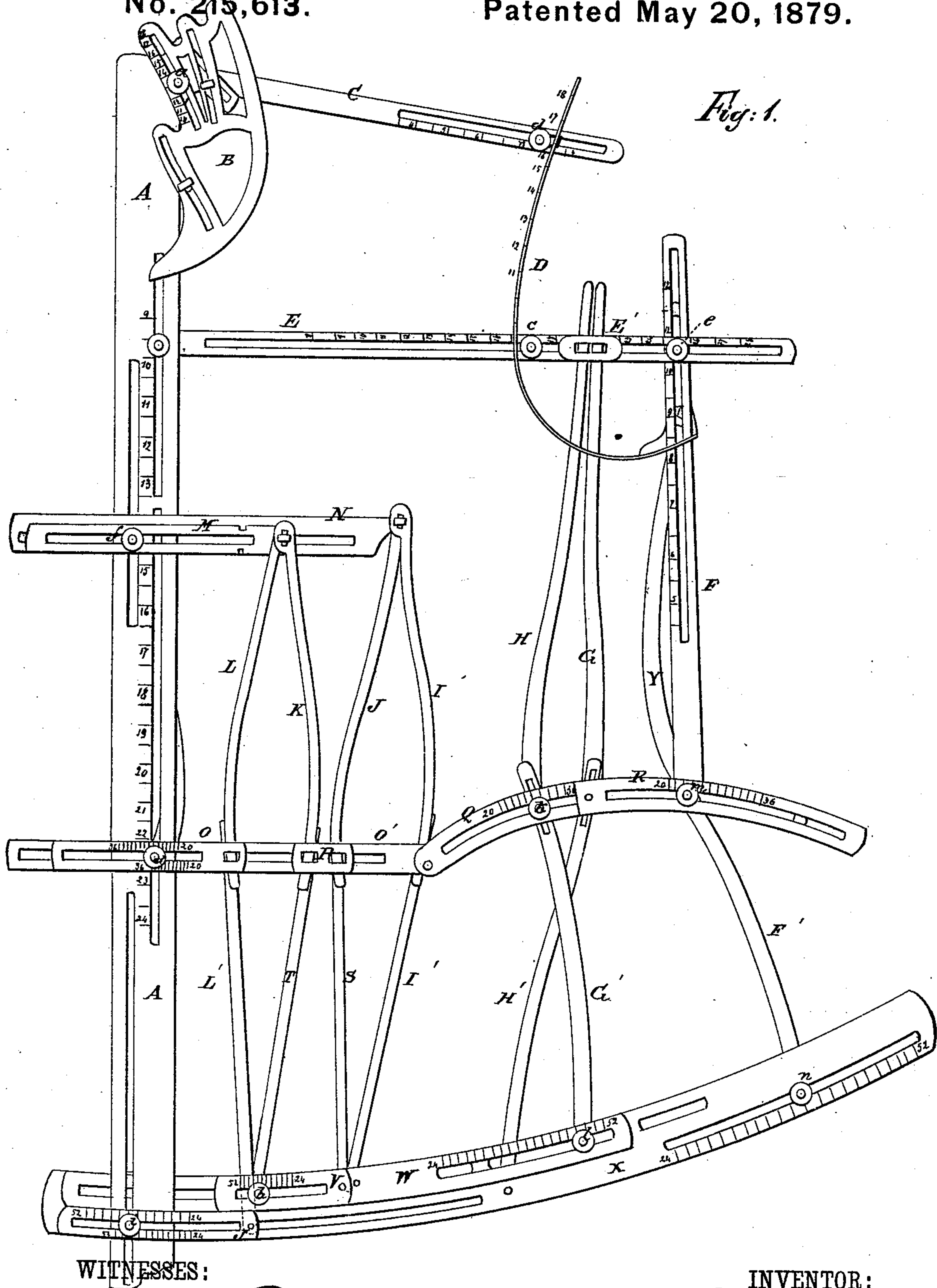


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Adjustable Pattern-Plates for Drafting Garments.  
No. 215,613. Patented May 20, 1879.



