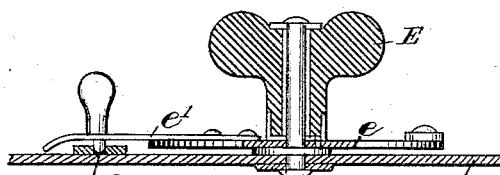
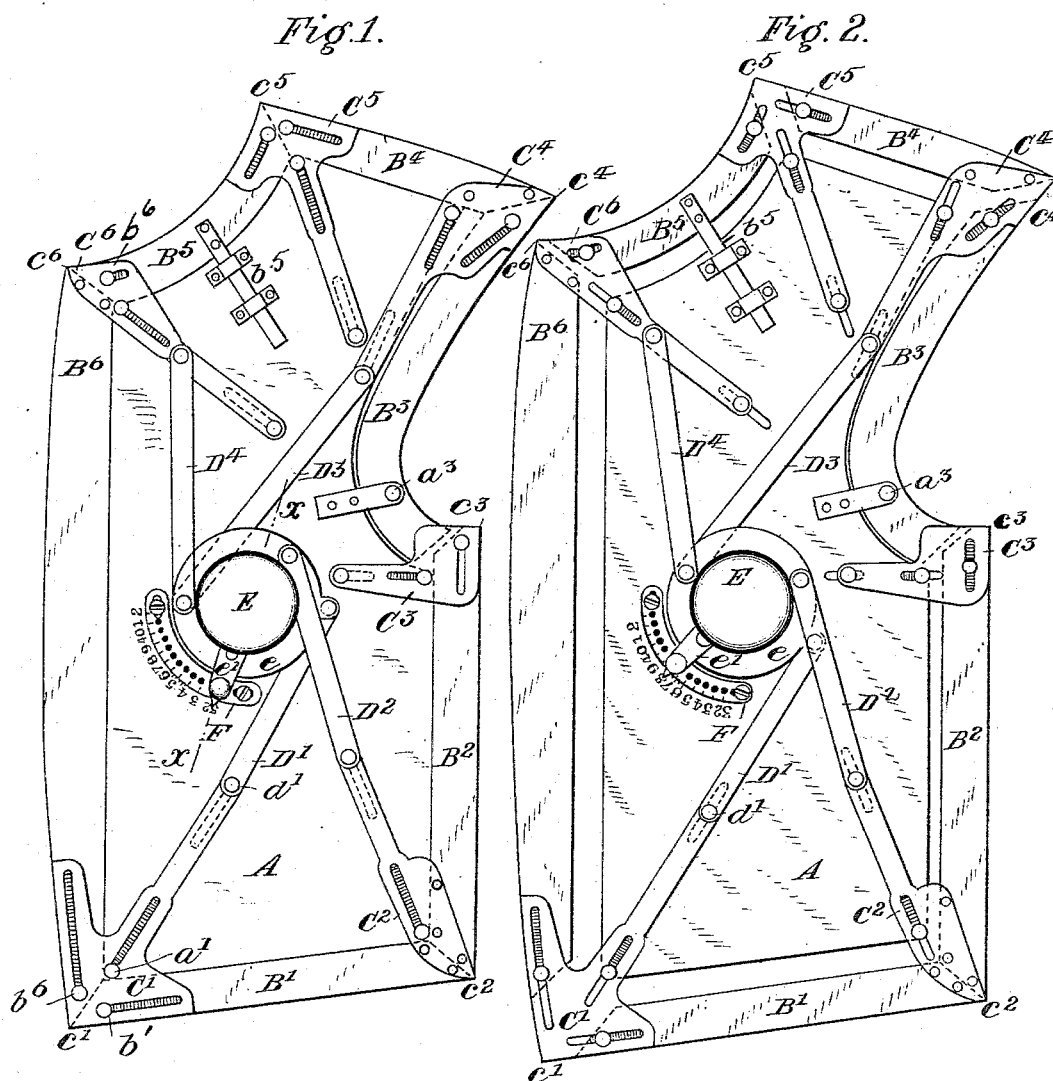


(No Model.)

