2 Sheets—Sheet 1.

C. H. GRIFFIN.

INSTRUMENTS FOR DRAFTING PATTERNS.

No. 194,086. Fig. 1. Patented Aug. 14, 1877.

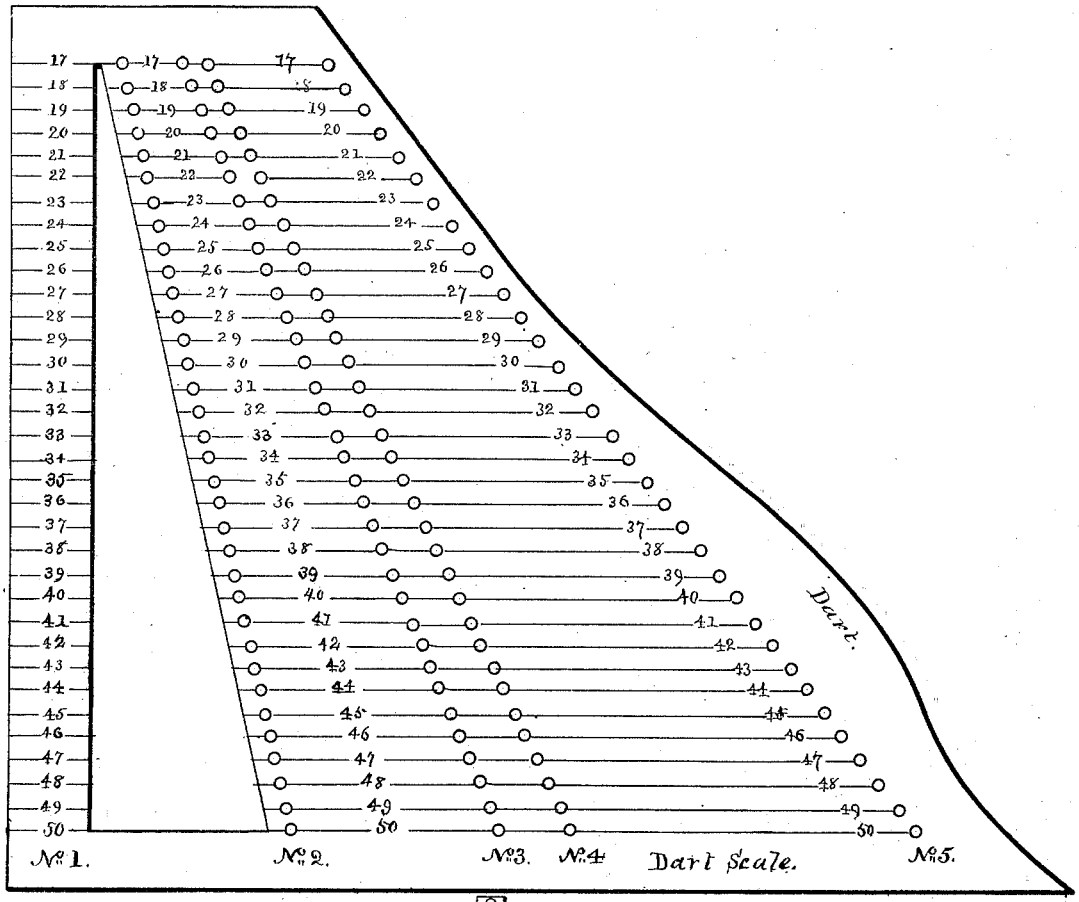
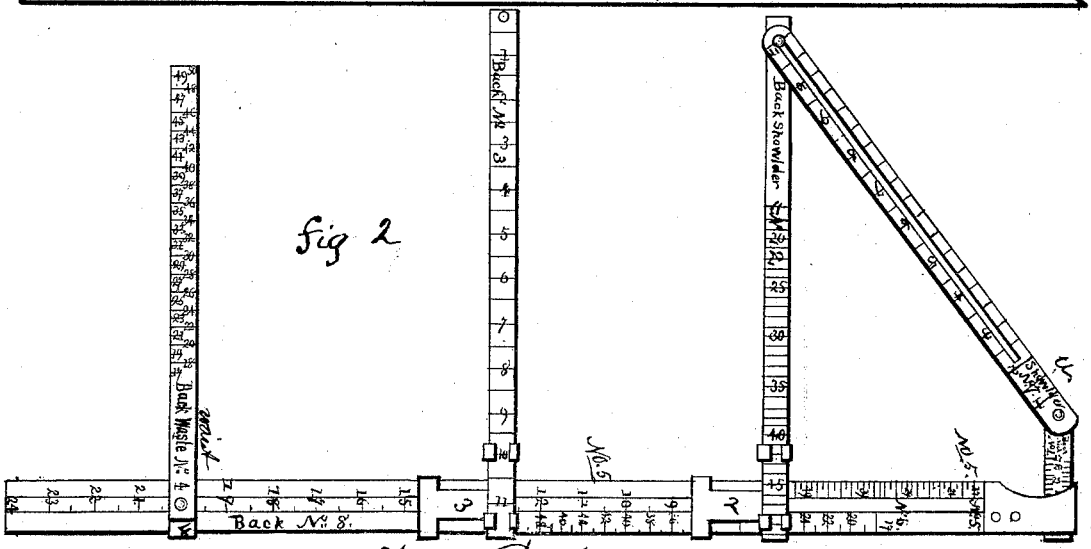


