F. D. WEBSTER.

ADJUSTABLE CHART.

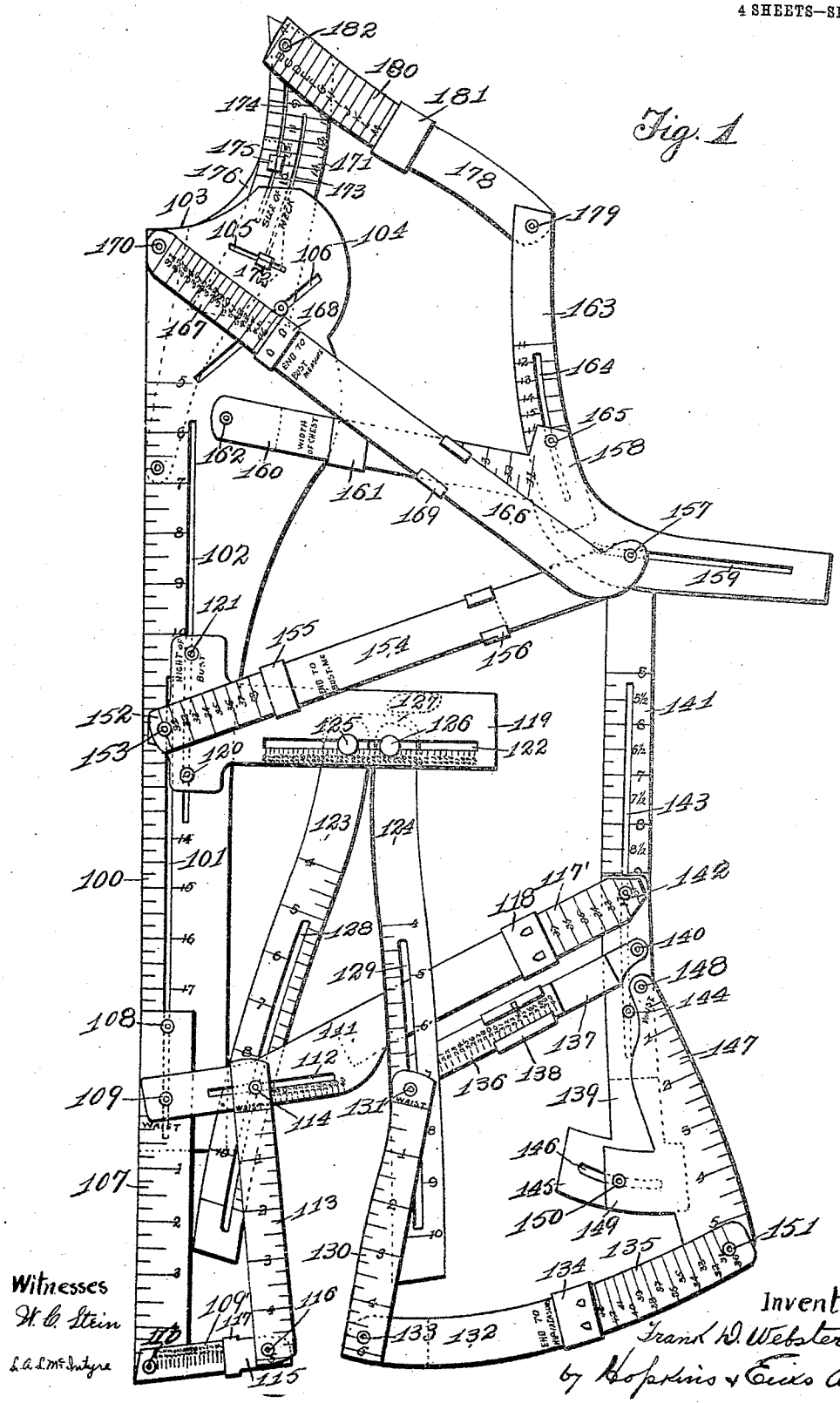
APPLICATION FILED MAR. 6, 1909.

943,130.

Patented Dec. 14, 1909.

4 SHEETS—SHEET 1.

Fig. 1



Witnesses

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4 SHEETS—SHEET 2.

