

(No Model.)

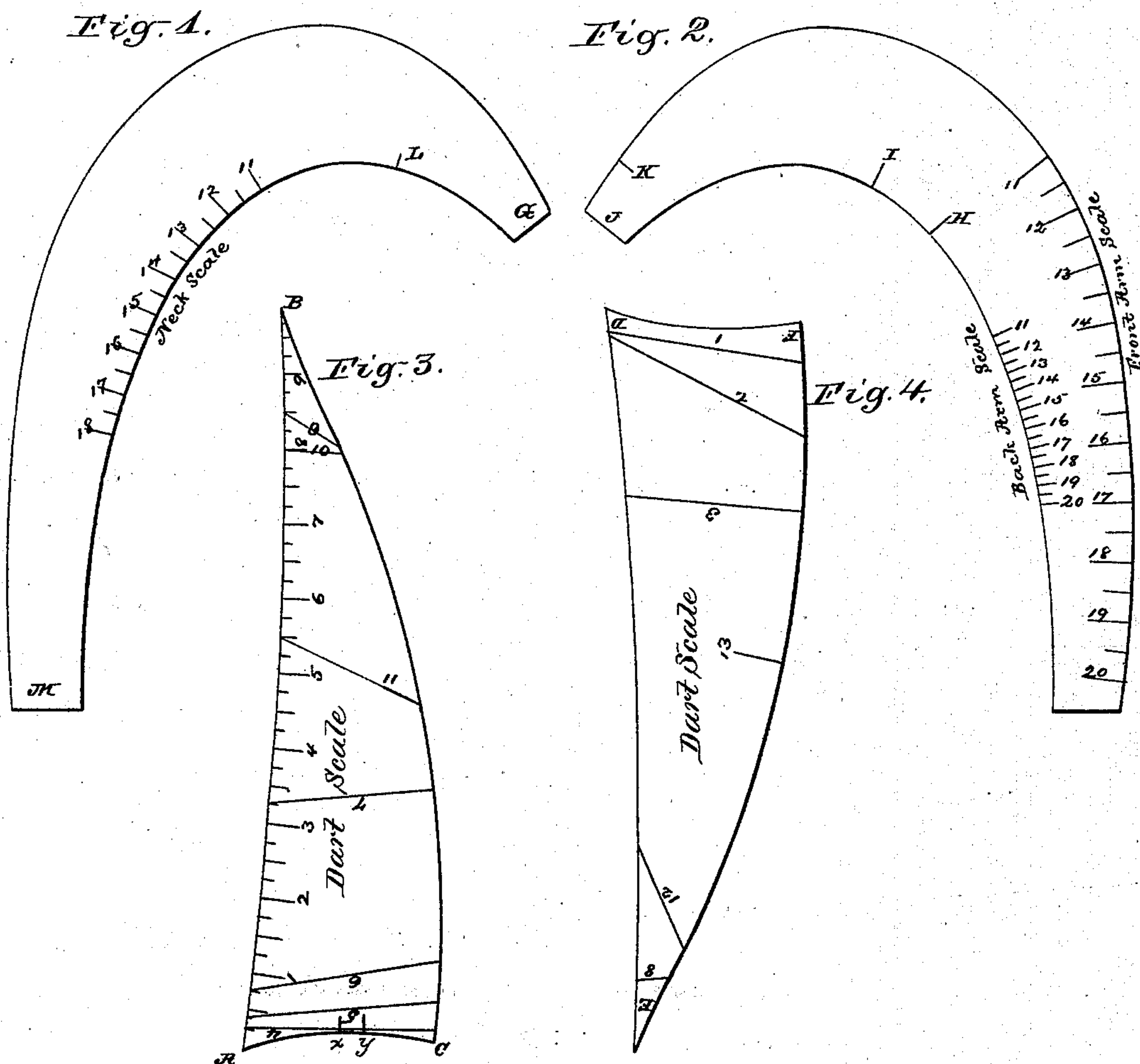
3 Sheets—Sheet 1.

C. A. TIERNEY.

GUIDE FOR USE IN CUTTING GARMENTS.

No. 322,402.

Patented July 14, 1885.



WITNESSES—

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(No Model.)

3 Sheets—Sheet 2.

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Fig. 4.

