

No. 707,556.

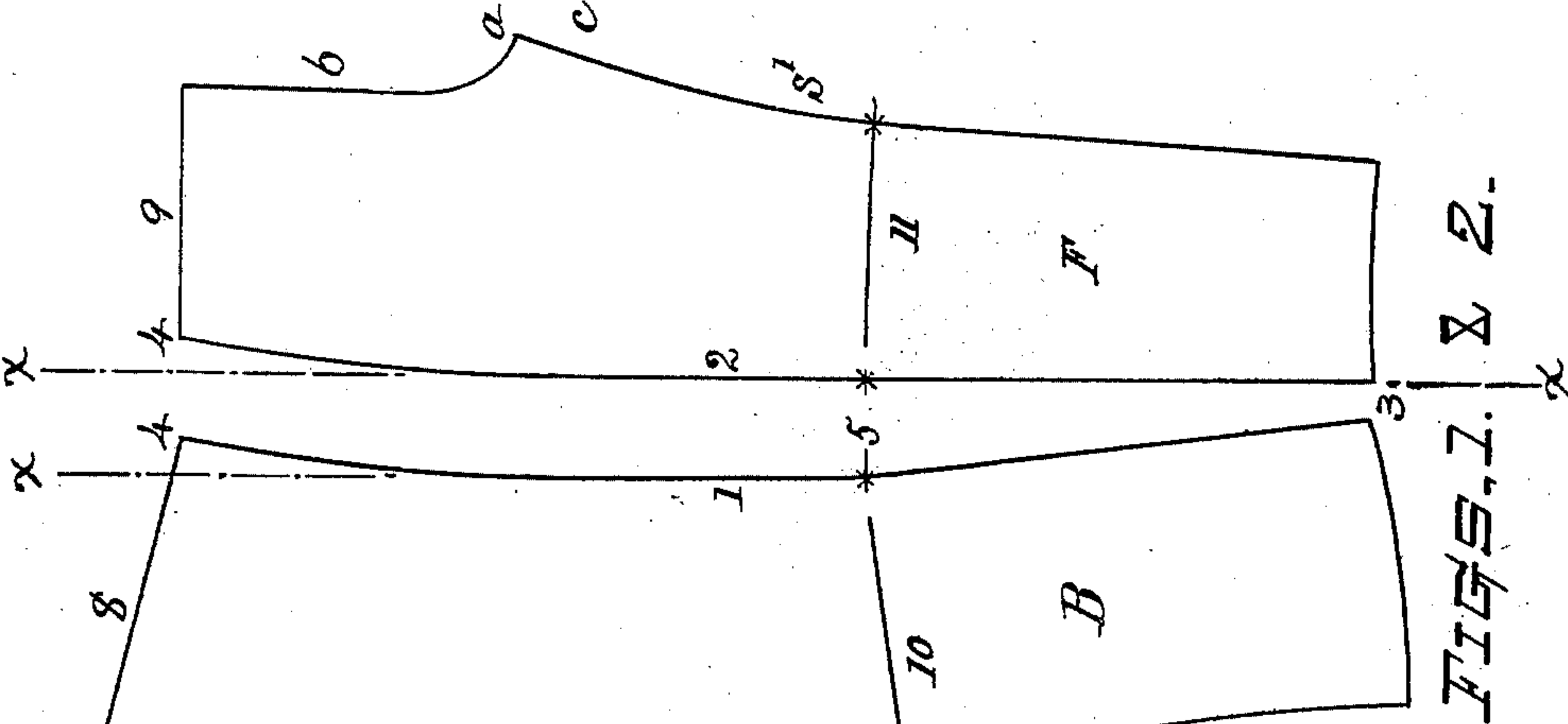
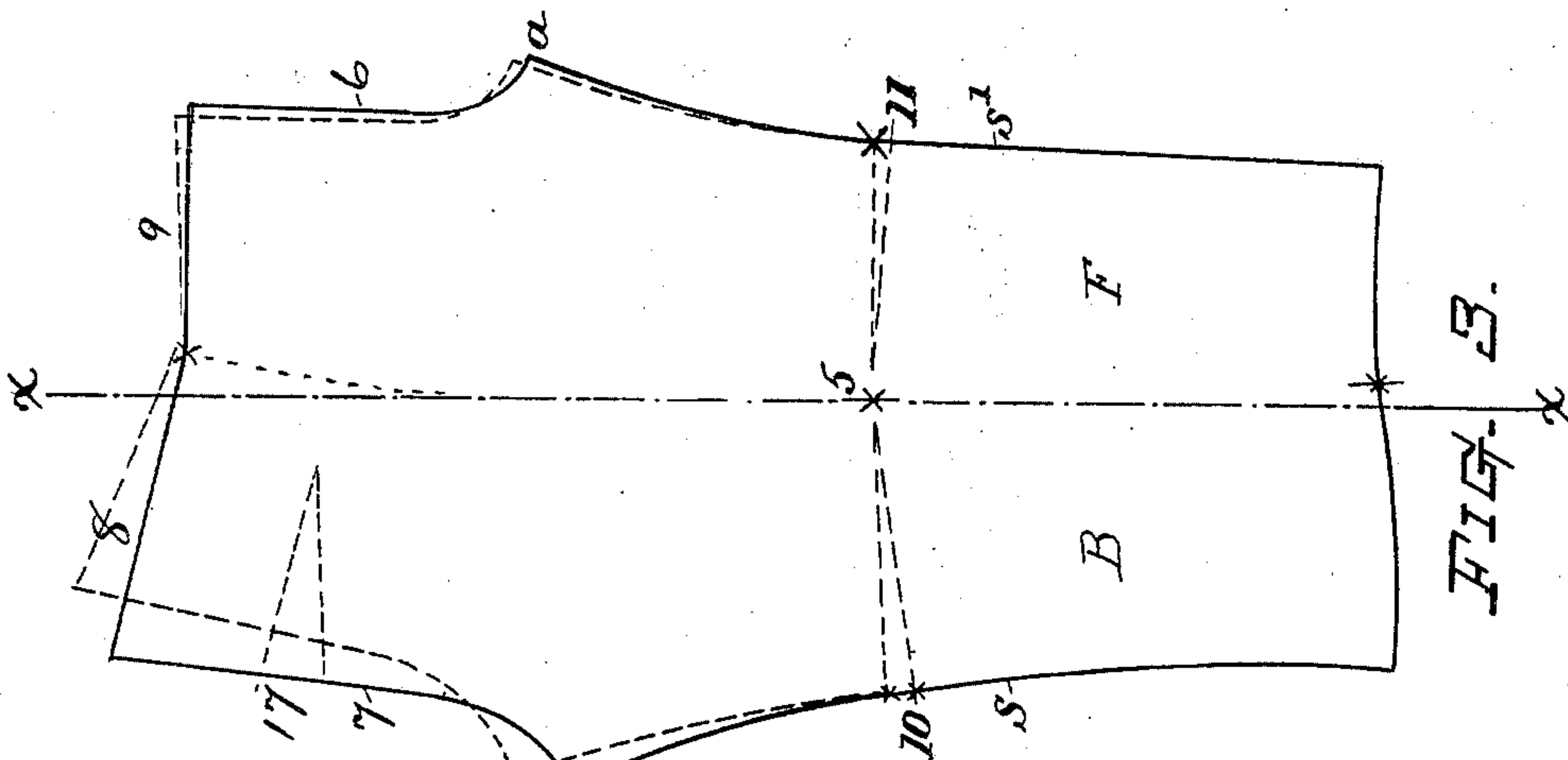
