Nov. 25, 1941. S. E. EDWARDS 2,263,763

SOCK AND METHOD OF MAKING THE SAME

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Fig. 1

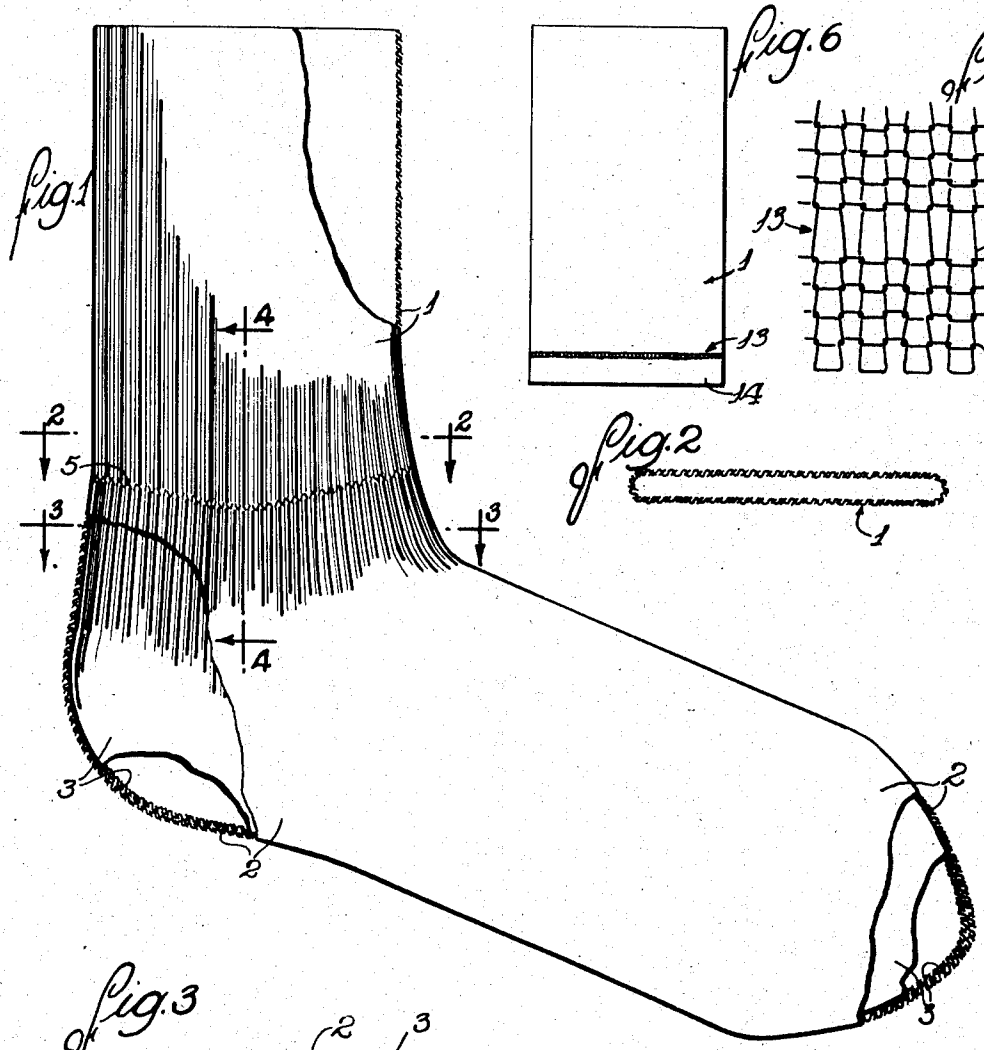


Fig. 6

Fig. 7

Fig. 2

Fig. 3

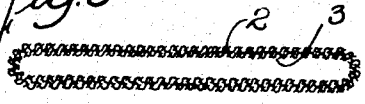


Fig. 5

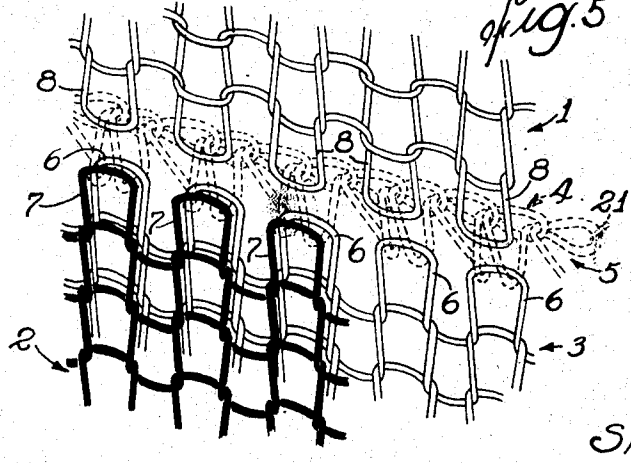
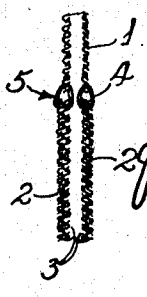


Fig. 4



