

I. J. Hendryx.

Tailoring.

N^o 1557

Patented Apr 18. 1840

Fig. 1.

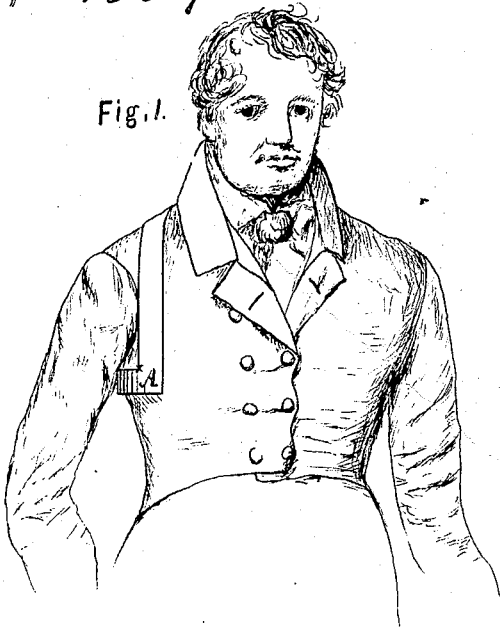


Fig. 2.

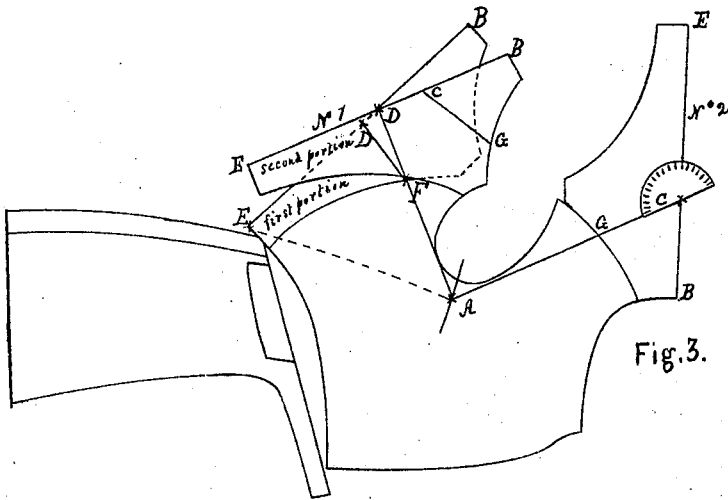
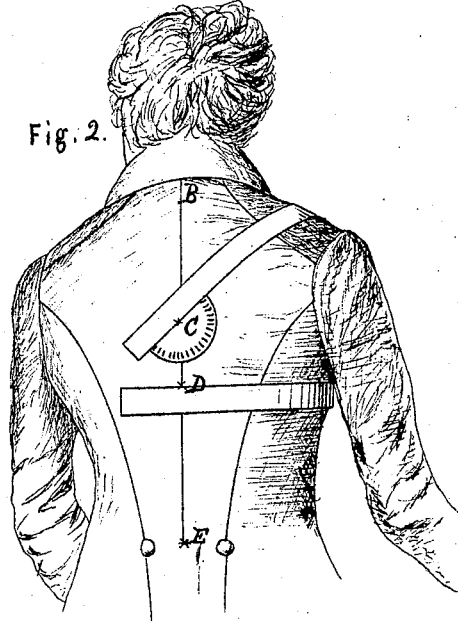


Fig. 3.

UNITED STATES PATENT OFFICE.

ISAIAH J. HENDRYX, OF TROY, NEW YORK.

MODE OF MEASURING AND DRAFTING GARMENTS.

Specification of Letters Patent No. 1,557, dated April 18, 1840.

To all whom it may concern:

Be it known that I, ISAIAH J. HENDRYX, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new Mode of Measurement Preparatory to the Cutting of Garments; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in the use of a flexible square applied to the body of the person to be measured, and also in the use of a protractor, likewise applied on the body of the person to be measured; each and together furnishing when properly applied, sufficient data to govern the mechanic in the correct cutting of a garment more easily and correctly to fit the varieties of form and persons; enabling the mechanic to take measures and note them down so that they can be applied to the cloth precisely as they are taken on the person; as the skilful surveyor delineates a map from the minutes which he has taken of the survey of an uneven surface.

To enable others skilled in the art and trade to make and use my invention I will proceed to describe its materials, operation, and method of use.

It consists in the use of a flexible square and a protractor in taking the measure of the person. The square is of a like shape used to form right angles. It should be made of leather, pasteboard, thick paper, steel, sheet brass or such other flexible substance as may easily be subjected to the shape of the body; it may be larger or smaller according to the size of the person to be measured. The protractor may be made inflexible, but is more convenient if made flexible so that in its application it may be forced to touch the unevenness of the body. The square is used and applied as follows: The one arm of the square is made to pass from the inner angle placed at the breast a little in front of the scye or armhole, as at letter A in Figure 1, under the arm to and across the backseam or mid-back, the upper edge horizontally with, and closely fitted to the surface of the body, or garment over which the measure is taken, see Fig. 2, letter D. The other arm of the square should pass from the same point A, Fig. 1, upward in angle, in front of the scye, pressed flat to the body on the breast and shoulder, pressed to bear with an even

pressure of its whole under surface to the body, and extending from the said point A to and past the backseam or mid back in a diagonal direction passing the point C, Fig. 2. After this fitting the square as aforesaid or such parts of it as are practicable lines following the upper edge of the horizontal and the inner edge of the upright arm of the square may be drawn with chalk or other marking substance on the coat or back of the person measured.

