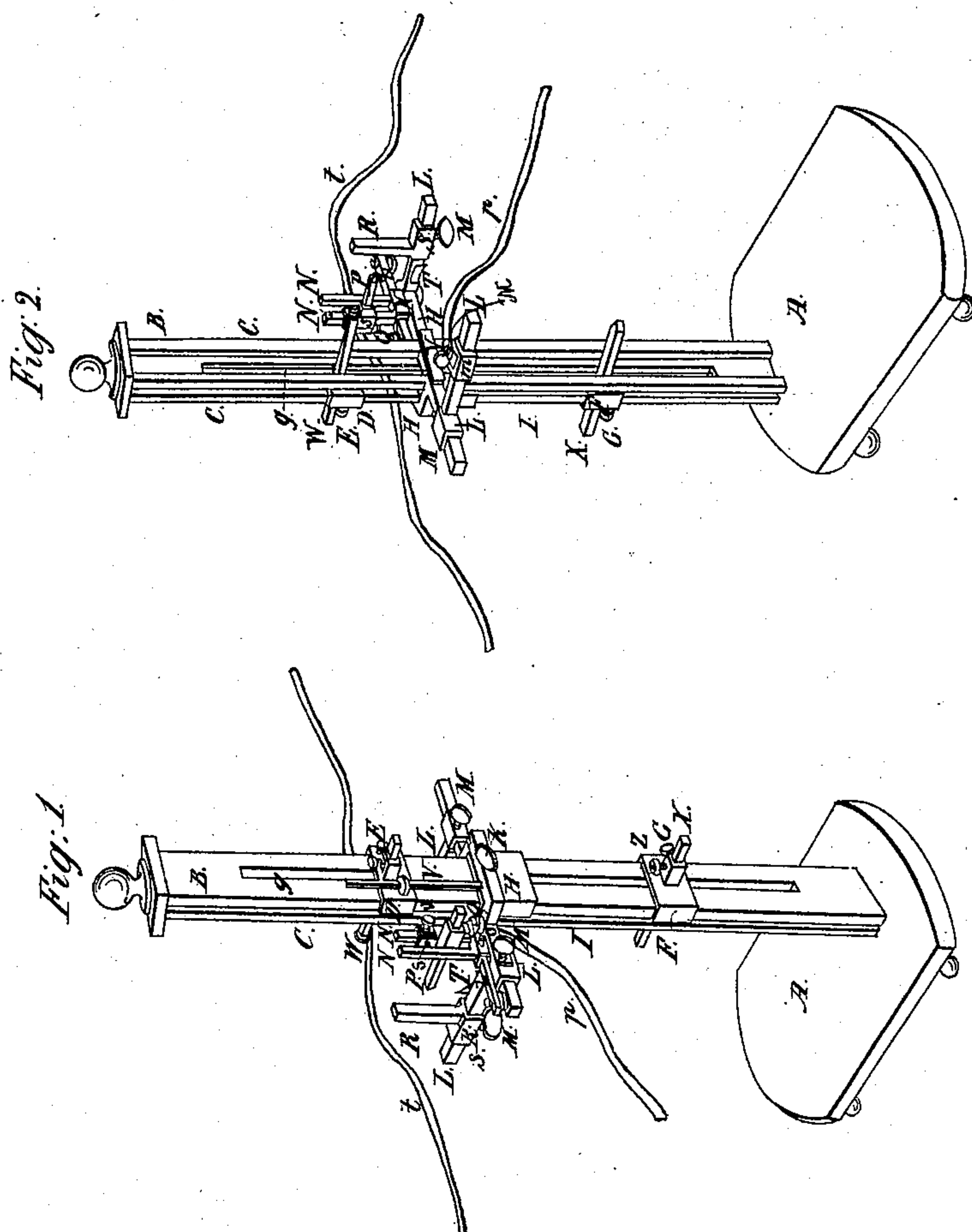


W. W. ALLEN.  
TAILOR'S MEASURE.

No. 435.