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Fig. 10

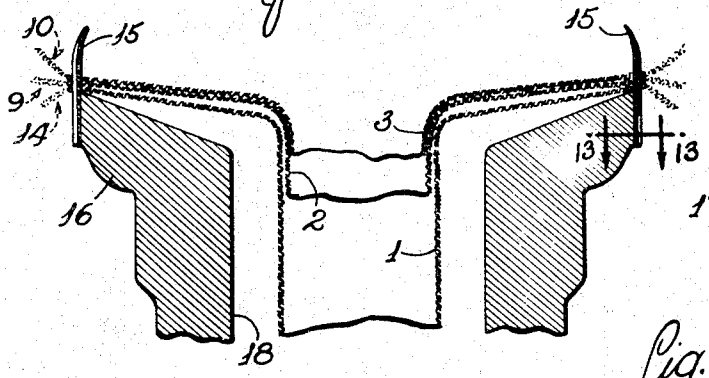


Fig. 11

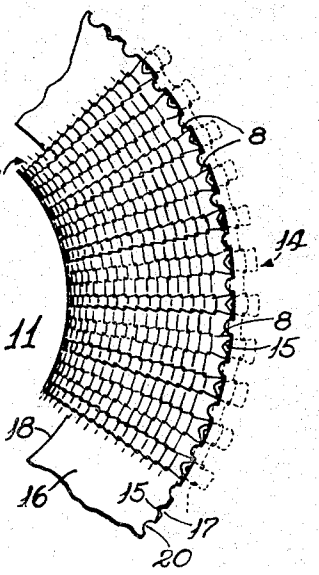


Fig. 12

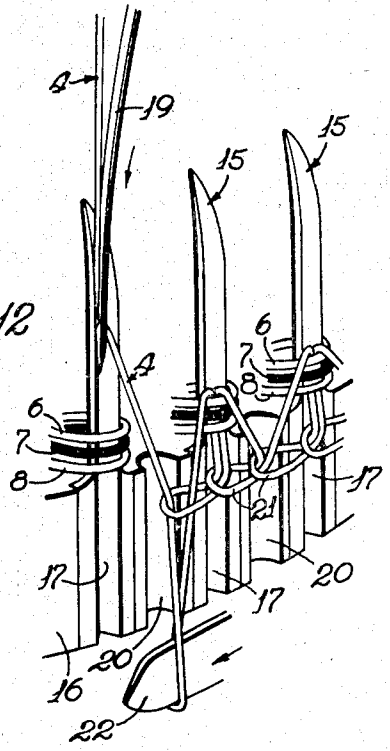


Fig. 8

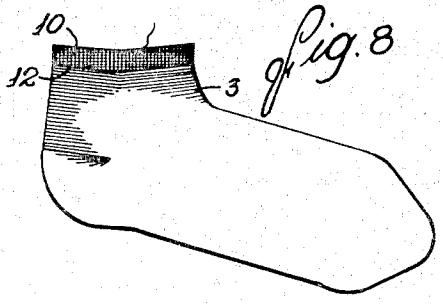


Fig. 9

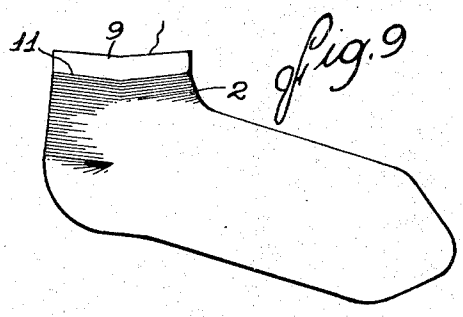
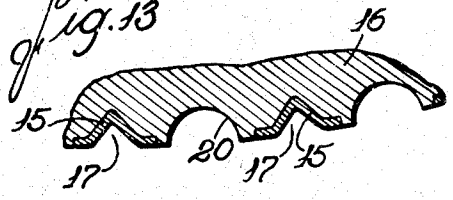


