(No Model.) 2 Sheets—Sheet 1.

H. H. TAYLOR.

PATTERN DRAFTING DEVICE.

No. 594,443. Patented Nov. 30, 1897.

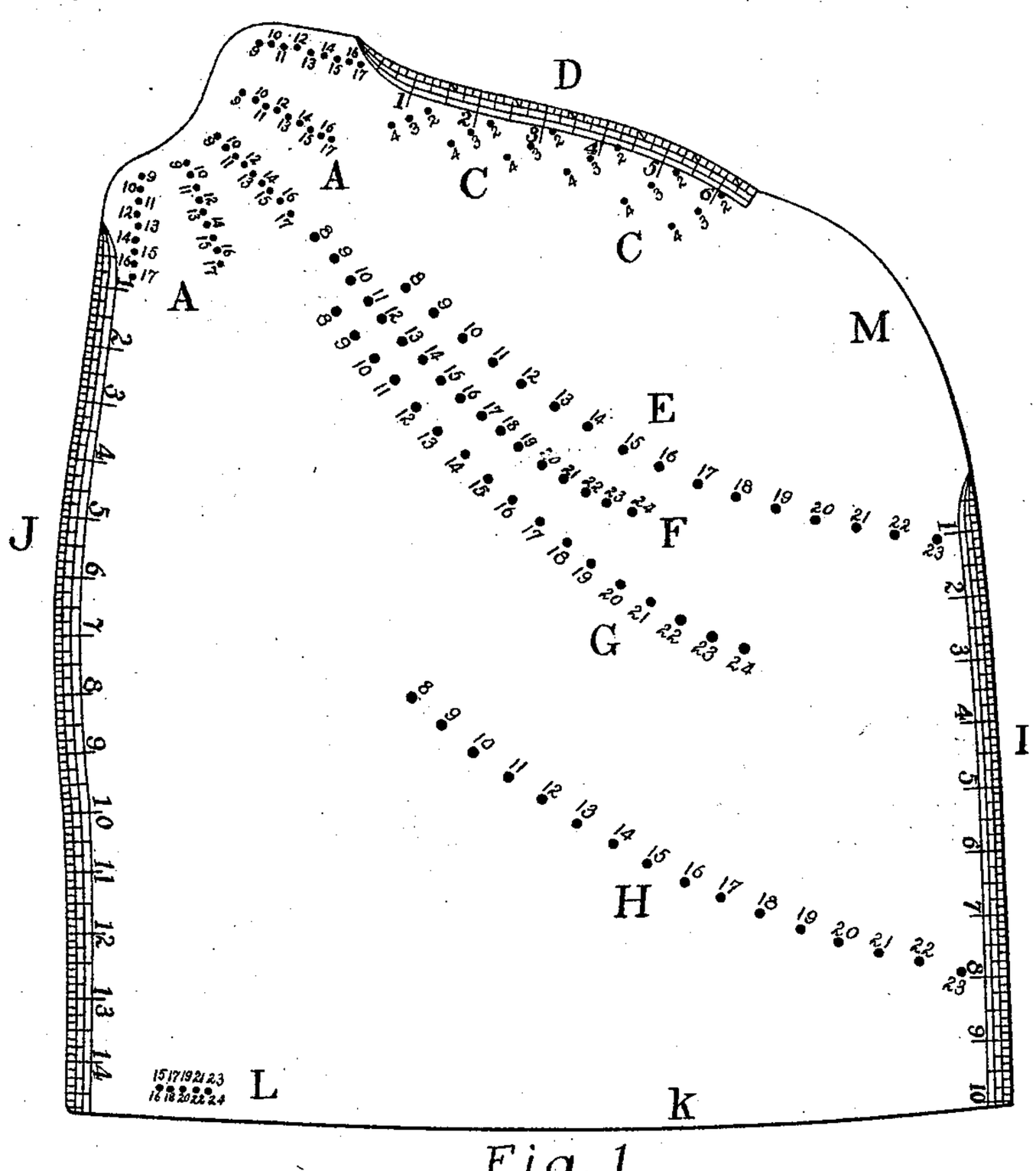

Fig. 1.

