Jan. 14, 1941. J. KUGELMAN 2,229,005

HEEL CONSTRUCTION FOR FULL FASHIONED STOCKINGS AND METHOD OF MAKING SAME

Filed Jan. 25, 1940

FIG. 1

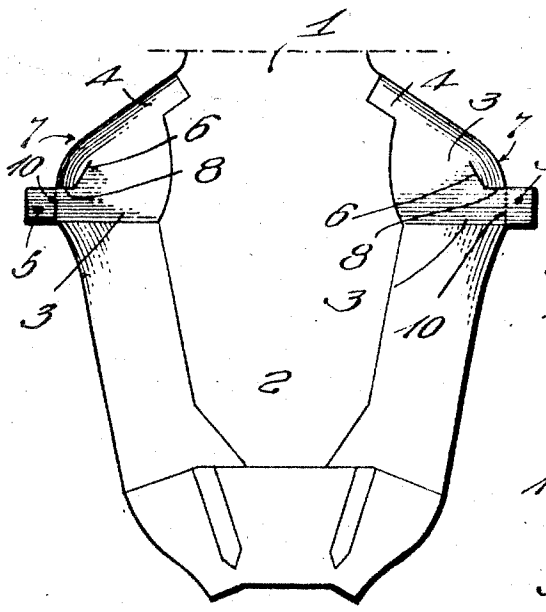


FIG. 2

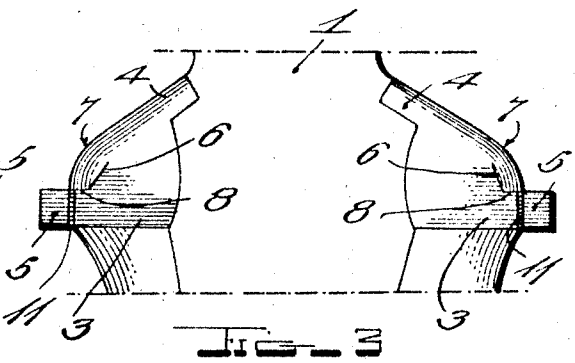


FIG. 3

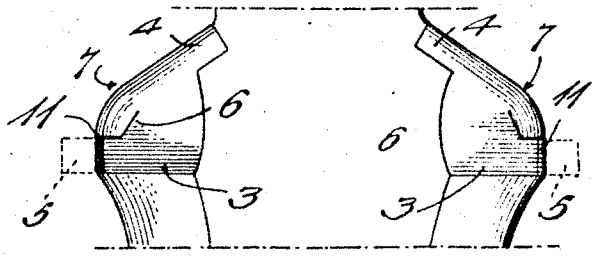
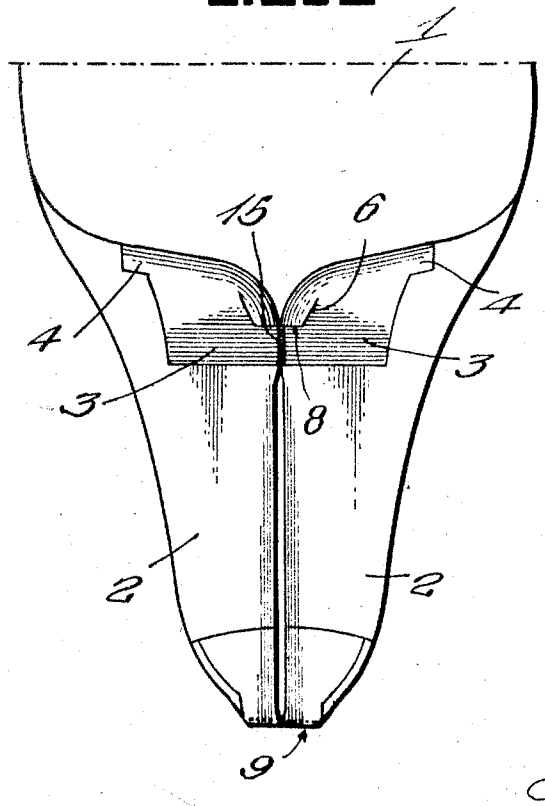