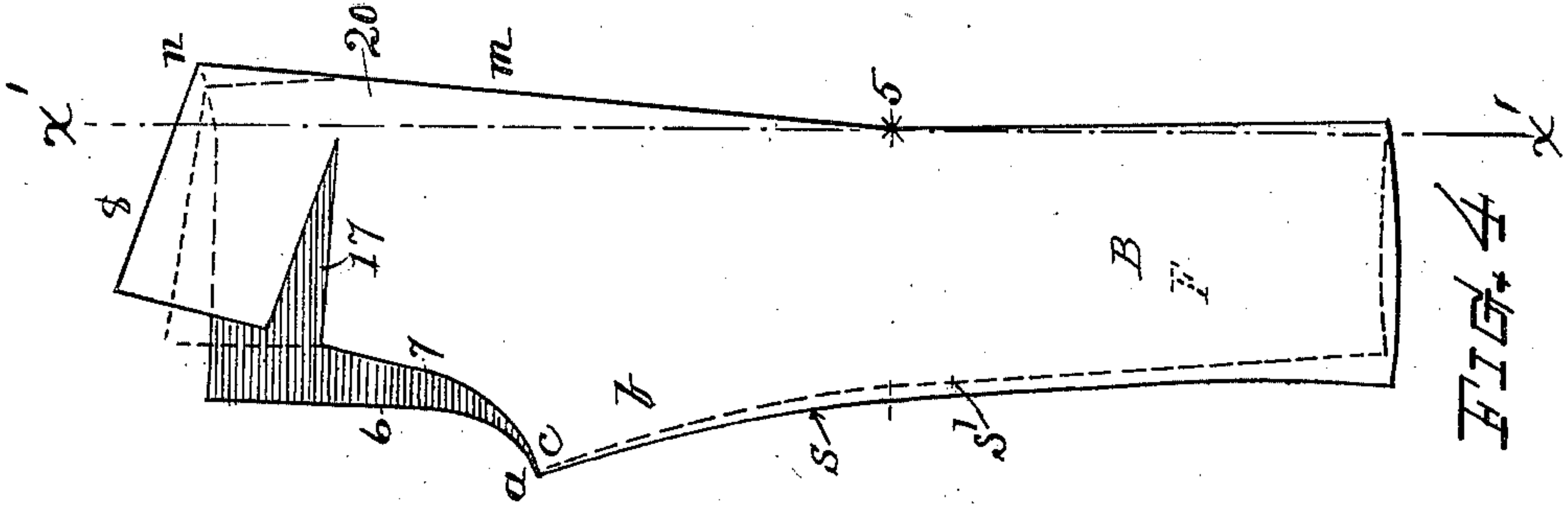
Patented Aug. 26, 1902.

