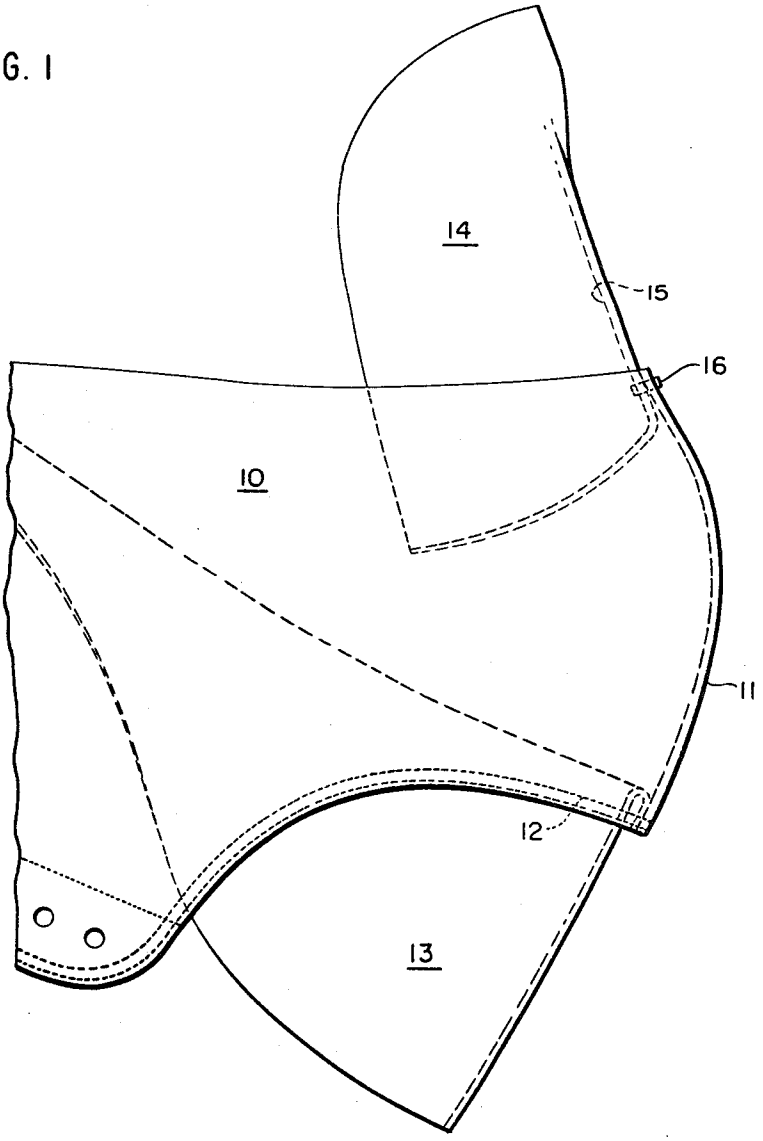
Oct. 4, 1966 C. F. BATCHELDER ETAL 3,276,057

PRE-ASSEMBLY OF SHOE COMPONENTS

Filed June 4, 1965 3 Sheets-Sheet 1

FIG. 1



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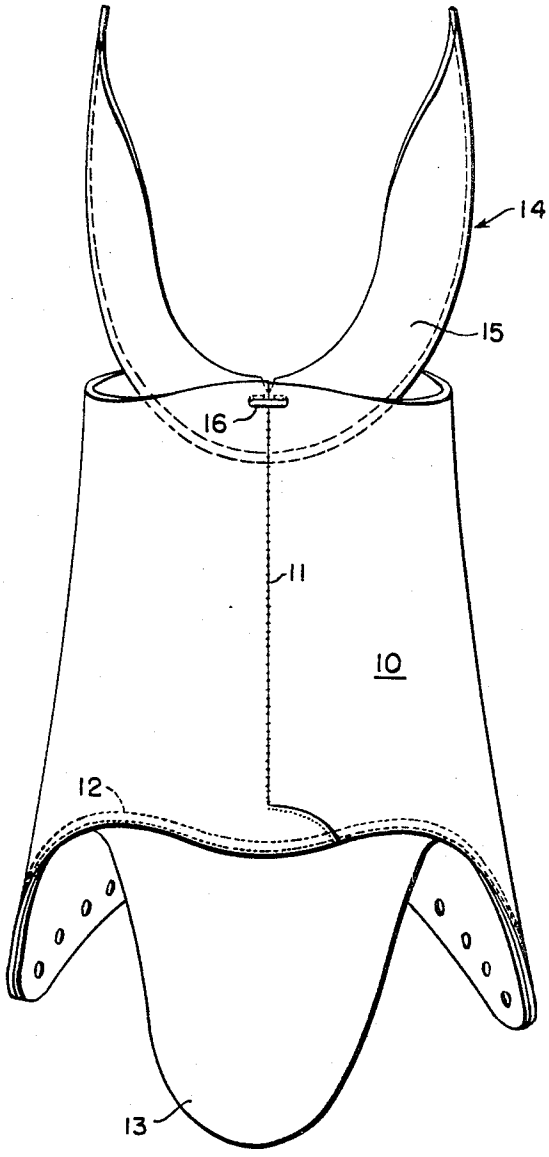
Kenway, Jenney & Hildreth
Attys.