Fig 2



Witnesses,
Willis Griffin
David J. Knox.

Inventor,
Caleb H. Griffin.

2 Sheets—Sheet 2.

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INSTRUMENTS FOR DRAFTING PATTERNS.

No. 194,086. Patented Aug. 14, 1877.

Fig 3.

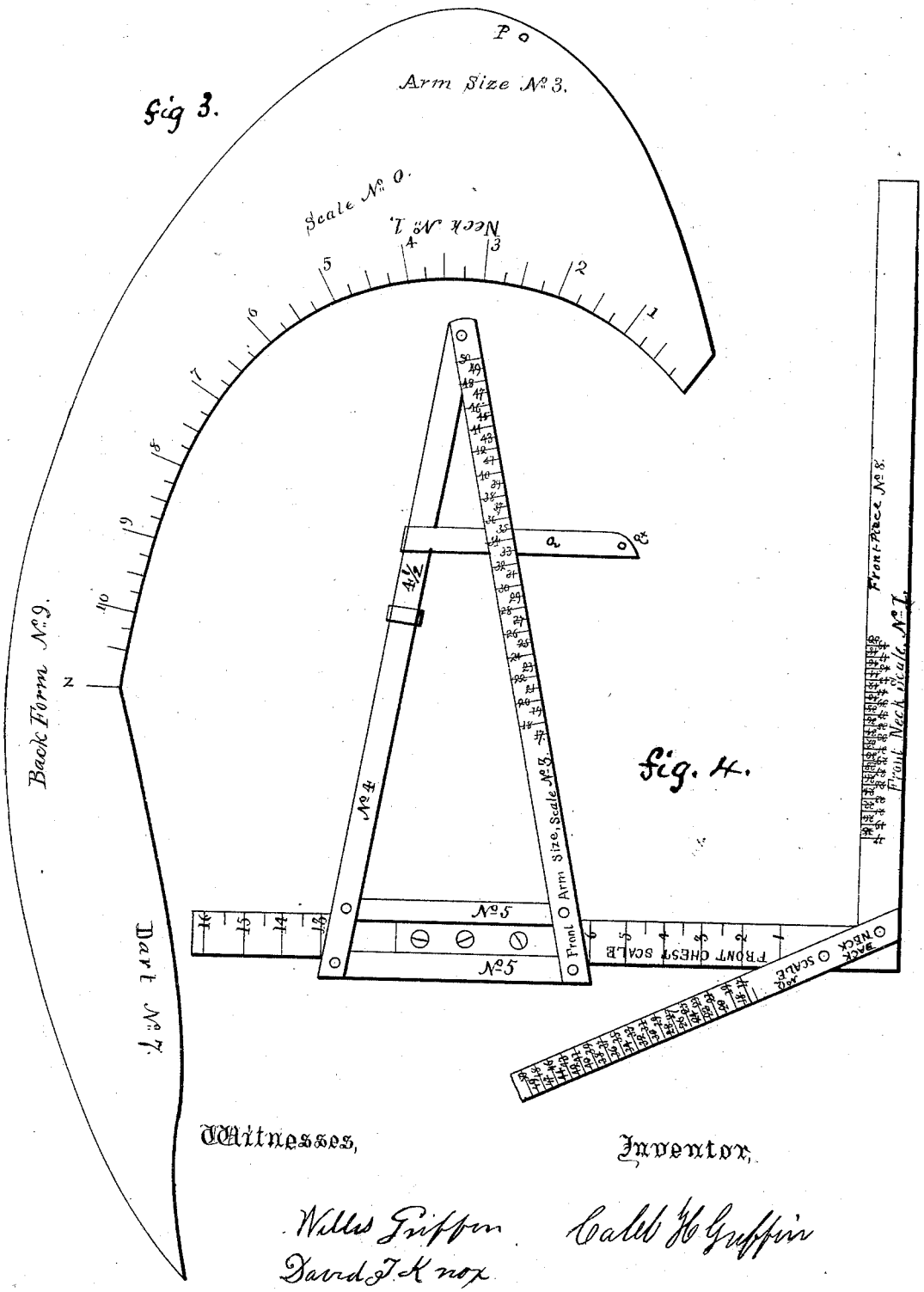

Fig. 4.

Witnesses,

Willis Griffin
David Knox

Inventor,

Caleb H Griffin

UNITED STATES PATENT OFFICE.

CALEB H. GRIFFIN, OF LYNN, ASSIGNOR OF ONE-HALF HIS RIGHT TO DAVID KNOX, OF SAUGUS, AND ONE-FOURTH HIS RIGHT TO ELIZABETH ELLEN DURGIN, OF MALDEN CENTRE, MASSACHUSETTS.

IMPROVEMENT IN INSTRUMENTS FOR DRAFTING PATTERNS.

Specification forming part of Letters Patent No. **194,086**, dated August 14, 1877; application filed December 5, 1873.

To all whom it may concern:

Be it known that I, CALEB HENRY GRIFFIN, of the city of Lynn, county of Essex, and State of Massachusetts, have invented new and Improved Instruments for Drafting Clothing and Making Patterns for the Same, of which the following is a specification:

The nature of my invention is that of a combination of devices in the form of rules, attached together in a certain manner, as shown in the drawings, and marked with scales and indicating characters, some of them being provided, as hereinafter mentioned, with slides to vary their relative positions, and also of two devices in the shape of patterns, whose bounding-lines are partly in the form of peculiar curves, these patterns being also furnished with scales and indicating characters.

The object of my invention is to furnish the means whereby (the dimensions of the human body being taken by actual measurement) a pattern is produced for the cutting out of garments.

Figure 1 is a view of a pattern with lines, figures, and perforations used in cutting the darts or gores. Fig. 2 is a view of a combination of adjustable scales for marking out the pattern of the back of the dress. Fig. 3 is a view of a curved pattern for cutting out the darts, arm-size, &c. Fig. 4 is a view of a combination of adjustable scales for marking out the front of the dress.