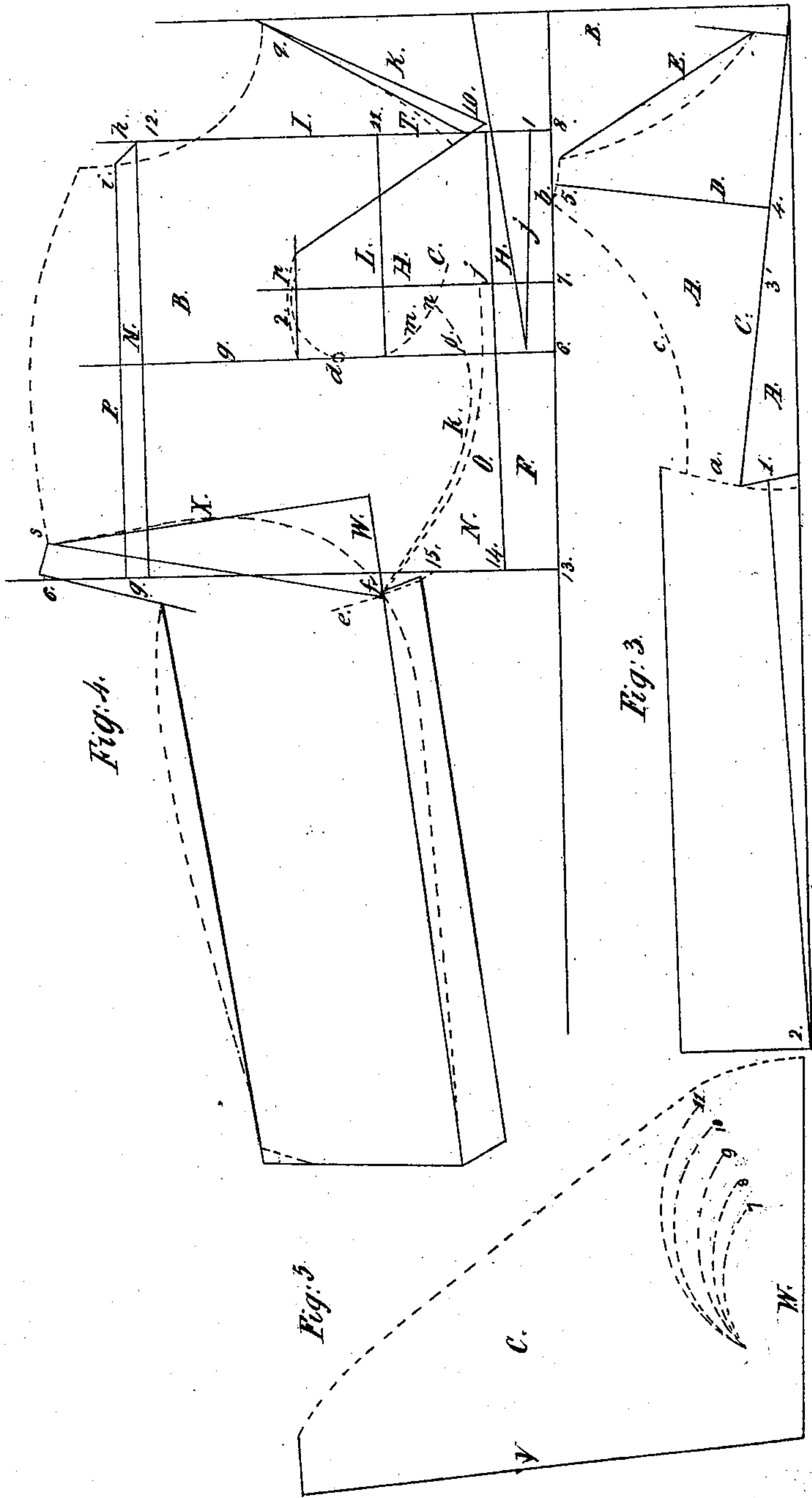
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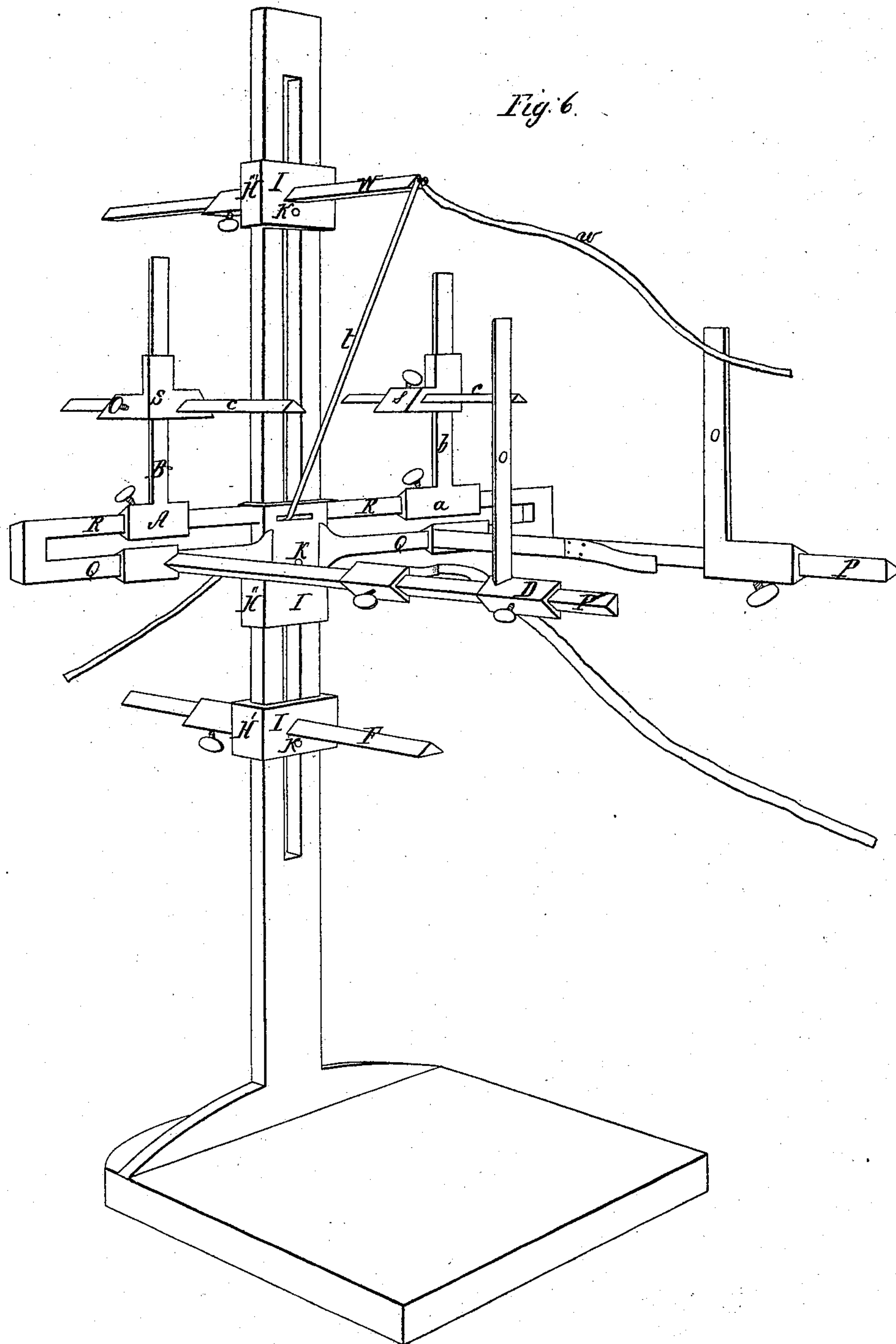
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# UNITED STATES PATENT OFFICE.

