

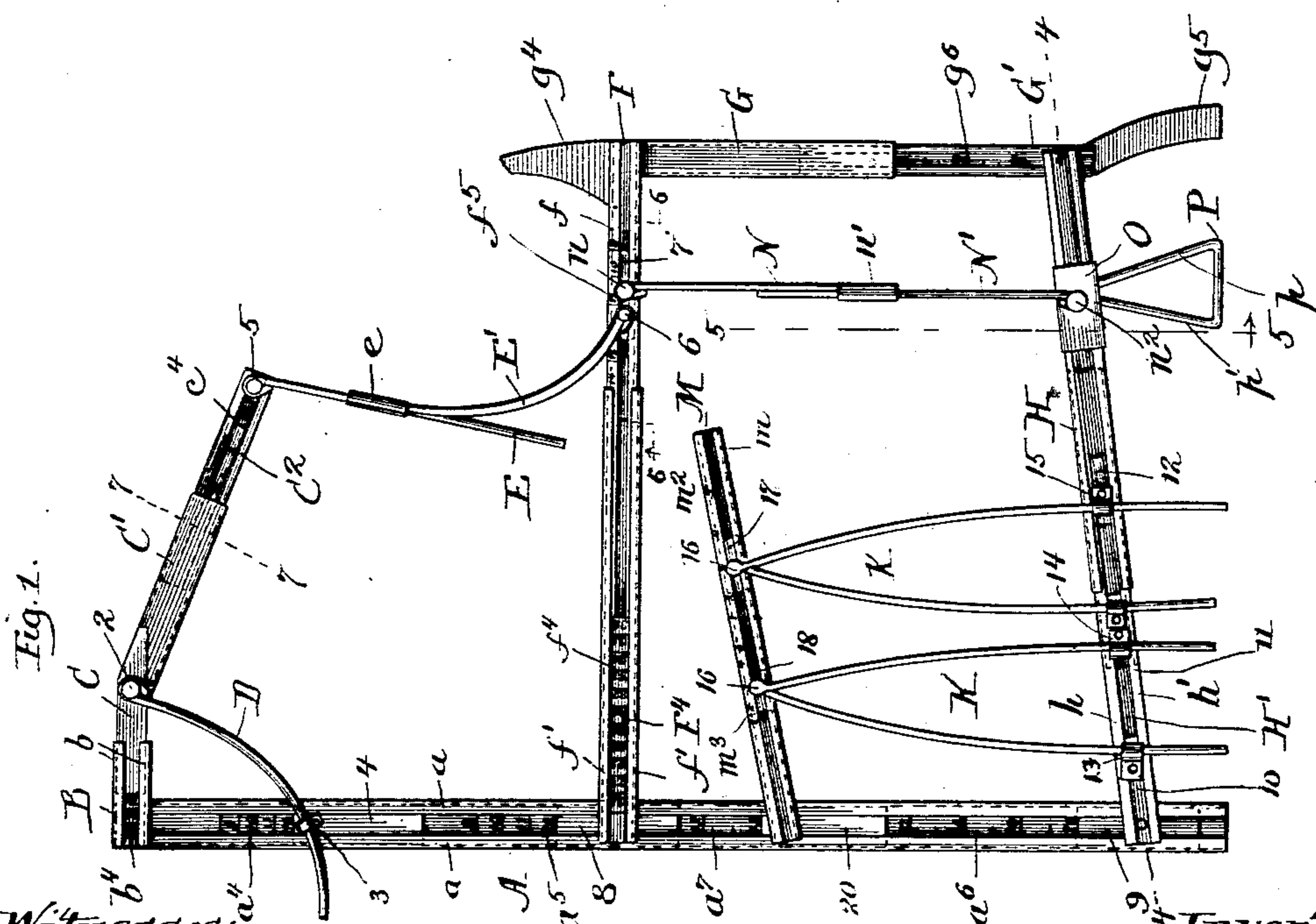
