

No. 834,762.

PATENTED OCT. 30, 1906.

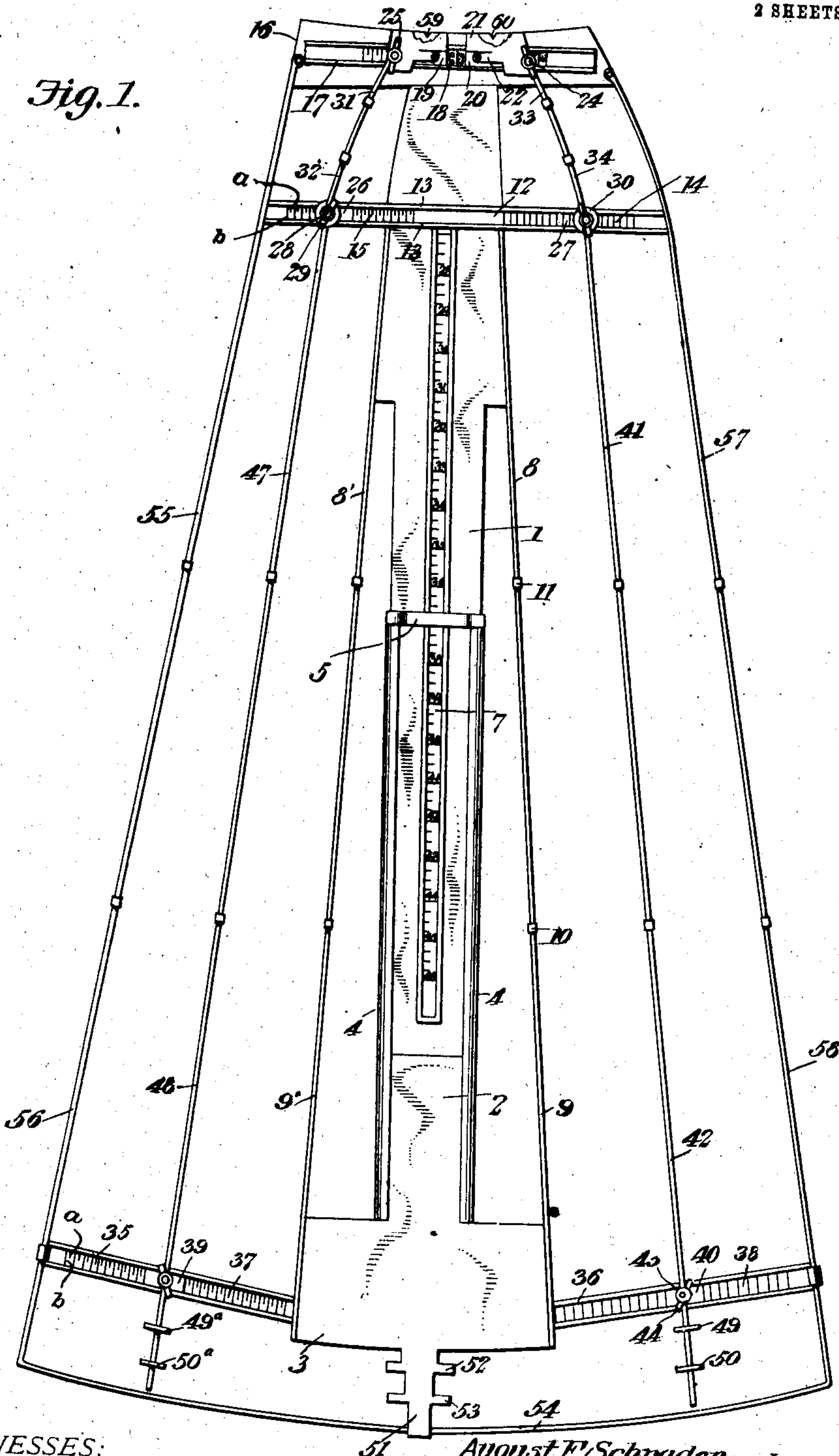
A. F. SCHRADER & O. McCULLOUGH.

SKIRT DRAFTING CHART.

