

No. 622,419.

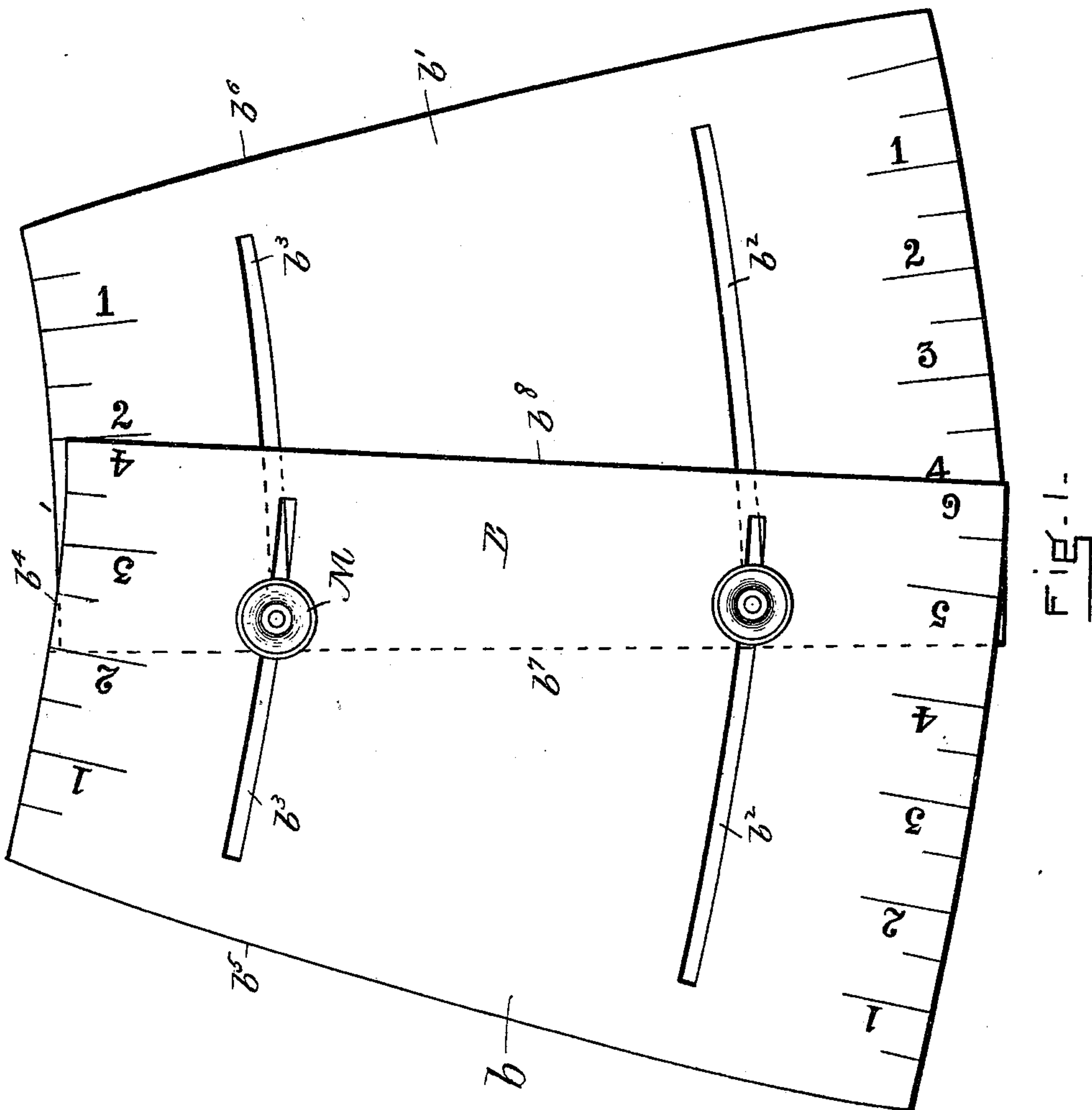
Patented Apr. 4, 1899.