Fig. 2

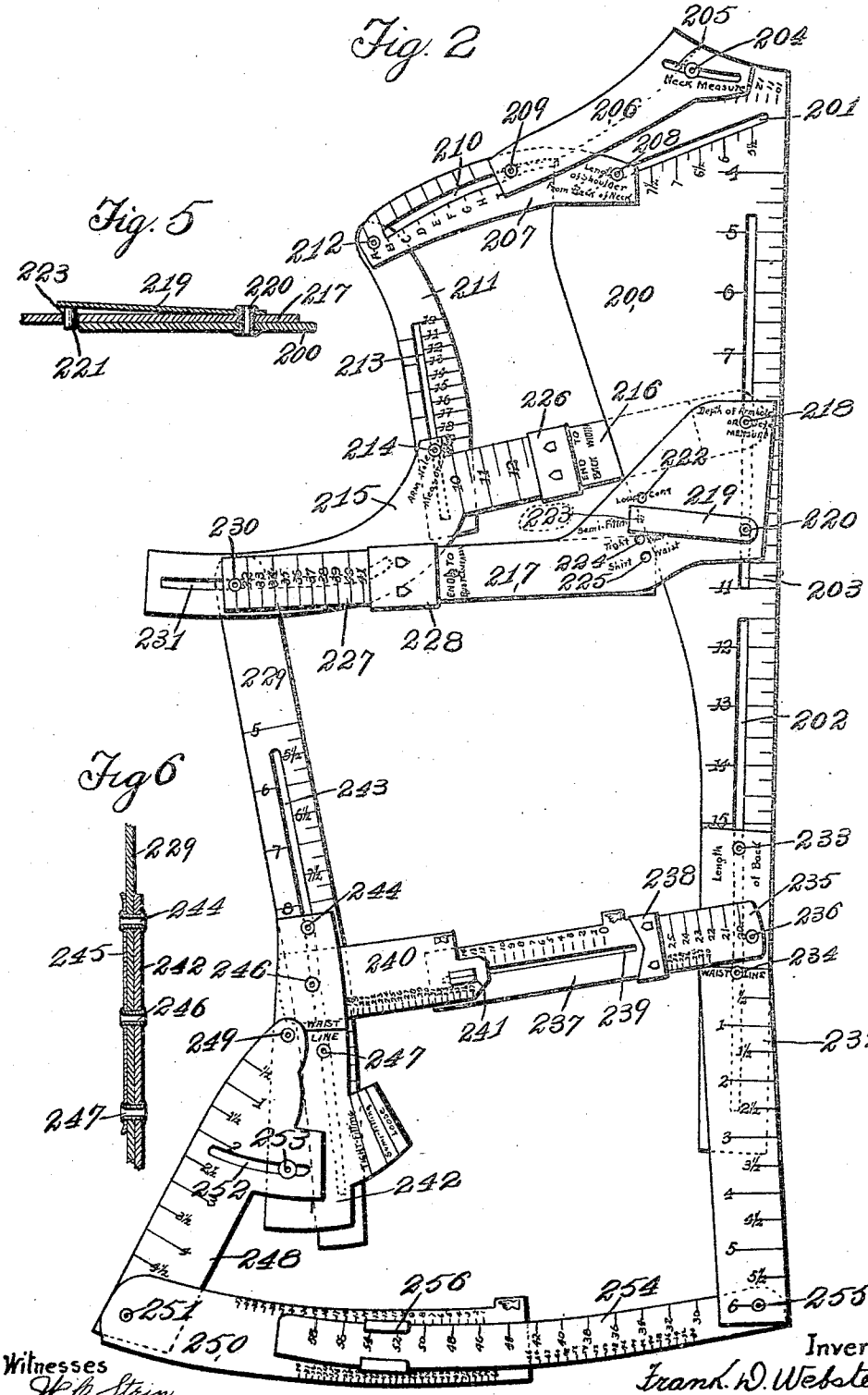

Fig. 5

Fig 6