APPLICATION FILED APR. 16, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



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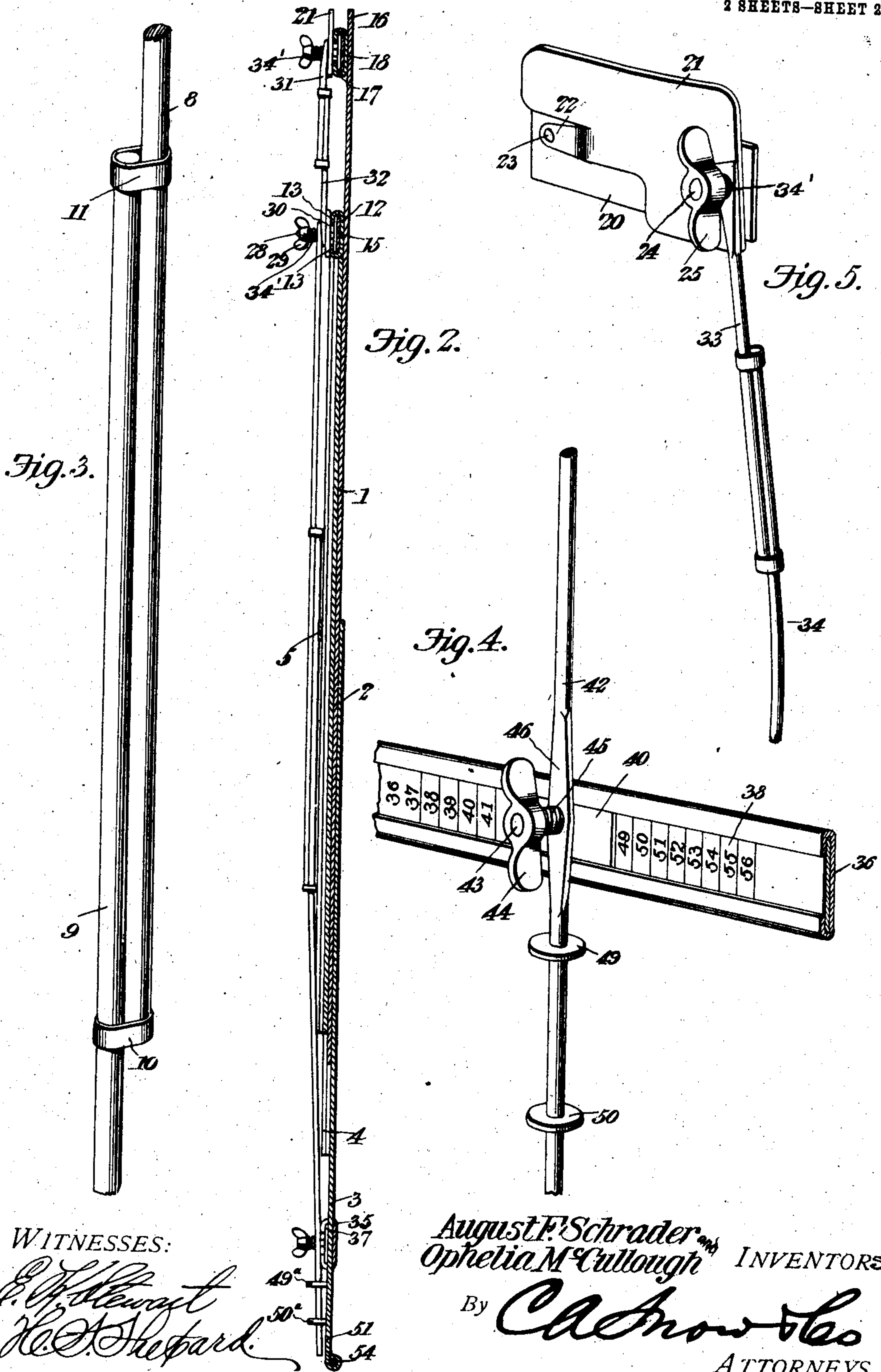
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UNITED STATES PATENT OFFICE.

AUGUST F. SCHRADER AND OPHELIA McCULLOUGH, OF RAKE, IOWA.

SKIRT-DRAFTING CHART.

No. 834,762.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed April 16, 1906. Serial No. 311,981.

To all whom it may concern:

Be it known that we, AUGUST F. SCHRADER and OPHELIA McCULLOUGH, citizens of the United States, residing at Rake, in the county of Winnebago and State of Iowa, have invented a new and useful Skirt-Drafting Chart, of which the following is a specification.

This invention relates to charts for drafting patterns for dressmakers' use, and is primarily designed to provide an improved chart which may be conveniently adjusted to any predetermined measurements for drafting the individual gores of a gored skirt.

