E. S. EDEN.

SKIRT DRAFTING QUADRANT.

APPLICATION FILED NOV. 12, 1909.

967,504. Patented Aug. 16, 1910.

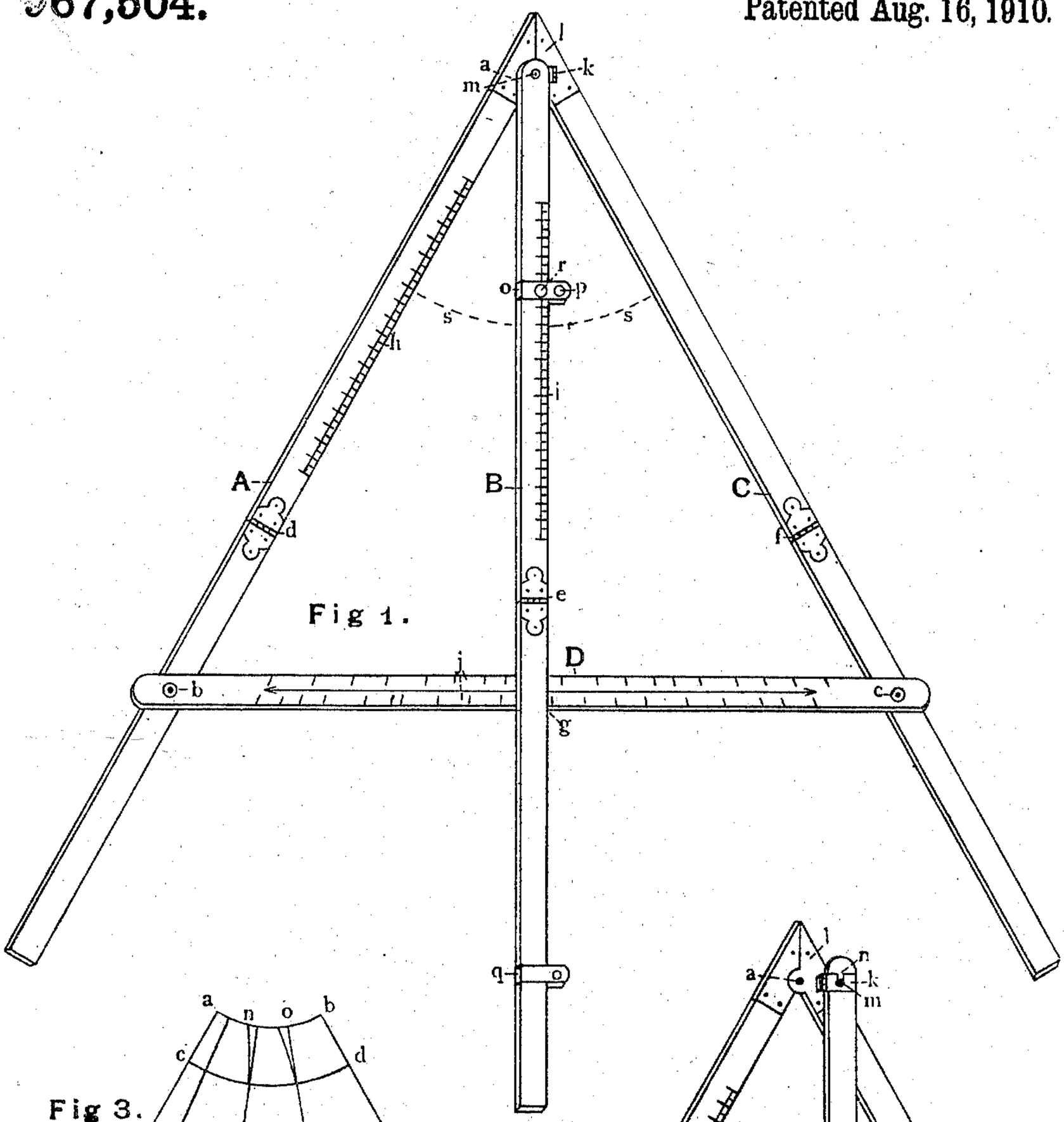

Fig 1.