A									
a'					15	16	17	18	19
Dart Gauge					17	18	19	20	21
b'					13	14	15	16	17
a'					12	13	14	15	16
3					11	12	13	14	15
4					10	11	12	13	14
5					9	10	11	12	13
6					8	9	10	11	12
7					7	8	9	10	11
8					6	7	8	9	10
9					5	6	7	8	9
10					4	5	6	7	8
11					3	4	5	6	7
12					2	3	4	5	6
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Fig. 5.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
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Fig. 6.

A

B

Back Waist Gauge ->

Front Waist Gauge

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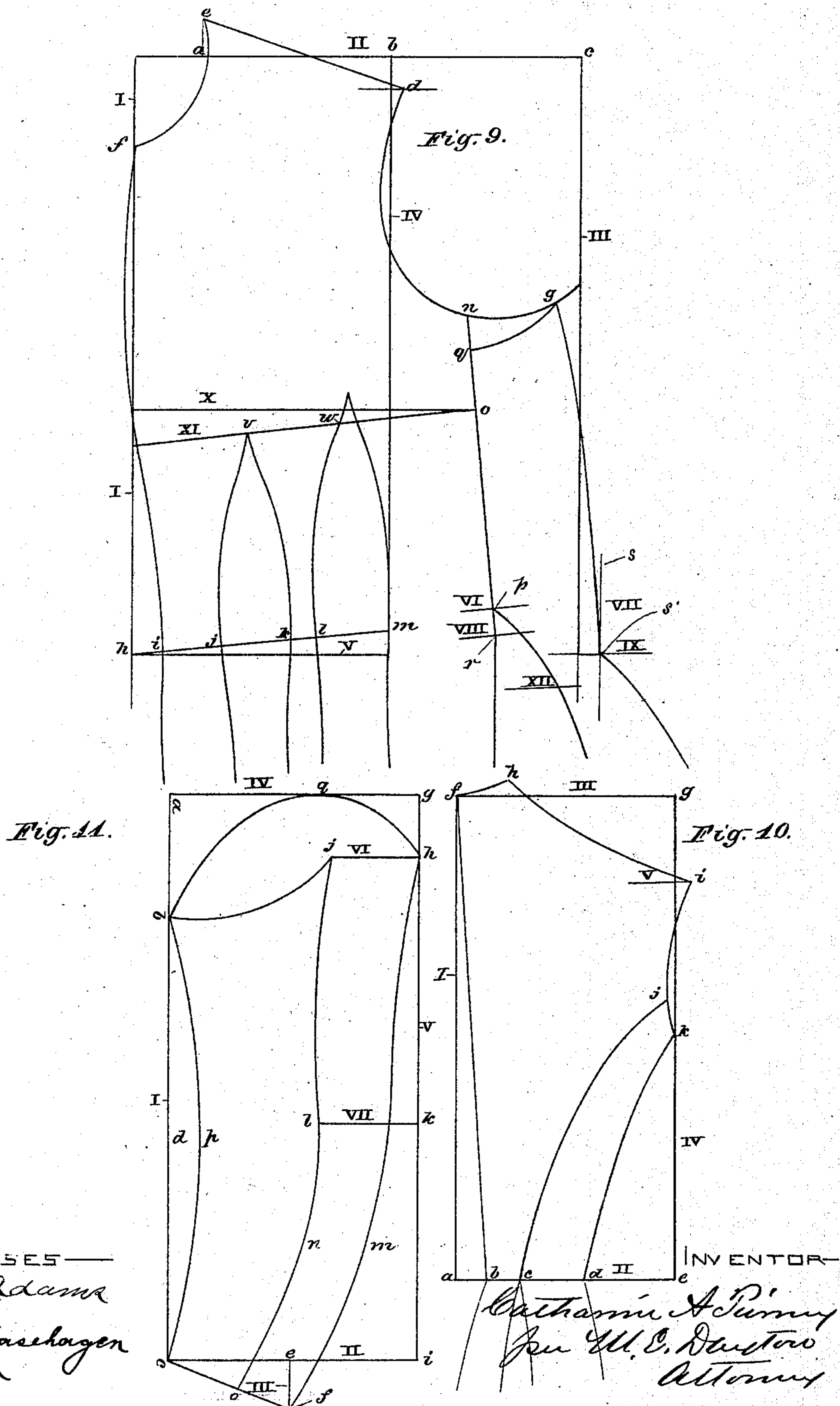
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Attorney

UNITED STATES PATENT OFFICE.