Fig. 13



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2,263,763

SOCK AND METHOD OF MAKING THE SAME

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Application January 13, 1940, Serial No. 313,726

4 Claims. (Cl. 66—178)

This invention relates to a sock having separately formed interconnected feet one disposed within and free to move relative to the other so as to reduce rubbing friction on the wearer's foot.

One object is to provide a sock of the above character having the edges of the foot openings joined together in a novel manner such as to avoid bulkiness at the seam or wrinkling of either foot.

The invention also resides in the novel manner of joining the inner and outer feet of the sock together and to a top or leg portion so that the finished sock presents a uniform and neat appearance.

A further object is to provide a novel method of making a sock of the above character.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings, in which

Figure 1 is an elevational view partially in section of a sock embodying the present invention.

Figs. 2, 3, and 4 are sections taken along the lines 2—2, 3—3, and 4—4 of Fig. 1.

Fig. 5 is an enlarged exterior view of a part of the seam between the feet and top or leg portion of the sock.

Fig. 6 is an elevational view of the top.

Fig. 7 is an enlarged view of part of the top.

Figs. 8 and 9 are elevational views of the inner and outer feet.

Fig. 10 is a fragmentary cross sectional view of the two feet and top supported for joining of the parts together.

Fig. 11 is a fragmentary plan view of the arrangement shown in Fig. 10.

Fig. 12 is a fragmentary perspective view illustrating the method of joining the parts together.

Fig. 13 is a fragmentary sectional view taken along the line 13—13 of Fig. 10.

While the invention is susceptible of various modifications and alternative constructions and may be practiced in various ways, I have illustrated in the drawings and will herein describe the preferred embodiment and manner of carrying out the invention. It is to be understood that I do not thereby intend to limit the invention by such disclosure but aim to cover all modifications, alternative constructions, and methods, falling within the spirit and scope of the invention as expressed in the appended claims.

The sock shown in the drawings by way of illustration comprises a top or leg portion 1 adapted to fit over the angle of the wearer and outer and inner feet 2 and 3 of substantially the same size and height both joined at their tops or open ends to the lower end of the leg portion 1 completely around the latter so that the heels and toes of the two feet will nest together without wrinkling. As a result, the two feet may move relative to each other so as to relieve friction on the wearer's foot while the sock is being worn, or the inner foot may be withdrawn from the outer one through the top 1 when it is desirable to wash the feet separately.

The two feet are preferably knit with flat stitches, the outer one usually being of wool while cotton, silk, rayon, or the like is used in knitting the inner foot in order to reduce rubbing friction between the sock and the wearer's foot. Usually, the inner foot is slightly smaller, for example, a half size, so as to allow for normal shrinkage of the wool outer foot. The leg portion 1 is preferably, though not necessarily, knit separate from the feet using rib type stitches and cotton, wool, or silk yarn as may be desired.

The invention contemplates joining the lower end of the leg portion 1 and the tops of the feet 2 and 3 together in a novel manner which involves generally matching the loops of the stitches around the ends to be joined and knitting a separate thread 4 through the matched loops to form a seam 5 with the interlocked loops of the joining thread disposed inside of the finished sock. To eliminate any possibility of wrinkling along the seam, the leg portion 1 and the two feet 2 and 3 are knit with exactly the same number of stitches in each course at the ends to be joined. As a result, there is a loop 6 (Fig. 5) at the top of the inner foot 3 corresponding to each loop 7 on the outer foot 2 and a similar loop 8 on the top. These loops, at the corresponding points around the top and feet, are matched and the thread 4 looped successively through the matched groups, as shown in Fig. 5, so that no free loops remain to detract from the neatness of the seam. For the same reason, each loop on one part is always matched with only one loop of the other parts thereby avoiding bulkiness at the seam.