The point of the right angle at letter A Fig. 1 should be particularly marked as a point from which measures are to be taken. Next I proceed to take the measure from the point A, Figs. 1 and 3, on the line before marked up the front and over the shoulder to letter C, Figs. 2 and 3, which is noted down. I then ascertain the measure from the point of angle A, Figs. 1 and 3, under the arm horizontally and following the line drawn by the inner (or upper) edge of the arm of the square to the backseam or mid-back to letter D, Figs. 2 and 3, which measurement is also noted down. I then proceed to measure from the said point of angle A, Fig. 1, to the bottom of the backseam at the waist, letter E, Figs. 2 and 3, which last measure I also note down. I take the measures also from the point B at the top of the back under the collar to the points C, D and E on the back seam and note them down; these above described measurements are the important and essential measures to be used in forming the garment.

As that arm of the square which passes up in front and over the shoulder will cross the back seam diagonally, the degree of angle should be ascertained where it crosses the backseam between it and the line from B to C. This degree of angle is ascertained by the use of the protractor. The protractor is applied by placing the central point on the point noted at letter C and its diameter or base in line with the line from A to C, Fig. 2, with the periphery or body of the protractor reaching downward, and the degree marked on the protractor which covers the backseam or midback is the degree of angle required and which is to be noted down.

Advantages gained by the use of the flexible square in measuring is that it determines the backward or forward location of the shoulder strap and its height according to

the form of the person measured. It also determines the contraction or expansion of the scye necessary to produce a fit.

The importance and advantage of the protractor is that by it the operator is enabled to measure in connection with the flexible square the true slope of the shoulder giving at all times a correct pitch to the shoulder seam according to the form of the person measured.

In connection with Figs. 1 and 2 see Fig. 3, in which the several parts of a coat are delineated by lines after the cutting and previous to the making up. First, suppose the measure down the center of the back from letter B to letter C, Figs. 2 and 3, is $3\frac{3}{4}$ inches, from B to D, Figs. 2 and 3, $7\frac{1}{4}$ inches, from B to E, Figs. 2 and 3, 15 inches, from A to C, Figs. 1, 2 and 3, $12\frac{1}{4}$ inches, from A to D, Figs. 1, 2 and 3, 11 inches, and from A to E, Figs. 1 and 3, 12 inches, and the angle of the line from A to C in its connection with the back seam 60 degrees.

The mode of operating after the measures are all taken and noted down as above I think most practicable as follows: First cut the back of the coat of such length as is suited to the measure you have noted down, (say 15 inches), but its shape may be dictated according to taste or fashion. Next mark on the line of backseam measuring downward from the top of the back B to C $3\frac{3}{4}$ inches, and from B down to D $7\frac{1}{4}$ inches, also from B down to E 15 inches see Fig. 3. Then mark diagonally by the protractor from C across the back to the shoulderseam (letter G Fig. 3) by placing the protractor with the degree of angle indicated in the measurement covering the backseam, the central point of the protractor being on the point C. Then draw a line across the back from D to F at right angles with the backseam, see Fig. 3. Next lay one of the backs on the cloth with the sideseam at such place as you choose for the sideseam of the forepart and mark by its edge that portion of the sideseam of the forepart below letter F which shows back No. 1 in its first position, see Fig. 3. Next determine the point A by measuring from E upward obliquely toward the front of the scye 12 inches and describe a segment of a circle through this point with the required distance of A to E as radius making use of point E for a center, see Fig. 3. Next measure from D forward on the right angle line to F using

the necessary measure from D to A before mentioned thence forward. Vary the direction somewhat from F to A so as to unite with the segment of a circle 11 inches from D the required measure as mentioned above which defines the point A see Fig. 3. I now place the square on the cloth with the inner angle resting on the point A and the inner edge of the short arm resting on the point F and draw a line along the inner edge of said arm from A to F and then change the position of the back No. 1 to its second position, as shown in Fig. 3, so as to bring the line D F to correspond with the line from A to F; this produces a suitable contraction of the scye and gives the proper curve to the side seam over the shoulder blade. The other arm of the square extending upward, I proceed to draw a line by its inner edge from point A to such height as shall correspond to the measure taken of the person from A to C, see Figs. 1, 2 and 3 and mark on it the required measure $12\frac{1}{4}$ inches, by which means I obtain the point C on the cloth. I then take back No. 2 and let the line projected by the protractor on it from C to G, Fig. 3, cover the upper extremity of said line from A to C on the cloth, the point C of the backseam resting on the point C of the cloth.

The preliminaries are now ready to the forming of the forepart. The scye should be formed by a curve line touching the right angle lines A C and A D, Fig. 3 at the same distance from point A that the arms the square meet in contact with the scye in its application to take the first measurement from A to D and A to C on the person. Should there happen to be any obstruction in the application to take the first measure of the square whereby it cannot be placed properly to touch the scye, then the same distance should be observed in the drafting and the result will be the same.

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

The mode of obtaining the backward or forward location of the shoulderstrap and pitch of the shoulderseam by means of a flexible square and protractor, applied and used in the manner herein set forth.

ISAIAH J. HENDRYX.

Witnesses:

CLINT T. COOK,
THOS. C. WILSON.