E. E. CUNNINGHAM.
GARMENT DRAFTING APPARATUS.

(Application filed May 21, 1897.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES
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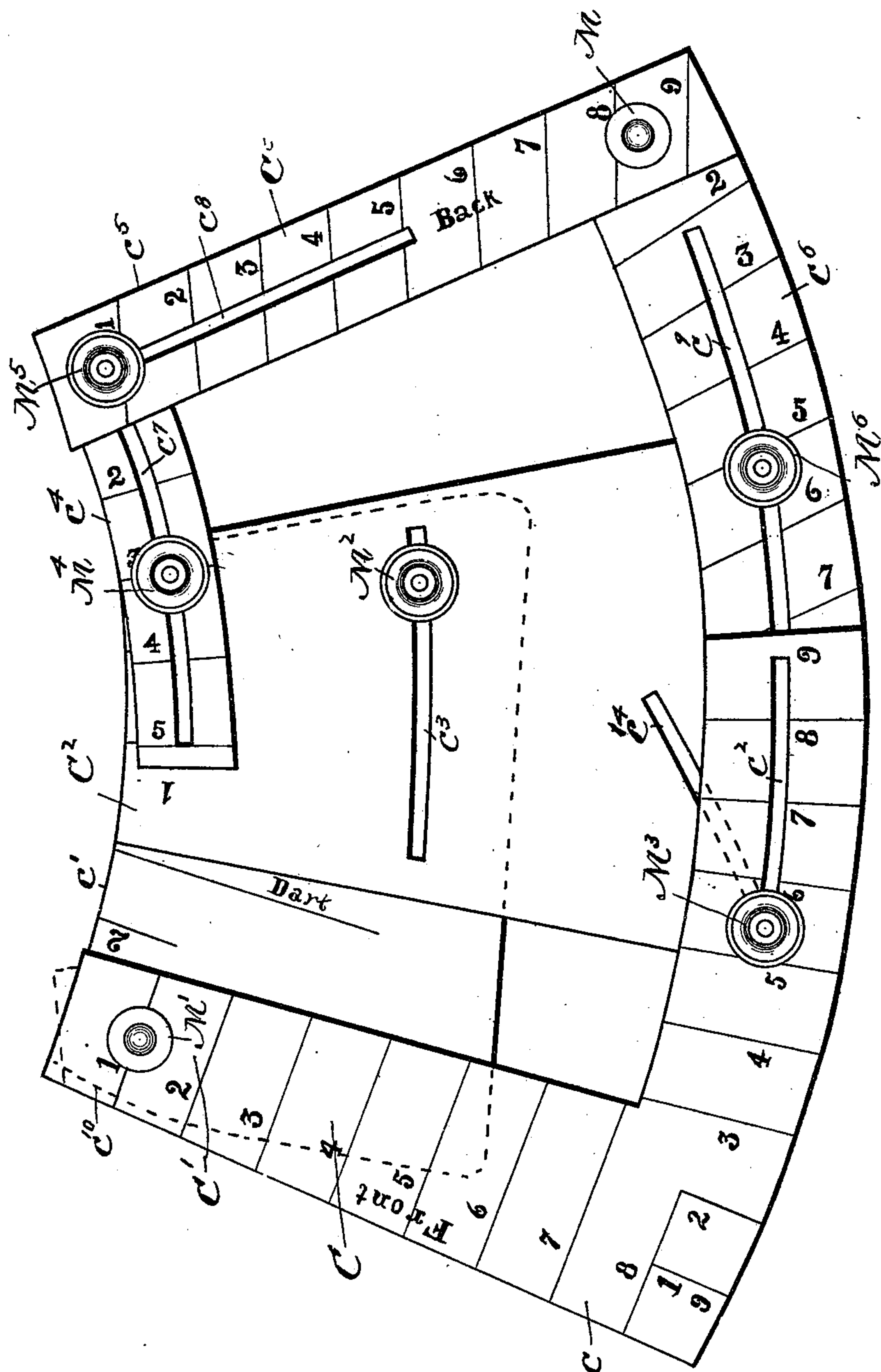