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PRE-ASSEMBLY OF SHOE COMPONENTS

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FIG. 2



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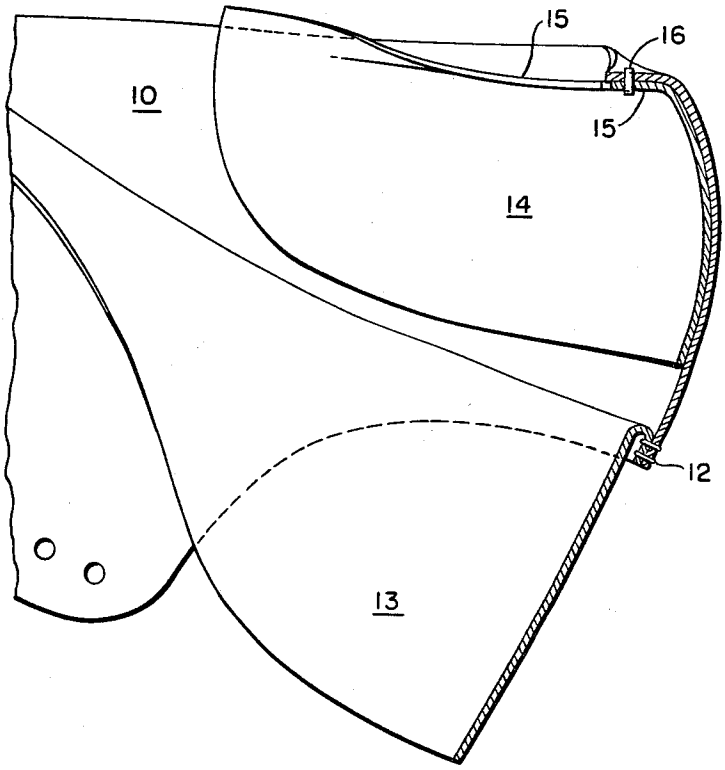
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Oct. 4, 1966 C. F. BATCHELDER ETAL 3,276,057

PRE-ASSEMBLY OF SHOE COMPONENTS

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FIG. 3



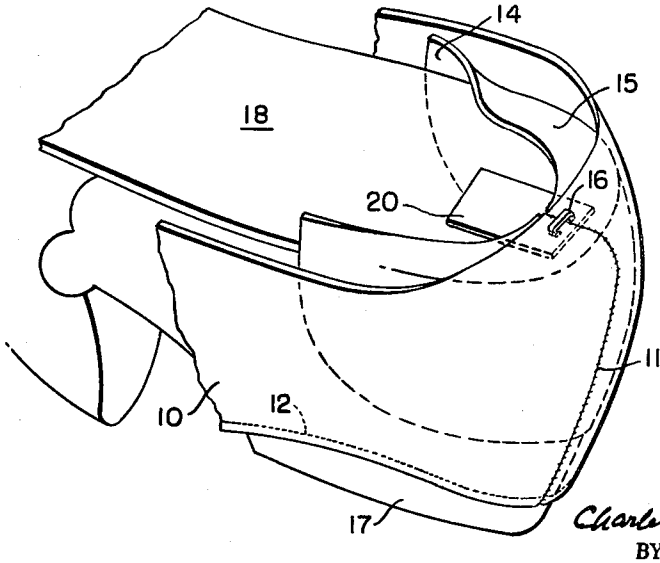


FIG. 4

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PRE-ASSEMBLY OF SHOE COMPONENTS

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Filed June 4, 1965, Ser. No. 461,284
7 Claims. (Cl. 12—146)

This invention comprises a new and improved process of assembling on a shoe last the components of a closed upper which include a counter or counter stiffener. Although the new process involves an extra fastening or stapling step its use enhances the speed and accuracy of the assembling process. It is applicable to uppers embodying counters in any form, flat or molded, and of any material now used in shoemaking.