G. M. DANE.
TROUSERS.

(Application filed Mar. 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES.
Charles A. Paeon
Simon & King

INVENTOR.
George Murray Dane
By Charles H. Burleigh
Attorney

No. 707,556.

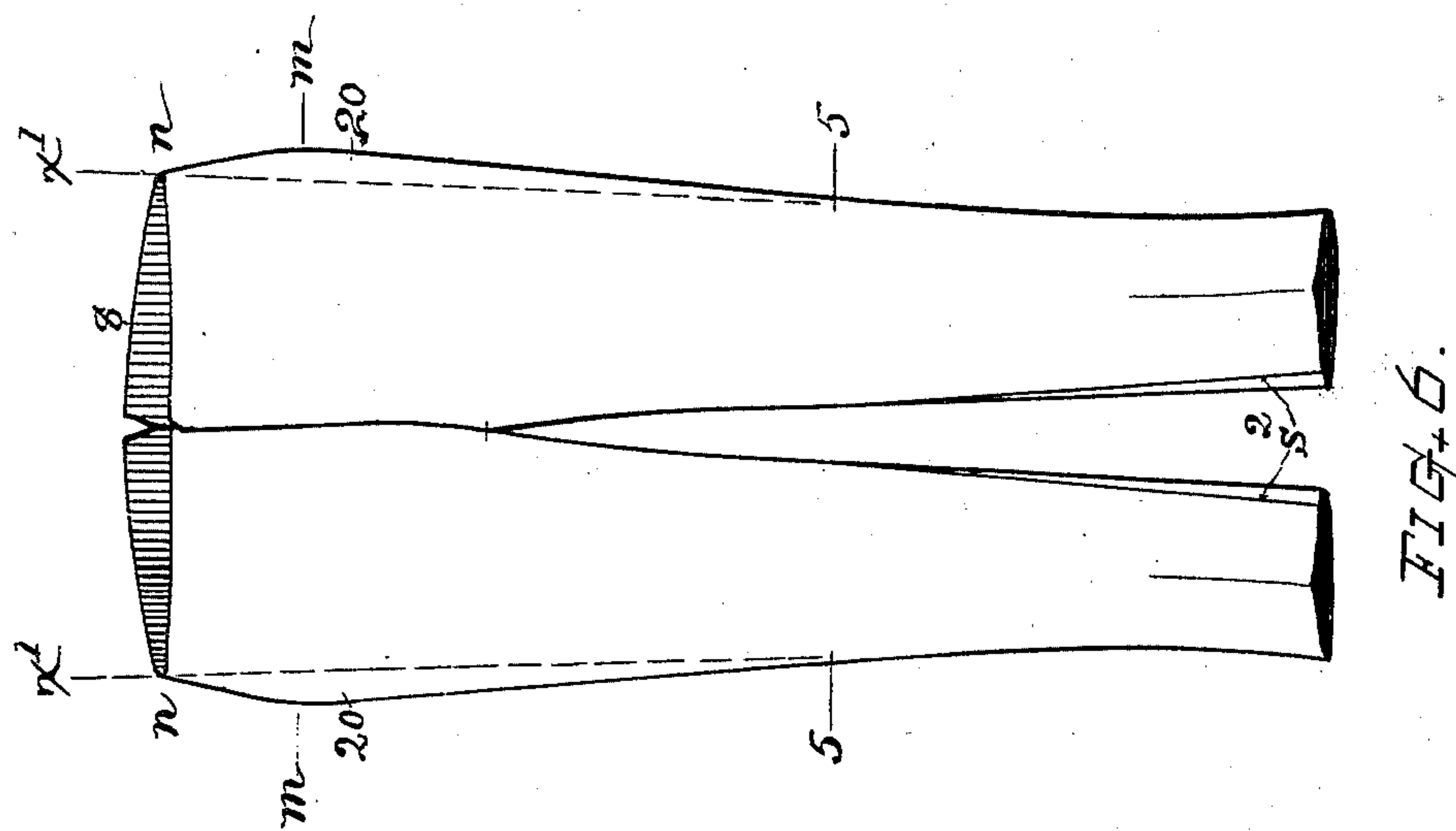
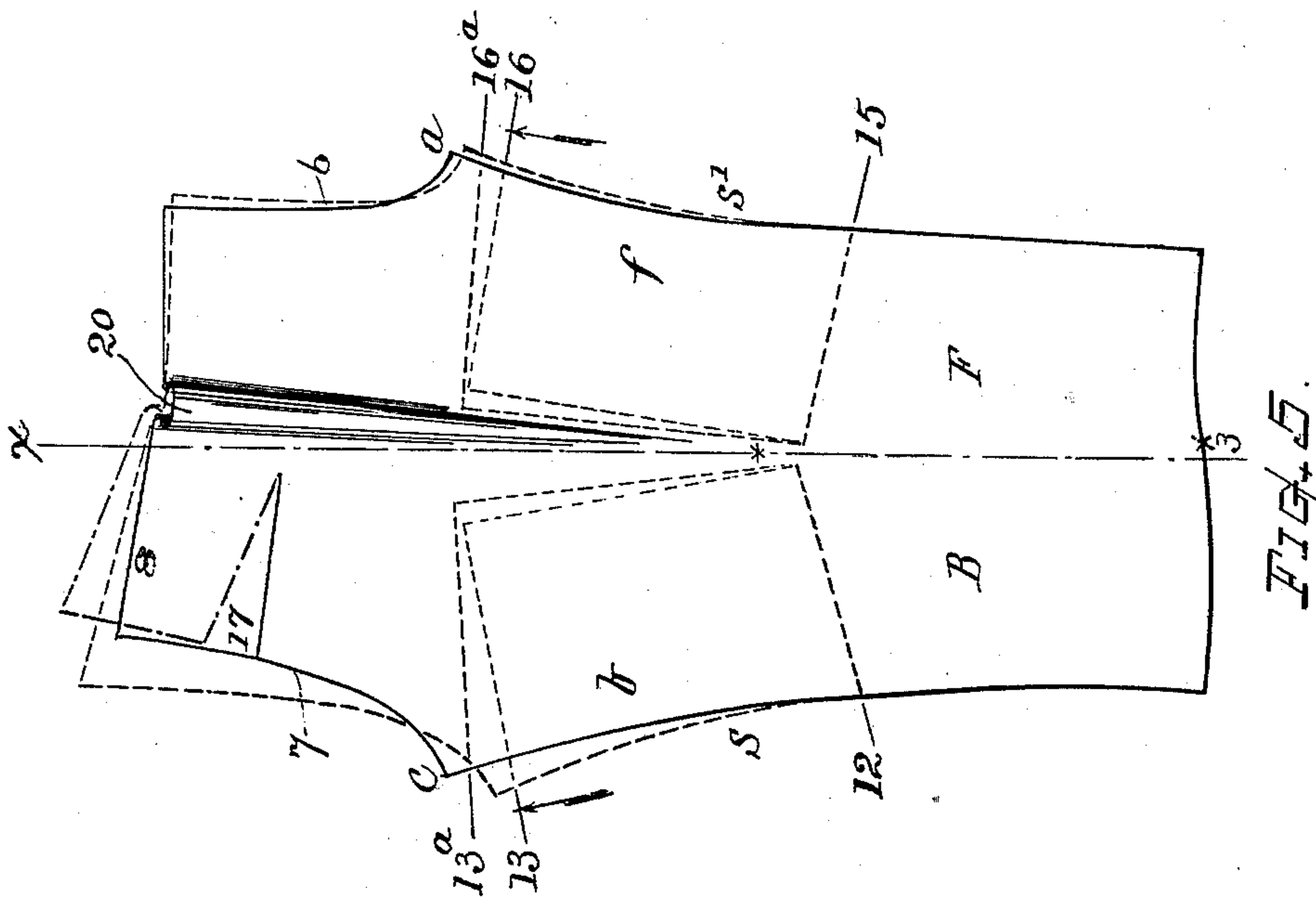
Patented Aug. 26, 1902.