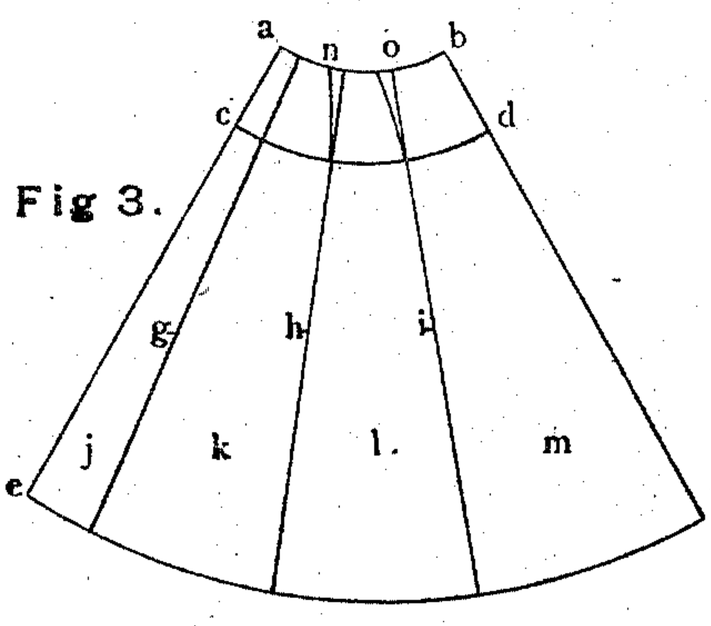

Fig 3.

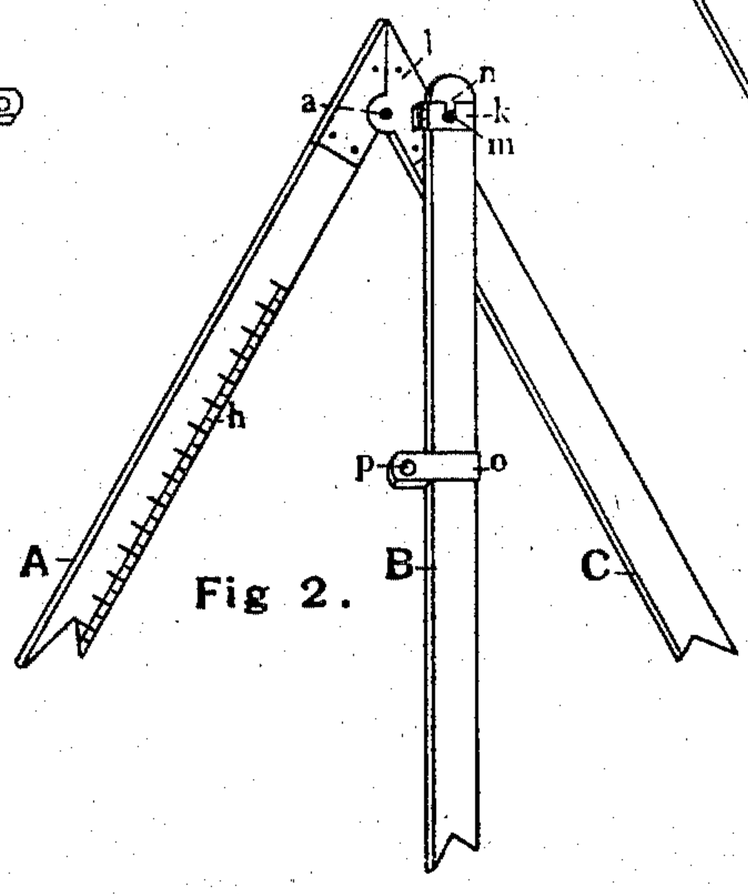

Fig 2.

WITNESSES

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SKIRT-DRAFTING QUADRANT.

967,504. Specification of Letters Patent. **Patented Aug. 16, 1910.**

Application filed November 12, 1909. Serial No. 527,632.

To all whom it may concern:

Be it known that I, EDWARD SAMUEL EDEN, of Eastwood, in the county of Oxford, Province of Ontario, and Dominion of Canada, gentleman, have invented a new and useful Improvement in Skirt-Drafting Quadrants; and I hereby declare that the following is a full, clear, and exact description of the same.

