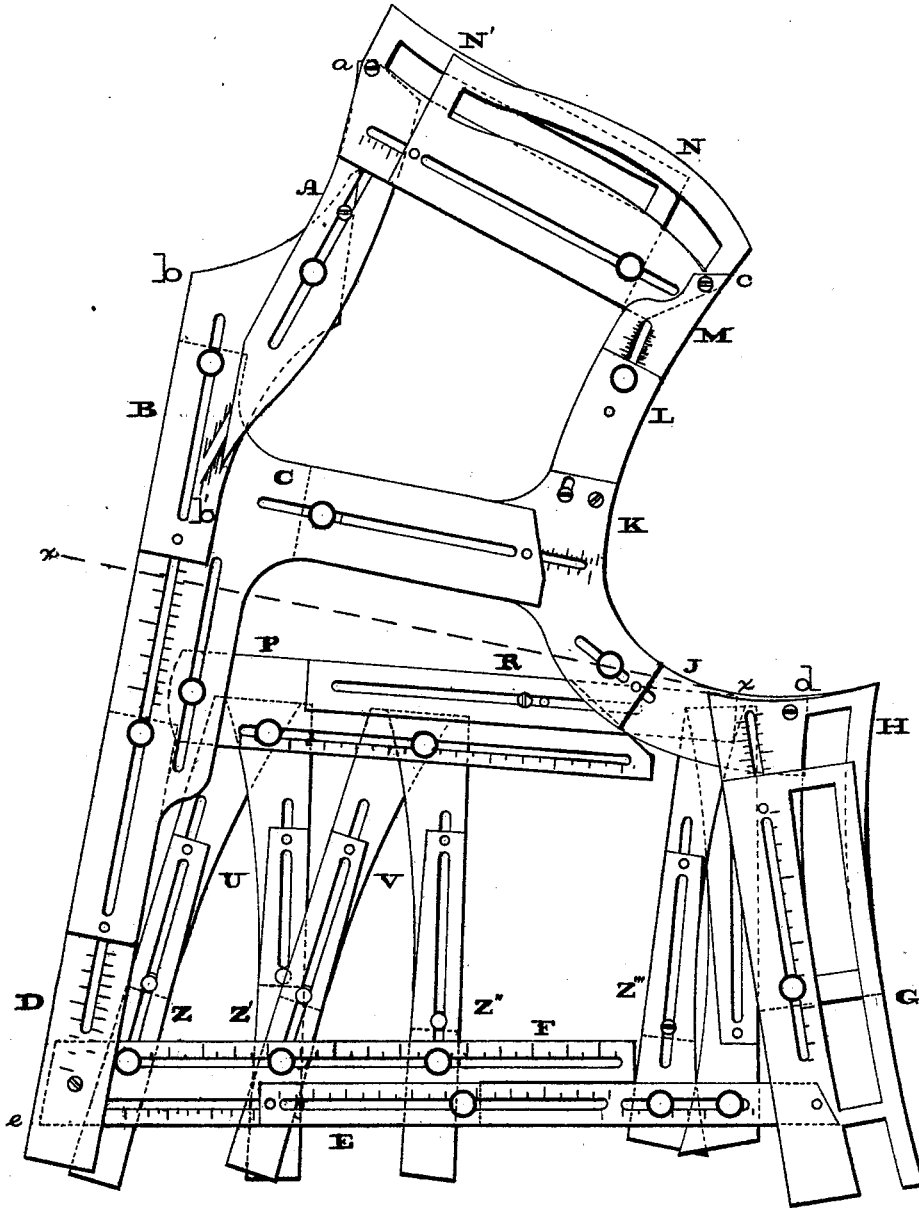


A. McDOWELL.
Adjustable Pattern-Plates for Drafting Garments.
No. 213,436. Patented Mar. 18, 1879.

Fig. 1.



Witnesses:

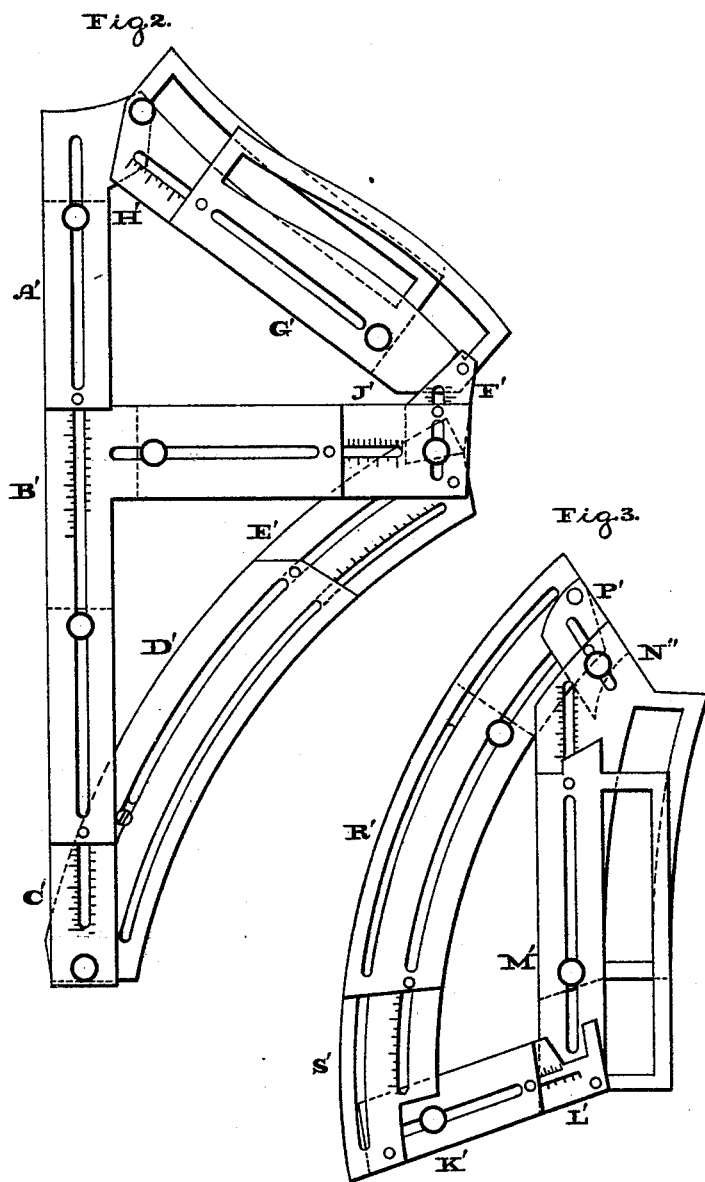
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ALBERT McDOWELL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ADJUSTABLE PATTERN-PLATES FOR DRAFTING GARMENTS.

Specification forming part of Letters Patent No. **213,436**, dated March 18, 1879; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, ALBERT McDOWELL, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in a System of Measuring and Laying Out Garments, which improvement is fully set forth in the following specification and accompanying drawings, in which the figures are face views of the apparatus employed.

The object of this invention is to take such measures as are necessary to give the correct dimensions of the body, and then apply the several measures, each to that particular part of the gage arranged for it, and thus extend the gage according to the actual measures taken, and in the exact form in which the garment is to be cut; and this is accomplished without further calculation, thereby dispensing with the usual drafting and allowances for imperfect figure, as it is necessary simply to follow around the continuous edges of the rule with a pencil or tracing-wheel, and there is produced a perfect pattern, according to the measure taken on the body.

Referring to the drawings, Figure 1, A B C D E F G H J K L M N N' represent adjustable plates, which constitute the outlines of the front apparatus, and they are slotted and movably connected by means of suitable screws, pins, or other fastenings.

The plates A and B are connected. The plate C is of angular form, and connected to plates B D. The plate E is connected to the plate D and hinged to the plate F. The plate F is connected to the plate E and hinged to the plate G, which is connected to the plate H, which, in turn, is hinged to the plate J. The plate K is connected to the plate J and to the upper limb of the plate C and hinged to the plate L. The plate M is connected to the plate L and hinged to the plate N. The plate N' is connected to the plate N and hinged to the upper end of the plate A.

It will be seen that a portion of the outer faces of the plates A B forms the neck-curve *a b*. The outer faces of the plates C D and a portion of plate B form the front line, *b e*, which may be straight or curved. The outer faces of

the plates M L K J form the front arm-hole line, *c d*.

P represents a plate, which is connected to the plate C and to a plate, R, which is connected to the plate J.

Z Z' Z'' Z''' represent dart-plates, whose upper ends are connected to the plates P and R or J, and their lower ends to the plates E F.

Referring to Fig. 2, A' B' C' D' E' F' G' H' represent adjustable plates, which constitute the outlines of the back apparatus, the plate B' being connected at opposite ends to the plates A' C', and of angular form.

The plate D' is connected to the plate E' and hinged to the plate C', said plate E' being hinged to the plate F'. The plate G' is connected to the plate H', and the two plates are hinged at opposite ends to the plate A' and plate F', respectively.

J' represents a plate which is connected to the projecting limb of the angular plate B'.

The several plates are slotted and rendered adjustable, they being held in adjusted positions by screws, pins, or other fastenings.

The slots of the plates D' E' may be curved or straight, according to the nature of the edge required.

Referring to Fig. 3, K' L' M' N'' P' R' S' represent the outlines of the side body. The plate K' is connected to the plate L', and the two plates are hinged at opposite ends to the plates S' M' respectively. The plate N'' is connected to the plates M' P', and the plate P' is hinged to the plate R'; but the plates N'' P' may be made of one piece. The plate R' is connected to the plate S'.

The slots of the plates R' S', in which the rivets play, may be straight or curved, as may be required, for the outer edge of the plates.