CATHARINE A. TIERNEY, OF CHICAGO, ILLINOIS.

GUIDE FOR USE IN CUTTING GARMENTS.

SPECIFICATION forming part of Letters Patent No. 322,402, dated July 14, 1885.

Application filed October 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, CATHARINE A. TIERNEY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Implements for Cutting Garments and Patterns for Garments; and I do hereby declare that the following is a full, clear, and exact description thereof, 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 improvements in implements for use in the art of cutting and fitting dresses and other ladies' garments; and it consists in the matters hereinafter described and claimed.

The novel implements forming the substantive parts of my invention are three in number, in the form of pasteboard, sheet metal, or similar strips, of the several forms hereinafter shown and described, said strips being laid off and marked in the manner indicated, with certain lines and characters, and are used in the manner hereinafter set forth.

In the drawings, Figures 1 and 2 illustrate opposite sides or faces of one of such implements. Figs. 3 and 4 represent opposite sides of another. Figs. 5 and 6 show the opposite sides of the third implement, which is a rule, usually about two feet in length; and Figs. 7 and 8 show fragmentary portions of one face of the latter enlarged.

The object of this invention is to provide simple guides or aids, by means of which, and suitable directions for their use, persons will be enabled to readily and skillfully cut and fit ladies' dresses or other garments, necessary measurements having been previously taken.

The implements shown in Figs. 1, 2, 3, and 4 will, for convenience, be denominated "scales."

The scale shown in Figs. 1 and 2 consists of a flat curved strip of pasteboard, sheet metal, or other suitable material, the inner edge of which is given the form of the cut made for the neck of ordinary size in the front waist-piece of a dress, the point or extremity G being supposed to coincide with the central point in front or at the throat. The outer edge of the scale is given the curve of

the cut made in the same part of the dress for the arm. The inner edge also corresponds with the cut for the arm made in the "back waist piece" of the dress. Said edges are severally graduated as shown in the drawings, the graduations on the outer curve being called the "front-arm scale;" one of those on the inner curve the "back-arm scale," and the other on the inner curve the "neck-scale."

In dimensions the implement or scale shown in Figs. 1 and 2 is preferably about fourteen inches in length on its outer curved edge, so as to meet the requirements of the largest persons. Besides these graduations the scale is marked as follows: On the outer curved edge having the front-arm scale, and at a point about an inch from the end J of said edge, a mark, K, is made. On the inner curved edge of the same face, at a point about three and three-fourths of an inch from the end J, the mark I is made, and at about an inch beyond said mark I a second mark, H, is made. On the inner curved edge of the opposite face the mark L is made, at a point two inches from the end G.

The triangular piece shown on its two faces in Figs. 3 and 4 is called the "dart-scale." This scale is preferably about ten inches long, and is inwardly curved on one of its longitudinal edges about three-eighths of an inch from a straight line, being rather more nearly straight toward the point of the scale than toward its opposite or broader end. The remaining longitudinal edge of said scale is convexed or outwardly curved about an inch from a straight line, except near the point, where, for about an inch from said point it is slightly concaved or inwardly curved, as plainly shown in the drawings. These longitudinal edges present curves on which the darts and all other curved edges or lines in the garment are to be cut, except those of the neck and arms. The broad end is preferably about two and a half inches in width, and is concaved or inwardly curved to correspond with the proper curve for the cut in the back waist-piece at the neck. On one face of the dart scale the inner concaved edge is graduated in inches, and on both faces the several transverse marks, bearing numbers 1 to 13, or such of them as are more desirable, are made, as shown

in the drawings. These marks are intended to assist in placing the triangle upon the diagram of base lines, previously drawn upon a sheet of paper from which the pattern for the dress is to be cut, said lines being for this purpose placed in continuance of the diagram-lines, as will be more fully explained.