S. MANDELBAUM.  
ADJUSTABLE PATTERN CHART.

No. 381,563.

Patented Apr. 24, 1888.



Witnesses.  
Chas. Neely.  
William Oltis

Fig. 3.

Inventor.  
Solomon Mandelbaum  
By Saml B. Dover.  
his Atty.

# UNITED STATES PATENT OFFICE.

SOLOMON MANDELBAUM, OF CHICAGO, ILLINOIS.

## ADJUSTABLE PATTERN-CHART.

SPECIFICATION forming part of Letters Patent No. 381,563, dated April 21, 1888.

Application filed December 10, 1886. Serial No. 221,198. (No model.)

*To all whom it may concern:*

Be it known that I, SOLOMON MANDELBAUM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Universal Patterns, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to patterns used by tailors and like tradesmen.

A set of paper patterns as now employed by manufacturers of ready-made clothing must include from twelve to fifteen sizes of each particular piece, of which pieces there may be several to each different garment. To produce these patterns accurately requires much time and skill on the part of the draftsman. To avoid this multiplicity of paper patterns requiring constant renewal, I have produced a single device from which any and all sizes of that particular piece or form may be taken.

In the drawings illustrative of my invention, Figure 1 is a plan view of the device as applied to a coat-front. It is shown as closed to its smallest size. Fig. 2 is a similar view with the device opened to a medium size. Fig. 3 is a detail section of the adjusting mechanism taken in line X X of Fig. 1.

Similar letters refer to similar parts throughout the several views.

A is a body-piece, about which are arranged the edge pieces B' B<sup>2</sup> B<sup>3</sup>, &c. These are connected one with the other, and have a universal motion outwardly and inwardly in such lines and to such distances as is required to maintain the proportions and dimensions of the different sizes of this particular coat-front. In maintaining these proportions it is necessary that the points c' c<sup>2</sup> c<sup>3</sup>, &c., should travel in certain paths determined by the elements of the largest and smallest sizes of this pattern. As the paths vary in length and are not necessarily straight lines, various expedients are used by which these points are in their proper position relative to each other when the device is set for use on any particular size.

C' represents a guide-arm, which serves the double purpose, first, of preserving the contour of the corner intact, while the ends of the

edge pieces are permitted to approach and recede from each other upon the expansion and contraction of the pattern in size, and, second, of maintaining point c' in its path. The corner-piece of the guide-arm is provided with slots, one parallel to each edge, in which plays the slip-rivets b' and b<sup>2</sup>, projecting from the ends of the edge pieces, B' and B<sup>2</sup>, respectively. These rivets preserve the edges of these pieces in coincident lines with the edges of the corner-pieces. The second purpose of the guide-arm is attained by forming in the body-piece of the device a slot having lines parallel to the path of the point c'. A slip-rivet, d, projects from the guide-arm to operate in this slot. A similar provision of a slot in the guide-arm, with a corresponding slip-rivet, a', in the body-piece, is also made. It is obvious that either of these slots provided with two rivets or other guidance-piece would answer the purpose. The arrangement shown, however, permits the shortest guide-arm for equal rigidity and is the preferred form.

C<sup>2</sup> is a guide-arm to the point c<sup>2</sup>. It differs from C' in having the ends of the edge pieces, B' and B<sup>2</sup>, immovably secured to it, affording to them, by its connection with the handle E, the adjustment outwardly and inwardly which is to be provided for.

C<sup>3</sup> is a guide-arm supporting the end of the edge piece, B<sup>3</sup>, and forms a continuance of that part of the line made by B<sup>3</sup>, which is intended to remain unchangeable.