In order that the feet will fit together properly, the two must be made of substantially the same height between the heel and the seam 5. To enable this height to be gauged accurately, substantially the same number of courses are knit to form the tops of the feet and knitting with a thread of contrasting color or material is continued for a few rounds to form pilot bands 9 and 10 beyond the courses in which the loops 6 and 7 are formed. Well-defined reference lines 11 and 12 (Figs. 8 and 9) are thus formed be-

tween the courses of knitting with the contrasting yarns. A similar reference line 13 (Fig. 6) is formed near the lower end of the top by moving the needles further during knitting of the course including the loops 8 so that the latter are slightly longer than the loops of the adjacent courses including the pilot band 14 (see Fig. 7).

The loops 6, 7, and 8 are matched in a predetermined sequence and held in register while being joined by the thread 4 by an annular series of upright fingers 15 equal in number to the number of loops on each knitted part and upstanding from the periphery of a pedestal 16. Each finger has a longitudinal V-shaped groove 17 opening outwardly and its upper end tapers to a point and curves inwardly to facilitate laying of the loops over the proper fingers.

To lay the loops 8 on the fingers, the leg portion 1 is turned inside out, inverted and inserted in the central opening 18 of the pedestal. The upper end is then stretched outwardly, as shown in Fig. 10, to make the loops more prominent as they are placed over the successive fingers around the entire row (see Fig. 11). Then, the pilot band 14 is unraveled. Next, the outer or wool sock 2 is inserted in the pedestal outside out and the loops 7 are placed over the fingers 15 in a similar way using the pilot band 9 as a guide. After unraveling this band down to the fingers to leave only the loops 7 thereon, the inside or cotton sock 3 is inserted in the pedestal recess outside out after which the loops 6 are laid over the fingers carrying the corresponding loops 7 so that the loop at the back of the heel of each foot is held on the same finger.

Following unraveling of the band 10, the loops of each group will be held in proper register preparatory to joining them by the thread 4 which is carried by a needle 19 which, by suitable actuating mechanism well known in the art, is reciprocated vertically along the grooves 17 of the successive fingers 15 and alternately along intervening grooves 20 in the pedestal. Loops 21 are thus projected through the matched groups of loops 6, 7, and 8 and each loop 21 is caught by a finger 22 and carried thereby into a position to receive the needle 19 on its next downward stroke. As a result, the loops 21 are interlaced and the loops 6, 7, and 8 thus knit together. The finished sock is finally lifted off from the fingers 15 pulling the inner and outer feet down through the leg portion 1 to turn the latter outside out.

It will be observed that by arranging the loops 6, 7, and 8 on the fingers 15 in the particular sequence above described with the outside of the leg portion 1 adjacent the outside of the wool outer foot and the outside of the inner cotton foot facing the inside of the outer foot, the interlaced loops 21 will be disposed inside of the finished sock and the external surface of the finished sock will appear to be knit as one integral piece. Also, in the finished sock, the interlaced loops 21 are disposed above the upper end of the inner foot and do not add any noticeable bulkiness to the seam.

I claim as my invention:

1. A knitted sock comprising a top, an outer foot, an inner foot disposed within the outer foot, said top and feet being knit separately and each having the same number of stitches in their open ends with the loops of corresponding stitches matching each other, and a separate thread joining the matching loops and interlocked on the inner side of said inner foot.

2. The method of making knitted socks which comprises separately knitting innner and outer sock feet each having a predetermined height and each knit with one kind of yarn and one or more adjacent courses of a contrasting yarn at the top whereby to define a dividing line for gauging the height of each foot, supporting said feet in concentric relation with the corresponding loops of the two feet in the courses next adjacent said dividing line disposed in register with each other, unraveling said contrasting courses from each foot, and joining the matched pairs of loops successively around said tops.

3. The method of forming a knitted sock comprising separately knitting a top, inner and outer feet all having the same number of stitches in the courses at their open ends, arranging said ends in concentric relation with the loops of the end course of said top registering respectively with the loops of the corresponding stitches of said inner and outer feet, and knitting a separate thread through the matching groups of loops together successively around the sock.

4. The method of forming a knitted sock comprising separately knitting a top, a complete inner foot and a complete outer foot all having the same number stitches in the courses at their open ends, arranging said ends in concentric relation with the loops of the end course of said top registering respectively with the loops of the corresponding stitches of said inner and outer feet and with the outer foot disposed within the top and the inner foot disposed within the outer foot, and looping a separate thread through the successive groups of matched loops.

SIDNEY E. EDWARDS.