A further object of the invention is to have the chart entirely complete in itself and include adjustable elements which may be conveniently set to define the individual outlines of front, side, and back gores and also to define the length of the gores and the widths thereof at the waist, hip, and bottom portions of the respective gores.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of the garment-drafting chart of the present invention. Fig. 2 is an enlarged longitudinal sectional view thereof. Fig. 3 is a fragmentary perspective view illustrating the telescopic arrangement of certain elements of the chart. Fig. 4 is a fragmentary perspective view of the scale arrangement at the bottom of the chart. Fig. 5 is a fragmentary perspective view of one of the adjustable slides employed at the waist portion of the chart.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

The present chart includes telescoped sheet-metal body members 1 and 2, of which the lower member 2 is provided at its lower end with an integral cross-head 3, while its longitudinal edges are folded inwardly to form inturned flanges or guideways 4, slidably embracing the edges of the member 1. A cross-bar 5 connects the upper ends of the

flanges 4, so as to brace the same and also constitute an index cooperating with a longitudinal scale 7, provided upon the member 1 and divided into inches and fractions thereof for gaging the chart to any predetermined length of skirt. In other words, the body members are moved endwise upon one another until the degree on the scale 7 corresponding to the length of the skirt is in alignment with the member 1 of the index 5.

The upper portion of the member 1 is laterally enlarged, and telescopic rods 8 and 9 are carried by the respective corresponding edges of the cross-head 3 and the enlarged portion of the member 1. The form of telescopic connection between the rods 8 and 9 is shown in detail in Fig. 3 of the drawings and includes a slide or clip 10, carried by the lower end of the rod 8 and slidably embracing the rod 9, and another slide or clip 11, carried by the upper end of the rod 9 and slidably embracing the rod 8. By this arrangement the rods 8 and 9 are permitted to telescope when the body of the chart is being adjusted. It will here be explained that the outline described by the rods 8 and 9, the lower edge of the cross-head 3, and the upper enlarged portion of the body member 1 is the shape of the front gore of the skirt, and it is intended to mark out such gore by tracing around the outer edge of this outline.

At the upper end of the scale 7 and disposed transversely across the same is a cross-bar 12, rigidly carried by the body member 1 and having a guideway formed by inturned flanges 13. Within one end portion of the guideway there is a scale 14 and within the other end portion of the guideway there is another scale 15, each of which is employed for setting or guiding the device to any predetermined hip measurements. Across the upper extremity of the body member 1 there is a cross-bar 16, slightly shorter in length than the cross-bar 12 and having its upper edge slightly concaved and constituting an element for marking off the waist-line. Upon this cross-bar there is a guideway 17, in the middle portion of which is a scale 18 for use in setting the device to a predetermined waist measurement. Working in the guideway 17 at opposite sides of its middle are duplicate slides 19 and 20, which are reversely arranged, the slide 20 being shown in detail in Fig. 5 of the drawings and consisting of a metallic plate which is slidably overlapped by the flanges of the guide-bar 17.

Spaced slightly in front of the slide is a plate-metal guard member 21, which is of a width to span the front of the guideway and has a spring-tongue 22 cleft therefrom, with its free end connected to the inner end portion of the slide in any appropriate manner—for instance, by means of a rivet 23. The purpose of the guard 21 is to frictionally engage the open front face of the guideway, so as to hold the slide when set with respect to the scale 18, and thereby prevent accidental movement of the slide when set. A threaded pin or post 24 is carried by and projects outwardly from the outer end of the slide and passes loosely through the perforation formed in the free end of the guard or clamp member 21, and upon the outer end of this threaded stud or pin is a winged nut 25. A pair of duplicate slides 26 and 27 are mounted in the guideway 12 in cooperative relation with the respective scales 15 and 14, each slide carrying a threaded stud or pin 28, upon which is a winged nut 29. A washer 30 or wear-plate is interposed between the nut 25 and the open front of the guideway 12.

The slides 19 and 26 are connected by telescopically-assembled links 31 and 32, the link 31 being pivotally pierced by the pin or stud 24 of the slide 19, while the link 32 is pivotally pierced by the stud or pin 28 of the slide 26. Similar links 33 and 34 connect the slides 20 and 27. Interposed between each of the winged nuts and the adjacent link is a helical spring 34', whereby any desired tension may be had upon each joint to clamp the same against the guideway, so as to prevent slipping of the joints after they have been properly set.