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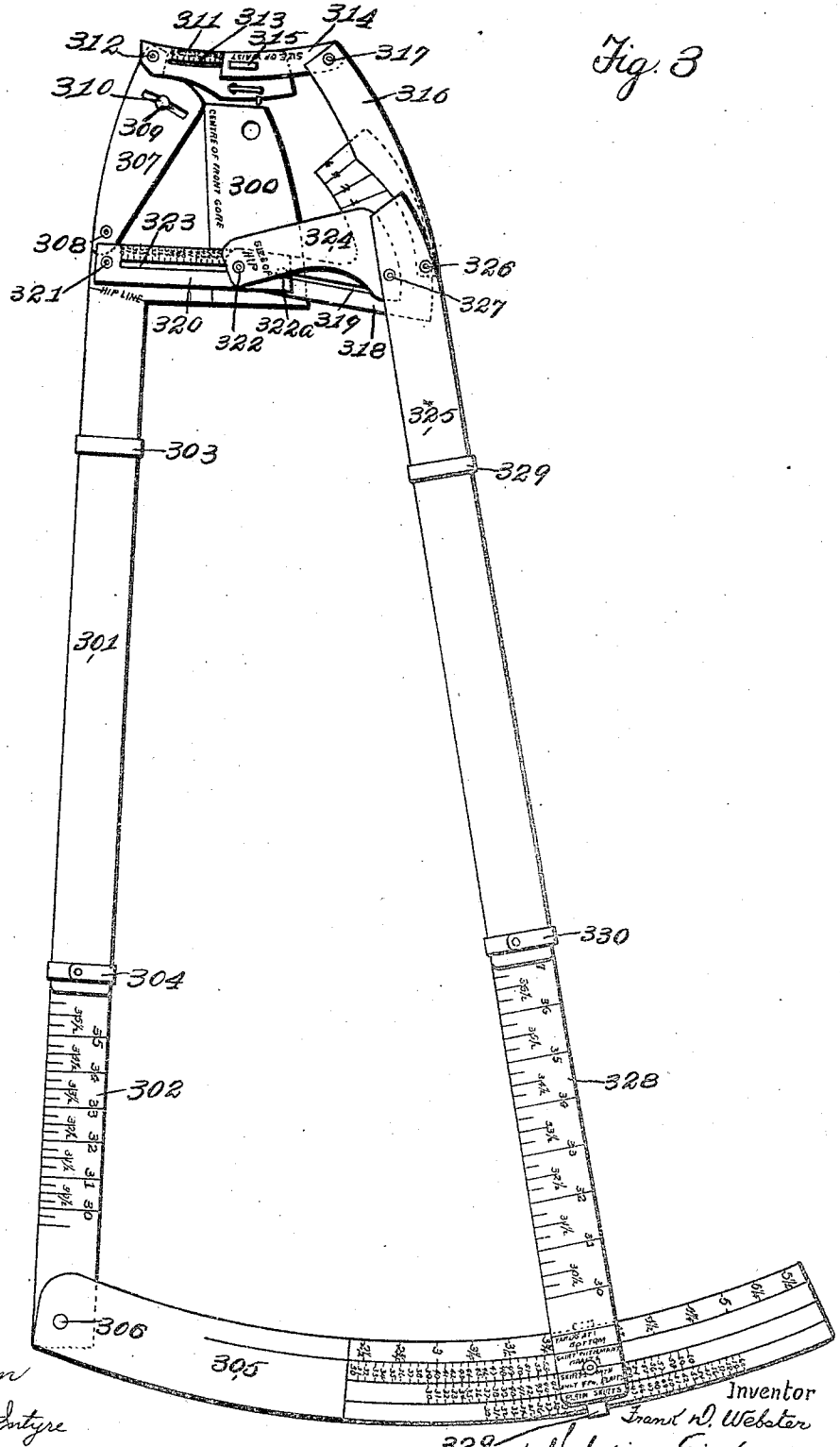
4 SHEETS—SHEET 3.