Fig. 2 represents a strip of wood or metal, marked "Back No. 8" in the drawing, with three scales thereon. Two of these scales, one on either edge of the strip, are divided by lines marked from 17 to 50, or sometimes from a smaller to a greater number. One is marked "No. 5" and the other "No. 6." There is also a third scale, with figures running from 7 to 24. There is a metallic loop on the strip at the end, bearing scale No. 5. There are three slides on the piece marked "Back No. 8," with two cross or axial slides attached to two of them, running at right angles with piece "Back No. 8." The other strips or pieces included in Fig. 2 are thus described: One piece marked "Back neck No. 1," with scale thereon running from 17 to 50, and connected with piece "Back No. 8" by the metallic loop mentioned, in which it slides at right angles to "Back No. 8;" one piece marked "Back shoulder," with scale thereon, numbered from 17 to 50, passing through a cross-slide, and working therein at a right angle with piece marked "Back No. 8;" one piece marked "Back No. 3," with scale thereon divided into parts, and numbered from 1 to 12, and operated by means of a cross-slide, which holds it at a right angle with piece marked "Back No. 8;" one piece marked "Back waist No. 4," with scale thereon divided into thirty-four parts, and numbered from 17 to 50, attached by a pin or rivet, on which it partially rotates, to a slide or piece marked "Back No. 8;" one piece marked "Shoulder No. 7," with scale thereon divided into twenty-two parts, (more or less,) numbered from 1 to 11, with a slot through the center of said piece from No. 1 to 11, or thereabout, and connected with scale marked "Back shoulder No. 2" by a pin in said slot, and connected with scale marked "Back neck No. 1" by a pin, on which it partially rotates. This constitutes what I term the back instrument.

The front instrument, to be used in connection with the back instrument above described, is shown in Fig. 4, and consists of several pieces of strips, thus described: One piece marked "Back-neck scale No. 2," with scale thereon divided into thirty-four parts, and numbered from 17 to 50; one piece marked "Front-chest scale," with scale thereon divided into inches and parts of inches, and numbered from 1 upward. The edges of this piece form a dovetail, on which slides the "Front-arm-size scale No. 3," which is a triangle composed of four pieces, two of which form the slide working on the "Front-chest scale," and two pieces, one at either end of said slide, connected by rivets with it, and extending therefrom at an acute angle till their ends

meet. These ends are fastened together with a pin. One of these pieces has a scale thereon divided into thirty-four parts, and numbered from 17 to 50, and marked "Front arm-size scale No. 3," the other piece bearing a metallic slide, with pointer Q, Fig. 4, attached thereon which pointer has a projecting pin, $Q^{\times}$, Fig. 4, attached to it near the end. One piece marked "Front piece No. 8," joined at one end with piece marked "Front-chest scale," the two being fastened together at right angles, and forming a square, across the corner of which is fastened, with rivets, the piece marked "Back-neck scale No. 2," at an obtuse angle with piece marked "Front piece No. 8." There is a scale on the piece marked "Front piece No. 8," marked "Front-neck scale No. 1." This is divided into thirty-four parts, and numbered from 17 to 50.

Accompanying the back and front instruments, and essential to the operation thereof, is a piece in the shape of a pattern, marked "dart-scale," (see Fig. 1,) with three long sides and one short side, one of the long sides being in ogee form. The side opposite to the ogee side is divided into thirty-four parts, numbered from 17 to 50, and marked "No. 1" at the base. The device bears thirty-four lines, running horizontally in the drawing, and crossing the main part of the figure at right angles to and extending to the ogee side. The drawing shows circular perforations on these lines. One row of perforations is marked (on the base-line of the figure) "No. 2." The divisions made by the lines commence at the base-line and extend to the top or short side. One row of perforations is marked "No. 3," and extends from the base to the top or short side. One row of perforations, marked "No. 4," extends from the base to the top or short side. One row of perforations, marked "No. 5," extends similarly. Between the row of lines marked "No. 1" and the row of perforations marked "No. 2" is a V-shaped opening.

Also accompanying back and front instruments, and essential to the operation thereof, is a piece in the shape of a pattern, with its sides cut in peculiar curves, as seen in Fig. 3, marked in the drawing "Scale No. 0," on which are marked "Dart No. 7," "Back form No. 9," "Arm-size No. 3," and "Neck No. 1," and a short separating-line, Z, Fig. 3, horizontal in the drawing, at junction of the portion marked in the drawing "Dart No. 7" and the upper portion, in the drawing, of the scale No. 0. This scale No. 0 is also provided with a perforation or dent, P, Fig. 3, at the top in the drawing. I sometimes have two or more of these perforations, and sometimes vary the location by placing it or them an inch (more or less) to the right or left of the point shown in the drawing. The use of this perforation is to indicate the amount of cloth to be taken out in front for the arm-size.