WITNESSES:

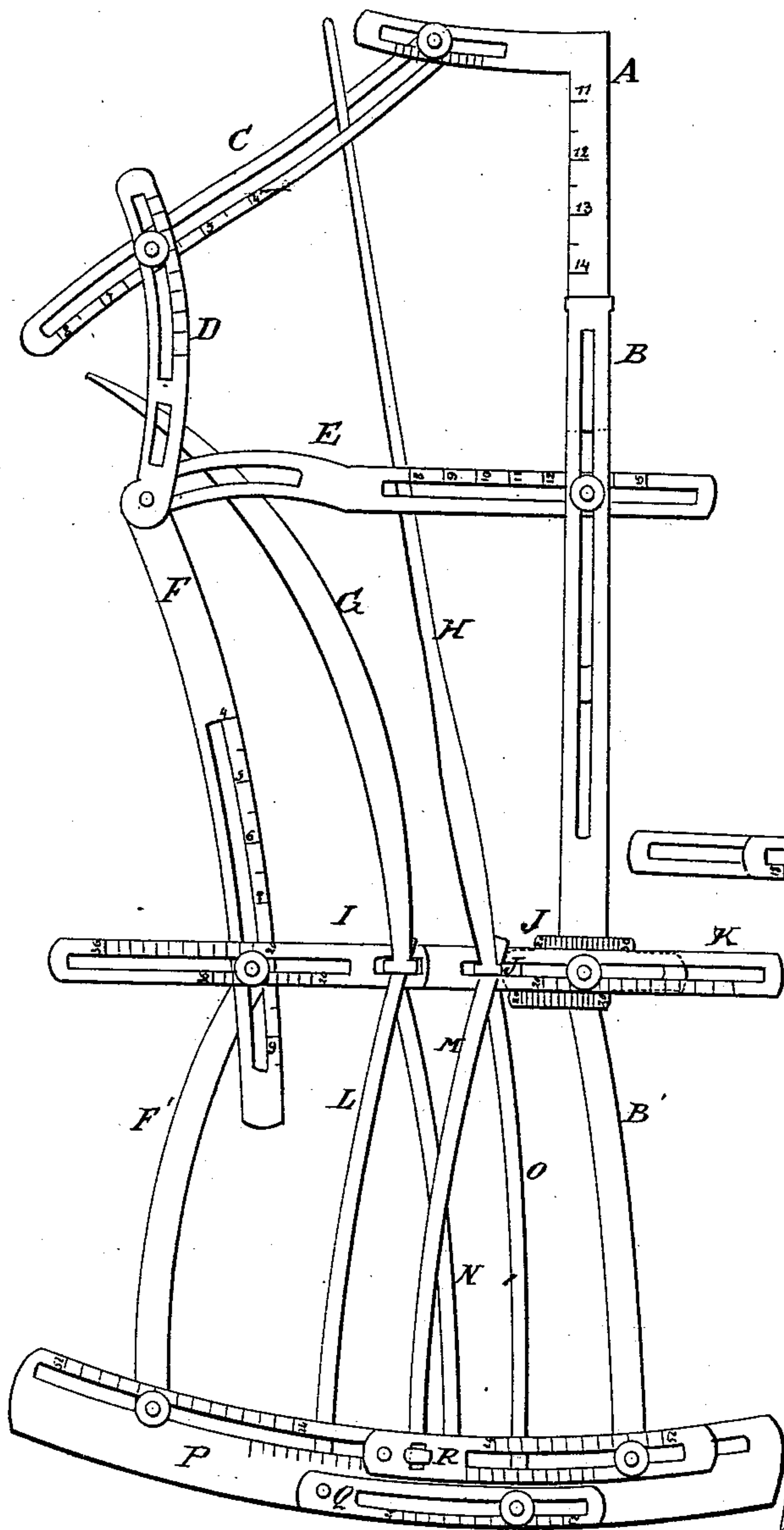
*Chas. Nide*  
*C. Dequwick*

INVENTOR:

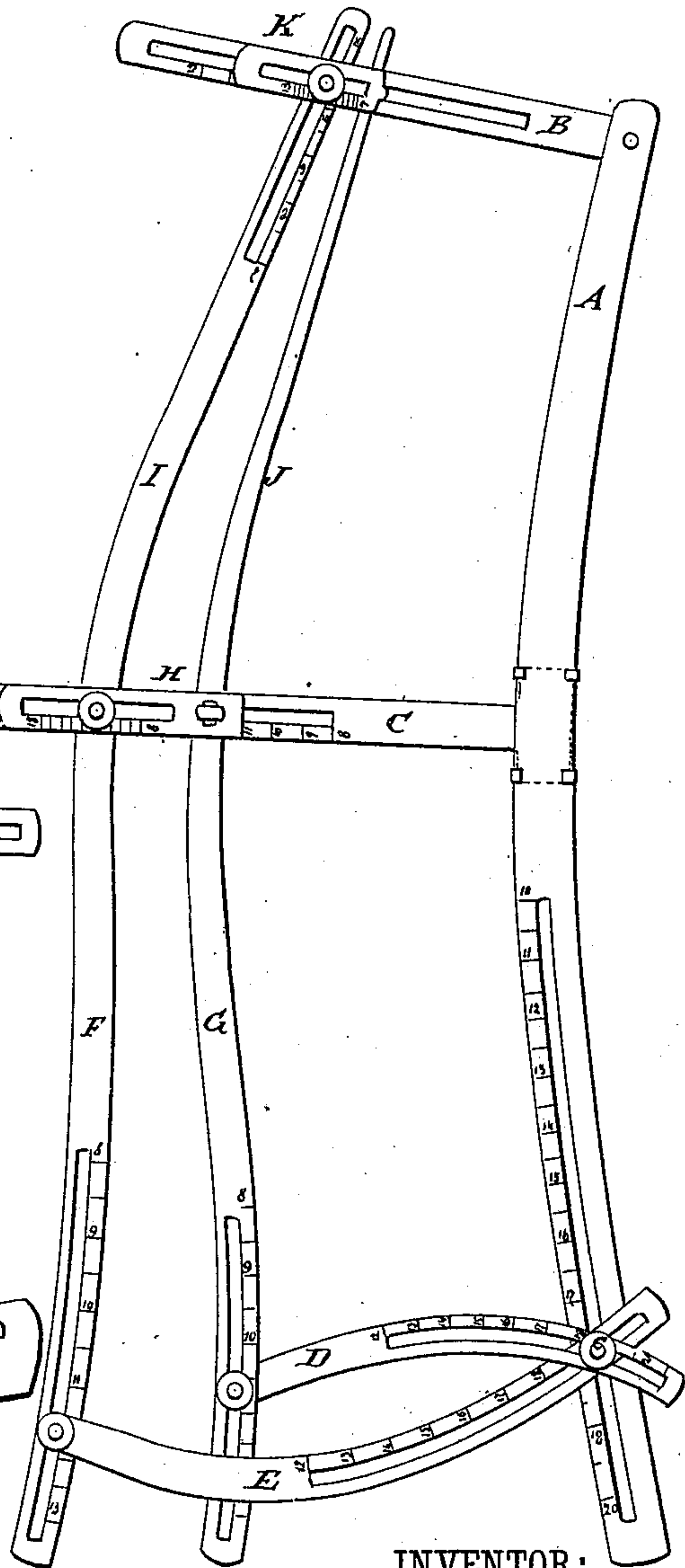
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BY *Munroe*  
ATTORNEYS.

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*Fig: 2.*



*Fig: 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

EDWIN V. HEAFORD, OF COVINGTON, KENTUCKY.

## IMPROVEMENT IN ADJUSTABLE PATTERN-PLATES FOR DRAFTING GARMENTS.

Specification forming part of Letters Patent No. **215,613**, dated May 20, 1879; application filed January 16, 1879.

*To all whom it may concern:*

Be it known that I, EDWIN V. HEAFORD, of Covington, in the county of Kenton and State of Kentucky, have invented a new and Improved Apparatus for Drafting Patterns, of which the following is a specification.