In present shoemaking practice the counter is commonly coated on both its inner and outer surfaces with a paste or cement which is spread from its upper edge nearly to its lasting margin, and is assembled while this paste or cement is wet. The operation is messy, and is one which is difficult to complete with uniform accuracy. The assembler must open the counter pocket in the upper, pick up the sticky counter by its lasting margin, insert it in the pocket, close the lining of the pocket, insert the last in the closed upper, spindle the last on the assembling machine, and complete the assembly by the nailing operation of the machine.

It is the common practice of present day shoemaking to gauge the height of the back of the upper by the amount of lasting margin of the upper and counter which is turned over and under the back end of the insole. The assembler has the duty of inserting the wet and sticky counter into the upper with the lower marginal edge of the upper or the outer integument thereof in overlying registration with the corresponding marginal flange of the counter, and also with the center line of both these components in registration. This step is not too difficult per se, but it is practically impossible for the assembler to continue to hold these components in their correct relationship during the ensuing steps of closing the counter pocket, inserting the last, and completing the assembling process. Many times shoes are completed with counters misplaced too high, too low, or too far to one side.

It is the primary purpose of our present invention to provide the assembler with a simple and practical means of holding the counter in its correct position in the upper from the time the counter is positioned until the upper has been fixed in its final position on the last. By this means complete control of the back height and alignment of the upper is assured.

Our present invention comprises the simple step of converting the counter and upper into a pre-assembled unit, preferably by stapling through the lasting margin of these two components. We have found that this step may be performed quickly, and that the time required is more than saved by the greater ease of carrying out the subsequent shoemaking steps. We have also found that the inclusion of the lining of the counter pocket in this stapling is of no particular advantage.

For the attaching operation we prefer to use a commercial stapling device fitted with a micro-switch which with a slight contact pressure triggers the stapling action. As soon as the operator has positioned the lower or inner central edges of upper and counter flange in overlying registration, he then inserts that part of these two components, held together by the fingers and thumb of one hand, into position for stapling and into contact with the pressure sensitive switch or trigger. The position of the switch insures uniform placing of the staples within the lasting margins of the components, a location which is subsequently covered by the heel seat of the finished shoe. We

prefer to use staples made of a light weight wire, having legs about three-sixteenths inch long and a like distance apart. The staples may be placed longitudinally of the shoe, or circumferentially. We have found that a single staple is ample for each shoe. We prefer to place them on the centerline of the shoe, an area in which no nails are driven by the heel seat lasting and nailing machine now in common use. If greater control of the counter is desired, staples may also be used at the sides of the heel seat.

The attaching of the counter to the upper is herein described as a stapling operation. A like result could be obtained by using cement or other attaching means. In dealing with a shoe welted round the heel seat and embodying a molded counter having an upturned rib around the interior edge of its flange, the wire of the staple should be light enough so that it will not impede the subsequent inseam-trimming operation. The wire now used for staple side-lasting meets this requirement.

The incorporation of this new step of preassembly fastening of the counter in the upper has many advantages. It assures the operator that the counter will stay permanently where he first puts it. If the two components are not correctly positioned, the defect is obvious and may be easily corrected by pulling the staple and restapling before the ensuing steps are taken. The operator's hands are freed from the need of holding the counter, so he can more easily hold the upper while he closes the counter pocket and inserts the last. The counter lining can be wiped into position without the risk of changing the depth of insertion of the counter, and with less chance of wrinkles being incorporated in the lasted shoe. With a molded counter having an integrally molded in-turned flange the lasting margin of the upper will already be folded in and down by being stapled to the flange of the counter, thereby making the seating of the back component upon the last better and more positive.

Our new process as described above is characterized by the step of stapling together only two components of the assembly, namely the upper itself, and the counter, with the completion of the assembly operation by the assembling machine now commonly used. It should be understood that our new stapling process may be employed in conjunction with either of the processes described in our co-pending applications Serial No. 371,023 filed May 28, 1964, or No. 392,480, filed August 27, 1964.

Application Serial No. 392,480 describes a "Method of Assembling Shoe Uppers" using a short length of pressure-sensitive adhesive tape as the linking means between the upper and the insole at the heel end of the assembled shoe. We have found that the advantages of that invention and of the present invention may be advantageously combined by including an adhesive tab as one of the elements to be unitized by the preassembly fastening or stapling.

To practice these two inventions concurrently one end of an adhesive tab about one and one-fourth inches long may be held in the stapling area together with the lasting margins of the upper and counter. The other end of the tab would extend forwardly from the inner edge of the flange of the counter. The adhesive face of the tab should face upwardly to contact the underside of the insole at assembly. When the stapling is done with a stapling machine that is tripped by the contact of the work with a micro-switch, provision is made so that the free-standing end of the tab can be passed beyond the trigger of the switch without tripping the stapler.