The third and only remaining implement is a rule, preferably two feet in length and of the same or any suitable material, laid off in inches on one side in the ordinary manner, and on the other divided or graduated, as represented in Figs. 6, 7, and 8. The graduated parts of the rule are called "gages," and are suitably designated by written words upon the face of the drawings. Thus, on one edge of the rule spaces of one-third of an inch are marked off and numbered from 40 to 18 from the end of the rule inwardly. This is called the "front-waist gage." On the same end of the rule, but on the opposite edge thereof, two marks, numbered 1 and 2, Figs. 6 and 8, are laid off, respectively, half an inch and an inch and a half from the end of the rule. The mark No. 1 represents the usual allowance for the slope of the central seam of the back as related to a vertical line first drawn on the diagram, and the mark No. 2 represents the position of the lower end of the seam of the side body in a dress for a symmetrical form, with reference to the same vertical line. Beginning at a point about three-fourths of an inch from line 2, or, say at a point about two and a third inches from the adjacent end of the rule, a series of transverse lines are drawn one-sixth of an inch apart and numbered toward the middle of the rule, constituting what is called the "back-waist gage." On the opposite end of the rule the transverse lines 3 and 4 are drawn at the distances, respectively, of about one-half of an inch and two and a half inches from the end of the rule, which represent the usual lower terminal points of the front seams on a symmetrical figure, which are to be marked on the paper, as will be explained by reference to the diagram, Fig. 10. From a point three inches from the line 3 transverse lines are drawn upon the rule to the number of fifteen, or thereabout, and at a distance of one fourth of an inch apart. These are divided by equidistant longitudinal lines *a*, *b*, and *c*, Figs. 6 and 7, giving four rows of spaces or four series of graduations, lettered *a'*, *b'*, *c'*, and *d'*, which are numbered in a peculiar manner, as shown in Fig. 7, and as will be further explained. From the line 3 to the termination of the transverse lines last mentioned the graduated portion last described of the rule is called the "dart-gage," and is so marked in Figs. 6 and 7.

The use of the several implements bearing scales and gages, as set forth, will next be explained by reference to Figs. 9, 10, and 11. The usual patterns will be drawn upon and cut from paper, by which patterns the dress-goods will be subsequently cut. Whatever the part to be first drafted a paper of suitable

size is laid upon the table and base-lines are drawn thereon, as follows:

Referring first to Fig. 9, draw the vertical straight line I, and at right angles with it draw the line II. On the latter line make three dots, first, at *a*, two inches from the angle or intersection of lines I and II, as a guide in marking the neck-curve; second, at *b*, a point distant from the angle of lines I and II, one-half of the chest-measure; third, at *c*, distant from the said angle one-half the front measure. From *b* and *c* draw the lines III and IV parallel with line I. At a point one-half an inch below *b*, on line IV, make a dot and draw the short line *d* parallel with line II. Three-fourths of an inch directly above the point *a* dot at *e* and draw a line from *a* to *e* for the shoulder-slope. Taking the dart-scale, place the point A thereof at *e*, and thence to the line *d* lay off the length of the shoulder on said line *d* and draw the line *e d* by the edge A B of the dart-scale. Next place the neck-scale with the figure indicating the neck-measure at *e*, and bring the point G of said scale on the line I, giving, say, the point *f*, and by the edge of said scale draw the line *e f*. Then place the front-arm scale with its figure indicating the arm-size, at *d*, and bring the point J of said scale to line III and by the edge of said scale draw the arm-curve. Before removing the scale, dot at *g* opposite K of the scale. From the neck at *f* lay off the length of the waist to the belt at *h*, and from *h* draw the line V at right angles with line I. On the chest-line IV dot at a point one-half inch above the line V at *m* and draw the slanting line *m h*. Place the dart-gage on this line, with its outer end at *h*, and make four dots. First, *i* at line 3 of the gage for the hem-slope; second, *j* at line 4 of the gage for the space to the first dart; third, *k*; and fourth, *l*, representing the desired spaces between darts.

To describe how the location of the points *k* and *l* are determined necessitates a description of the dart-gage, more clearly shown in Fig. 7, as being composed of the four series of spaces *a'*, *b'*, *c'*, and *d'*. The distance between the points *k* and *l* is the distance between adjacent darts, and will vary somewhat with the chest-measure of the person being fitted. It will be observed that in the division of the gage marked *a'* the series of Figs. 12, 13, and 14 recur twice, and they are followed by the twice-recurring series of Figs. 18, 19, and 20. In the division marked *d'* we have the twice-recurring series 15, 16, and 17, followed by the twice-recurring series 21, 22, and 23, the first 15 of this division being located to follow the first 14 of the division *a'*, so that by repeating the first series of the division *a'*, then the first series of the division marked *d'*, then the third series of the division marked *a'*, then the third series of the division marked *d'*, and so on, we have a continuous succession of the ordinal numbers from 12 to 23. In a similar manner the division *b'* is related to the division *c'* of this dart-gage, the only difference being that the series