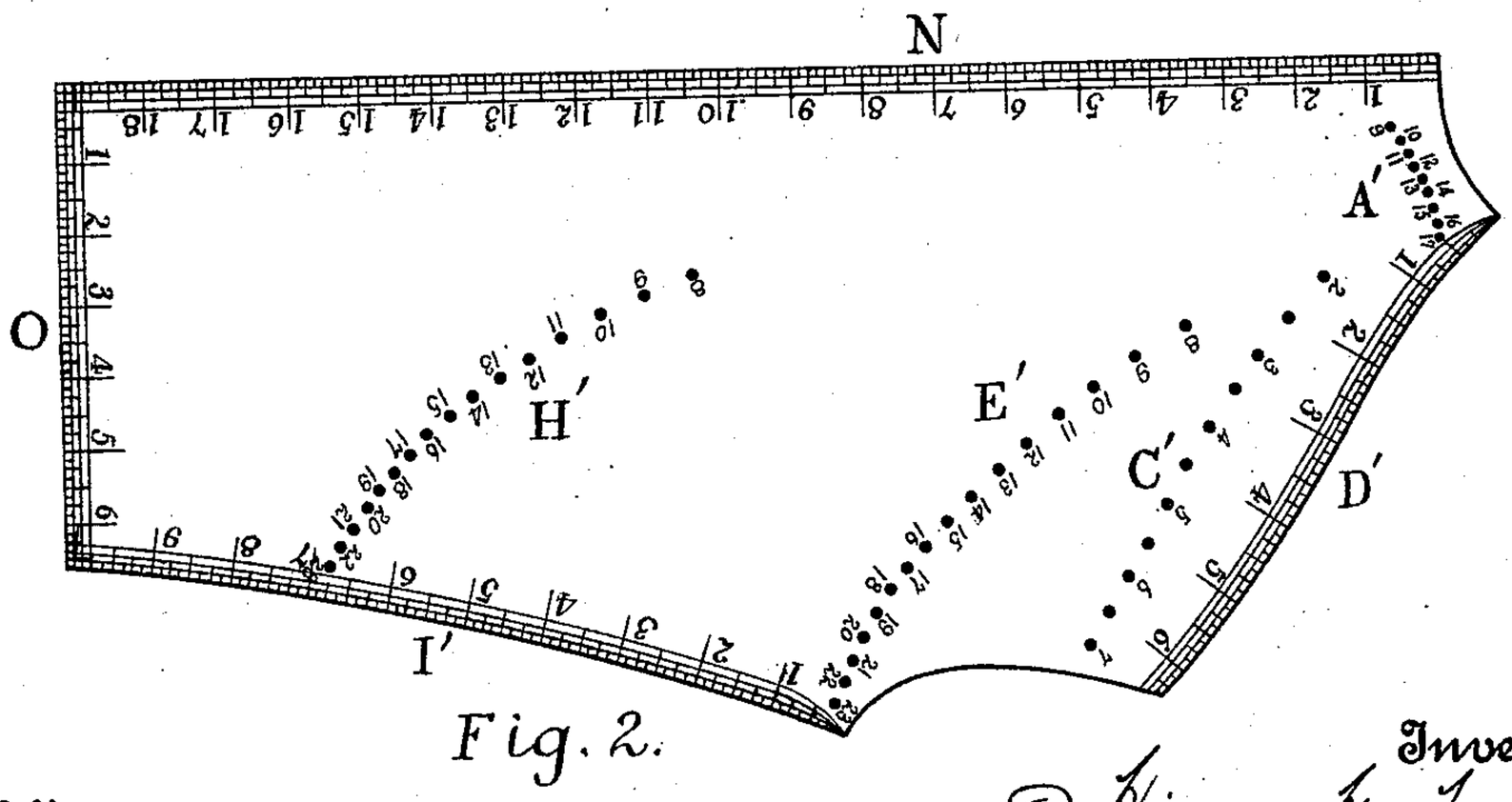

Fig. 2.

