G. LEINROTH.

Patterns for Cutting the Uppers of Shoes.

No. 144,341. Patented Nov. 4, 1873.

Fig. 1.

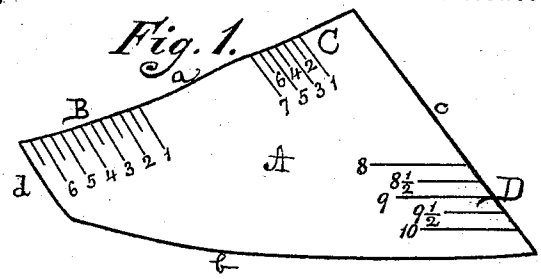


Fig. 2.

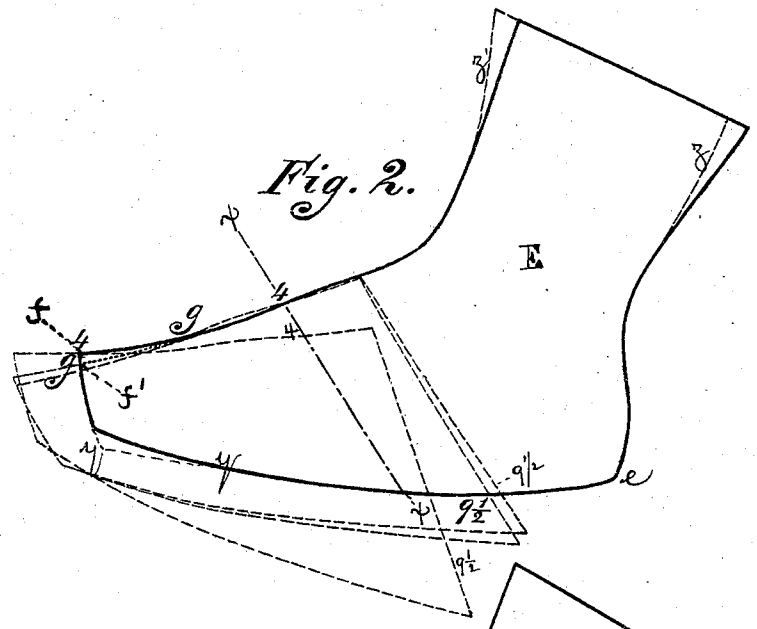
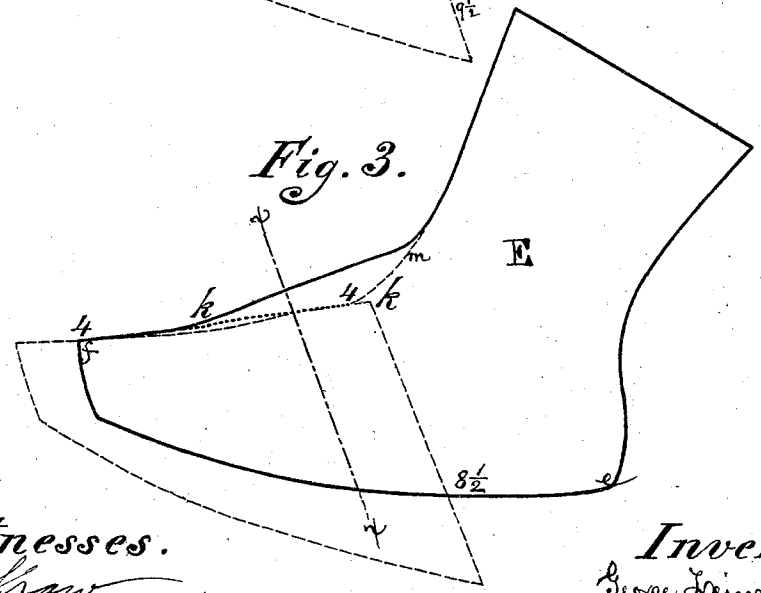


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE LEINROTH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PATTERNS FOR CUTTING THE UPPERS OF SHOES.

Specification forming part of Letters Patent No. **144,341**, dated November 4, 1873; application filed July 7, 1873.

To all whom it may concern:

Be it known that I, GEORGE LEINROTH, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improved Pattern for Cutting Uppers of Shoes; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 represents the pattern embodying my invention. Figs. 2 and 3 illustrate the mode of using the pattern.

Similar letters of reference indicate corresponding parts in the several figures.

It is well known that great difficulty is experienced by shoemakers in properly measuring the patterns of heels of shoes, especially of ladies' gaiters, the same becoming too large or small in proportion to the instep, thus occasioning serious inconvenience to the wearer.