Extending from opposite edges of the cross-head 3 are guide-bars 35 and 36, provided with the respective scales 37 and 38 and carrying slides 39 and 40, cooperating with the scale. Extending between the slide 40 and the slide 27 are telescopically-connected rods 41 and 42, the rod 42 projecting beyond the slide and pivotally pierced by a threaded stud or pin 43, carried by and projecting from the slide 40. A winged nut 44 is provided upon the stud or pin, and a helical spring 45 embraces the pin and bears in opposite directions against a flattened portion 46 of the rod 42 and the nut 44.

Telescopic rods 47 and 48 extend between the slides 26 and 39, the rod 48 being assembled with the slide 39 in the same manner as described for the assemblage of the rod 42 and the slide 40.

Upon that portion of the rod 42 which projects below the guideway 36 there is a shoulder or indicating member 49, and a similar shoulder or indicating member 49^a is provided upon the lower end portion of the rod 48, but disposed at a slightly greater distance from the guideway 35 than the shoulder 49 is spaced from the guideway 36. An-

other shoulder or indicating member 50 is provided upon the rod 42 below the shoulder 49, and a corresponding shoulder or indicating member 50^a is provided upon the rod 48. An arm 51 extends downwardly from the lower end of the body 2 and is provided with two sets of gage-shoulders 52 and 53. A frame-rod 54 is rigidly carried by the lower extremity of the rod 51, said frame-rod being bowed, with its convexed side downward and its ends terminating in alinement with the outer ends of the guideways 35 and 36. Telescopically-connected rods 55 and 56 extend between the left-hand end of the frame-rod 54 and the left-hand end of the waist cross-bar 16, the outer end of the guideway 35 also being connected to the rod 56. Similar telescopically-connected rods 57 and 58 extend between the right-hand ends of the frame-rod 54 and the waist cross-bar 16, the outer end of the guideway 36 being carried by the rod 58.

In practice preparatory to using the chart it is of course necessary to obtain the measurements of the party to be fitted, the measurements required being the length of the skirt at the front thereof, the waist measurement, and the hip measurement. These are the only measurements required, and it will now be apparent that the number of measurements is reduced to the minimum, and the other proportions are mechanically brought about by the chart, thereby insuring a proper fit of the garment, as all portions thereof will be in proportion to the measurements actually taken from the party to be fitted. For marking out the front gore the length of the chart is adjusted in accordance with the desired length of the skirt, and then the outline of the gore is traced out around the front gore-section of the chart, which is defined by the rods 8 and 9, the lower end of the cross-head 3, the rods 8' and 9', and the upper end portion of the body member 1, the width of the top of the gore being determined by the notches 59 and 60 in the upper edge of the waist cross-bar 16. It will here be explained that the rods 8 and 9 are disposed at right angles to the inner or lower edge of the waist cross-bar 16 and the pattern-sheet or the goods is folded for the front gore and the fold placed in alinement with the rods 8 and 9, the rods 8' and 9' defining the necessary downward flare of the gore. For the second gore the waist-slide 20 is moved to the middle of the waist-scale. The slide 27 is then set to the hip measurement upon the hip-scale section 14, and the slide 40 at the bottom of the chart is then set to the hip measurement upon the scale 38. The slide 19 is then set to the waist measurement, after which the slides 26 and 39 are set to the hip measurement, using the lower scale-degrees. The second gore is then marked off across the top edge of the waist cross-bar