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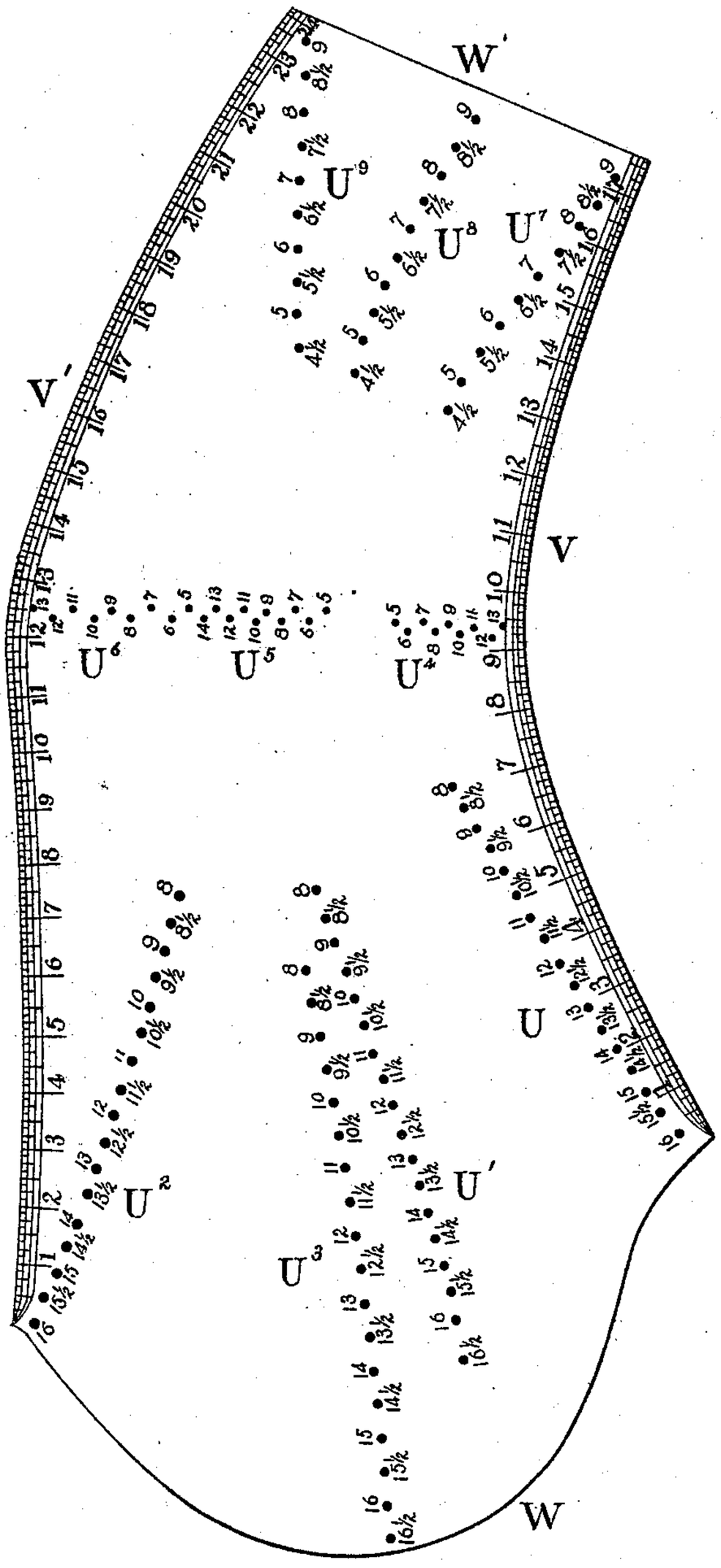

Fig. 5.