My improvement relates to an improvement in skirt drafting quadrants, in which are two extending arms standing at an angle of 60 degrees to each other; connected together with a horizontal connecting rod; having a suspending dividing rod; and the objects of my improvement are, first, to simplify the whole method of drafting ladies' skirts; second, to minimize the time that is required in drafting the same; third, to secure a perfect fit to all measurements within the range of the quadrant, all of which can be done without the use of the usual square and tape. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1, is a perspective view of the entire quadrant; Fig. 2, is a perspective view of the top part of the same, showing the changed position of the dividing rod B, from its position as shown in Fig. 1. Fig. 3, is a diagram of one half of a seven gored skirt to assist in a more complete understanding of the working of the quadrant.

Similar figures refer to similar parts throughout Fig. 1 and Fig. 2.

A, C and D constitute the framework of the quadrant; A and C being connected at their top by the metal cap *l* which is made in two sections, each of which is securely fastened to the arms A and C respectively; these sections encircle the two sides and one edge of each arm and have two extending lugs on each section; the lugs of the one section overlap the lugs of the other section forming a hinge by the pin *a*, Fig. 2, passing through their centers.

D, is a horizontal connecting rod which holds the lower part of the two arms A and C in their relative position of 60 degrees to each other and is connected to the two arms A and C at a point equally distant from their meeting point by thumb screws at *b* and *c*, Fig. 1.

B, is a dividing rod that is suspended by the pin *m*, that hangs in the groove *n*, of hinge *k*, that is attached to the cap *l* at the top of the quadrant. Through the hinge *k*, previously referred to, the dividing rod B can be changed from its position as shown in Fig. 1, to its position as shown in Fig. 2, by simply turning it over to the right. The object of this arrangement is to facilitate in drafting gores of uniform and also of different lengths.

To draft gores of uniform length, the bottom line *e f*, Fig. 3, is drawn with the dividing rod B in its central position as shown in Fig. 1. When drawn with the dividing rod in this position all the gores will be of equal length. To draft gores of different lengths, the dividing rod B is first turned over to the right as shown in Fig. 2. The effect of turning the dividing rod in this way is to raise the bottom line *e f*, at *e*, and to lower the same at *f* which makes the back gore *m* one and a half inches longer than front gore *j*, Fig. 3.

Adjustable pencil holders are located at *o* and *q*, on dividing rod B, which are so constructed that they can be moved to any position, up or down, on dividing rod aforesaid. At *p*, of pencil holder *o*, is an opening for the insertion of the pencil, and at *r*, an opening through which the figures on the scale *i* can be seen. The lower pencil holder *q* is constructed in the same way omitting the opening *r* as shown in pencil holder *o*, both of which are so constructed as to completely encircle the dividing rod B, as shown.

At *h*, on arm A, is a scale of figures that are so spaced and placed that they will give the exact length of any arc drawn across the angle from A to C, using *a* as a center point as illustrated by dotted line *s s*, Fig. 1. The range of these figures is from 10 to 30, the smaller of these figures being at the top and the larger at the bottom of the scale on arm A as aforesaid. These figures represent one half hip and waist measure. To instantly determine the length of any arc that is drawn across the angle from A to C as illustrated by dotted line *s s*, Fig. 1, note the figures on the scale *h*, on arm A, that would be intersected by the line if continued, these figures so intersected represent the exact length of the line in inches from A to C. At *i*, on dividing rod B, is another scale of figures the range of which is from 20 to 60, the smaller of these figures being also at the top and the larger at the bottom of the scale; these figures represent full hip and waist measure, and are so spaced and

placed on dividing rod B that any arc described from the point *a* will intersect figures of double the numeral magnitude as the same line would intersect on the scale at *h*, on arm A of the quadrant.

Upon the upper and lower edge of the face of connecting rod D, at *j*, is a list of figures the range of which is from 3 to 17; these figures do not run in numeral rotation, nor are they spaced equally apart, but are so spaced and placed to designate the proper point or position to place the dividing rod B when dividing the skirt into the number of gores the skirt is to contain. The order in which these figures stand, reading from left to right, is as follows:—17, 15, 13, 11, 9, 7, 3, 5, 17, 15, 13, 6, 11, 17, 15, 9, 7, 13, 17, 11, 15, 4, 5, 17, 13, 9, 6, 15, 11, 17, 7, 13, 15, 17, 9, 11, 13, 15 and 17. For a two piece circular, or gored skirt, none of these figures are taken into consideration as no intermediate lines such as *g*, *h* and *i*, Fig. 3, are drawn as the gores in this class of skirts would correspond to one half of the whole skirt or to the whole of Fig. 3, hence the figure 2 does not appear in the list. For a like reason the figure 1 does not appear in the list as a one piece circular skirt is cut by placing a two piece pattern upon folded goods and cutting out both sides of the skirt with the one operation.