It is necessary in conforming with the laws governing the form of this coat-front pattern to give the upper end of the edge piece B<sup>3</sup> a swinging motion from the pivot c<sup>3</sup> outwardly, while all other edge pieces, B' B<sup>2</sup>, &c., are traveling inwardly, and vice versa. This motion is imparted by the properly-formed slot c' in the guide-arm C' acting upon a slip-rivet in the end of the piece B<sup>3</sup>. The edge piece, B<sup>3</sup>, is required to move in a line bisecting the angle formed by the center lines of movement of the guide-arms C<sup>2</sup> C<sup>3</sup>. A guide-bar, b<sup>3</sup>, is secured thereto, and has motion between fixed points, producing the result desired.

Motion is imparted to the several edge pieces, B' B<sup>2</sup> B<sup>3</sup>, &c., through the connection-bars D' D<sup>2</sup> D<sup>3</sup>, &c., by the rotation of handle E, carrying the disk e, to which the said rods

are attached, the proper length of travel being determined for each by the distance at which the pin is placed from the center of rotation.

To gage the size of the pattern upon adjustment and to fix it in the position set, the disk  $e$  is provided with a spring pointer-arm,  $e'$ , extending from the disk and carrying a point,  $e''$ , which enters into the gage-hole of the arc-piece F proper for that size. These holes are marked, for convenience, with the size of the garment which is being cut. The arc-piece may be also provided with a scale-mark thereon, by which it may be moved in a circumferential line to adjust itself for half and quarter sizes, the screw-holes in its end being slotted for that purpose.

The various motions of the guide-arms and edge pieces may be produced by many equivalent devices, and I do not wish to confine myself closely to the parts of mechanism described herein.

It is obvious that with slight alteration this combination of edge pieces, guide-arms, &c., can be applied to the construction of a universal pattern for all other parts of garments, for cloaks, and for other wearing-apparel, and is designed to be so used.

What I claim as new, and desire to secure by Letters Patent, is—

1. A tailor's pattern consisting of a body-piece, edge pieces, guide arms which maintain the edge pieces in their relative positions to the body-piece, and connection-rods, in combination with a crank-disk to which the connection-rods are attached at different relative distances from the center to secure to each its proper distance of travel, by which means the edge pieces are simultaneously adjusted inwardly and outwardly to increase or decrease the size of the pattern without altering the relative proportion of its parts, substantially as shown and described.

2. In a tailor's pattern, the edge pieces forming the outline of the pattern, capable of a

universal and simultaneous adjustment outwardly or inwardly to increase or decrease the size of the pattern, the said pieces being provided at their ends with projecting slip-rivets, in combination with guide-arms capable of moving in a determined relative direction upon a central body-piece, A, and having their ends of a coincident shape with the edges of the contiguous edge pieces, and provided with slots lying parallel to such edges, in which the slip-rivets of the edge pieces slide, whereby the corners of the pattern are maintained intact and the edge pieces guided and supported, substantially as shown.

3. In a tailor's pattern, the edge pieces,  $B'$   $B''$   $B'''$ , &c., provided at their ends with projecting slip-rivets, and the guide-arms  $C'$   $C''$   $C'''$ , &c., which complete the contour of their respective corners, and are provided with slots parallel to the edges of these corners for the slip-rivets of the edge pieces to slide in, by which means the edges of these pieces are maintained in coincident lines with those of the guide-arms, the guide-arms being maintained in a determined path by similar rivets and slots in the body-piece A, as shown, in combination with the body-piece A, the connecting-rods  $D'$   $D''$   $D'''$ , &c., and the rotation-disk  $e$ , by which universal adjustment is given the parts, all substantially as described.

4. In a universal pattern, the combination of the edge pieces,  $B'$   $B''$   $B'''$ , &c., the guide-arms  $C'$   $C''$   $C'''$ , and the connecting-bars  $D'$   $D''$   $D'''$ , with the adjusting-disk  $e$ , the latter being provided with a stopping and gaging device,  $e'$ , acting on the arc-piece F, all substantially as shown.

In witness whereof I hereunto subscribe my name this 6th day of December, A. D. 1886.

SOLOMON MANDELBAUM.

Witnesses:

C. G. NEELY,  
HENRY B. OLSEN.