Operation of the invention: I now proceed to give a practical illustration of the operation of the instruments by first assuming that a lady's breast-measure is thirty-five inches. I then set scale marked "Back neck No. 1" with figure 35 even with straight edge of loop at end of piece marked "Back No. 8;" then place figure 35 on scale marked "Back shoulder No. 2" even with the outer or right-hand end of the slide in which it works; then slide the back-shoulder scale on scale marked "No. 5" to figure 35. Assuming that the width of back is fifteen inches, I set scale marked "Back No. 3," at figure 35 on scale No. 6, even with the outer or right-hand end of the slide in which it works. I then slide the scale back No. 3 in a direction at right angles to piece back No. 8, until the line at $7\frac{1}{2}$ on the scale comes even with the outer edge of the piece marked "Back No. 8. This gives half of the width of back and lower point of back-arm size. Assuming that the length of waist is sixteen inches, I place scale marked "Back waist No. 4" on back No. 8, at 16 inches; then, assuming the waist measure around the body to be twenty-six inches, I draw a line at right angles with the piece marked "Back No. 8" to No. 26 on scale marked "Back waist No. 4." The scale marked "Shoulder No. 7" indicates elevation, slope, and length of shoulder. This completes the setting of the back instrument.

I now place the instrument on the material to be drafted, with the piece back No. 8 even with the folded edge thereof, and draw a line from the straight edge of loop at end of back No. 8 around the outer side of scale marked "Back neck No. 1," extending said line down the edge of scale marked "Shoulder No. 7," to the number of inches indicated by the length of shoulder-measure. This gives half of the back section of the neck and the length of the shoulder-seam, also the upper point of back-arm size.

I then draw a line from shoulder No. 7, on the upper edge of piece marked "Back shoulder No. 2," to outer edge of piece marked "Back No. 8," and number said line 35. Then I draw a line on upper edge of piece marked "Back No. 3" to extreme left-hand end thereof. I then lay the back instrument aside.

I then place scale No. 0, with the separating-line mentioned, Z, Fig. 3, at base of dart No. 7, on upper point of back-arm size, and, using that part of scale No. 0 as a guide, draw a curved line to lower point of back-arm size; then divide said curved line into three equal parts; then dot on waist-line one inch from edge of material or line of back No. 8; then place acute point of scale No. 0 on lower dot in arm-size, and draw a line around edge of back form No. 9 to dot on waist-line for curved seam to side body. This completes the draft of the back.

Having drafted the back, I now commence to draft the front portion of the garment by first taking the chest-measure, which, for this illustration, I assume to be thirty-eight inches

around the largest part of the breast. I then subtract the width of back (fifteen inches) from the chest-measure (thirty-eight inches) and the remainder (twenty-three inches) I divide by two, giving eleven and one-half inches, which is one-half of the width of the front on chest-scale, at which point I set the inside end of slide on chest-scale, the inside edge of which rests at 11½ inches. I now cut out the back and place No. 35 on line No. 2 on inner edge of piece marked "Back neck No. 2" opposite the corresponding number, the neck and shoulder pointing toward front piece No. 8. I next set the rounding side of pointer attached to slide on front-arm-size scale No. 3 at No. 35 on said scale.

I then place the inner edge of obtuse point of scale No. 0 at No. 35 on front-neck scale No. 1, bringing edge of said scale even with the nether edge of the scale marked "Back neck No. 2," and draw a line, which indicates one-half of the size of the neck, or, in other words, the distance from the center of the backbone to the center of the hollow of the throat.

I then pass the tape around the arm at the point where the sleeve and the shoulder unite, and, for illustration, call it fifteen inches. I then (the breast-measure being thirty-five inches) slide up the pointer Q, Fig. 4, till the upper edge of the same reaches the line 35 on the front-arm-size scale No. 3. I then place the scale No. 0 with the projecting pin $Q^{\times}$, Fig. 4, entering the perforation P, Fig. 3; then pass the tape from the point of junction of line 35 with the pointer Q around the edge of the scale No. 0 to a distance of fifteen inches, which fixes the place of the lower point of back-arm size. The scale No. 0, when put in position on the pin $Q^{\times}$, gives bottom and front of arm-size and top of side seam.