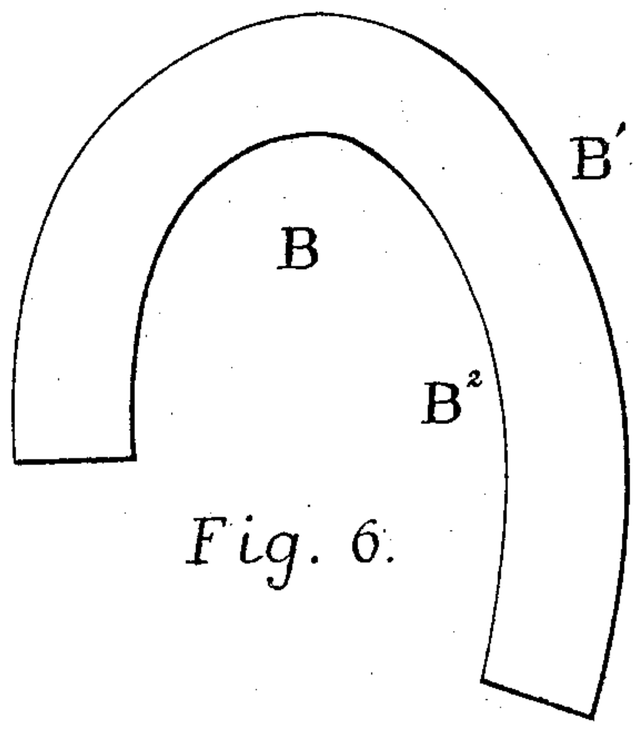

Fig. 6.

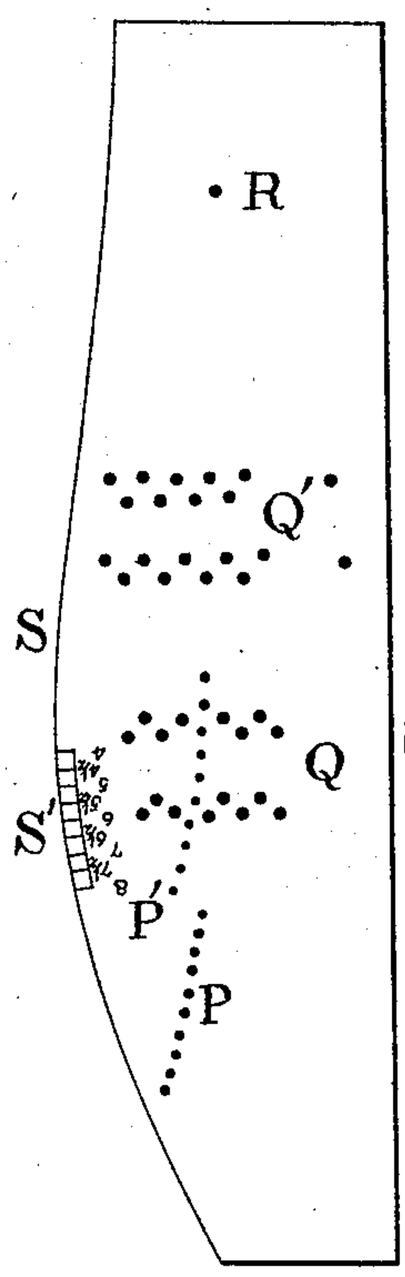

Fig. 4.

