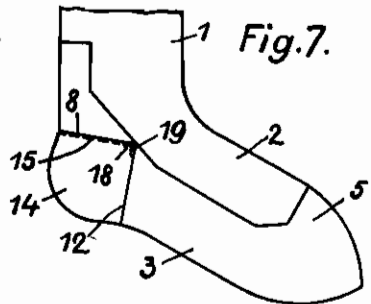
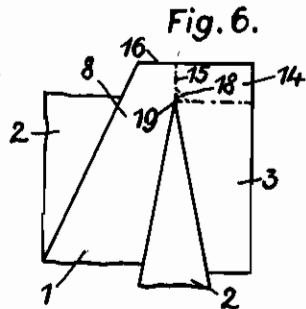
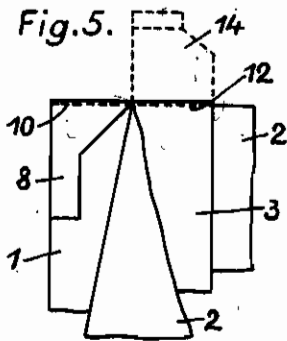
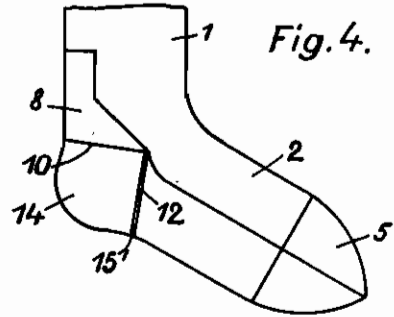
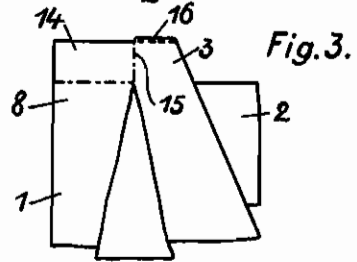
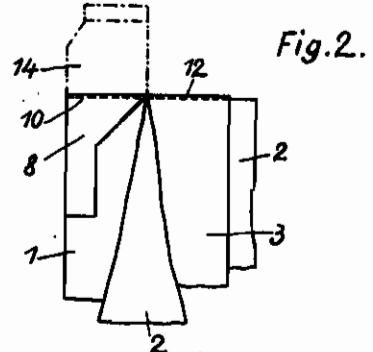
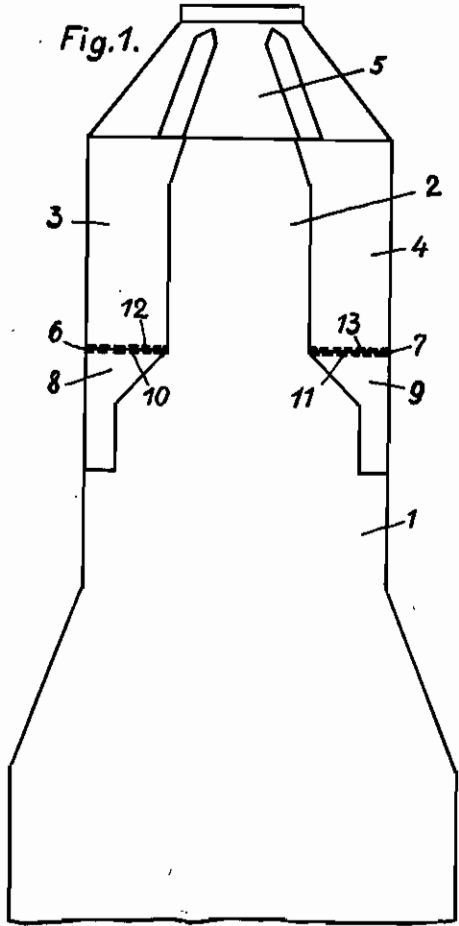


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FULL FASHIONED HOSIERY
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ALIEN PROPERTY CUSTODIAN

FULL FASHIONED HOSIERY

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vested in the Alien Property Custodian

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This invention relates to full fashioned hosiery, and particularly to the connection of the heel portions with the adjacent hose portions.

According to the invention, each heel portion is connected with the adjacent hose portion not only by the course by means of which it is worked onto another hose portion, particularly the leg, but also on its side edge, angularly positioned to said course, by its own thread in such manner that double loops are present at the latter juncture.

By way of example, two embodiments of the invention are illustrated in the accompanying drawing, in which Figure 1 shows the parts essential for understanding the invention of a stocking coming from the legging machine; Fig. 2, a portion of the stocking after transfer to the heel making machine; Fig. 3 is a plan showing a phase during working on of the heel; Fig. 4 shows the foot portions of a finished stocking; and Figs. 5, 6 and 7 show another structure according to the invention with reference to Figs. 2, 3 and 4.

Referring to the drawing, the stocking is not produced in one operation, but connecting to the leg 1 the blank 2 of the foot and on each side thereof half a sole 3 and 4 and the toe 5 are worked in known manner on a flat hosiery frame. Before the sole portions 3 and 4 are started, the slack or separating courses 6, 7 or several auxiliary courses in tubular form are interposed at the points concerned, or instead thereof a plurality of auxiliary courses may be worked at the end of each high heel and pressed off, whereupon the soles are started by working new initial protective courses, operation on the middle sections ceasing while the auxiliary and initial courses are being worked. The foot portions may be wider than the leg.