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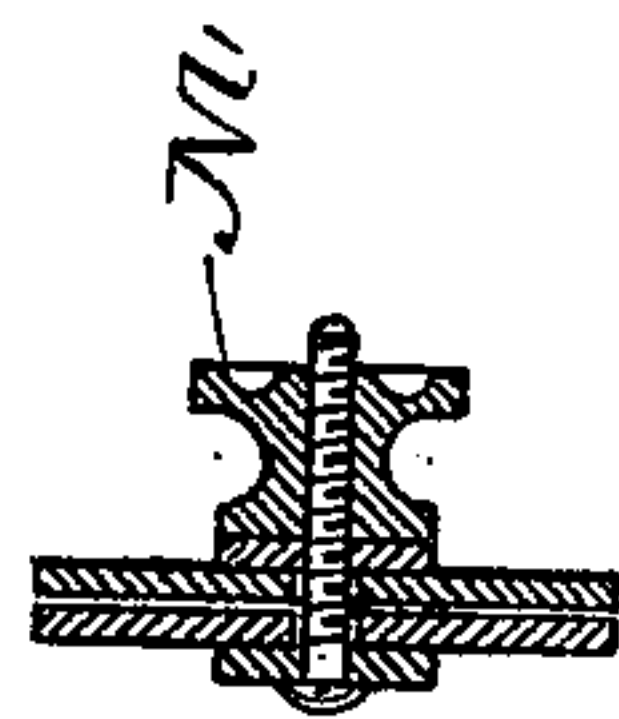
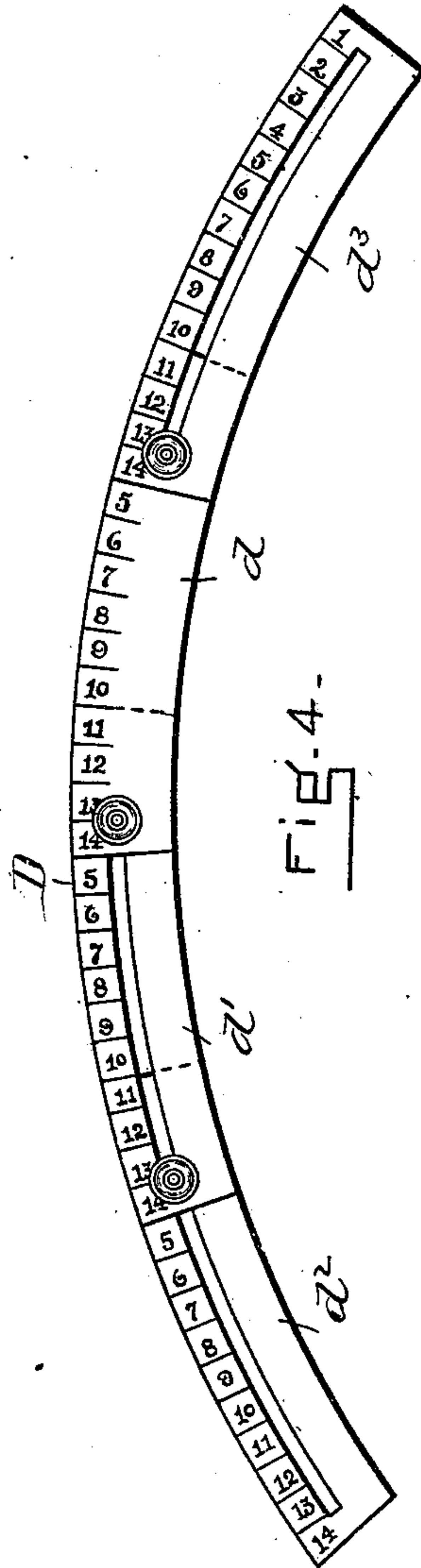
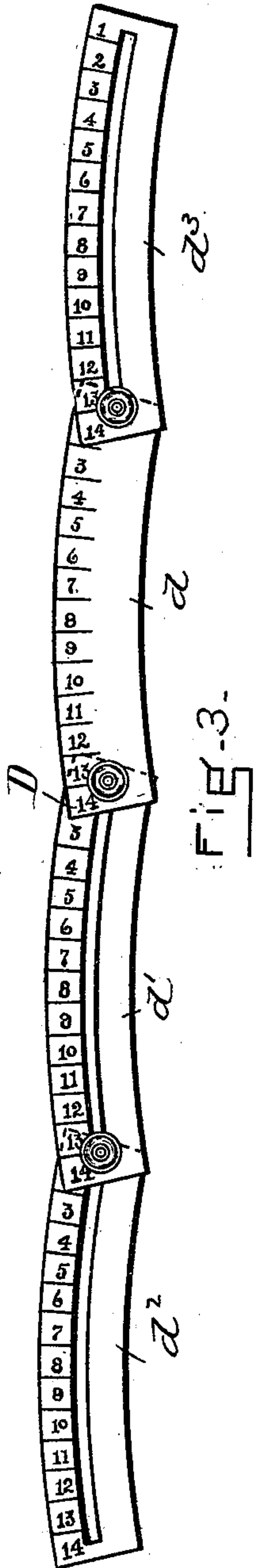
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