Front-neck scale No. 1 on piece marked "Front piece No. 8" gives height of neck on the front.

To form the darts I use the piece termed "Dart-scale," Fig. 1, with V slot therein, the right-hand side of which is used to give relative position of top of the back dart to the front dart, when the longest straight edge of the dart-scale is placed against line No. 8 in Fig. 4. When the breast-measure is thirty-five inches I use holes on line 35 in lines of holes marked "No. 3" and "No. 5," for top of first and second darts. When the waist-measure is twenty-six inches I use holes on line 26, in lines of holes marked "No. 2," "No. 3," "No. 4," and "No. 5," for base of darts and space between them. I then place the side of dart-scale which is opposite the ogee side against line No. 8, and dot in first hole on line 26. This gives space between front edges of dress and first line of first dart. I then move side of dart-scale from line No. 8 to said dot and dot in third and fourth holes on said lines. I then move front edge of dart-scale to last dot and dot in hole 4 on line 26. This gives size and position of darts and spaces between them. I then place the acute point of ogee on upper dot 35, and draw a line to front dot on waist, and repeat for second dart, and use straight side for back side of darts. When less curve for darts is desired, I use dart form on scale No. 0.

I claim in dress-makers' measures—

1. The device shown in Fig. 1, being the pattern called the "dart-scale," as provided with lines, holes, and figures, or other indicating characters, and the curved right-hand side marked "dart," all when combined and arranged to operate substantially as described and shown.

2. The scale-piece marked "Back shoulder" in Fig. 2, with its slide 2 at one end and pin at the other, and the subsidiary cross-slide seen, in combination with the sliding scale-piece marked "Back neck No. 1," and the loop bearing it, the slotted scale-piece marked "Shoulder No. 7," also the scale-piece No. 5, and the piece marked "Back No. 8," and bearing scale-piece entitled "Scale No. 5," all when constructed and arranged to operate substantially as described and shown.

3. The scale-piece marked "Back No. 3" in Fig. 2, in combination with its slide 3, the cross-slide, and the piece marked "Back No. 8," and the scale-piece entitled "Scale No. 6," all when constructed and arranged to operate substantially as described and shown.

4. The scale-piece marked "Back-waist scale No. 4" in Fig. 2, in combination with the pin on which it partially rotates, its slide 4, and the piece marked "Back No. 8," all when constructed and arranged to operate substantially as described and shown.

5. The combination of the piece marked "Back No. 8," with its scale and scale-piece entitled "Scale No. 5," and the end loop, and the pieces marked, respectively, "Back neck," "Shoulder No. 7," with its slot, "Back-shoulder scale No. 2," with its pin, "Back No. 3," and "Back-waist scale No. 4," with its pin, with their slides and indicating characters, all when constructed and arranged to operate substantially as described and shown.

6. The scale-piece marked "Back neck No. 2" in Fig. 4, in combination with the piece marked "Front-neck scale No. 1," or other strip of wood or metal or other material, when the two strips are fastened together at an obtuse angle, all substantially as described and shown.

7. The scale-piece marked "Front-chest scale" in Fig. 4, in combination with the sliding triangle formed by the piece marked "Front-arm-size scale No. 3," the piece forming the opposite long side of triangle, and the pointer Q, all when constructed and arranged to operate substantially as described and shown.

8. The scale-piece marked "Front-arm-size scale No. 3" in Fig. 4, with its pointer Q and pin $Q^{\times}$, their slide, and the support for the

same, in combination with the "Front-chest scale," and the scale-piece entitled "Scale No. 0," of Fig. 3, with its perforation or dent P, all when constructed and arranged to operate substantially as described and shown.

9. The scale-piece No. 0, of the configuration shown, and provided with scale marked "Neck No. 1," and the perforation P, all constructed and arranged to operate substantially as described and shown.

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