The method in which the above figures are used when dividing a skirt up into the number of gores the skirt is to contain, is as follows:—For a three gored skirt place the dividing rod B at the figure 3 that appears but once on connecting rod D, and by drafting down the right edge of the same from waist line *a b* to bottom line *e f*, Fig. 3, the proper line will be drawn. If four gores are required place the dividing rod at the figure 4, which also appears but once in the list. If five gores are desired place the dividing rod at the two figures 5. If seven gores are wanted place it at the three figures 7, or all the sevens that are in the list. For a nine gored skirt place the dividing rod at all the figures 9, and so on throughout the whole list, and by drafting down the right edge of the dividing rod from waist line to bottom of skirt any number of gores can be had within the range of the quadrant.

Hinges are located at *d e f*, and on the under side of connecting rod D, at *g*, so that the quadrant can be folded up when not in use.

The mode of operating the quadrant is as follows (it being understood that only one half the skirt pattern is drafted or required):—Hang the paper on the wall, then hang the quadrant on a nail over the paper in such a way that it will not shift its position; then slide the upper pencil holder *o* to the number on the dividing rod B that corresponds to the full hip measure, place the pencil through the hole *p* in the same and by swinging the dividing rod to right and left the hip line *c d*, Fig. 3, will be drawn. Then slide the same pencil holder up 5, 6 or 7 numbers, or the distance from waist line to the point where the hips were measured, and in the same way draw waist line *a b*. Next draw a line down the inside edge of arms A and C, from waist line *a b* to the bottom of the quadrant; this will give the two outside lines *a e* and *b f*, Fig. 3. To draw the bottom line *e f*, first turn the dividing rod B over to the right as shown in Fig. 2, which will make the back gore *m* one and a half inches longer than front gore *j*; then by placing the lower pencil holder *q* at the proper length of skirt, insert the pencil in the same and by swinging the rod the line can be drawn. The skirt can now be divided up into as many gores as desired by placing the dividing rod B at all the numbers on connecting rod D that correspond to the number of gores the skirt is to contain. For a five gored skirt place the dividing rod at all the figures 5; for a seven gored skirt place it at all the figures 7; for a nine gored skirt place it at all the figures 9, and so on throughout the list, and draft down the right edge of the dividing rod from waist line to the bottom of the skirt. To reduce the waist line to proper waist measure, first notice the length of the waist line as given by the scale at *h*, on arm A of the quadrant. The difference between the length as given by this scale and one half the waist measure (as derived by the use of a tape measure) when divided by 2 is the amount the waist line *a b* is to be reduced at *n* and *o*, Fig. 3.

The whole operation of drafting from a one piece circular to a 17 gored skirt requires but one to two minutes of time.

I am aware that prior to my invention skirt drafting was done by a system of measuring and remeasuring with a square and tape, I therefore do not claim such a method broadly as my invention.

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

1. In a skirt drafting quadrant, the combination of two extending arms connected together, forming an angle, and to a horizontal connecting rod, preferably at points equally distant from their meeting point, and a suspending dividing rod pivotally connected to said arms at their meeting angle, having two independently slidable pencil holders on said dividing rod substantially as set forth.

2. The combination in a skirt drafting quadrant, of the cap *l*, the attached folding hinge piece *k* having a groove *n* and a dividing rod provided with a pin *m* for supporting it in said groove, substantially as shown, for the purpose specified.

3. In a skirt drafting quadrant, the combination of the two arms A and C, A having a scale of figures thereon at *h;* dividing rod B having a scale of figures thereon at *i*, and connecting rod D provided with a list of figures on the upper and lower edge of the face thereof, at *j*, to designate the proper point or position to place the dividing rod B when dividing the skirt up into the number of gores the skirt is to contain, all substantially as shown for the purpose specified.

Eastwood, Ontario, Canada Nov. 5th 1909.

EDWARD SAMUEL EDEN.

Signed in the presence of—

WILLIAM RANSON,

MADELIN L. EDEN.