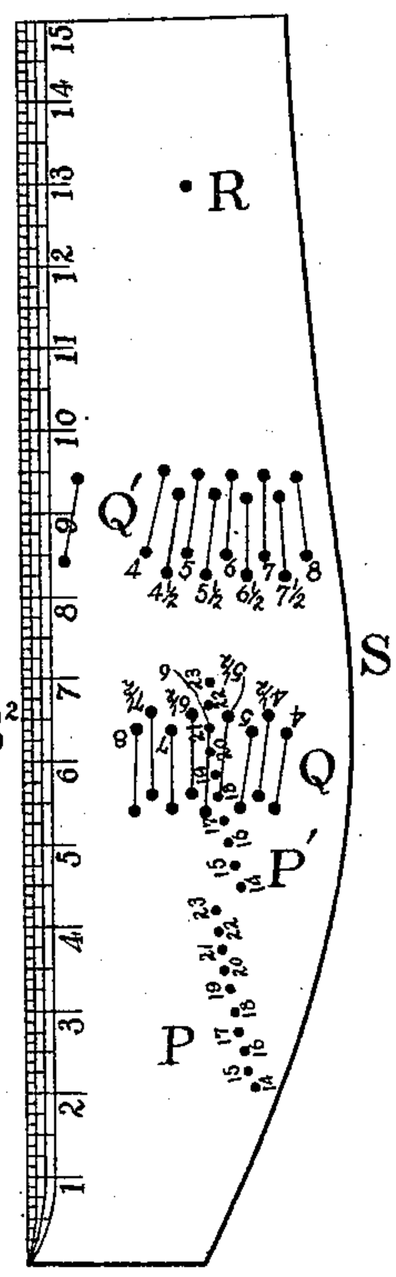

Fig. 3.

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UNITED STATES PATENT OFFICE.

HIRAM HERSCHEL TAYLOR, OF MANCHESTER, NEW HAMPSHIRE.

PATTERN-DRAFTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 594,443, dated November 30, 1897.

Application filed April 22, 1897. Serial No. 633,382. (No model.)

To all whom it may concern:

Be it known that I, HIRAM HERSCHEL TAYLOR, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Pattern-Drafting Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the drafting of patterns for wearing-apparel, and contemplates the provision of improved means by which the material of a garment may be accurately cut to conform to differing sizes and proportions, as required.

The nature of the invention is fully disclosed in the following detailed description, which is to be read in connection with the accompanying drawings, in which are illustrated six charts, designated, respectively, as Figures 1, 2, 3, 4, 5, and 6.

Referring to the said drawings by letter, A A denote rows of perforations, preferably five in number, which are employed in obtaining the neck dimension. These perforations are, as shown in Fig. 1, radially disposed and determine the dimension of the front of the neck, and at A′ in Fig. 2 is a line of perforations set on an irregular curve, which forms the back of the neck and coöperates with the perforations A. At B, Fig. 6, is shown a curved form which is used to shape the lines of the neck and also of the arm-scye.

For obtaining the dimension and shape of the shoulder portion there are provided rows of perforations C C, Fig. 1, which are set on elliptic circles, and at C′, Fig. 2, is a single row of perforations set on a compound curve. The rows C are for the front and the row C′ for the back, and together the rows determine the correct height of the shoulder. The length and shape of the shoulder is determined by the use of the graduated scale D on the front and the graduated scale D′ on the back. These scales are arranged on a compound curve, and the back scale is preferably extended beyond the front scale in order that the front portion of the garment may in making be slightly stretched to conform in length to the back to secure in the finished garment a perfectly-fitting shoulder.

E, Fig. 1, and E′, Fig. 2, denote rows of perforations for use in obtaining the dimension of the chest and to locate the position of the under-arm seam at the point where the back and front join at the arm-scye. The row F, Fig. 1, determines the position of the arm-scye according to the measurement of the chest. The row G, Fig. 1, is employed to locate the position and height of the arm-scye, and also to determine the height of the darts by the use in connection therewith of the dart-scale hereinafter to be described. The arm-scye is shaped by the use of the form B, as previously set forth.

H, Fig. 1, and H′, Fig. 2, represent rows of perforations employed to determine the location of the under-arm line at the point where the front and back are joined at the line of waist.

I, Fig. 1, is a graduated scale on lines which are portions of elliptic circles. This scale is at the back edge of the front, and on the forward edge of the back is a graduated scale I′, which, with the scale I, enables the position of the waist-line to be accurately determined from a given point at the arm-scye. The figures on the scale correspond with the under-arm measurement in inches, and the line of the scale is such as to enable the proper shaping of the under-arm lines.