Fig. 3



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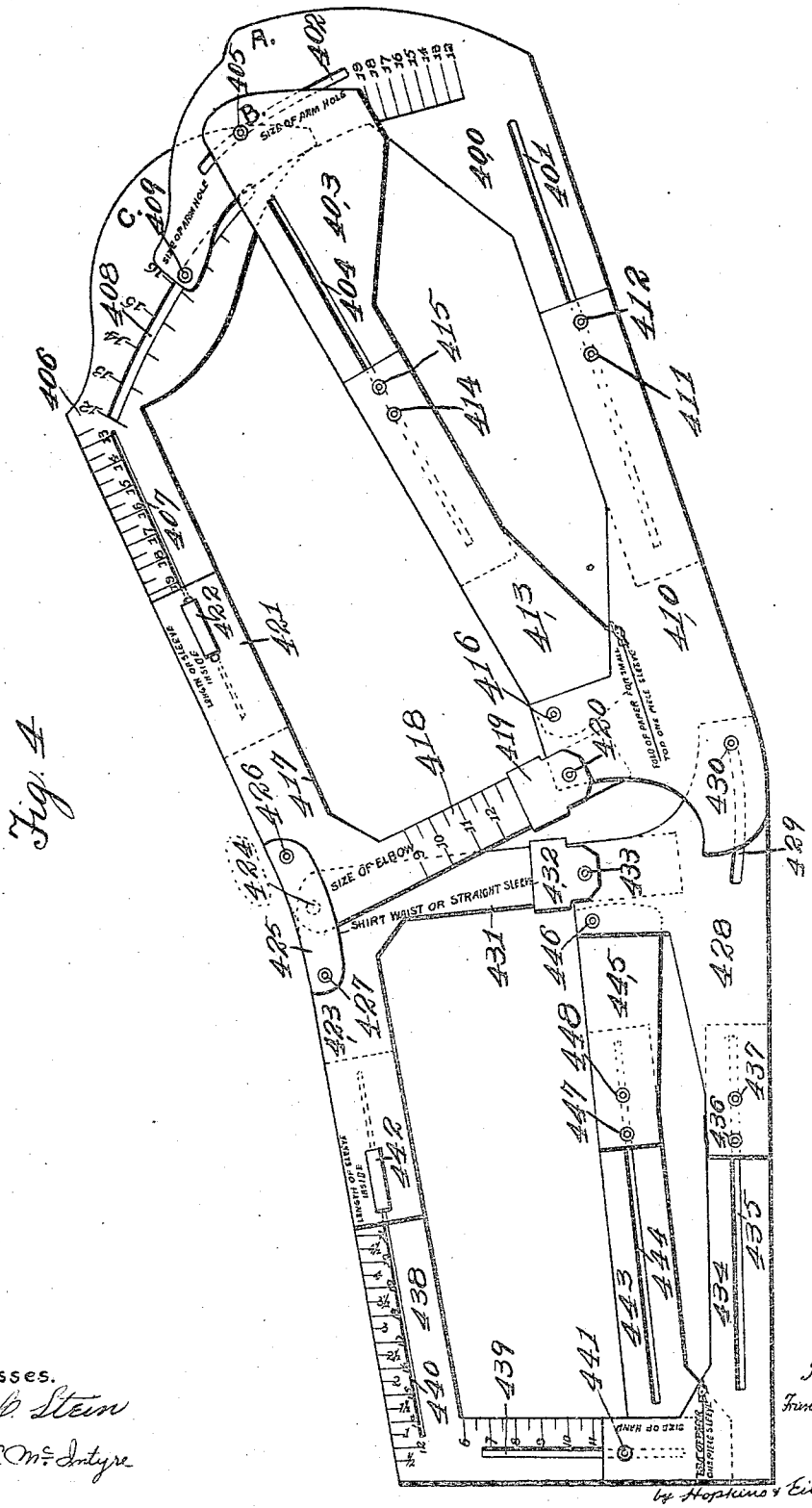

Fig. 4

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UNITED STATES PATENT OFFICE.

FRANK D. WEBSTER, OF ST. LOUIS, MISSOURI.

ADJUSTABLE CHART.

943,130. Specification of Letters Patent. Patented Dec. 14, 1909.

Application filed March 6, 1909. Serial No. 481,677.

To all whom it may concern:

Be it known that I, FRANK D. WEBSTER, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Adjustable Charts, of which the following is a specification.

My invention relates to improvements in adjustable charts, and has for its object to provide a system of scales whereby waists and skirts of various dimensions and proportions may be cut, a special scale for the cutting of sleeve sections being provided.