G. M. DANE.
TROUSERS.

(Application filed Mar. 7, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses.

Charles A. Bacon
Simon C. King

Inventor.

George Murray Dane
By Charles H. Burleigh
Attorney

UNITED STATES PATENT OFFICE.

GEORGE MURRAY DANE, OF WORCESTER, MASSACHUSETTS.

TROUSERS.

SPECIFICATION forming part of Letters Patent No. 707,556, dated August 26, 1902.

Application filed March 7, 1901. Serial No. 50,220. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MURRAY DANE, a citizen of the Dominion of Canada, formerly a resident of the town and county of Yarmouth, Nova Scotia, but now residing at Worcester, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Two-Seam Trousers, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

This invention relates especially to trousers or pantaloons of that class known as "two-seam" trousers, the term "two-seam" trousers as employed in this specification meaning trousers in which the front and back portions of each body half and leg are made in a single piece with a seam at the inner side of the leg only and without any seams along the outer sides of the legs, the two half parts being sewed together in the usual manner at the center of the body to form the complete trousers. The term "two-seam" trousers is therefore in contradistinction to trousers having four seams or seams up both the inner and outer sides of the legs.

It is well known that different structures in two-seam trousers have heretofore been devised and that the two-seam idea has been to some extent employed in the construction of drawers for underwear and in overalls, garments in which stylish form and fit are not of great account; but in such prior usage no result or production suitable for a gentleman's trousers has been attained.

So far as I am aware no successful system has prior to my present invention been devised whereby properly-fitting two-seam trousers for gentlemen's wear could be practically and successfully produced in accord with individual personal measurements of customers.

The object of the present invention is to overcome heretofore-existing objections in this class of exterior wearing-apparel and to produce an accurately and satisfactorily fitting article of two-seam trousers; also, to provide two-seam trousers produced according to the measurement of and properly conforming to the personal stature of variously-formed

individual persons, as more fully hereinafter explained.