My invention consists in a pattern for laying and cutting out the uppers, whereby the aforementioned defects will be remedied, and it will not be necessary to add anything to or cut off anything from the uppers at the instep and heel portions.

Referring to the drawings, A represents the pattern employed by me, the same being somewhat of the form of side view of an upper of a gaiter, the outlines being shown at *a b c d*. A series of graduations, B, are marked on the pattern A near the toe portion, and extend from the edge *a* toward the edge *b*. These graduations correspond to the size or number of the shoe, as, for instance, ones, threes, &c., and the numbers increase toward the edge *d*. A series of graduations, C, are marked on the pattern at the point corresponding to the instep, and said graduations extend in lines parallel to the graduations B. These graduations C operate in relation to the graduations B, as will be hereinafter stated. A series of graduations, D, are marked on the pattern on the side corresponding to the edge *c*, and extend laterally therefrom. These graduations indicate the exact measurement of the foot at the highest part of the instep, as illustrated in the line *x x*, Figs. 2, 3. E represents a diagram or auxiliary pattern, which is to be marked out on paper or otherwise, and represents the proper outlines of the upper or form which the upper should assume to correspond to the shape of the feet generally. In the pattern E a point for the heel is marked at *e*, and for the toe a point, *f*, the object of which will be specified.

The operation is as follows: The foot having been duly measured, the heel-measure will be observed as usually, and the pattern is prepared according to the diagram E—that is, the diagram is employed as a starting-point, and its outlines are marked on paper. Suppose the size or number of the foot to be "fours," then the pattern A is laid on the marked-off diagram with the outer end of line 4 of graduations B at the point *f* of the diagram E. Then the pattern will be moved on the said outer end of line 4 as an axis until the outer end of line 4 of the graduations C coincides with the upper edge of the diagram at the instep portion. Suppose the dimensions from *x x*, indicating the highest part of the instep, be nine and a half, then the pattern A is to be moved on the outer end of line 4 of the graduations C as an axis until the line 9½ of the graduations D coincide with the lower edge of the diagram. Now refer to Fig. 2, and it will be seen that a space, *g g*, is left between the upper edge of the diagram and the upper edge of the pattern A. This space is noticed or marked, and the pattern A then laid on the diagram so that the upper edge of the pattern A may be marked on the diagram inside of the space *g*, so as to preserve the shape of the shoe. The diagram is now marked along the upper edge of the pattern A, and thus the upper line of the gaiter portion is established without changing the dimensions of the line *x x*. The dimensions of the space *g g* which was marked off above must be allowed for below, as at *y y*. Now, the pattern thus marked would cause the shoe to be inconvenient at the ankle, in that said portion would be thrown back. To remedy this the diagram E is placed on the marked-out diagram, so that the heel-point *e* and toe-point *f* of the diagram register with the heel-point *e* and newly-established toe-point *f'* of the marked-out diagram. The ankle portion will now show its thrown-back shape, and must be brought forward. To accomplish this I cut off a piece, *z*, from the rear and add a piece,

z', to the front. (See Fig. 2.) This re-establishes the proper shape of the marked-off diagram. Again, suppose the size or number to be four and the dimensions in line $x\ x$ be eight and a half; then, referring to Fig. 3, I proceed as in the first case. On turning the pattern A on the outer edge of line 4 of the graduations C until the line $8\frac{1}{2}$ of graduations D coincides with the lower line of the marked-off diagram, a space indicated by lines $k\ k$ is left between the top lines of the diagram and pattern. Now, placing the toe-point of the patterns A at the toe-point of the diagram, and the upper edge of the pattern at the outer end of line 4 of the graduations C at the marked-off space indicated by lines $k\ k$, I mark off on the diagram the line of the upper edge of the pattern A to the line 4 of graduations C and mark out a line, as at m, to rejoin the line above the instep. The amount marked off above, as indicated by the lines $k\ k$, must be added below. In either case the line $x\ x$ has been preserved, so that, when the diagram, as marked out—the shape of the foot at other points having been likewise marked on the diagram or preserved according to the original pattern—is tranferred to the leather, the upper of the gaiter can be truthfully cut out, and corresponds with the last, and the subsequent fit of the gaiter at the heels of the wearer will be found to be correct and in accordance with the measurement as taken from the foot.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The pattern A, with the "size"-graduations B, "instep"-graduations C, and auxiliary graduations D, adapted for operation with the pattern E, substantially in the manner and for the purpose set forth.

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Witnesses:

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