In the drawings—Figure 1 is a plan view of the front waist-scale of my invention. Fig. 2 is a like view of the back waist-scale of my invention. Fig. 3 is a plan view of the skirt-scale of my invention. Fig. 4 is a plan view of the sleeve-scale of my invention. Fig. 5 is a longitudinal view in section of the clamping member 219 employed in connection with the back waist-scale. Fig. 6 is a similar view of the vertical adjustable slide employed in the said back waist-scale.

The front waist section illustrated in Fig. 1 consists of the vertical member 100 provided, toward its lower end, with the longitudinal slot 101 and at its upper end with the longitudinal slot 102. At its top, the member 100 is provided with the cutting edge 103 and the member provided with the inward projection 104, provided with the slots 105 and 106 as indicated. Within the slot 101 the depending member 107 is slidably mounted by means of pivots 108—109; the member 107 being provided at its lower extremity with the transverse member 109′, pivotally connected to the member 107 by means of the pivot 110. The pivot 109 serves to hold, imposed upon the surface of the member 107, the member 111 having the slot 112, within which the depending bar 113 is slidably secured by means of the pivot 114. The bar 113 is provided at its lower extremity with the socket member 115, pivotally secured to the bar 113 by means of the pivot 116. The extremity of the socket member 115 is indicated by the numeral 117 partially encircling the bar 109′ and sliding freely thereon, the bar 109′ being provided with the scale as shown for the purpose of effecting measurements. The bar 111 is mounted upon the member 117′ by means of the socket member 118; the outer face of the member 117 being provided with the scale as shown for the purpose of effecting measurements. The transverse member 119 is mounted in the slot 102 by means of the pivots 120—121; the member 119 being provided with the longitudinal slot 122 within which the upper ends of the bars 123 and 124 are slidably secured by means of the pins 125—126 respectively; the pins 125 and 126 being connected by means of the small clamp 127, thus keeping the pivotal points of the members 123 and 124 at all times equidistant by permitting the members 123 and 124 to pivot upon the pins 125 and 126 respectively.

The member 123 is provided with the longitudinal slot 128 within which slot the pivot 114, above referred to, is slidably engaged. The member 124 is provided with the longitudinal slot 129, within which the depending member 130 is slidably mounted by means of the pin 131. The member 130, at its lower extremity, is provided with pivotal connection with the curved member 132 by means of the pin 133, and the clamp 134 connects the scale member 132 slidably with the scale member 135. Pin 131, passing through the slot 129 at its lower end is pivotally mounted in the scale member 136 secured to the member 137 by means of the clamp 138; the member 137 being pivotally secured at its outer end to the vertical member 139 by means of the pin 140. The member 139 is secured to the member 141 by means of the pin 142, having slidable engagement with the longitudinal slot 143, and the pin 144, also passing into said slot 143. The member 139 terminates at its lower extremity in the curve section 145 having the longitudinal slot 146. The member 147 is secured to the member 139 by means of the pin 148 and is provided with the tongue 149, which tongue is slidably secured to the section 145 by means of the pin 150 which extends through the slot 146. The outer end of the curved member 135 is pivotally connected to the lower end of the member 147 by means of the pin 151. The scale member 152 is carried by the member 119 being pivotally secured thereto by means of the pin 153; the member 154 being superimposed upon the member 152 and slidably connected thereto by means of the clamps 155 and 156; the outer end of the member 154 being pivotally secured to the upper end of the member 141 by means of the pin 157. The front arm-hole curve member 158 is provided at

its outer extremity with the slot 159 through which the pin 157 passes; the inner end of the member 158 having slidable engagement with the member 160 by reason of the clamp 161; the member 160 being pivotally secured upon the face of the member 100 by means of the pivot 162.

For use in making the upper portion of the arm-hole curve, I provide the curved member 163 having the longitudinal slot 164 and being slidably secured to the member 158 by means of the pin 165.