In the accompanying drawings, Figures 1 and 2 respectively represent preliminary patterns of the back and front portions of a single trousers-leg as separately laid out to measurements of the person, such as are commonly taken in tailoring practice. Fig. 3 represents the complete pattern or form for cutting the improved two-seam trousers-blank as derived from or produced by uniting the preliminary patterns, Figs. 1 and 2, along their adjacent edges and such rectification of said preliminary pattern-form as will bring the same when united into a right plane. Fig. 4 represents the cloth or fabric blank for one leg of two-seam trousers constructed in accordance with my invention, showing said blank as folded longitudinally near its median line, the rear portion overlying the front. Fig. 5 represents the form of the prepared cloth blank for one leg of the improved two-seam trousers and illustrates the manner of trans-shaping or changing the nature of said blank preparatory to the sewing operations, and Fig. 6 is a front view of the two-seam trousers completed in so far as respects this invention.

The manner of producing accurately-fitting two-seam trousers according to my invention is as follows: The person to be fitted having been duly measured in the usual manner, there are first drafted separate preliminary patterns of the back portion B and front portion F, Figs. 1 and 2, of one trousers-leg, the same being prepared from the given personal measurements laid off thereon substantially in well-known manner, excepting that care is observed that the adjacent edges 1 and 2 are made to approximate in elemental nature—as, for instance, by being made on a right line from the bottom 3 to a point 5 at or near the knee position and with relatively the same trend or degree of curvature from the knee 5 to the top 4, although the relative directions of the edge lines 1 and 2 above and below the point 5 may be more or less differentiated in their inclinations. The other portions of the pattern outline, as the edges 6 and 7, waist edges 8 and 9, and the crotch-points *a* and *c*, can be varied and disposed in

their locations to conform to the measurement requirements of any particular instance. The dot-and-dash line x indicates a median position or conjugate line corresponding with the outer side of the leg from the hip to the ankle or a line on which a plain fabric would normally fold when its front and rear points were brought together. From the two preliminary measure-constructed patterns there is next produced a complete single pattern developed by uniting the two patterns B and F along their adjacent edges 1 and 2, the edges being brought together and held by pasted strips, gum-tickets, or otherwise. Inasmuch as the bringing together of the edges tends to throw parts of the patterns into different planes and as it is essential that the complete pattern represent a simple plane, since the cloth fabric to be cut represents a simple plane, I therefore rectify the plane of the complete pattern by making a cut or incision in each part B and F at or about the position where the knee will come, as indicated at 10 and 11, Figs. 1 and 2, such incisions extending from the edge S or S' nearly across the section toward the knee-point 5. Then by placing the pattern upon a flat surface it assumes a shape, with the edges of the incision lapped past each other in V form, (see dotted lines, Fig. 3,) where they can be secured by paste or gum-tickets or otherwise, thus producing a complete single pattern or form, such as shown in Fig. 3. Said complete pattern thus formed varies from a normal measured draft in certain parts, as the position and alinement at the crotch-points, as indicated by full lines in relation to dotted lines in said figure, and such variation for differing personal drafts is self-adjusted in proportions and degree of variation to correspond with the individual peculiarities in each instance or pattern upon and by the rectifying of the plane of the united pattern parts B and F. The transshaping for the complete pattern-form from the preliminary patterns to properly meet the requirements of the subsequent operations upon the fabric in any instance is by this method practically and readily attained. The transshaped form thus produced is adapted to one-half of the trousers from the waist down, including one leg, with its single seam uniting the edges at the inner side of the leg. The complete pattern-form may, in some instances, be drafted directly from the personal measurements, by making calculation and provision for the peculiar modification which is here accomplished by the incision and overlap at 10 and 11, but the separate drafting of the parts B and F and subsequent uniting of the preliminary patterns, is considered the more simple and expeditious practice. Having the complete pattern established, the next step is to apply the same to the cloth or fabric from which the trousers are to be made, and to cut out the blanks for the right and left