FIG. 5



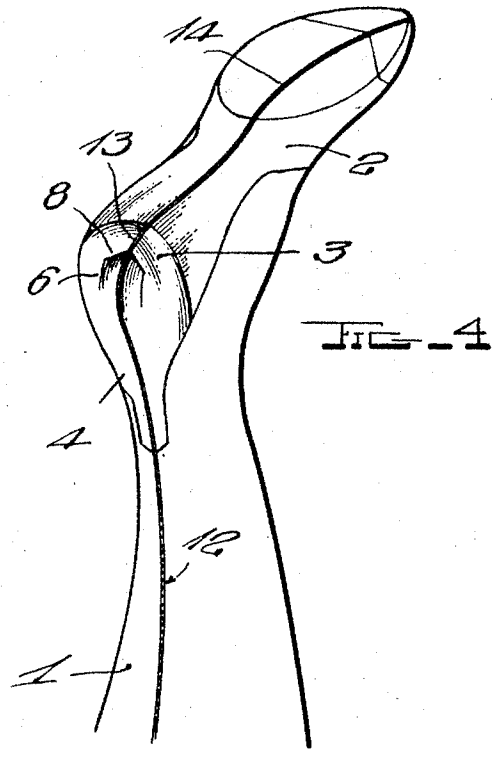


FIG. 4

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HEEL CONSTRUCTION FOR FULL FASHIONED STOCKINGS AND METHOD OF MAKING SAME

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Application January 25, 1940, Serial No. 315,621

11 Claims. (Cl. 66—178)

This invention pertains to full fashioned stockings and is directed to the heel structure. In the knitting of full fashioned stockings, the conventional narrowing causes the terminal course of the heel tab to become distorted in the stocking blank. This distortion is downward from the normal line of the course throughout those wales comprised within the narrowing marks toward the rear of each tab. This produces a triangle of the fabric at the rear of each tab which does not conform with the smooth rounding of the heel. The result is that in the stocking, after it is seamed, there is a dog ear which cannot be removed by boarding, and which constitutes a bunch of fabric on the bottom of the heel as a cause of irritation for the wearer.

It is also conventional practice to loop the terminal courses of the two tabs together and then seam the stocking through the foot from the toe to the looping in the heel and from the looping at the back of the heel up the back of the leg. This produces two chains of sewing stitches, comprising the heel looping and foot seaming stitches projecting from the front of the heel and two chains of sewing stitches, comprising heel looping and leg seaming stitches projecting from the rear of the heel. These chains of sewed stitches contribute additional irritating bunchings at the bottom of the heel, both at the front and at the back.

The purpose of my invention is to eliminate this undesirable structure in the prior art and to produce a heel more accurately fashioned to the foot of the wearer. To accomplish this purpose I narrow my heel tabs in a novel manner, by transferring a greater number of loops than will be encompassed in the sewed seam for a plurality of courses, and during continued succeeding courses diminishing the number of loops transferred. The first series of transfers thus functions to round the rear of the heel. The second series of transfers functions to swing the rear edge wale around to form virtually a continuous smooth curve with the looping course, in a manner similar to the full fashioning shown in the patent to Oswald, No. 1,939,828. To accomplish the latter purpose, I diminish the number of loops transferred in succeeding courses to such an extent that, when the terminal or looping course is approached, only a few loops remain to be transferred. The preferred practice is to transfer only so many loops in the last transferring operation, for example, two to four, as will be encompassed in the seam.

I can follow the conventional practice of looping and seaming, i. e., looping the terminal courses of the heel tabs together and seaming the leg to the heel looping and the foot to the heel looping. I prefer, however, the novel practice of looping the terminal course of each heel tab separately, and then seaming the stocking from the foot through the looped courses of the heel, and into a length of the leg. I thus produce a continuous seam from the toe of the stocking throughout the foot and leg to the welt. The purpose of looping the terminal course of each tab is to render the tab non-raveling. A similar effect can be obtained by looping the terminal courses of the two tabs together and then seaming the stocking continuous through the foot, the heel looping and the leg.