WM. W. ALLEN, OF PHILADELPHIA, PENNSYLVANIA.

## MODE OF MEASURING, DRAFTING, AND CUTTING OUT GARMENTS.

Specification of Letters Patent No. 435, dated October 23, 1837.

*To all whom it may concern:*

Be it known that I, WILLIAM W. ALLEN, of the city and county of Philadelphia and State of Pennsylvania, have made an improvement, being a machine for taking the measure of persons and an improved system of drafting in cutting out garments, called "Allen's improved tailoring-machine," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Make a base or platform A, Figures 1, 2, of wood, on which erect a standard of about six feet high marked B; on three sides of which there are grooves marked *c c c*, and a channel on groove *g*, passing quite through the center for receiving the sliding parts of the apparatus to be hereafter described. To determine the top of the back of the garment at the collar seam I use a slide marked D, moving up and down on the standard, having a screw E, to make it fast. In this slide is a sliding arm marked W passing through a square collar with a screw to fasten it at any point desired. In the end of the sliding piece W is a screw to which a tape *t* is fastened. To get the length of the waist I use another slide F also moving up and down upon the standard having a screw to fasten it where desired, marked G, and a sliding arm X and screw marked Z. To get the bottom of the scye I use a slide marked H, which slides in two grooves I I in the sides of the standard fastened by a screw marked K which passes through the center opening to the front, and into a sliding clamp Y on the front groove of the standard. To get the distance from the center of the back to the bottom of the scye I use two sliding arms marked L L moving to the right and left on the arms of the slide H and fastened by screws marked M M. To get the width of the back I use a slide N with two vertical arms marked N' N' which move on a bar Z fastened by two screws to one of the arms of the slide H, leaving a space between them. The slide is fastened with a screw O; this slide is also used for getting the angle of the sleeve. To get the distance from the bottom of the scye to the height of the point of the fore part I use a slide *s* secured at any required height by a screw *v*. In this slide moves a horizontal sliding arm P fastened where desired by a screw. To get the distance from the shoulder blade to the point of the fore part I use a horizontal slide marked P, fastened by

a screw marked Q. To get the front of the scye I use a slide S having an upright arm marked R with a screw marked M to fasten it. To get the measure across the breast I use a tape *p* attached to a spring *r* fastened to the slide *m*. There may be another slide spring and screw in the opposite arm similar to that marked, *m*, to which the tape is extended for determining the measure across the breast. The arms of the slides H, D, F, N, L L, S, are marked with scales of equal parts. To give the height of the breast in front I use a scale marked V attached to the bottom of the slide marked H passing through a cleat on the slide marked D.