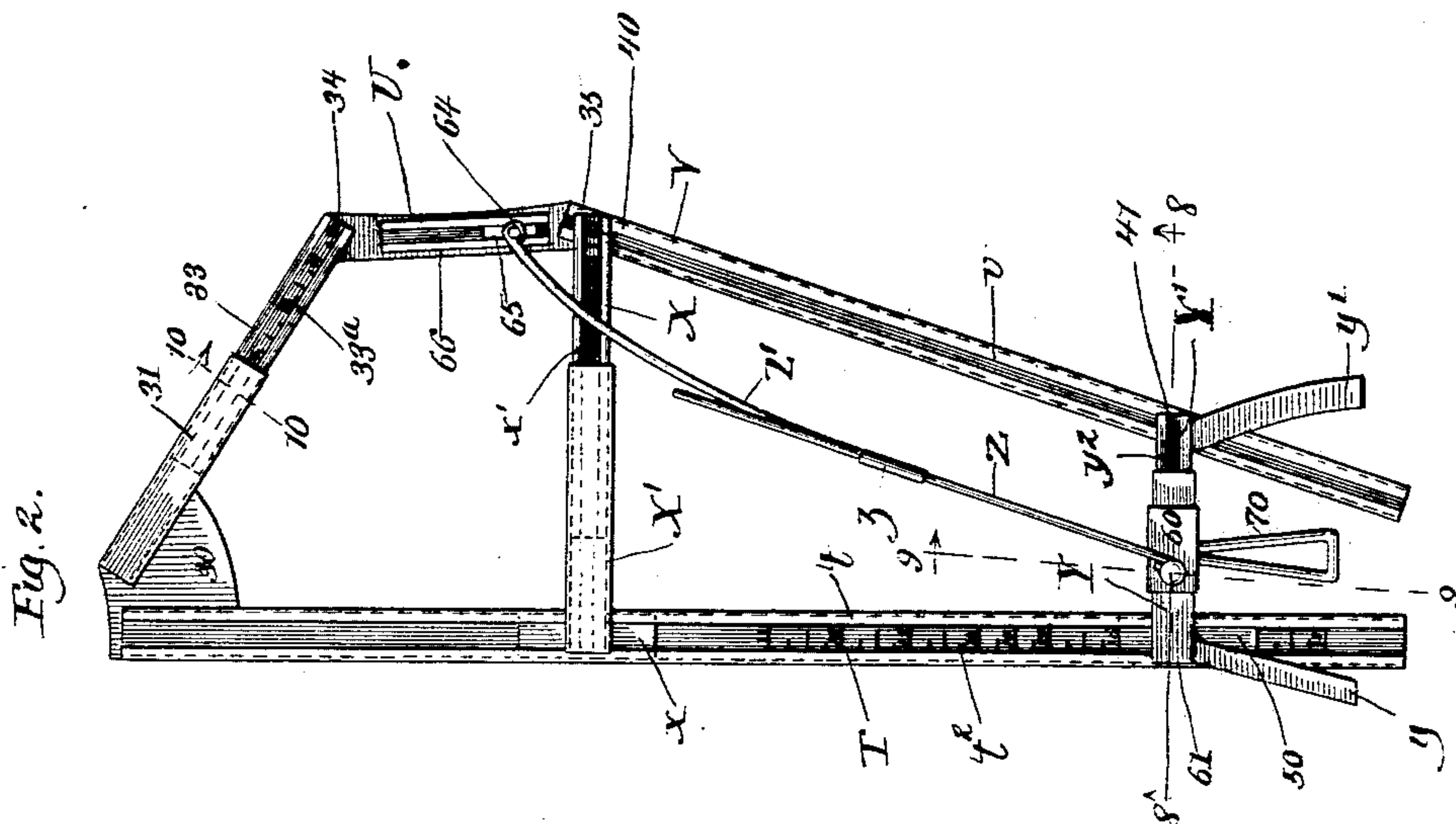
(No Model.)

