N. N. SPRECHER & I. B. KELLER.
Shirt-Scale.

No. 202,479.   Patented April 16, 1878.

Fig.1

Fig.2

Fig.3

Fig.4

Fig.5
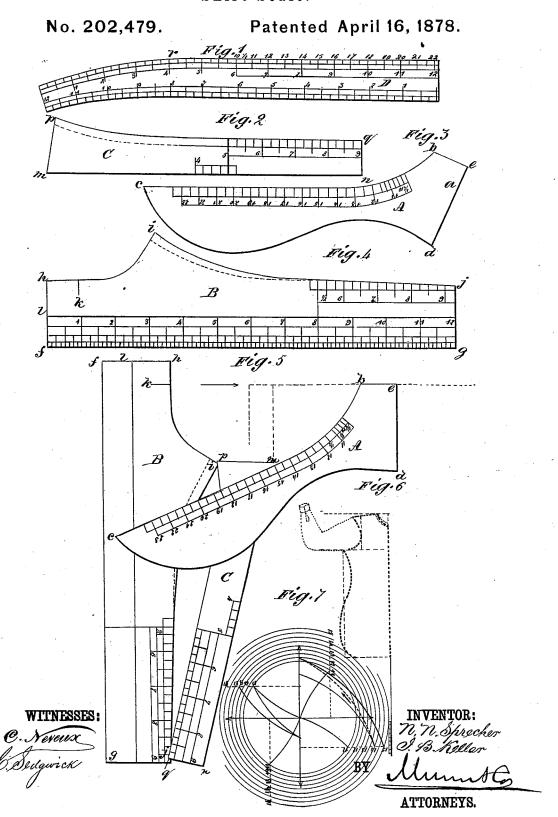
Fig.6

Fig.7

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UNITED STATES PATENT OFFICE.

NATHAN N. SPRECHER AND ISAAC B. KELLER, OF READING, PENNSYLVANIA.

IMPROVEMENT IN SHIRT-SCALES.

To all whom it may concern:

Be it known that we, NATHAN N. SPRECHER and ISAAC B. KELLER, of Reading, in the county of Berks and State of Pennsylvania, have invented new and Improved Shirt-Scales, of which the following is a specification:

Figures 1, 2, 3, and 4 represent the several plates composing the scale. Fig. 5 represents the plates in the position in which they are used, showing their relation to each other. Fig. 6 represents, in dotted lines, the application of the plates to the cutting of shirts. Fig. 7 represents the relation of the scales to circles having the diameter of the neck.

Similar letters of reference indicate corresponding parts.

The object of our invention is to provide a convenient and reliable rule for uniformly graduating slopes required between different diameters of neck-measurement in all sizes and proportions.

In the drawing, A is a plate or gage, having a rectangular end, a, a curved edge, $b\ c$, and an edge, $d\ c$, formed on a reversed curve. The curved edge $b\ c$ is graduated from the point b at the rectangular end. The different series are indicated by the scale on the concave curve $b\ c$. Fig. 7 represents the accuracy of this plate and its relation to the different diameters. The dotted line, parallel with the horizontal line, marked with different series of the diameter, and the perpendicular line, represent the different edges of the folded material. This gage is placed with the edge $b\ c$ at and parallel to the folded edge of the material from which the shirt is to be made, and, placing the graduation whose number corresponds with the number representing the neck-measurement at the upper edge of the material, a line drawn along the edge $b\ c$ will indicate the cut that should be made for the actual size of the neck.

To make the neck sufficiently loose for comfort, one inch or more should be allowed on the circumferential measure of the neck. This necessitates moving the gage downward so as to bring another and larger graduation opposite the upper edges of the material, and should it be desirable to change the proportion of the neck so as to make it proportionally lower or higher in front, the curved line for the neck-opening may be drawn diagonally between two parallel curved lines formed as before described. However, in using this plate in connection with a single-yoke pattern, (such as is commonly used without a yoke-band,) only one graduation should be taken—*i. e.*, the one indicating the size required.

The neck-opening having been marked out, the line for the yoke and sleeves is made in the usual way, and to determine the length and mark out the form of the yoke, the plate B is employed. This plate has a straight side, $f\ g$, graduated into inches and fractions of inches, and a side formed of two curves, $h\ i$ and $i\ j$. The curve $h\ i$ is the neck-portion of the yoke, and the curve $i\ j$ the shoulder-portion. This plate is placed with the edge l at and parallel to the folded edge of the material in cutting open-front shirts, and the line indicated by k is placed parallel to the folded edge in cutting open-back shirts.

A mark, k, is made on the face three-fourths inch from the end l, for the overlapping portion of the shirt, and the curved edge $i\ j$ is graduated for a short distance at the end j, the graduations corresponding with graduations formed on a pattern for the shoulder-piece, to be presently described.

The yoke is marked out and its length ascertained by placing the curved edge $i\ j$, on the yoke-line of the shirt with the angle i at the line drawn at the curved edge of the plate A. The end of the yoke line falls opposite the graduation on the plate B, which represents the length of the yoke.

The form and length of the shoulder-piece are obtained by using the plate C. This plate has a straight edge, $m\ n$, an end, $m\ p$, cut off diagonally, and a curved edge, $p\ q$, which is graduated for a part of its length in the same manner as the curved edge of the plate B.

The shoulder-piece is cut off at the graduation on the plate C which corresponds with the graduation on the plate B at which the yoke is cut.

The neck-band is cut by the pattern or plate D, which is graduated on each edge into half, quarter, and eighth inches, and is slightly curved and tapered near one of its ends. This plate is placed on the double edge of the material from which the band is to be cut,

the diagonal edge, or edge of the tapered end, being placed at the folded edge of the goods for cutting neck-bands of open-back shirts.

For cutting bands for open-front shirts, we reverse the plate and cut the bands from a point indicating the size required. The material is cut after the plate or pattern to the graduation representing the size of neck-band required. The necessary allowance for overlapping is made in the pattern or plate.

For boys' sizes, the dotted lines marked on plates B and C indicate the size of the patterns required for boys, and are used in the same manner, as described.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In shirt-scales, the plate B, having the mark k, and a side with the curves h i and graduated curves i j, as and for the purpose set forth.

2. In shirt-scales, the plate C, having straight edge m n, diagonally-cut end m p, curved edge p q, and graduations, as and for the purpose specified.

3. The curved and tapered graduated pattern D, for forming neck-bands of different sizes, as herein specified.

4. A set of patterns consisting of plates A B C D, made substantially as described, for cutting the necks, neck-bands, yokes, and shoulder-pieces of shirts, as herein specified.

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Witnesses:
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