Operation: Measure with a common tape from the collar seam to the waist. Then the person to be measured places himself upon the platform A against the standard:—moves the slide D until it is opposite the collar seam and push in the sliding arm W toward the collar seam until it touches it:—next move the slide F to the waist and push in the sliding arm X until it touches the person:—place the large slide H to the bottom of the scye; then bring the arms L L close to the body on the sides:—put the slide N to the width of the back;—raise slide *s* opposite the point of the fore part;—push the sliding piece P in toward the shoulder until it touches; next push slide S up in front of scye and the other arm to the same number—take the measure across the breast: take measure from collar seam to bottom of scye: measure from collar seam to front and bottom of scye around into the waist and the measure is completed.

Method of drafting a coat. For the back: see diagram A. or Fig. 3. After squaring the cloth by lines A and B, come down on line A to No. 1 the length of waist; and to No. 2 the length of skirt; then strike curve *a* from line A by length of waist: go in on sweep *a* from line A a sufficient distance for the hem and draw line C:—come down on line C from top to No. 3 the distance of bottom of scye;—go up on line C from No. 3 to No. 4 the distance of point of fore part and draw line D square with line C; go out on line D from line C to No. 5 the width of back, and draw curve line *b* for back scye and draw line E to top of back and strike sweep *c* by its length from curve line *b* to sweep *a*. For drafting the fore part—see diagram B, or Fig. 4. Draw line F square with line B; come down from line B on line F to No. 6 the height of



shoulder, with width of back at top deducted, and draw line G square with line F; go up on line F from No. 6 to No. 7 the distance of point of fore part and draw line H square with line F; also go up on line H from No. 6 to No. 8 the length of breast and draw line I square with line F; go out on line I from No. 8 to No. 9 the distance in at the shoulder and draw line J to line G square with line I; then go out on line I from No. 8 to No. 10 the distance in at the neck and draw line K to the intersection of lines G and J:—then go out on line I from No. 8 to No. 11 and draw line L square with line I to line G; go out on line I from No. 11 to No. 12 the width of breast and draw line M square with line I; go down on line F from No. 6 to No. 13 the distance it is from No. 3 to No. 1 on line C of diagram A and draw line N square with line F; go in on line N from No. 13 to No. 14 the distance in at the waist and draw line O to No. 10 on line I then go in on line N from No. 14 to No. 15 the width of back at waist; then ascertain the center between line M and the intersection of lines J and K on line G and make the star point *d* and sweep the center *e* from No. 15 then measure the straight distance from No. 5 of diagram A to intersection of curves *e* and *a* and apply it to the crossing of lines C and H and ascertain where it will strike curve *e* and make mark *f* for bottom point of fore part, from which ascertain the distance to line N and apply it on line N from line M and make mark G; then place the tape measure at star point *d* on line G and strike sweep *h* from No. 12 the distance it is from No. 8 to No. 9 on line I and make mark *i* from which draw line P to mark G on line N; ascertain the distance between lines P and M on line G and apply it on line H from where it crosses line and mark *j* from which strike sweep *k* to mark *f* on sweep *e* by the length of sweep C of diagram A; go in line H from mark *j* the distance from No. 8 to No. 9 on line I to mark C from which make curve line *m* to line G; go down on curve line *m* from line H half the length of curve line *b* of diagram A, and mark *n* from which make curve line *o* to strike sweep K; ascertain the distance from line J to line L on line H and apply it to mark C on line H which gives line Q; then place the tape at mark C on line H and strike sweep *p* from intersection of lines G and Q; then apply the length of neck given on loose draft diagram C to mark *i* of diagram B and set top shoulder point *q* on line B to which apply top point of line E diagram A and ascertain where No. 5 will strike line K, to which draw line R; then draw line S from the intersection of sweep *p* and line Q to the intersection of lines R and K from which come down on

line S the distance from mark C on line H to mark *n* on curve line *m* and draw line T to point *q* and form the scye: then apply line U of loose draft diagram C on Fig. 5 to line G diagram B on which move it until line V touches mark *f* on sweep *e* and mark line U for spring of skirt then measure out one line N from where sweep *k* crosses it the size of waist with width of back at waist deducted to make it go up the width of strap in front to mark *s* for front point of fore part and mark the front of breast; then place square on line W moving it up to mark *s* in front and draw line X for the hollow of the waist.