2 Sheets—Sheet 1.

F. E. BUDDINGTON.
APPARATUS FOR DRAFTING GARMENTS.

No. 541,311.

Patented June 18, 1895.



Witnesses:
Frederick
Albert Adamack.

Inventor:
F. E. Buddington
By *Rever & Fisher*
Attorneys.

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APPARATUS FOR DRAFTING GARMENTS.

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Fig. 3.

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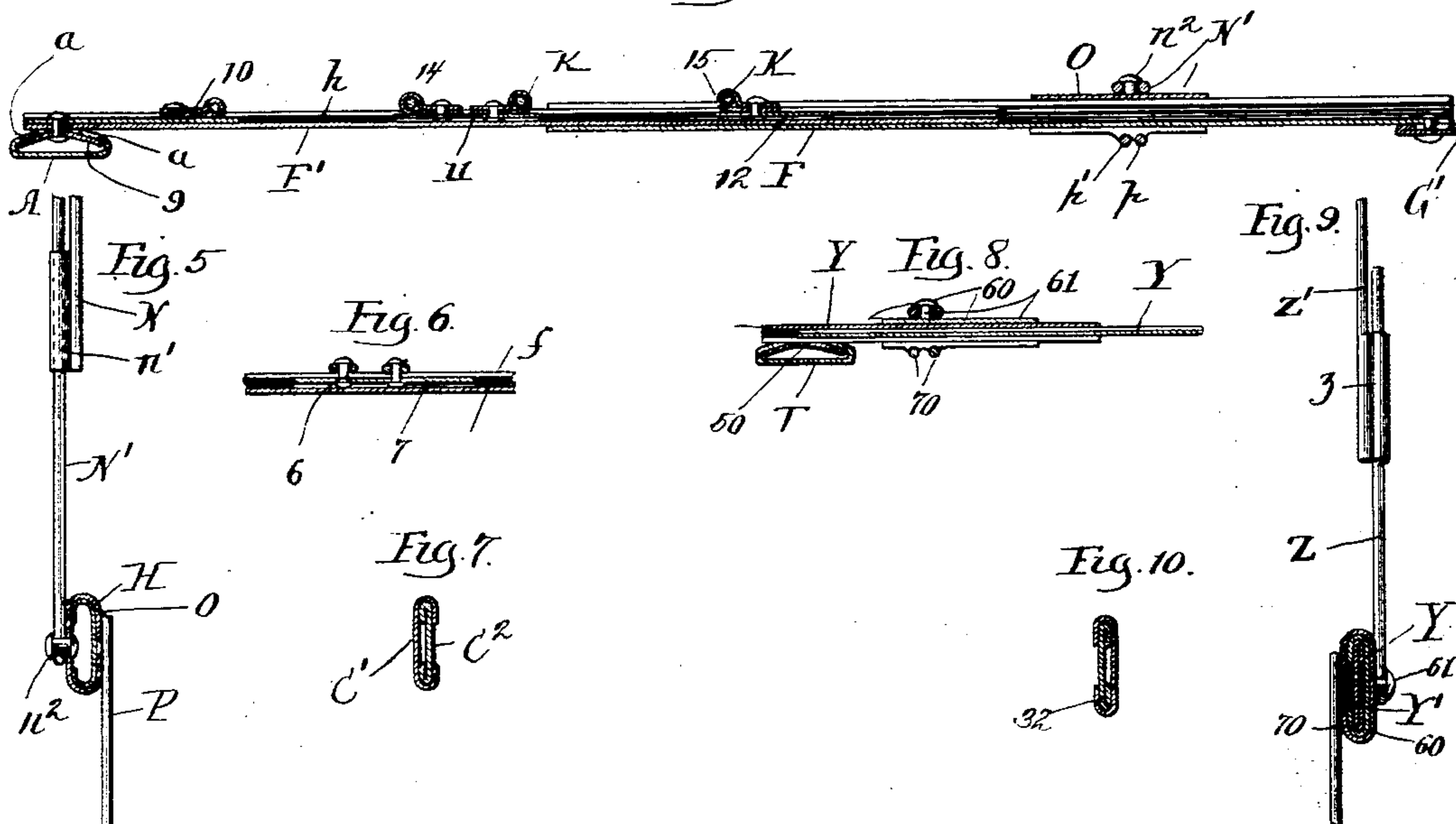
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Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK E. BUDDINGTON, OF CHICAGO, ILLINOIS.

APPARATUS FOR DRAFTING GARMENTS.