Take the measure of the neck where the top of the garment is to go and the measure of the arm at the shoulder for the arm-hole. Measure a straight line around the body close up under the arms, taking care to have it at a right angle with the line of the body. This will be the full breast-measure, and is indicated by the line *x x*. From this line measure from the center of the body in front up to the

base of the neck, or as far as the garment is required to go. From this line measure down the front as far as the waist is to extend, which, together with the measure to the base of the neck, will give the length of the front. Measure around the waist. Deduct the waist-measure from the full breast-measure, and this gives the amount of fullness to be taken out by the darts, as per scale. Measure also from the line *xx*, under the arms, on the back, up the neck as far as required, or the garment is to go, and from said line measure down the back as far as the waist is to extend. This with the measure up the back gives the full length of the back. Measure across the back just below the shoulders for the width of back. Measure from under the arm down to the hip, or as far as the waist is to go, for length of side seam. Deduct from the full breast-measure the width of the back, and we have the front breast-measure, as per scale adopted.

Having the necessary measures, they are applied to the scales or gage as follows: For the neck-measure I move plate A on plate B until the scale *b'* indicates the proper measure. This gives the size of the neck, and also regulates the point *a*, where the shoulder seam begins on the neck. For the arm-hole I extend the plate M J as required by the measure or figures indicated on the scale. For the front line I extend plate B as required by the measure until the figure is indicated by the scale on the plate C. Then extend plate D, as required by the proper measure, until the figure is indicated by its scale. These two adjustments give the length of the front. Plate K is extended, as required by the breast-measure, until the proper figure is indicated by its scale. This gives the width of the front. For the side seam, extend plate G according to the proper measure, thus giving the length of the front at the side. For the waist-measure I extend the plate F according to the proper measure thereof.

When one dart is required, the top of the dart V is placed at the proper point on the scale of the plate P, and plate Z' shifted to plate Z. The plate Z'' is placed on the plate E, according to the width of the dart required as found by the difference between the full breast-measure and the waist.

When two darts are required or desired, I place U and V on plate P, as per scale. Place plate Z'' on plate E at the dart-measure, as is indicated on the two-dart scale and plate Z', half of the distance between the plates Z Z''.

When three darts are required, place plate Z'' on the measure indicated on the two-dart on the three-dart scale. Divide the space between plates Z and Z'' and move the plate Z''' to the figure indicated by the scale. Extend plate N to the same figure on gage as is indicated on scale G', Fig. 2.

For height of dart, shift the plate P up or down on plate C, as required. For this purpose the scale on plate C is arranged for the measure from the center of the back of the neck to the top of the first dart. This completes the front.

Place the plates B C D or the front line back one and a half inch from the edge of the goods. Draw a line down the front and around the edge and mark the darts, and the front of the garment is complete, with allowance for all seams made.

To use the apparatus shown in Fig. 2, in order to find the length of the back, I extend the piece A' according to the measure indicated by the scale on plate B', and also extend plate C' according to the measure indicated by its scale. This gives the length of the back.

To form the back part of the arm-hole, I extend plate F' until the proper measure is indicated on its scale.

For the width of the back, the plate J' is extended until the measure required is indicated on its scale, and the plates G' E' are extended as required to form, respectively, the shoulder-seam and the seam between the side, body, and back.

To use the apparatus shown in Fig. 3, in order to obtain the side seam, I extend plate N'' until the required measure is indicated on its scale.

For the waist-measure, extend plate K' on plate L' until the proper waist-measure is indicated by the scale. Plates R' S' are extended until the figure indicated on the scale of plate S' is the same as the figure indicated on the scale of plate E'.

It will be noticed that each scale employed is a full measure, accompanied by a proportional scale.

It will be noticed that the arm-hole extends in a continuous curve, *cd*, and it is formed of the adjacent adjustable plates.

It will be observed that I produce a variable extension pattern or gage which gives to each part of the garment its proper shape and size, according to the actual measure taken of that part on the body, and so places and connects these several measures as to form a pattern with a continuous edge.

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

1. An adjustable pattern for drafting the front of an upper garment, composed of the plates A B C D E F G H J K L M N N', substantially as described and shown.

2. An adjustable pattern for drafting the back of an upper garment, composed of the plates A' B' C' D' E' F' G' H' J', substantially as described and shown.

3. An adjustable pattern for drafting the side body of an upper garment, composed of the plates K' L' M' N'' P' R' S', substantially as described and shown.

4. The upper plates, P R, and lower plates, E F, in combination with the dart-plates U V Z Z' Z'' Z''', substantially as and for the purpose set forth.

5. A variable extension-pattern composed of the several slotted plates A B C D E F G H J K L M N N' A' B' C' D' E' F' G' H' J' K' L' M' N'' P' R' S', with projecting portions for

seams, substantially as described; and forming a complete pattern for drafting an upper garment.

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Witnesses:

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