This constituting a statement of the invention in general terms, attention is now directed to the drawing which shows preferred embodiments, and of which

Figure 1 shows the stocking blank embodying my invention;

Figures 2, 3 and 4 show the blank at successive later steps in the production of the stocking, and

Figure 5 shows another embodiment of the invention at one stage of the production of the stocking.

The stocking comprises a leg 1 which is knitted on the legger, and a foot 2 knitted on the footer. The heel tabs 3 are knitted on the legger, as continuations of the high splices, the knitting continuing into the tabs producing two separate widths of fabric with non-raveling edge wales and to the terminal or looping course 10 and several courses beyond to produce the loopers hold 5.

A number of courses before the terminal course 10, the tabs are fashioned to round the rear of the heel and this is done by transferring a plurality of loops in succeeding courses. Each transfer produces a fashioning mark, the several marks being preferably arranged in a line. The number of loops transferred to round the back of the heel may be varied considerably to produce the desired rounding, and the same number of loops are preferably transferred in succeeding courses. The important requisite is that more loops are transferred than will be encompassed within the sewed seam. This fashioning produces the line 6, which is away from the edge wale 7 of the heel tab.

At a course predetermined to produce the desired result, the number of loops transferred in suceeding courses is diminished progressively to such an extent that when the terminal or looping course is approached, i. e., two, three or four courses prior to the looping course, only a few loops remain under action of the transfer points, for example, two, three or four. This forms a

second line of fashioning marks 8 which is disposed at an angle with the line of marks 6 in the direction of the junction of the edge wale 7 and the looping course 10.

The foot may be knitted in the same manner as in the prior art practice, and requires no further explanation herein.

When the blank is completely knitted, the toe is looped at 9, as in the prior art. In the preferred practice of my invention, as illustrated in Figures 2 and 3, I loop each heel tab separately at 11 along the terminal or looping course 10. The loopers hold 5 is cut off by the looping machine or is raveled back until the looping stitches prevent further raveling of the fabric, the result being as shown in Figure 3.

The stocking is then seamed up the back at 12, the seam being continuous through the foot at 14 and along the terminal course of the heel tab at 13 and throughout the length of the leg. The seaming stitches encompassing the looping stitches 11. As is well understood in the art, seaming stitches are not intended to function to tie in knitted loops and prevent their raveling. The looping 11 functions to prevent the raveling which would take place in spite of the seam if the heel tabs were not looped.

Under the conventional practice of looping, the machine must be permitted to form a number of stitches before the needles begin to penetrate and lock in the knitted loops. Likewise, after the entire looping course has been looped, a number of sewing stitches must be formed before the looping chain can be cut, otherwise, there is danger of the looper stitches unraveling in the normal use of the stocking and thus permitting the heel fabric to unravel. For this reason, in the conventional practice there are two chains of looper stitches which extend from the front and from the back of the heel.

I find that I can cut the looper chains close to the front and back of the heel tabs, because the seam will function to prevent the looper stitches from raveling. My seam thus eliminates the chains of looper stitches as well as the chains of sewing stitches found extending from the heel in the conventional prior art full fashioned stocking.

In practice, the sewed seam encompasses about four edge loops of the fabric, this being characteristic of conventional seaming machines. Likewise, according to the practice of my invention, the seam encompasses the last looper course and about two more courses. Thus, even though the last looping transfer of the series which forms the line 8 is made two or three courses before the loopers course, and involves as many as four edge loops between the fashioning mark and the extreme edge of the fabric, the line 8 will extend to and into the seam 12. In the practice of my invention, it is not necessary for the line 8 to extend entirely into the seam, although, as will be seen, this can be readily accomplished. This practice is preferred because then, when the stocking is seamed, the lines 8 of the two tabs converge at a point, which point is at the juncture of the edge wales and the terminal courses of the heel tabs.