SPECIFICATION forming part of Letters Patent No. 541,311, dated June 18, 1895.

Application filed April 28, 1894. Serial No. 509,342. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. BUDDINGTON, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Adjustable Pattern-Drafting Apparatus, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My present invention has for its object to provide an improved construction of apparatus more particularly designed for drafting the patterns whereby the various parts that comprise the upper portion or waist of women's dresses may be cut. This object of invention I have accomplished by the simple and effective apparatus hereinafter described, illustrated in the accompanying drawings and particularly defined as to its novel features in the claims at the end of the specification.

Figure 1 is a plan view of that part of my improved apparatus designed for drafting the patterns for the front of the garment. Fig. 2 is a plan view of that part of the apparatus designed for drafting the patterns for the back portions of the garment. Fig. 3 is a plan view of the dart chart. Fig. 4 is a sectional view taken at line 4 4 of Fig. 1. Fig. 5 is a sectional view taken at line 5 5 of Fig. 1. Fig. 6 is a detail sectional view taken at line 6 6 of Fig. 1. Fig. 7 is a detail sectional view taken at line 7 7 of Fig. 1. Fig. 8 is a detail sectional view taken at line 8 8 of Fig. 2. Fig. 9 is a detail sectional view taken at line 9 9 of Fig. 2. Fig. 10 is a detail sectional view taken at line 10 10 of Fig. 2.

Referring to that part of the apparatus illustrated in Fig. 1 of the drawings, A designates the vertical or front bar of the main frame, to the upper end of which is fixed the short transverse bar B. The bar A is formed of sheet metal with its edges *a* turned inward so as to form a groove or channel adapted to carry the several slides to be hereinafter described; and in like manner the bar B is formed of sheet metal with its edges *b* turned inward to form a grooved way wherein the upper end of the shoulder-bar C will slide. The shoulder-bar C has a portion C' extending at an angle thereto, and this portion C' is formed preferably of sheet metal with its edges over-

turned as more particularly seen in Fig. 7 of the drawings, thereby forming a slide-way or channel within which is held in manner free to slide, the adjustable section C² of the shoulder-bar, this section rendering the shoulder-bar extensible as shown. To a headed pin 2 that projects from the shoulder-bar C there is pivotally connected a wire D, the lower portion of which extends through an eye or loop 3 that is mounted upon the slide-block or plate 4 that is held in manner free to slide between the inwardly turned edges *a* of the front bar A. This curved bar or wire D is termed the neck-bar since it serves to determine the length of the neck portion of the pattern. To the outer end of the extensible section C² of the shoulder-bar is pivotally connected by headed pin 5 one of the arm's-eye wires E the opposite end of which wire passes freely through a sleeve *e* that is fixed to the upper end of the other section E' of the arm's-eye of the wire, this section E' being pivotally connected to a pin 6 that is carried by a slide plate 7 that moves within a slide-way or channel of the section F of the adjustable bust-bar. The section F of the bust-bar is formed of sheet metal with its edges *f* overturned to form the slide-way for the plate 7 and this section F of the bust-bar slides within the section F', the opposite end of which section F' is fixed to a slide plate 8 that works within the slide-way or channel formed by the reverted edges of the front bar A. The section F' of the bust-bar has its edges *f'* reverted as shown in order to form a telescoping joint with the section F. To the outer end of the section F of the bust-bar is fixed one section G of the "under arm bar," this section G being formed with reverted edges to form a groove or slide-way to receive the movable section G' of this under arm bar. The lower portion of the section G' of the under arm bar has fixed thereto one end of the section H of the extensible waist bar, the opposite section H' of this bar being fixed to a slide block or plate 9 that is mounted within the slide-way of the front plate A. The two sections H and H' have their edges reverted as shown so that one section can slide within the other and within the slide-way formed by the reverted edges *h* of the section H' of the waist bar are mounted the slide blocks 10, 11, and 12 that are provided with