At J, Fig. 1, on the front edge of the chart, is a graduated scale, the edge and scale having a compound curved form. This shape of edge and the scale determine the correct position of the waist-line in front, which is to be measured from the point of intersection of the front and neck lines, the divisions and figures on the scale corresponding with the front measurement in inches taken from the neck to the bottom of the waist in front. This front line of waist is also determined by the employment of the under-arm scale previously referred to, and the waist-line is shaped by the use of the curved line (designated at *k*) on the bottom of the front. The curved form given to the front edge enables

the proper shaping of the front or dividing line of the garment.

At L, Fig. 1, is a line of perforations which are used for determining the width between the front or dividing line and the front dart. In the making of garments with a "tailor back" the proper curves for the form-seam are obtained by the use of the line M, Fig. 1, which joins the shoulder-line with the back edge. This line M has the form of an elliptic circle and is reversed when used for the purpose just mentioned.

The back edge of the back, Fig. 2, is employed for securing the line for the center of the back, and is provided with a graduated scale N to determine the position of the waist-line from the point of intersection of the back and neck line. The waist-line at this point is also determined by the waist-line obtained by the employment of the under-arm scale and measurement and the graduated scale edge O at the bottom of the back. This scale O is also employed to locate the position of the form-seam at the waist-line. It will be noticed that the scales N and O are arranged at right angles to each other and permit the use of the square when required.

Fig. 3 shows the dart-scale previously referred to. In said scale are two rows of perforations P P', which are on small portions of elliptic circles. These perforations are numbered to correspond with the figures on the scale employed for determining the chest measure and are graduated in such a manner as to obtain the proper space required between the top of darts regardless of the chest measurement. At Q Q' are double rows of perforations divided by graduated spaces set on small portions of elliptic circles, and rows are connected by lines which are employed in obtaining the positions for the lines of darts at the waist-line and which are graduated in such a manner as to take out the required fullness in front at said line.

At R, Fig. 3, is a perforation employed for locating the turn of the compound curve in the front line of the back dart.

The edge S of the dart-scale is of compound curve form, and different portions of said curved edge are employed in shaping the curves of the lines of darts and also in obtaining the proper shape of curved lines over the hip below the waist-line, and also in obtaining the lines on the form-seam when required. The reverse side of the edge S, Fig. 4, has thereon a graduated scale S' and is used to obtain the proper shape of the back line of the front dart. On the opposite side is a graduated scale S^2, which is employed to determine the correct hip-measure or any other measure by inches. In planning the position and size of the dart the edge S' is placed at the impression made through one of the perforations Q and at a point on the waist-line indicated by an impression made through a perforation R. After drafting the darts the remaining space back thereof on the front is divided into two equal parts, and a plain under-arm bias is then taken out measuring one and one-half inches at waist-line and one-half inch at arm-scye, making the two parts in front and the form-piece of the back of equal width at the waist-line. By taking five-eighths of an inch from the back and adding it to the front at the waist-line there can be made two biases of three-fourths of an inch at the waist-line and one-fourth of an inch at the arm-scye, thereby giving two under-arm pieces instead of the one and making the three parts in front and the form-piece in back of equal widths at the waist-line. By adding to the back dart and to the back of the front of draft the French bias can be obtained and without extra fitting. In drafting below the waist-line the actual measurement is used, with the employment of the curved edge S of the dart-scale for shaping the proper curved lines over the hip, or in lieu of the edge S the curved form may be employed, the result being a perfect fit below the waist-line as well as above said line.

The curved form B, Fig. 6, has its outer edge B' and its inner edge B^2 curved on lines which are portions of elliptic circles and, as previously stated, is employed in drafting the shape of the neck and arm-scye and the lines of the hip below the waist-line. It is also used in drafting the top of the sleeve in a child's garment.