The pin 157 serves to pivotally secure the outer end of the member 166 to the upper end of the member 141; the member 166 being superimposed upon the member 167 and slidably secured thereto by means of the clamps 168—169. The member 167 is pivotally mounted upon the face of the member 100 by means of the pin 170. The member 171 is slidably attached to the member 100 by means of the pin 172, which passes through the slot 105 in the member 100 and also has sliding engagement with the slot 173 in the member 171. The member 171 is also provided with the slot 174 through which the pin 175 passes, the lower end of the pin 175 being secured to the member 176 whose lower end is pivotally secured beneath the member 100 by means of the pivot 170. The lower end of the pin 172, said pin projecting downwardly through the slots 105—173, is secured in place within the member 171. The member 163 is pivotally connected with the member 178 by means of the pin 179. The member 178 is superimposed upon the member 180 and slidably connected thereto by means of the clamp 181, the member 180 being pivotally mounted to the upper end of the member 171 by means of the pin 182.

The back waist-section illustrated in Fig. 2 consists of the central member 200 of the form shown in the drawing; having a horizontal slot 201 and two vertical slots, 202 and 203, respectively, both being parallel with the vertical edge of said member 200. The pin 204 is mounted in the member 200 and has slidable engagement with the slot 205 in the neck-measuring member 206. The arc member 207 is slidably engaged with the members 200 and 206 by means of the pin 208, which is mounted on the member 207 and has slidable engagement with the slot 201, and the pin 209, which is secured to the neck-measuring member 206 and has slidable engagement with the slot 210 with which the member 207 is provided. At its outer extremity the member 207 is pivotally connected with the armhole-measuring member 211 by means of the pin 212; said member 211 having a vertical slot 213 with which the pin 214 carried by the member 215 has slidable engagement. The member 216 and the member 217 are secured to each other by means of the pin 218, which passes through the slot 203. The member 217 is provided with the spring clamp-member 219, which is secured to the member 217 by means of the pin 220, which extends through the member 217 and has slidable engagement with the slot 203. The clamp-member 219 at its free end is provided with a lug 221 adapted to engage with perforations 222, 223, 224 and 225, which extend through the member 217; the perforation is shown in section in Fig. 5. The member 215 is slidably engaged with the member 216 by means of the clamp 226. The member 217 is connected with the scale member 227 by means of the clamp 228; and the outer end of the member 227 is connected with the upper end of the member 229 by means of the pin 230, which pin 230 connects the members 227 and 229 by passing through the slot 231 with which the outer end of the member 215 is provided.

The member 232 is superimposed upon the lower portion of the member 200 and connected thereto by means of pins 233 and 234, which pins extend through and have slidable engagement with the slot 202. The member 235 is pivotally mounted upon the member 232 by means of the pin 236. The member 237 is slidably connected to the member 235 by means of the clamp 238; the member 237 being provided with the longitudinal slot 239. A scale member 240 is mounted upon the member 237 by means of the flat bearing 241, extending through the slot 239. The waist-line member 242 is connected to the member 229 and the member 240 in the following manner: The member 229 is provided with the longitudinal slot 243 and the upper end of the member 242 is given engagement with the said slot by means of the pin 244, extending through the metallic bar 245. The pin 246 passes through the member 242, the member 240 and the slot 243, and is secured at its bottom. The member 242 is also secured to the bar 245 by the pin 247 extending through the slot 243 and the member 245. Upon the outer face of the member 242 the member 248 is provided, which is pivotally mounted upon the member 242 by means of the pin 249, and at its lower extremity is pivotally connected to the member 250 by means of the pin 251. The member 248 is provided with a transverse slot 252 with which the pin 253 mounted in the member 242 has slidable engagement. The member 232 is pivotally connected at its lower extremity with the scale member 254 by means of the pin 255; and the members 250 and 254 are slidably connected by means of the clamp 256.