loops or sleeves 13, 14 and 15 through which freely pass the dart wires K and K'. The upper ends of these dart wires K and K' are pivotally connected to studs or pins 16 that project outwardly from the slide blocks or plates 17 and 18 that are mounted within a slide-way or groove formed by the overturned edges m of the dart bar M. This dart bar M has one end rigidly connected to the slide block or plate 20 that is mounted in manner free to slide within the slide-way or groove of the front bar A. On the slide block or plate 7 within the section F of the bust bar is fixed a pin n to which is pivotally connected one end of the wire N the opposite end of this wire having fixed thereto a sleeve n' through which passes in manner free to slide the wire N', the opposite end of this wire N' being pivotally connected to a pin n^2 of a sliding sleeve O that is mounted upon and encircles the bar H. To this sliding sleeve O is fixed a spring wire or bar P, the purpose of which will be presently defined. To the upper end of the section G of the under-arm bar is connected the curved plate g^4 and to the lower end of the bar G' is connected a curved plate g^5 , the purpose of this plate being to give the proper "spring" (so called) to the lower part of the garment.

It will be observed that the front bar A is provided with several scales A^4 , A^5 , A^6 and A^7 , either marked directly upon the bar or upon strips of card-board fastened on the bottom of the channel formed by the reverted edges of the bar and a similar scale b^4 is provided within the channel of the neck bar B. So also the section C² of the shoulder bar has a scale c^4 formed thereon or attached thereto. The section F' of the bust bar has a scale or measure f^4 at the point indicated and the section F of the bust bar has a scale f^5 marked thereon in order to indicate the position at which the slide block or plate 7 will be placed. The dart bar M will be provided with suitable scales m^2 and m^3 to determine the position of the slide blocks or plates 17 and 18 to which the upper ends of the dart-wires are attached. The section G' of the under-arm bar will be provided with a scale or measure g^6 to enable this bar to be adjusted to the desired length. From the foregoing description the operation of that part of my improved apparatus above set forth will be seen to be as follows:

When the neck measure has been obtained (say twelve inches) the slide block 4 will be set at the mark "12" of the scale a^4 , and the bar C will be drawn out and set at the mark "12" of the scale b^4 . When thus set the curved bar or wire D will give the proper line on which the neck of the pattern shall be cut. The shoulder measure having been taken (say six inches) the section C² of the shoulder bar will be drawn outward until the mark "6" comes co-incident with the edge of the bar C'. The bust measure having been taken and found to be say thirty-six inches, the section F of the bust bar will be drawn outward until its inner end comes opposite the mark "36" on

the scale f^4 . The "arm's-eye" measure having been taken and found to be say twelve inches, the slide block or plate 8 will be moved to the mark "12" upon the scale a^5 of the front bar A. The under-arm measure having been taken and found to be say eight inches, the section G' of the under-arm bar will be drawn downward until the mark "8" is exposed at the edge of the section G' of this bar. The length of front measure having been taken, and found to be say twenty inches, the slide block or plate 9 will be moved downward in the front bar A until the edge of this plate 9 comes opposite the mark "20" of the scale a^6 . When the measure is taken from the center of the bust to the waist and found to be say thirteen inches, the dart bar M will be shifted until the slide block or plate 20 has its upper edge opposite the mark "13" of the scale a^7 . In order to determine the points at which the darts shall be cut reference will be had to the scale plate or table illustrated in Fig. 3 of the drawings, as this table affords a ready means of determining without experiment or calculation the exact point at which the darts should be located. Thus by reference to this scale, which I have designated R, it will be seen that at the left-hand side there is arranged a column of figures indicating the waist measure, while the body of the scale or table indicates the bust measure. At the bottom of the vertical columns of figures are formed points to aid in determining with exactness the position of the dart wires K, K', &c. The manner of using this scale plate is as follows: Assuming that the waist measure has been found to be say twenty-two inches and the bust measure thirty-six inches, the operator will first find the number "22" in the left-hand column r of the scale plate and having found this number will next find the number "36" in the vertical column opposite the number "22." This number "36" will be found in the column which for convenience has been designated S and the operator will then place the line T upon the dart wire K, which is a fixed point and will move the dart wire K³ laterally until it is immediately beneath the pointer r at the bottom of the column S. In this manner the width of the darts will be obtained and the segmental wires K' and K² can be shifted back or forth so as to make the two darts of the same size or of different sizes, as may be preferred. It will be observed that at the bottom of the vertical column of bust measures shown in the plate R is a series of figures r^5 . These figures will indicate at what point of the scales m^4 and m^5 of the bust bar M, the points of the darts shall be placed. Thus for example, if the waist measure is twenty-two inches and the bust measure is thirty-six inches, the figure r^5 at the bottom of the frame S will be used, this figure being "4." The slide blocks or plates 17 and 18 will therefore be moved until the edges of these plates come opposite the figure "4" on the scale m^4 and m^5 of the

