlarged scale taken along the line V—V of FIG. 4 showing the relative positions of the parts in the completed shoe.

Turning now to the drawings, there is illustrated in FIGS. 1 and 2 a shoe component comprising a central filler **10** and a welt **12**. In the form shown, the welt extends completely around the heel portion of the filler **10** to serve as a component part in the manufacture of what is commonly known as a sewed seat shoe having an outsole of the shoe connected to the welt about the entire periphery of the shoe. As an alternative, of course, the filler and welt assembly could extend from the toe only to the forepart of the shoe to provide for the attachment of the sole by a seam extending from heel breast to heel breast. In such a case, the heel end of the shoe would accordingly be completed by any of a number of alternative conventional procedures. The filler **10** and the welt **12** are united at an angularly oriented cemented joint **14** which offers the advantage of an increased length and strength of joint for a given material thickness. It is another advantage that the filler is held captive within the area defined by the inner edge of the welt after the welt has been sewn to the vamp of a moccasin.

In the manufacture of a shoe according to my improved procedures, a vamp **16** is conformed to a last by sewing to the margin of its forepart a plug **18**. The seam indicated at **20** is generally inserted by hand and is the means by which the vamp **16**, usually a single piece of leather extending the entire length of the foot and from one side of the plug beneath the wearer's foot to the other side of the plug, is made to conform to the last. After the seam **20** has been completed a coat of adhesive is applied to the surface **22** of the filler and welt assembly **10**, **12** which is then temporarily secured by the adhesive to the tread portion of the vamp **16** in preparation for a sewing step by which the welt **12** is joined to the vamp. After the adhesive has set sufficiently to bond the filler and welt assembly **10**, **12**, to the vamp **16**, the last (not shown) is removed from the shoe in preparation for the first of two sewing steps.

A seam **24** which approximates the function of the inseam in a Goodyear Welt shoe, is next inserted. For purposes of clarity the seam **24** will hereinafter be referred to as the inseam. The welt is preferably formed with a seam receiving channel **26** as seen in FIG. 2. The inseam **24**, which might be a chain stitch seam but is preferably a lock stitch seam, is inserted on a conventional sole stitching machine including a shoe entering horn **28** shown fragmentarily in FIG. 3, a presser foot **30**, a work penetrating and feeding awl **32** and a straight hood needle **34**. The inseam **24** may extend completely about the periphery of the shoe in a sewed seat shoe or may extend only from heel breast to heel breast about the toe of a shoe style including a conventional heel seat form.

The location of the seam **24** with respect to the extreme margin of the filler **10** at the surface **22** in contact with the vamp **16**, designated by the reference numeral **36** in FIG. 5, is intended to provide both a high degree of stability of the filler and lasting tightness of the seam **24**. According to the present invention the seam **24** is inserted outside the margin **36** of the filler **10** so that the seam passes only through the welt **12** and the vamp **16** but not through the filler **10** as shown in FIG. 5. For purposes of this specification and of the appended claims, a sock liner through which the seam **24** extends is considered a part of the vamp. Because the width of the welt inside the seam **24** is relatively narrow and reentrantly chamfered at the cemented joint **14** it is effective for retaining the filler in place against shifting during wear without reliance upon the integrity of the joint **14**. Although the joint **14** need not retain its bond after the inseam **14** has been inserted, I have found as an alternative to the cemented joint **14**, a zig-zag seam may be inserted across the joint without the use of cement with satisfactory results. However, the total cost of the zig-zag seam is greater than that of the cemented joint.

After the inseam **24** has been completed an outsole **38** is secured to the margin of the welt by an outseam **40** as best seen in FIGS. 4 and 5. The outseaming operation is being carried out on a conventional lock stitch outsole sewing machine fragmentarily illustrated and comprising a work support **42**, a presser foot **44**, an edge gauge **46**, a curved work penetrating awl **48** and a curved hook needle **50**. Following the attachment of the outsole **38** by the outseam **40** which is inserted in much the same manner as would apply to a Goodyear Welt shoe with the exception that at the time of outsole stitching in the present method the last has already been removed and may be absent from the shoe. For convenience however the shoe may be relasted after the inseaming operation to afford better control during outsole stitching. Thereafter the edge of the outsole **38** and of the welt **12** are finished by conventional methods.

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

1. A method of processing a moccasin type shoe having a moccasin vamp including a bottom surface comprising the steps of providing a central filler piece of cushioning material, assembling a welt about the exterior contour of the filler piece by forming a joint defining in cross section a single straight line to form with the filler piece a composite part having a first surface adapted to engage the bottom surface of the vamp, and a second surface adapted to engage an outsole, temporarily securing the first surface of the composite part to the bottom surface of the moccasin vamp, providing indicia on the welt for guiding the insertion of a seam, inserting a seam guided by the indicia and passing only through the welt and the vamp outside the joint between the welt and the filler piece and thereafter stitching an outsole to the outwardly extending margin of the welt.

2. A method according to claim **1** in which the welt is provided with a channel to serve as the indicia during the insertion of the seam for securing the welt to the vamp.

3. A method according to claim **1** in which the joint between the welt and the filler piece is disposed at an acute angle relative to the tread contacting surface of the filler piece to provide temporary retention of the filler piece within the space defined by the inner edge of the welt before attachment of the outsole.

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U.S. Cl. X.R.

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