EMMA E. CUNNINGHAM, OF NEWTON, MASSACHUSETTS.

GARMENT-DRAFTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 622,419, dated April 4, 1899.

Application filed May 21, 1897. Serial No. 637,514. (No model.)

To all whom it may concern:

Be it known that I, EMMA E. CUNNINGHAM, of West Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Skirt-Drafting Patterns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention consists in the improved pattern-plates herein described and claimed for drafting ladies' skirts. The pattern-plates are adjustable and arranged to be set in accordance with the required measurements. From these plates patterns for various parts of the skirts may be cut, as will be hereinafter described.

I have in practice divided the skirt into four parts—two side sections, a front section, and a back section—and have been enabled to use one pattern-plate for the front and back sections and one for the two side sections. I do not, however, restrict myself to this feature, as the principle of my invention would be practiced if a greater number of pattern-plates were used. One gore only is usually used for the front of the dress, one or two for the side, and three or four for the back, though the number of gores will vary with the style of skirt in vogue. The gores for the back are usually brought up to a width of two inches or thereabouts at the waist; but this and other details may be varied at will without affecting my invention, the advantage of which is that it may be used just as well however the fashion of skirts may change.

In the drawings, Figure 1 shows the pattern-plate from which the front and back sections are formed. Fig. 2 shows the pattern-plate for forming the side sections. Fig. 3 shows the plate used in determining the curve of the bottom of the skirt. Fig. 4 is a view of the same when set in operative position. Fig. 5 is a vertical section through one of the holding screws or nuts.

The pattern-plate B is used to cut the patterns for both the front and back sections, being reversed or shifted for the latter. As in the case of all the plates herein described except that shown in Figs. 3 and 4, it is not as long as the pattern to be made from it and

serves to give the shape and size of the pattern at its waist end, the length thereof being determined independently of the plate in any desired way. In practice I have made this plate B about nine inches long, though this may be varied somewhat; but it must be wide enough at its extreme extended position to accommodate itself to the largest skirt. The plate B comprises the templates $b\ b'$, each provided with slots b^3 in their upper parts and slots b^2 in their lower portions. The templates are arranged to be adjusted in different positions relative to each other and to be secured in the required position by the thumb-nuts M or other suitable devices. The templates are graduated at their upper and lower ends, the figures here shown representing inches. The edge b^4 of the templates $b\ b'$ is slightly curved, as shown in Fig. 1. It will be noticed that the edges $b^5\ b^6$ are somewhat curved, while the edges $b^7\ b^8$ are straight.

The pattern-plate C for drafting the side sections is formed in three parts, as shown in Fig. 2. The part C' comprises the elbow-shaped section c and the four-sided section c' , pivoted thereto and adapted to be set in any desired position by the thumb-nut M'. A slot c^2 is provided in the end of the elbow. The part C² is made in a single piece, (shown in Fig. 2,) having the upper and lower curved edges and the straight side edges extending outwardly from the top to the bottom. The part C² is provided with the slot c^3 , curved so as to be parallel with the upper and lower edges of this part, and the slot c^{14} , which extends upwardly in an oblique direction from the lower left-hand corner of this section. Thumb-nuts M² M³ are provided for securing the plate C² in the proper position relative to the part C' for the purposes to be hereinafter described. The part C³ is formed in three sections $c^4\ c^5\ c^6$, pivoted together. The section c^4 has a slot c^7 and a thumb-nut M⁴ to determine its position in relation to the part C². The section c^5 , which forms one side of the pattern-plate C, has a slot c^8 and a thumb-nut M⁵ for adjustment in a position relative to section c^4 . It has also the pivot M, by which it is attached to the section c^6 . The section c^6 has a slot c^9 and a thumb-nut M⁶ for adjustment relative to the part C².

The outside edges of all the parts compris-

ing the pattern-plate C are graduated, as shown, so that they may be set in the proper position relative to each other.

The pattern-plate D is used for determining the proper curvature of the bottom of the patterns. The plate D comprises the sections $d d' d^2 d^3$, adjustably connected together and adapted to be set in proper relation to each other, as already described in connection with other parts of this invention. I have represented these sections as each containing a scale of fourteen inches, as this will be as much as is ordinarily required.

The method of using my improved pattern-plates will now be described, and it is to be noted in this connection that I do not make the plates shown in Figs. 1 and 2 as long as the patterns to be drafted therefrom. I use them for determining the shape and size of the upper portion of the gores of the skirt and determine the length and shape of the lower portion independently. The plate shown in Figs. 3 and 4 is used to get the proper curvature of the bottom of the patterns, and different considerations apply to it, as will be readily understood.

The measurements for the skirt may be found in any desired way, and I need not allude to this further except to say that the measures required are principally the size of the waist and hip and the length at various points, and in order to use my patterns in the way which I commonly practice, as already mentioned, all the measures must be found for the front, side, and back sections of the skirt separately, so that my pattern-plates may be used in drafting these different sections.