halves or legs of the trousers, each being a single piece and cut to the form indicated by the full lines in Fig. 3. After the cloth is cut out certain portions of the blank at b and f , corresponding with the inner thigh and preferably at both front and rear edges of the cloth blank (as indicated by dotted lines 12 to 13 and 15 to 16 on Fig. 5) are subjected to a mechanical enlarging or stretching operation, in a direction approximately parallel to the seaming edges S and S' gradually increasing in proportional enlargement from near the median line x to the edge, and the said portions b and f being thereby permanently upwardly enlarged from a point or lines 12 and 15 at or near the knee to a point or lines at or near the crotch-points, by means of a machine or power appliance specially constructed for such purpose and acting by a movement as from the line 13 to 13^a and the line 16 to 16^a, the lines 13^a and 16^a indicating the degree of enlargement or stretch which is made permanent. The relation of the full outlines and the dotted outlines on Figs. 3, 4, and 5 indicates the transformation effected in the character of the blank by the above-mentioned manipulations. The stretching enlargement of the material in the peculiar manner and at the positions specified raises the crotch-points a and c in the length of the inseam-line and recovers any loss of dimension due to the incisions or overlaps 10 and 11 made in the preliminary pattern. Furthermore, the plane of the fabric is so changed that a fullness 20 is developed at the outer thigh m , increasing from the knee 5 toward the hips n , so that when the cloth is folded or its edges S S' brought together to form the leg the fabric along the median side line x stands outward beyond the normal line of the fold x' , (see Figs. 4 and 6,) thus providing from about the knee upward an outwardly-inclined lateral deflection of the fabric relatively to the portion below and affording in the unseamed outer side portion an outward conformation for fitting over the outward enlargement of the thigh and giving to the trousers the contour and style required to properly fit the person. When the cloth has been cut out as above mentioned, a transversely-disposed V-shaped excision 17 is made therein about five inches, more or less, below and approximately parallel with the waist-line 8, said excision starting from the back seaming edge 7 and laterally tapering to a point at or near the median line x . The closing or sewing together of the transverse excision 17 draws in the waist-line and rounds the fullness at the hip n , while it also imparts an inward bend or form to the back of the trousers when completed. The trousers are made up by sewing together the edges S and S' from the bottom 3 to the crotch c to form the leg by a single seam S² and sewing together the two halves, or right and left legs, at the back edge 7, the front fly, pockets, bindings, &c., being ap-

plied and finished in suitable or well-known manner to please the taste or desire of the wearer.

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

1. As an article of manufacture, the two-seam trousers constructed as hereinbefore described, each leg and body half comprised in a single piece without a seam at the outer side of the leg or thigh, and having at the side or along the median fold-line, from about the knee upward, an outwardly-inclined lateral deflection of the fabric relatively to the portion below, affording in the unseamed outer side portions an outward conformation for fitting the outer thigh, the said pieces being formed and fitted with permanent upwardly-distended areas in the fabric at the inner thigh, adjacent to and below the crotch, substantially as and for the purposes set forth.

2. The two-seam trousers hereinbefore described, each half or leg comprised in a single piece without a seam at the outer side of the leg or thigh, and having the cloth at the inner thigh portions, from near the median line to the seaming edges, adjacently below the crotch, formed with upwardly-distended areas of the fabric, as specified, the side portions from above the knee upward, having a bodily lateral deflection outward beyond the

normal side fold x' , thereby giving the unseamed fabric an outstanding conformation and fullness at the thigh along the median side line, relatively to the portions below, and having its hip-form reduced and fitted with a closed-in excision at the back, said excision being disposed transverse to the back seam, below and approximately parallel with the top or waist line, substantially as set forth.

3. A trousers-garment comprising a united pair of leg-blanks, each consisting of a single piece of fabric devoid of an outer leg-seam, the blank for each half having its edges and crotch-points cut to the form shown and described, and having its upper front and back portions skewed toward the median line and presenting at the thigh an outstanding convergent fullness 20 beyond the normal plane or fold, said blank provided with longitudinally-distended areas of the fabric at b and f , corresponding to the inner thigh, adjacently below the crotch-points, substantially as and for the purpose set forth.

Witness my hand this 8th day of February, 1901.

GEORGE MURRAY DANE.

Witnesses:

CHAS. H. BURLEIGH,
SIMEON E. KING.