bust bar M. The various parts having been thus set to the desired position, will, by reason of the friction of the sliding plates, &c., retain their position without the necessity of set-screws or like devices for such purpose. The operator will then trace the pattern along the neck wire D, down the shoulder bar, along the arm-hole bar E', down the wires N and N' and down the right-hand side of the "spring" wire P. The operator will also trace the pattern down the edge of the front bar A. The pattern thus traced will give the proper shape for one side of the front of the garment.

In order to form the section of the garment beneath the arm, the apparatus shown in Fig. 1 will next be used, to trace a pattern in the following manner: Beginning at the bottom of the "spring" plate g^5 , then up along the outer edge of this plate, along the bars G and G', around the bar g^4 , down the wires N and N' and along the wire p' of the "spring" wire P. It will thus be seen that when the part of the pattern last cut is set adjacent the part previously cut, there will be overlapping or "spring" portions due to the "spring" wire P, since the portion of the pattern first cut was traced along the part p of the wire P, while the part of the pattern last cut was traced along the portion p' of this "spring" wire. The sliding sleeve O will be shifted to bring the wires N and N' parallel, or approximately so, with the under-arm bars G and G' before the pattern is traced.

The apparatus for drafting the back portions of the garment as illustrated in Fig. 2 of the drawings, comprises the vertical bar T to the upper end of which is connected a plate 30 from which projects the shoulder bar 31, this shoulder bar 31 being formed of sheet metal with overturned edges 32 in order to permit the bar 33 to telescope into the bar 31. To the lower end of the bar 33 is pivotally connected as at 34, the upper end of the bar U, the lower end of this bar being pivotally connected as at 35, to the upper end of the bar V. The bar V is formed with overturned edges v thereby making a slide-way or channel to receive headed pins or blocks 40 and 41 that are mounted in manner free to move within the channel, but are held therein by the flanges v . To the headed pin 40 is connected one end of the bar X that telescopes into the bar X', the bar X' being formed with overturned edges as shown by dotted lines so as to securely retain the bar X therein. The opposite end of the bar X' is fixed to a slide block x that is connected in manner free to move within the channel formed by the flanges t of the vertical bar T. Within the channel of the bar T is mounted a slide block 50 to which is connected one end of a bar Y, this bar being formed with overturned edges, similar to the bar T, and other bars hereinbefore described, so as to permit the bar Y' to slide freely therein. To the slide block or plate 50 is also connected a "spring" plate y and to the bar Y' is connected a similar "spring"

plate y' , the purpose of these "spring" plates being to give the desired "spring" or fulness to that part of the garment that fits over the hips. Upon the bar Y is mounted a sliding sleeve 60 that carries a pin 61 on which is pivotally mounted the lower end of the back-seam wire Z, this wire sliding within a sleeve z of the section Z' of the back seam wire. The section Z' of the back seam wire is pivotally held upon a pin 64 that is fixed to a slide plate or block 65 held within a channel plate 66 that is fixed to the bar U, this channel plate 66 being formed by turning over the edges of a sheet metal strip as shown. To the sleeve 60 is connected a "spring" wire 70 that serves to give the desired "spring" or fulness to the lower part of the garment.

The vertical bar T is provided with a length or back scale t^2 , the section 33 of the shoulder bar being provided with a suitable shoulder scale 33^a. The bar X is provided with the bust measure scale x' and the bar Y is provided with a waist measure scale y^2 . The bars X and X' and Y, Y', as well also the shoulder bars 31 and 33, will be set in proper position in manner well understood by those familiar with this class of devices, this being readily accomplished by merely shifting the bars, the blocks of the metal plates retaining the bars, in the position in which they are placed. By thus forming the bars with overturned edges so that the bars can telescope into each other and so that slide blocks or plates can be mounted therein, the necessity for set-screws or similar devices for holding the bars in position, is altogether avoided.