of figures embraces four numbers instead of three, or, in other words, the division *b'* has the series 13, 14, 15, and 16 twice repeated, and the division *c'* has the series 17, 18, 19, and 20 twice repeated. As before stated, the spaces between the transverse lines thus numbered are each one fourth of an inch. For a small or medium-sized person the distance between the points *k* and *l*, or, in other words, the distance between the darts, will always be three-fourths of an inch, or three of these spaces. Now, supposing the chest-measure to be thirteen inches, the point *k* will be marked opposite the first 13 in the division *a'*, and the point *l* will be marked opposite the second 13 in the same division of the dart-gage. If, however, the chest-measure be 15, 16, or 17, the point *k* will be marked opposite to the first corresponding number in the division *d'*, and the point *l* will be marked opposite the second corresponding number in the division *d'*. If the person be large in size, and the chest-measure be either 13, 14, 15, or 16, the point *k* will be marked opposite the first-occurring corresponding number in the division *b'*, and the point *l* will be marked opposite the second occurring corresponding number in said division *b'*. If the chest-measure be seventeen, eighteen, nineteen, or twenty inches, the point *k* will be similarly marked opposite the first occurring corresponding number in the division *c'*, and the point *l* opposite the second-occurring corresponding number in the division *c'*. Thus it will appear that by this system the spaces between the darts for a small or medium person will always be three-fourths of an inch, and in a large person always be an inch. The back-curve *f i* is drawn by the aid of the inner or concaved edge of the dart-scale, and the several lines *v j* and *v k* are drawn by the convexed surface of the dart-scale, the position of the point *v* being determined by rules or directions which will accompany the appliances herein described, but which need not be here detailed at length. The various lines marked VI to XII in the diagram Fig. 9 are also obtained by certain rules and directions which will accompany the appliances, the vertical line *s* being laid off from the line IV by placing the central line 5 of the rule Fig. 6 upon line IV and marking at the figure representing the waist-measure in the front waist-gage.

The use of the several transverse lines on the dart-scale may be illustrated by saying that the line 8 of Fig. 4 is placed over the line XI, with the convexed surface of said dart-scale at the point *l*, and the line *l w* is drawn by said convexed edge of the dart-scale. The opposite boundaries of these darts are obtained by reversing the scale upon the paper and drawing to the points *k* and *m*. Said dart-scale is also employed to draw the curved lines below the waist of a garment when required. These scales also furnish the necessary curves shown in Figs. 10 and 11, the several terminal points being obtained as follows:

Fig. 10 shows the back waist-pattern, to draft which the rectangle I II III IV is drawn in height equal to the length of the back, and in width equal to one-half of the transverse back-measure. On line II are laid off the points *b c d* by aid of the back-waist gage, the end of which is placed at *a*. The point *b* for the back-slope is marked opposite the line 1 of the said gage, the point *c* is marked opposite the line 2, and the point *d* at the line numbered with the figures which represent the waist-measure. The base-line V is drawn in accordance with directions which will accompany the implements. The line *f h* is drawn by the concaved end of the dart scale by placing the line 4 of the dart-scale over the line 3 of the diagram, and with the point *x* or *y* at the point *f* (according to directions) the point A of the scale determining the location of the point *h*. The downwardly-concaved line *h i* is drawn by the inner edge of the dart-scale, having its point A placed at the point *h*, and the figure of the scale which indicates the length of the shoulder placed on line V. The line *i k* is drawn by placing the figure of the back-arm scale, Fig. 2, at *i*, and bringing the point I on said scale to coincide with the line IV of the diagram. Opposite the point H of the back-arm scale so placed a dot is made at *j*, from which to the point *c* a line is drawn by the convex surface of the dart-scale, as follows: First, the line 12 on said scale is placed to coincide with the line IV of the diagram, with the convex edge at dot *j*, and a line is drawn to the mark 13 on the scale, after which the scale is turned and lowered, if necessary to continue the line to *c*. The line *k d* is drawn by the concave edge of the dart-scale. The rectangle, Fig. 11, is drawn for the sleeve pattern by certain rules not necessary to be here given, and the neck-scale is used to draw the line *h g g b b j*.