The object of my invention is to furnish a chart or apparatus containing the outlines of a garment and the details of the seams and other parts, and adjusted so that they can be set to correspond with actual measure of the person and every piece occupy its proper position. By this means it will only be necessary to set the apparatus, lay it upon paper, and follow the outlines with a pencil to produce a perfect-fitting draft.

The apparatus will therefore be adapted for the use of persons unskilled in dress-making, besides enabling a dress to be cut without the necessity of refitting.

In the accompanying drawings, Figure 1 is a plan view of the part of the apparatus for cutting a dress waist-front. Fig. 2 is the apparatus for the back. Fig. 3 is the sleeve portion.

Similar letters of reference indicate corresponding parts.

The three pieces form a set of charts by which a complete garment can be cut. They are constructed upon one general principle, the movable and fixed parts being shaped and adapted for adjustment upon and in relation to each other to conform to measurements taken from the person. At each point of adjustment there is a scale to guide in setting the parts.

The parts are preferably made of thin metal strips, united at the joints and intersections by pins and set-screws passing through slots.

Referring to Fig. 1, the piece A, the edge of which corresponds to the front opening of a dress-waist, and the bottom curved piece, X, which is the bottom line of the waist, are the principal supporting-pieces of the chart.

At the upper end of A the neck-piece B is connected by T-headed pins that pass through slots in B, and a set-screw and nut, *a*, is used to clamp B to A. The curved edge of B indicates the line on which the neck-opening is to

be cut, and the piece is to be adjusted to bring the number on the scale corresponding to the desired size of neck opposite screw *a*.

C is the shoulder-piece; D, the arm-hole piece; E, the bust-piece, and F the piece for indicating the side seam. D is attached to C by a slide carrying a screw and nut, *d*, passing through a slot in C, and is moved in the slot for the length of shoulder. The piece D passes loosely through a loop in the slide on C, so that C may be moved upon D to the size of arm. By clamping screw *d* these parts will be held in place.

Piece F is held to E by a screw and nut, *e*, passing through a slot in both E and F, which screw also connects the end of piece D. Piece F is moved on E for size of bust, and D is moved on F for length of side seam. D is also moved on E for width of chest, and clamped by nut *c*. After clamping these parts piece E is moved up or down to a point where piece D will be caused to assume a regular curve.

The pieces M and N are the dart-pieces. They are both clamped to A by a screw and nut, *f*, passing through slots, which permit vertical adjustment of M and N on A for height of dart, and horizontal adjustment for bringing the dart-seam pieces I J K L in position.

If two darts are wanted, M and N will be moved on screw *f* until the number of the scale on N and the number on the scale of M corresponding to the size of bust are in line with the edge of piece A.

If only one dart is wanted, the upper scale on M will be used, and piece J instead of I, in which case the upper end of J will be removed from the T-headed connection of N and connected with M, and the pieces I, K, P, S, T, and V should be removed.

The lower end of L and upper end of I' are connected to waist-piece O, which is connected to A by a screw, *g*, that also connects waist-piece O'.

The dart-pieces K T and J S are connected to a slide, P, that is capable of movement in a slot in piece O', and the pieces I I' are connected directly to O'.



The lower end of L' is connected to a slide, U, that moves in a slot in X, and U can be clamped to A by a clamp-nut, *i*. T and S connect to slide V, that can be moved on and clamped by nut *h*. I is connected to a sliding piece, W, that moves on X.

The piece Q is jointed to O', and is provided with an extension slide-piece, R. These pieces, in connection with dart-pieces H H' G G', are used to form the hip and waist seams.

The pieces H G are connected to a slide, E, that may be moved in the slot of E. The lower end of G and upper end of H' are upon a T-headed pin that is connected to R; and the lower end of H' is connected rigidly to X.

The lower end of H and upper end of G' are connected by a screw, *k*, to piece *g*, so as to be moved in a slot in R, and the lower end of G' is connected by a screw and nut, *l*, to piece X.