In the cutting of the back portions of the garment the direction of the back seams is determined largely by fashion and my object in providing the back seam wires Z and Z' is to enable the back seams to be made with more or less incline with respect to the vertical seam according as the fashion may vary, or as the wish of the cutter may dictate, and it is manifest that by shifting the slide 60 and the slide plate 65, the exact position of the wires Z, Z' may be varied with the corresponding change in direction and location for the back seam. The "spring" plates y and y' and the "spring" wire 70 will enable the desired excess or fullness to be given to the pattern to insure the proper fitting of the garment over the hips of the wearer.

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

1. An apparatus for drafting the fronts of garments, comprising the combination with a front bar A having overturned edges to form a slide-way, a waist bar vertically adjustable upon said front bar, a bust bar also adjustably connected to said front bar, an under arm bar adjustably connecting said waist bar and said bust bar, of a dart bar provided with a sliding block adjustably mounted within the slide-way of the front bar, independent slide blocks adjustably carried by

said dart bar, two sets of dart wires pivotally connected to said independent slide blocks and loops adjustably mounted upon said waist bar and through which said dart wires freely pass, substantially as described.

2. An apparatus for drafting the fronts of garments, comprising the combination with a front bar A having overturned edges to form a slide-way, a waist bar having overturned edges to form a slide-way and adjustably connected to said front bar, a bust bar connected to said slide-way, an under arm bar adjustably connecting the outer ends of said waist bar and said bust bar, of a dart bar independent of said bust bar having overturned edges to form a slide way, a slide block mounted within the slide way of the front bar A and to which the inner end of said dart bar is connected, independent slide blocks 17 and 18 mounted within the slide-way of said dart bar M, dart wires K pivotally connected to said slide blocks 17 and 18, suitable slide blocks adjustably mounted upon said waist bar and provided with loops through which said dart wires pass, substantially as described.

3. An apparatus for drafting the fronts of garments, comprising the combination with a front bar A formed with a slide-way and with suitable outline bars connected to said front bar, of a slide plate or block 4 mounted within said slide-way of said front bar, a neck bar B connected to said front bar A, a bar C telescopically connected to said bar B, a wire D pivotally connected to said bar C, a loop 3 upon said slide block or plate 4 and through which said wire D passes, substantially as described.

4. An apparatus for drafting the fronts of garments, comprising a front bar A, a waist bar formed of telescopic sections united to said front bar, a bust bar formed of telescopic

sections united to said front bar, a neck bar B connected to the upper end of said front bar A, a shoulder bar formed of telescopic sections and telescopically connected to said neck bar B, an under arm bar adjustably connecting said waist bar and said bust bar, arm's-eye rods or wires E and E' telescopically connected together, said rod or wire E being pivotally connected to the shoulder bar and an independent slide block or plate adjustably mounted on said bust bar and to which the arm's-eye rod or wire E' is pivotally connected, substantially as described.

5. An apparatus for drafting the fronts of garments, comprising a front bar A, a waist bar adjustably mounted upon said front bar, a bust bar connected to said front bar, a neck bar connected to the upper end of said front bar, a shoulder bar connected to said neck bar, arm's-eye wires E and E' adjustably connecting the shoulder bar and the bust bar, a sleeve O adjustably mounted upon the waist bar and a "spring" bar P connected to said sleeve O and thereby independently adjustable upon said waist bar, substantially as described.

6. An apparatus for drafting the backs of garments, comprising the combination with a frame having suitable outline bars whereby the back of a dress waist may be cut, of bars and wires Z and Z' adjustably connected together, a slide-way upon said frame, an independently adjustable slide block or plate within said slide-way to which the wire Z' is connected and an independent laterally adjustable sleeve or slide connected to said frame and to which the wire Z is connected, substantially as described.

FRANK E. BUDDINGTON.

Witnesses:

GEO. P. FISHER, Jr.

ALBERTA ADAMICK.