By the aid of simple rules and directions which will accompany the implements the arm-scale will be further employed in marking out the upper end curves of the sleeve patterns and the dart-scale for cutting the lateral curves of said patterns.

The several waist-gages will be employed to mark off certain points on the paper by which to determine the location of the lower terminal points of seam-lines in the waist as follows: Place the rule, Fig. 6, in a horizontal position, or practically parallel with line II, with the line 5 of said rule at *m* on the outer-dart line, and with the waist-gage gradations extending beneath the arm-curve, and make a dot opposite the figure on the front-waist gage, which represents the waist-measure to which the pattern is being cut—as, for example, if the waist-measure is 25, a dot is made on the paper opposite the figure 25 of the front waist-gage. This gives the outside limits of the front-waist piece or pattern. Through this dotted line is drawn the vertical line VII. Then from the point *g* is marked off, on the line VII, the length of the back-under-

arm seam, through which the horizontal line IX is drawn. From the point of the intersection of lines VII and IX is then drawn the curved line to *g* by means of the inner edge of the dart-scale, Figs. 4 and 5. The horizontal lines VI and VIII are obtained by measurements from the point *n*, and the curved nearly-vertical line drawn downward from the point *n* across the lines VI and VIII passes through a point nearly midway between the vertical line VII and the point *m*, the exact location of the lower portion of said line being determined by directions which accompany the implements herein described.

The lines 3 and 4 on the dart-gage may be varied in their position or distance from each other and from the adjacent end of the rule, according to the dictates of fashion with reference to the position of the darts, and according to the style of garment or size of person adopted as a standard. Correspondingly, the lines 1 and 2 of the back-waist gage may be varied as to their distance from each other and from the end of the rule according to the variations in fashion or style of garment or size adopted as a standard.

The implements described may be advantageously employed in cutting garments for males.

I am aware that numerous and various forms of scales and outline patterns have been heretofore constructed to serve as guides in cutting garments, and that various systems of graduation have been applied to such patterns and scales. I therefore do not broadly claim such a device, but limit myself to the particular scales or patterns in Figs. 1 to 4, inclusive, provided with the graduations and marks essentially as therein shown; and with reference to the gage-rule my invention is restricted to the particular arrangement of the several graduations thereon marked and employed, as shown and described.

I claim as my invention—

1. As an implement for use in cutting garments, the scale or pattern, Figs. 1 and 2, suitably formed on its inner and outer edges to give the required outline for cutting the front and back arm lines and also the neck-line, and provided on the inner edge of one

side with the graduations marked "back-arm scale" and marks at H I, on the outer side with the graduations marked "front-arm scale" and mark at K, and on the inner edge of the opposite side with the graduations marked "neck-scale" and the mark at L, substantially as described.

2. The triangular dart-scale, Figs. 3 and 4, having its opposite sides curved to the required lines of the dart and its broader end concaved to afford a guide to the cut to be made at the neck in a back-waist piece of the garment, and provided on the inwardly-curved longer side with graduations and on its several faces with transverse lines, substantially as shown, and for the purposes set forth.

3. A rule provided with the dart-gage described, consisting of the marks 3 and 4, and also of the four series of graduations *a'*, *b'*, *c'*, and *d'*, respectively, numbered as shown, and for the purposes set forth.

4. A rule provided with the front-waist gage, consisting of the mark 5 and the graduations 18 to 40, the latter being placed at a distance of one-third of an inch apart, as set forth, and for the purposes specified.

5. A rule provided with the back-waist gage, consisting of the marks 1 and 2 and the graduations 18 to 40, separated by spaces of one-sixth of an inch each, as and for the purposes set forth.

6. As an implement for cutting patterns or garments, the rule described, having upon one end the dart-gage, consisting of the marks 3 and 4, and the several series of graduations *a'*, *b'*, *c'*, *d'*, severally numbered as shown, and upon the opposite end the front-waist gage composed of the mark 5 and uniformly-spaced graduations 18 to 40, and also upon the opposite edge of the rule the back-waist gage composed of the marks 1 and 2, together with the uniformly-spaced graduations 18 to 40, all substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

CATHARINE A. TIERNEY.

Witnesses:

M. E. DAYTON,

PETER J. ELBERT.