In using the pattern-plate B, I adjust the upper or waist edge b^4 to correspond with the number found to be the waist-measure for the front section of the skirt. The lower edge of the pattern is then adjusted to correspond with the hip-measure of that section. The plate is then laid on drafting-paper and lines drawn along the upper edge b^4 and the sides $b^5 b^6$. These sides are somewhat curved, as already described. The pattern so drawn will be a correct form for the upper part of the front section of a skirt, having also the requisite curvature of the sides. The length of this section must be found by continuing the side lines to the proper distance in accordance with the measurements determined for this part of the skirt. These lines are drawn as a continuation of the side lines of the pattern. The bottom line is not yet laid out, as the bottoms of all the patterns are determined at one time by the use of my pattern-plate D, as will be hereinafter described. The pattern may now be cut out on the lines drawn, the bottom alone being left uncut.

To draft the back section of the skirt, I reverse or shift the pattern-plate B, so that the side edges $b^7 b^8$ are outermost. These edges are straight and will give the proper shape for the back of the skirt, as the gores form-

ing that part of the skirt are made with straight sides. The pattern is formed as already described, the length being determined independently of the plate. The pattern-plate C is used in a similar manner, except that there is an additional line to be determined, as will be presently described.

The measurements for the waist and hip of the side sections having been found, the upper and lower edges of the plate C are adjusted to correspond therewith, the separate parts $C^1 C^2 C^3$ being arranged in relation to each other so as to divide the width equally between them. It is found in practice that the back of the side section of a skirt must often be made somewhat shorter than the front in order that the dress may fit properly. If the back measurement be two inches shorter, the section c^5 of the pattern-plate C from which the back line is drawn is raised two inches over the section c^4 and secured in that position. Then, under an arbitrary rule of the art of dressmaking, the front part c of the pattern-plate C is brought up one and one-half inches by means of the slots $c^2 c^4$ and the nut M^3 . This will change the relative position of the sections $c c'$, and they are then set in that position, as shown in the dotted line of Fig. 2. The pattern is then drafted as before, the length being determined by the measurements in the same manner as before and the bottom line being left alone for a time. There is here, however, an additional line to be drawn, which is rendered necessary by the difficulties in the way of making the side of a dress hang properly. This is the front line. In order to draft it correctly, the sections $c c'$ are made to coincide, as shown in the heavy lines in Fig. 2, and the front line of the pattern is then drafted over again. It has been found in practice that by this expedient the correct fit is given to the side section of the skirt. When the patterns for the front, back, and side sections have been cut out, as before described, they are placed on the drafting-table side by side.

It will be remembered that the bottom lines of the patterns have been left untouched. I determine the curvature of these lines by use of the pattern-plate D. If the length of the bottom of the patterns be forty inches, the pattern-plate D is set at "40," (shown in Fig. 4,) each scale recording ten. The curvature of each section of the pattern-plate D is such that when the plate is set in this way the resulting curve will be the proper one for each separate pattern. The section d of the pattern-plate D is placed on the center of the pattern for the front of the dress in such a way that the number "7," which represents the center of this section, will be on the central point of the lower part of that pattern. When the pattern-plate D is thus placed, the bottom line of the patterns may be drawn from it in the ordinary way.

It will be understood that one or more gores may be used for the side or back of the skirt and that the gores may be brought up to the

waist in a way well known to dressmakers, my pattern-plates being used to draft all the gores.

5 Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a skirt-drafting pattern, in combination with an adjustable plate for drafting the side sections of a skirt, the pattern-plate for
10 drafting the upper part of the front and back sections thereof, said pattern-plate being adapted to be shifted side for side according as it is to be used to draft the front or back section, its edges being shaped to conform to
15 the adjacent corresponding edges of said side-drafting plate, as and for the purposes set forth.

2. In a skirt-drafting pattern the pattern-plate C for drafting the side sections of a skirt
20 composed of three parts, the part C' comprising the elbow-shaped templet c and the four-sided templet c' , the part C² made in a single

four-sided piece and the part C³ comprising three narrow templets c^4 , c^5 , c^6 pivoted together, the said parts C', C², C³ being adjust- 25 ably connected together substantially as described.

3. In a skirt-drafting pattern the reversible plate B comprising the parts b , b' formed as described, having straight sides b^7 , b^8 and
30 curved sides b^5 , b^6 , as and for the purposes described.

4. In a skirt-drafting pattern the narrow plate D for determining the curve of the bottom of the sections of the skirt, comprising
35 the slotted curved templets d' , d^2 , d^3 and the curved templet d , the said templets being pivotally connected together substantially as described.

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Witnesses:

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