Many parts are regulated by fashion and fancy not alluded to in the foregoing description, for instance;—the top of back diagram A; also the width of the waist on sweep *a*;—the curve line *b* which may be made longer or shorter, and the line E which may be made straight or hollowing as seen in the diagram: all of which variations in diagram must be made to correspond.—The manner of drafting may also be varied so as to produce the same effect by the same principle above set forth.

The machine may be simplified in the following manner without changing the principle. It may be constructed in the manner represented in Fig. 6 by which it will be seen that the arms and slides are made triangular instead of rectangular: the grooves (except the one through the center) omitted; also the clamp; the sectional arm Z, of Fig. 1, the slide N' and vertical arms N'' N''; and it will be seen that there is added to one of the parallel arms of the main slide another horizontal slide A Fig. 6 and vertical piece B, and parallel arm C; with an additional horizontal slide D, vertical piece O. Also the sliding boxes H of the standard are simplified by making them in the form of a plain box with one slide I dovetailed and drawn toward the other side so as to embrace and clamp the standard by means of a thumb screw passing through the permanent side of the box, the opening in the standard, and into the movable side of the box K. Provide a table similar to the following, (measures taken with a common tape before the individual to be measured is placed in the machine:)

1. Length of waist, say-----	14½	120
2. Length of skirt -----	37	
3. Width of back -----	7	
4. Dist. from center of back to elbow -----	20½	
5. Ditto to the hand-----	33	125
6. Ditto around the scye-----	15	
7. Ditto around the elbow-----	6	
8. Ditto around the hand-----	4¾	
9. Ditto around the neck-----	9	
10. Ditto around waist -----	15½	130



## Taken in the machine:

11. Dist. to bottom of scye-----	7 $\frac{1}{2}$
12. Height of shoulder-----	12 $\frac{1}{4}$
13. Width of breast-----	15 $\frac{1}{2}$
5 14. Dist. to neck from standard-----	13 $\frac{1}{2}$
15. Height of breast-----	7 $\frac{1}{2}$
16. Dist. from standard to waist----	2
17. Angle of the sleeve-----	$\frac{1}{2}$ <sup>7</sup>
18. Point of the fort part-----	2
10 19. Dist. from standard to shoulder--	1
20. Front of -----	5

Before placing the individual to be measured in the machine Fig. 6, take, with a common inch tape, the measures 1, 2, 3, &c., to 10 and enter them in the table opposite the several names. Then place him in the machine with his back against the standard his hands on his hips;—then bring the two arms P P close to the body under the arms and make fast by the respective screws. Then raise the slide H' and advance the arm F to the waist and make fast by the screw, for determining the position of the waist which will be indicated by the graduated arm. Then raise slide H''' and adjust the upper sliding arm W opposite the collar seam, and advance it till it touches the neck and screw it fast. Then adjust the sliding arms C C in order to determine the position of the shoulders; also bring forward the vertical slides O O to the front of the shoulder for determining the front of the scye. Then with the tape *t* take the bottom of the scye and place it opposite its name, say No. 11, or whatever No. it may be.

Then with the other tape *u* take the height of the shoulder and place it in the table opposite its name say No. 12. Then

with tape *v* take the width of the breast and enter it opposite its name say No. 13 in the present table. The person is then removed from the machine, the several graduated arms, examined and the respective measurements entered opposite their names which may be numbered from 14 to 20.

The drafting is performed in a similar mode to that above described.

The invention claimed by me the said WM. W. ALLEN, and which I desire to secure by Letters Patent, consists in—

1. The slide H Figs. 1 and 2 as constructed with lateral arms with the two arms L L sliding on the same at right angles to it.

2. The application of the slides, uprights, springs and tape on the last mentioned arms.

3. The additional triangular arms R R Fig. 6 on which move, to the right or left the slides A *a* with the vertical pieces B *b* on which move the slides S *s* with the horizontal arms C *c*.

4. The application of the tapes and screw at the ends of the sliding arm W, Figs. 1 and 2.

5. The opening in the center of the standard—Figs. 1, 2 and 6.

6. The mode of taking the measure as before described.

7. The mode of forming the table and entering the measurements.

8. The method of drafting the garment as before described.

9. The use of a platform, standard, slides, and single arms is not claimed.

WILLIAM W. ALLEN.

Witnesses:

CHAS. R. ELLIS,  
WM. W. WHITE.