H is to be moved on Q and the lower end of F on R to the waist-size, and screws *k* and *m* then clamped, leaving whatever space between H and G that may be required. F is then to be moved, and with it pieces Q, R, H, and G, until F is parallel with A. O is then to be moved on screw *g* until the number of its scale corresponding to waist-size is at the edge of A, using upper scale for one dart and lower scale for two darts. O is also moved on A up or down to length of point.

The hip-piece F' is connected to R by screw *m* at its upper end, and will be moved in the last-named adjustment. Its lower end is connected by a screw, *n*, to *x*, and will be moved to the hip-size. X and W will be moved to suit the eye. The lower end of G' will also be moved on W to hip-size. U will be moved on screw *i* until the number on scale corresponding to hip-size is at the edge of A, using upper scale for one dart and lower scale for two. If two darts are required, screw *h* and piece T will be moved on V to hip-size and clamped. The piece V is for use in place of F in cutting sacks.

As shown in the drawings, the different points of connection where adjustment is required are provided with numbered scales adapted to the respective parts.

The scales on U, V, W, and X are all for hip-sizes, and will have the same numbers, but vary in distance between the numbers.

The parts being adjusted as described to measurements taken from the person, the operator then has the outlines of that part of the garment accurately in position, and with a pencil a draft can be marked on paper, and alterations will not be required.

In Fig. 2 the apparatus for the back is shown. This is constructed and operated in the same manner, and will be understood without a detailed description of every part.

The pieces A, C, and D are to be adjusted for size of neck and length of shoulder and size of arm.

B is moved on A for length of back, and E moved on A to bring the number corresponding to width of back at the edge of B. K is the waist-piece, and is to be moved on B until the waist-size on the scale stands at the edge of B; then I is moved on F to length of side seam.

If the curved seam only is wanted in the back, I will be moved until the number on its upper scale corresponding to waist-size stands at the edge of F, pieces L O Q will be removed, and the upper end of M be put in the place where L is shown as connected.

If straight seam only is wanted, J will be moved until the waist number of its upper scale is at the edge of B, and the upper end of N placed where O is shown, removing L, O, and Q. If both curved and straight seams are wanted, the lower scales on I and J are to be used.

When only one piece, G or H, is used, piece F' is to be moved on P to hip-size, and B' moved on R to hip-size. In using both G and H the lower scales of P and R will be used, and O moved on Q to hip-size.

The sleeve-chart (shown in Fig. 3) will be adjusted as follows: Piece E moved on F to length from shoulder to elbow, and D moved on G to the same length. D and E will be moved in slot of A to length of arm inside, and then both moved on screw *c* until the numbers on each corresponding to size of arm at shoulder stand at edge of A. H is to be moved on C to size of arm at elbow, and F then moved on H to the same number. K will be moved on I to length of arm from elbow to wrist, and K then moved on B to size of wrist. I will then be moved along K to same number.

By the use of the apparatus described any person not actually deformed may be fitted. To any one at all skilled in dress-making the manner of using the apparatus will be apparent at a glance, and but slight explanation would be necessary.

Each part and adjustment having its definite place and purpose, the manner of applying the apparatus for cutting dresses may be quickly learned, and little or nothing is left to judgment or guess in shaping the pattern.

The charts are in fact adjustable patterns, requiring no more skill for their use than paper patterns such as are sold commonly.

The double scales which are used in connection with the dart and seam pieces have their numbers placed at different distances in each to adapt the scale to the pieces that are made use of.

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

1. The combination, with pieces A X, of the adjustable waist-piece O, connected with the dart-pieces L I', and the waist-piece O', connected with dart-pieces I I', the dart-pieces J

K T S, connected with the slide P, and the dart-pieces I L', connected with slides on piece X, as and for the purpose set forth.

2. The pieces Q O', jointed together and provided with the extension R, in combination with the dart-pieces G H, connected with a slide in piece E, and the dart-pieces G' H', connected with a slide in piece X, as described.

3. The combination, with the pieces A, O, O', Q, R, and X, of the hip-piece F', connected with slides in the pieces R X, as and for the purpose specified.

EDWIN V. HEAFORD.

Witnesses:

G. A. KERR,  
GEO. A. KEEN.