After the leg 1 with the worked-on foot portions has been taken off from the machine it is transferred to a transfer bar along the courses 10, 11 indicated by dots in Fig. 1. Then the slack or separating courses 6, 7 are cut up and the blank 2 is folded with the sole portions 3, 4 on the side of the leg 1 in such manner that the initial courses 12, 13 of the half sole portions 3, 4 can be transferred adjacent to the courses 10, 11 to the needles of the transfer bar, either irregularly or by placing each loop on a needle. After this has been done, all transferred courses can be transferred from the transfer bar to the needles of a heel making machine or another flat hosiery frame suited for making heels. Instead of transferring the courses indirectly to the frame needles, they could also be transferred directly.

When the courses 10, 12 and 11, 13 are positioned on the needles of a hosiery frame in the manner indicated, a heel portion 14 can be worked onto each of the courses 10, 11. The courses 12, 13, however, must not be knocked over, and the needles supporting them should therefore not be closed. For this reason, the heel making or other suitable machine employed, deviating from the usual construction thereof, should be provided with known devices for preventing the pressing of these needles. If necessary, the presser edge must be recessed at the points concerned.

Corresponding to the completion of the heel portions, for instance after every second course, all loops 12, 13 of the first part of the soles are hung over to the extent of one or more needles in the direction of the adjacent heel portion 14. For this purpose, the machine must be equipped with narrowing mechanisms of corresponding width. The loops of the first part of a sole brought during hanging over within range of a heel portion 14 are connected therewith at the next knocking over operation. The number of loops of the first sole portions remaining on the needles of the machine is thus gradually decreased, so that after a certain number of courses the structure shown in Fig. 3 is produced. Along the line 15 the first part of the sole is connected with the part of the heel portion 14 that has been completed in the meantime, and the remaining edge portion 16 of the half sole concerned is during further working of the heel portion 14 gradually brought together and connected with the latter, so that on a finished stocking according to Fig. 4 there is no seam along the line 15', but the inner border loops of the heel portions are superposed on the loops of the first sole portions or on the intermediate courses joined to the latter to form double loops.

If direct connection of the first sole portions transferred to the frame needles either irregularly or regularly by placing each loop on a needle with the heel portions is to be avoided, it is possible, prior to or during the beginning of heel making, to work onto the courses 12, 13 one or more plain courses which preferably consist of a reinforced thread or are produced together with the first courses of the heel portions 14 so as to extend over the entire fabric on the frame needles. Similar intermediate courses, moreover, may be joined also during the making of the heel to the remaining portion of the first sole part so as not to endanger the initial loops of the half sole portions by repeated hanging over or in order to impart to the foot portions of the stocking a particular shape.

To prevent ravelling of the first part of the sole up to the course transferred to the needles of the heel making machine during working or subsequent use of the stockings it may be advisable to insert courses which prevent runs between the slack or separating courses 6, 7 and the courses 12, 13. The antirun ravel stop may be formed by horizontally drawn out loops or by a tuck or open work pattern, and several of these courses may be worked at the beginning of the sole portions. The ladder-proof portions of the goods need not terminate at the courses 12, 13 to be transferred, but may extend at will into the half sole portions.

Furthermore, it is not necessary to superpose only the inner border loops of the heel portions and the loops of the first sole portions to form double loops, as both portions of the fabric can be united to a still greater extent by covering one portion with the other for more than two, say, three, four or five, needle divisions, which is particularly advantageous near the heel angle. This covering may be gradually reduced by laterally racking the part of fabric concerned at the beginning of the heel over five needles and selectively imparting to the following courses a connection produced by covering and as required by the material used. The number of needles provided with double loops is reduced as much as possible during further working of the heel portions and may become as low as one.

When therefore the first courses of the heel portions are worked and after production of whatever courses are preferred the latter are hung over in the direction of the sole portions or the latter in the direction of the heel portions, this hanging over operation must during the production of the first courses of the heel portions be effected to the extent of more than two needle divisions, for instance in such manner that the first hanging over operation involves five frame needle divisions, the next four, the following one three, the subsequent one two and that any further hanging over if necessary is restricted to one frame needle. The result will be the oblique limiting line 18 of a triangular plane 19 within the heel angle, as indicated in Fig. 6, where all

loops of the plane piece 19 form double loops due to the union at that point of the corresponding loops of the heel portion and the formation of a sort of split seam. The provision of this triangle 19 consisting of double loops considerably increases the strength of the stocking within range of the heel angle. It is further possible laterally to rack the first courses over only two frame needles, then gradually to hang over the following courses to the extent of more wales and, finally, gradually to hang over fewer wales. In this instance the piece 19 will not be triangular.

Instead of working the main heel portions 14 onto the last courses 10, 11 of the high heel portions 8, 8, they could be worked also with or without intermediate courses, according to Fig. 5, onto the initial courses 12, 13 of the first sole portions 3, 4 transferred to the frame needles beside those courses, so that the wales of the main heel portions extend in the same direction as those of the sole portions and in the finished stocking are therefore disposed transversely to the wales of high heel, as indicated in Fig. 7. On the back line of the main heel portions an elastic seam may be provided for taking up tensile stressing, if any, of the heel portions and thereby rendering the wearing of such a stocking more satisfactory than that of hosiery worked in the ordinary manner. Owing to the changed direction of the wales within the main heel, the latter possesses greater elasticity in the longitudinal direction of the stocking, whereby the durability and life of the latter is increased, particularly with respect to tearing off the high heel portions.

The heel portions may be constructed so that the courses bordering on the initial courses 12, 13 of the sole consist of the same kind of thread as the sole, for instance real or artificial silk, to make the heel angle as invisible as possible, and that only the courses of the heel portions 14 lying towards the back seam are worked from a stronger thread, such as a multiple lisle thread.

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