The skirt-scale of my invention illustrated in Fig. 3 consists of the following members: A front section 300 having the depending tongue 301; a scale member 302 is slidably mounted upon the member 301 by means of

the clamps 303 and 304. An arc member 305 is pivotally connected with the lower end of the member 302 by means of the pin 306. The member 307 is pivotally mounted upon the member 300 by means of a pin 308. The member 307 is provided with a transverse slot 309 through which the pin 310 mounted in the member 300 extends. The horizontal scale member 311 is pivotally connected to the upper end of the member 307 by means of the pin 312; the member 311 being provided with the longitudinal slot 313 to which the member 314 is connected by means of a flat bearing member 315 extending through said slot. At its outer end the member 314 is connected to the depending member 316 by means of the pin 317. The quadrant member 318 is provided with a slot 319; the scale member 320 is pivotally connected to the member 300 by means of the pins 321 and 322; the pin 322 passing through the slot 323 with which the member 320 is provided; the outer end of said pin 322 passing through the member 324 so that the member 324 has pivctal movement with reference to said pin. The member 316 is pivotally connected to the depending member 325 by means of the pin 326; and the member 324 is pivotally connected to the member 325 by means of the pin 327. A scale member 328 is mounted beneath the member 325 and secured thereto by means of clamps 329 and 330. At its lower end the scale member 328 is slidably connected with the arc member 305 by means of the clamp 329.

The sleeve-scale of my invention illustrated in Fig. 4 is formed as follows: The upper arm member 400 is provided with a longitudinal slot 401 and a transverse slot 402. The member 403 is provided with a longitudinal slot 404 and is given sliding engagement with the slot 402 by means of the pin 405 passing through said slot. The member 406 is provided with the longitudinal slot 407 and the transverse slot 408. The member 406 is secured to the member 400 by means of a pin 409 secured to the member 400 and having sliding engagement with the slot 408. The member 410 is of the form illustrated in the drawing (Fig. 4), being superimposed upon the member 400 and connected thereto by means of the pins 111 and 112 passing through the slot 401. The member 413 is superimposed upon the member 403 and provided with pins 414 and 415 which extend through, and have slidable engagement with the slot 404; the member 413 is pivotally connected to the member 410 by means of the pin 416.

The rectangular member 417 has its scale-arm 418 connected with the member 410 by means of the clamp 419; the clamp 419 being mounted upon the member 410 by means of the pin 420. The arm 421 of the member 417 has slidable engagement with the member 406 by means of the flat bearing 422 passing through the slot 407. The rectangular member 423 is connected to the member 417 by means of the pin 424 and by means of a strip 425, one end of which is secured to the member 417 by means of the pin 426, and the opposite end of which is secured to the member 423 by means of the pin 427. The member 428 is T-shaped in form and is provided with a slot 429 with which the pin 430 mounted in the member 410 has slidable engagement. The arm 431 of the member 423 is connected with the member 428 by means of the clamp 432, which clamp 432 is secured to the member 428 by means of the pin 433.

The cuff member 434 is provided with a longitudinal slot 435 through which the pins 436 and 437 mounted in the member 428 extend. The member 423 and the member 434 are connected by means of the member 438, approximately rectangular in form, and provided with the slots 439 and 440. The pin 441 is mounted in the member 434 and has sliding engagement with the slot 439. The flat bearing 442 is mounted in the member 423 and has sliding engagement with the slot 440. The member 443 is provided with the longitudinal slot 444 and is connected to the member 434 by means of the pin 441. The strip 445 is pivotally connected to the member 428 by means of the pin 446 and is provided with pins 447 and 448 having slidable engagement with the slot 444.

The scales herein-described are adjustable in every direction, as to length and width, to facilitate the cutting of cloth for the construction of garments. Each is provided with scales where desired, but the mechanical structure of each is perfectly adapted to perform its function regardless of the scale-divisions or other directions for use imprinted upon said scale.

The front waist-scale and back waist-scale are used conjointly for the purpose of producing the complete outlines of the fabric sections necessary to construct the waist of a garment, with the exception of the sleeve, for which purpose the sleeve scale illustrated in Fig. 4 is necessary.

Having thus fully described my invention, what I claim as new and desire to have secured to me by the grant of Letters Patent, is:

1. In an adjustable chart, a skirt pattern containing the combination of the curved scale-member 311; the curved member 314 slidably mounted upon the scale-member 311; the member 307 pivotally connected to the scale-member 311; the vertical member 301 pivotally connected to the member 307; the extensible scale-member 302 slidably connected with the vertical member 301; the curved scale-member 305 pivotally connected to the member 302; the curved member 316 pivotally connected to the member 314; the

vertical member 325 pivotally connected to the member 316; the extensible scale-member 328 slidably connected to the member 325, and having its lower extremity slidably mounted upon the scale-member 305, substantially as described.