16 and downwardly at the outer sides of the rods which connect the slides 19, 26, and 39 and the slides 20, 27, and 40, the bottom of the gore being marked from the shoulder 49^a to the shoulder 52 and thence to the shoulder 49. It will here be explained that when the slides 39 and 40 are set to the hip measurement the pair of rods 47 and 48 and the other pair of rods 41 and 42 telescope so as to accommodate themselves to the change in distance between the slides 26 and 39 and between the slides 27 and 40, so as to give the proper length to the gore in proportion to the hip measurement. The third gore is determined by setting the waist-slides 20 to the waist measurement and then setting the slides 27 and 40 to the hip measurement, after which the waist-slide 19 is set to the waist measurement and the slides 26 and 39 are set to the hip measurement, the upper set of scale-degrees being employed in connection with the slides 19, 26, and 39. The gore is then marked off across the top edge of the waist cross-bar 16, between the ends of the slides 19 and 20, and then downward across the outer sides of the rods which connect the set of slides 19, 26, and 39 and the other set of slides 20, 27, and 40, the bottom of the gore being marked off from the shoulder 50^a to the shoulder 53, and thence to the shoulder 50. It will here be explained that the scale-degrees of the upper division *a* of each scale 18, 15, and 37 are half as long as the degrees of the lower section or division *b*, which gives the proper proportion to the third gore with respect to the waist and hip measurements, from which it will be understood that the chart mechanically proportions the gores, and thus obviates mental effort upon the part of the party using the chart—that is to say, in cutting the third gore the same waist, hip, and bottom measurements are employed, but instead of moving the slides with respect to the scale-marks *b* at the lower ends of the scales said slides are moved with respect to the scale-marks *a* at the upper ends thereof, which are only one-half as far apart as the scale-marks at the lower ends of the scales, and consequently give the proper proportion of the third gore with respect to the other gores. The back gore is marked off around the outer edge of the frame defined by the waist cross-bar 16, the bottom bar 54, one set of side bars 55 and 56, and the other set of side bars 57 and 58. From the foregoing description it will be seen that the present chart is entirely complete in itself and includes a frame made up of the central body members 1 and 2, the top or waist cross-bar 16, the bottom bar 54, and the two sets of side bars 55 56 and 57 58, within which frame are contained the waist-slides, the hip-slides, and the bottom slides, which are adjustable with respect to the scales, whereby the outline of each gore may

be quickly determined by setting the slides to the measurements which have been previously obtained.

Having thus described the invention, what is claimed is—

1. A skirt - drafting chart comprising a skeleton frame in the form of a gore and adjustable longitudinally to set the same to any predetermined length of skirt, a waist-scale at one end of the frame, a hip-scale, a bottom-scale-indicating member spaced from the bottom scale for the purpose specified, a pair of slides upon each of the scales, and telescopic rods connecting the corresponding slides of the successive scales.

2. A skirt - drafting chart comprising a skeleton frame in the form of a back gore and adjustable longitudinally, waist-scales, hip-scales, and bottom scales at opposite sides of the middle of the frame, the waist, hip and bottom scales at one side of the frame being divided into two longitudinal divisions with the degrees of one division differing in length from the degrees of the other division, waist-slides cooperating with respect to the waist-scales, hip-slides cooperating with respect to the hip-scales, bottom slides cooperating with respect to the bottom scales, and telescopic rods connecting the waist, hip and bottom slides at both sides of the frame.

3. A skirt - drafting chart comprising a skeleton frame in the form of a back gore, a central longitudinal gore member having the outline of a front gore, waist, hip and bottom scales at each side of the front gore member, indicating members arranged a predetermined distance below the bottom scale for the purpose specified, slides for the respective scales, and telescopic rods connecting the slides of the respective scales.

4. A skirt - drafting chart comprising a frame having bottom, waist and hip scales, and a pair of gore-defining rods adjustable toward and away from one another with respect to the scales, said rods being provided with fixed indicating members adjacent the bottom scale which define the length of a gore.

5. A skirt - drafting chart comprising a skeleton frame, waist, hip and bottom scales, slides for the respective scales, and telescopic rods connecting corresponding slides of the respective scales, said rods being pivotally connected to the waist and hip slides and rigidly connected to the bottom slides, the lower end portions of the rods having indicating members defining the length of a gore.

6. A skirt-drafting chart comprising a skeleton frame in the form of a back gore, the longitudinal members of the frame being telescopically assembled, a front gore member located at the longitudinal center of the frame and formed in telescopic sections, a longitudinal scale carried by one of the sections and having the other sections cooperating there-

with as an index, waist, hip and bottom
scales extending at each side of the front gore
member, slides for the respective waist, hip
and bottom scales, telescopic rods connecting
5 the corresponding slides at each side of the
frame, the lower end portions of the telescopic
rods having indicating members defining the
lengths of the gore, and each scale at one side
of the frame being divided into two longitu-
10 dinal divisions, the degrees of one division be-

ing longer than the degrees of the other divi-
sion.

In testimony that we claim the foregoing
as our own we have hereto affixed our signa-
tures in the presence of two witnesses.

AUGUST F. SCHRADER.
OPHELIA McCULLOUGH.

Witnesses:

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C. E. GUNHUS.