In the embodiment shown in Figure 5, I depart slightly from the practice illustrated in Figures 2 and 3. In this embodiment I loop the looper courses of the two tabs together at 15 in a manner similar to the prior art practice, but I cut the loopers chains close to the fabric at the front and back of the heel. I then seam the stocking in the manner hereinbefore described to produce a result the same as is illustrated in Figure 4.

It will be understood that various modifications can be made without departing from the scope of the invention, which is limited by the accompanying claims.

I claim:

1. In a full fashioned stocking, heel tabs terminating in courses, looping stitches engaging the loops of the terminal courses of the tabs, a seam extending continuous from the leg through the terminal courses of the heel tabs encompassing the looping stitches and into the foot, a line of fashioning marks in each tab spaced away from the seam for a plurality of succeeding courses, a second line of fashioning marks in each tab describing an angle with the first line of marks in a direction to meet the seam where it passes from the edge wales of the fabric into the terminal courses of the heel tabs.

2. In a full fashioned stocking, heel tabs terminating in courses, the terminal course of each heel tab looped separate, a seam extending continuous from the leg through the terminal courses of the heel tabs into the foot, a line of fashioning marks in each tab spaced away from the seam for a plurality of succeeding courses, a second line of fashioning marks in each tab describing an angle with the first line of marks in a direction to meet the seam where it passes from the edge wales of the fabric into the terminal courses of the heel tabs.

3. In the heel of a full fashioned stocking, heel tabs, the terminal courses of the heel tabs being looped, a seam continuous through the heel, encompassing the edge wales of the heel, and the looped terminal courses of the tabs.

4. In the heel of a full fashioned stocking, heel tabs, the terminal courses of the heel tabs being looped separately, a seam continuous through the heel, and encompassing the edge wales of the heel, and the looped terminal courses of the tabs.

5. In a full fashioned stocking blank, heel tabs each knitted to a terminal course, the terminal course of each tab being separately looped from one end to the other end of the course.

6. The method of producing a stocking which comprises knitting heel tabs each to a terminal course, looping the terminal courses of the tabs, seaming the stocking with a continuous seam extending through the foot, looped heel courses, and the leg, and encompassing the looping in the seam.

7. The method of producing a stocking which comprises knitting heel tabs each to a terminal course, looping the terminal courses of the heel tabs separate, and seaming the stocking with a continuous seam extending through the foot, the looped courses of the heel tabs, and the leg.

8. A knitted stocking comprising, a flat blank, the blank comprising heel tabs each terminating in a course, looping stitches engaging the loops of the terminal courses of the tabs to hold them against raveling, a seam closing the blank tubular, the seam extending continuous along the terminal courses of the tabs to encompass the looping stitches and beyond into the leg and foot of the stocking.

9. A knitted stocking comprising, a flat blank, the blank comprising heel tabs each terminating in a course, looping stitches engaging the loops of the terminal courses of the tabs to hold them against raveling, the respective tabs being looped separately, a seam closing the blank tubular, the seam extending continuous along the terminal courses of the tabs to encompass the looping

stitches and beyond into the leg and foot of the stocking.

10. A knitted stocking comprising, a flat fashioned blank, the blank comprising fashioned heel tabs each terminating in a course, the fashioning of the heel tabs comprising transferred loops providing fashioning marks in predetermined courses, the heel tab fashioning mark nearest the terminal course in each tab being near an edge thereof, looping stitches engaging the loops of the terminal courses of the tabs to hold them against raveling, the respective tabs being looped separately, a seam closing the blank tubular, the seam extending continuous along the terminal courses of the tabs to encompass the looping stitches and beyond into the leg and foot of the stocking.

11. A knitted stocking comprising, a flat fashioned blank, the blank comprising fashioned heel tabs each terminating in a course, the fashioning of the heel tabs comprising transferred loops providing fashioning marks in predetermined courses, the heel tab fashioning mark nearest the terminal course in each tab being near the rear edge thereof, looping stitches engaging the loops of the terminal courses of the tabs to hold them against raveling, a seam closing the blank tubular, the seam extending continuous along the terminal courses of the tabs to encompass the looping stitches and beyond into the leg and foot of the stocking.

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