2. In an adjustable chart, a back waist pattern comprising the central member 200; the neck measuring member 206 slidably mounted at its upper end upon the member 200; the arc-member 207 slidably connected to the member 200 and to the member 206; an arm-hole-measuring member 211 pivotally connected to the member 207; the member 215 slidably connected to the member 211; the member 216 slidably mounted upon the member 215 and having its extremity slidably mounted upon the member 200; the member 217 slidably mounted upon the member 200; the scale-member 227 slidably mounted upon the member 217 and upon the member 215; the member 229 having its upper extremity pivotally connected through the member 215 to the scale-member 227; the waist-line member 242 slidably mounted upon the member 229; the member 248 having its upper extremity pivotally mounted upon the member 242; the member 250 pivotally mounted to the lower extremity of the member 248; the scale-member 254 slidably mounted upon the member 250; the scale-member 232 slidably mounted upon the member 200 and pivoted at its lower extremity to the scale-member 254; the member 240 slidably mounted upon the member 229; the member 235 pivotally mounted upon the member 232; and the member 237 slidably connected to the members 235 and 240, substantially as described.

3. In an adjustable chart, a front waist pattern comprising a vertical member 100 provided toward its lower end with the longitudinal slot 101 and at its upper end with the longitudinal slot 102; the depending member 107 slidably mounted upon the member 100; the transverse member 109′ pivotally connected to the lower extremity of the member 107; the socket-member 115 mounted upon the member 109′; the bar 113 pivotally mounted upon the socket-member 115; the bar 111 pivotally mounted upon the depending member 107 and having slidable engagement with the bar 113; the slotted bar 123 having pivotal engagement with the bar 111 and the bar 113; the slotted transverse member 119 slidably mounted in the slot 102 and having slidable engagement with the bar 123; the bar 124 slidably mounted on the member 119 and having slidable engagement with the depending member 130; the curved member 132 pivotally connected to the lower extremity of the depending member 130; the scale-member 135 slidably mounted upon the member 132; the member 147 pivotally connected to the scale-member 135 and provided with the tongue 149; the member 141 pivotally connected to the member 147 and slidably connected to the tongue 149; the front armhole curved member 158 slidably mounted upon the member 141; the member 117′ slidably mounted upon the member 141 and slidably connected to the member 111; the member 152 pivotally connected to the member 119; the member 154 pivotally connected to the members 163 and 141 and having slidable connection with the member 152; the member 166 pivotally mounted on the member 163; the member 167 slidably connected to the member 166 and pivotally connected to the member 100; the member 171 slidably connected to the member 100; the member 176 slidably connected to the member 171 and pivotally connected to the member 100; the member 180 slidably mounted upon the member 171; the member 178 pivotally attached to the upper extremity of the member 163 and slidably connected to the member 180, substantially as described.

4. In an adjustable chart, the sleeve pattern comprising the upper arm member 400; the slotted member 403 slidably mounted on the member 400; the member 410 slidably mounted on the member 400; the member 413 pivotally mounted on the member 410 and slidably connected with the member 403; the member 406 slidably mounted upon the member 400; the rectangular member 417 pivotally mounted upon the member 410 and slidably connected to the member 403; the rectangular member 423; the member 425 pivotally mounted at its extremities to the members 421 and 423 respectively; the T-shaped member 428 slidably connected to the member 410; the clamp 432 mounted on the member 428; the member 423 slidably mounted in said clamp 432; the clamp 419 pivotally mounted upon the member 410 and having slidable engagement with the member 421; the member 445 pivotally mounted upon the member 428; the rectangular member 438 slidably mounted upon the member 423; the member 434 slidably connected to the member 428 and similarly connected to the rectangular member 438; the member 445 pivotally mounted upon the member 428 and the member 443 slidably mounted upon the member 445 and slidably connected to the rectangular members 438, substantially as described.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

FRANK D. WEBSTER.

Witnesses:
JAMES L. HOPKINS,
WALTER C. STEIN.