The features and advantages of the invention will be best understood and appreciated from the following description of a preferred course of procedure for carrying out our novel process, as illustrated in the accompanying drawings, in which—

FIG. 1 is a view in elevation showing the components of the upper in the position occupied at the stapling step,

FIG. 2 is a corresponding rear view,

FIG. 3 is a view in longitudinal section showing the components in pre-assembled relation, and

FIG. 4 is a fragmentary view showing the pre-assembled upper and counter in position for assembling upon an insole-carrying last.

In the present description the upper is shown as comprising a single integument **10** but it will be understood that our novel process is applicable to an upper including a lining and doubler or both.

As herein shown the quarters of the upper **10** are united by a back seam **11** and attached by a top seam **12** to a counter lining **13**. In FIGS. 1, 2 and 3 the counter lining **13** is shown as turned inside out and drawn down out of the way through the top of the upper, thus completely opening the counter pocket which it forms with the outer integument in the finished shoe.

Having temporarily displaced the lining **13** the operator now pre-assembles and unites the upper **10** and a molded counter **14**. This is done as suggested in FIG. 1 by placing the in-turned flange **15** of the counter in upright position against the lasting margin of the upper, centering the counter with respect to the back seam and driving a staple **16** through the superposed parts. Having properly located the parts it will be seen that they may be conveniently presented to a stapling machine in position to trigger its driving operation. At this stage of the process it will be apparent that, when the counter is swung downwardly from the position shown in FIG. 1 into its final position within the upper, the lasting margin of the upper is drawn down into in-turned position as shown in FIG. 3.

By thus attaching the counter **15** to the upper **10** these parts are thereby pre-assembled into a unit. When the assembly of the upper **10** to an insole **18** on a last **17** is to be completed by the conventional assembling machine, the counter pocket lining **13** should be closed and the whole assembly arranged as indicated in FIG. 4. This figure also shows the assembly as completed by the method described in Serial No. 392,480, in which an adhesive tab **20** is used as a linking means in place of the nails or tacks of the conventional assembling machine. This adhesive tab may be adhered manually to the flesh side of the lining of the counter pocket, or it can be included as a third element of the pre-assembled unit. For this latter alternative, provision must be made so that the exposed end of the adhesive tab **20** will extend beyond the stapling position of the stapling machine without contacting the trigger of that machine.

Having thus disclosed our invention we claim as new and desire to secure by Letters Patent:

1. A process of preassembling a closed shoe upper and a molded counter having an inturned flange, which comprises the steps of locating in upright superposed position the inturned flange of the counter and the heel seat lasting margin of an upper, then driving a staple through the superposed parts, and folding them inwardly over the heel seat of a last while maintaining the counter flange in its original inturned position.

2. In a shoemaking process, the steps of superposing the heel seat lasting margin of an upper having a counter lining upon the inturned flange of a molded counter and after displacing the counter lining through the top of the upper to an out-of-the-way position, permanently uniting said lasting margin and inturned flange and placing the attached counter in position adjacent the back part of the upper to be covered by the lining while the flange is maintained in its inturned position, and then restoring the counter lining to position covering the counter.

3. In a shoemaking process as defined in claim **2**, further characterized by the step of linking the united upper and counter flange to an insole on the last bottom by a tab of adhesive tape.

4. In a shoemaking process, the steps of locating in upright superposed position the flange of a molded counter, the heel seat lasting margin of an upper and a centrally disposed adhesive tab, driving a staple through all three of the superposed parts and then attaching them to the rear end of an insole through the medium of the adhesive tab.

5. As a step in the process of assembling on a last the components of a shoe upper, the mutual attachment of a closed upper, a counter and the rear end of a centrally disposed adhesive tab, by fastening means located within the lower marginal area of the upper and counter and within the rear end of the tab, and subsequently inserting a last in the closed upper.

6. In a shoemaking process, the steps of displacing the lining of a closed lined upper to an out-of-the-way position, superposing the heel seat lasting margin of the upper upon the inturned flange of a molded counter, permanently uniting said lasting margin and flange and placing the attached counter in position adjacent the back part of the upper to be covered by the lining while the flange is maintained in its inturned position, and then restoring the counter lining to position covering the counter.

7. In a shoemaking process as defined in claim **6** having its steps further characterized in that the inturned flange of the molded counter and the lasting margin of the upper are united by a single staple and secured to the rear end of an insole with the staple located beneath the insole of the finished shoe.

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