The sleeve-chart is shown in Fig. 5. The different sizes and locations for the sleeve are obtained by the use of rows of perforations set on curves on graduated scales. The first row U from the front or inside at the top is employed to determine the location of the front line of the upper and under sides of the sleeve-draft at the arm-scye. The second row U' from the front or inside is used to locate the back line of under side of sleeve at the arm-scye. The back row U^2 is employed to locate the back line of the upper side of sleeve at the arm-scye. These three rows U U' U^2 determine the size of the sleeve at the top of the arm, the figures on the scale corresponding with measurement of said top. The row U^3, which is the third from the front or inside, is used to obtain the highest point of curve at the top of the sleeve. The front or inside double row U^4, is employed to locate the position of the front line at the inside curve opposite the elbow of both the upper and under side of the sleeve. The next double row U^5 is used to locate the position of the back line, and also the point of elbow on the under side of the sleeve. The back double row U^6 is employed to locate the position of the back line and also the point of the elbow of the upper side of sleeve. These three rows together determine the size of the sleeve at the elbow, the figures on the scale to correspond with the elbow measurement. The first row U^7 from the front or inside at the bottom is employed to locate the position of the front line

at the hand of both the upper and under side of the sleeve. The second row U^8 is used to locate the position of the back of the under side of the sleeve at the hand. The back row U^9 is used to locate the back line of the upper side of the sleeve. These three rows together determine the size of the sleeves at the hand, the figures on the scale corresponding with the hand measurement. The scale of inches V on the inside or front curved edge is used for obtaining the length of the front of the sleeve from the arm-scye to the inside bend of the arm opposite the elbow and to the bottom of the sleeve, according to the measurement taken, and the curved line is used to properly shape the front line of sleeve. The scale V′ on the outside is used for obtaining the length of the outside or back of the sleeve from the arm-scye to the elbow and to the bottom of the sleeve, according to the measurement taken, and the curved form of the edge is used for shaping the back line of both the upper and under side of sleeve. In drafting a sleeve for an arm of large proportions the line on the back of the sleeve above the elbow is inverted to curve said line the opposite way, thereby giving more fullness at the top of the sleeve. The top line W is curved for shaping the lines at the top of the sleeve between the back and front and the bottom line W′ is employed to draft the line of the bottom of the sleeve between the front and back lines.

From the foregoing it will be evident to those skilled in the art that by my invention the greatest accuracy may be obtained both in the drafting of the necessary patterns and in the making of the garment, and in addition it may be stated that it is unnecessary that a garment when cut after my invention be tried on the wearer.

The invention involves the same rules that govern in the geometrical method for obtaining the elliptic circle by the intersection of graduated lines at right angles, and involves also the use of the steel square.

I claim as my invention—

1. A drafting device for apparel-patterns having a series of perforations placed on portions of elliptic circles and compound curves, respectively, and graduated scales set on compound curves, substantially as specified.

2. The drafting device for apparel-patterns, having the radiating rows of perforations at the neck, the rows of perforations at the shoulder, set on elliptic circles, the graduated scale at the shoulder arranged on a compound curve, the rows of perforations for the chest and arm-scye measurement, respectively, the row of under-arm line of perforations, the graduated scales I, J and the line of perforations L, substantially as indicated.

3. The drafting device for apparel-patterns, having the row of perforations C′ set on a compound curve, the graduated scale D′ also arranged on a compound curve, the rows of perforations E′, H′, and the graduated scales I′, N and O, said rows of perforations curving upward from said scales, at the top and about midway thereof, respectively, all substantially as and for the purpose set forth.

4. The drafting device for apparel-patterns having the rows of perforations P, P′ and Q, Q′, said row of perforations P arranged out of alinement with and below the row of perforations P′, and the row of perforations P′ passing vertically through the rows of perforations Q, the rows of perforations Q′ arranged parallel with and above said rows of perforations Q, the single perforation arranged centrally of, and some distance above said rows of perforations Q′ Q′, the curved edge S and the graduated edges D′ D^2, substantially as specified.

5. The drafting device for sleeve-patterns having the series of rows of numbered perforations at one end converging inward, the series of rows of numbered perforations across the same, at the elbow and the series of numbered perforations at the opposite end also converging inward and the scales, one arranged along each longitudinal edge thereof, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HIRAM HERSCHEL TAYLOR.

Witnesses:
DORA A. TAYLOR,
MARGARET MCDERMOTT.