(No Model.) 2 Sheets—Sheet 1.

W. J. & J. A. RATHGEBER.

DRESS FORM.

No. 455,475. Patented July 7, 1891.

Fig. 1

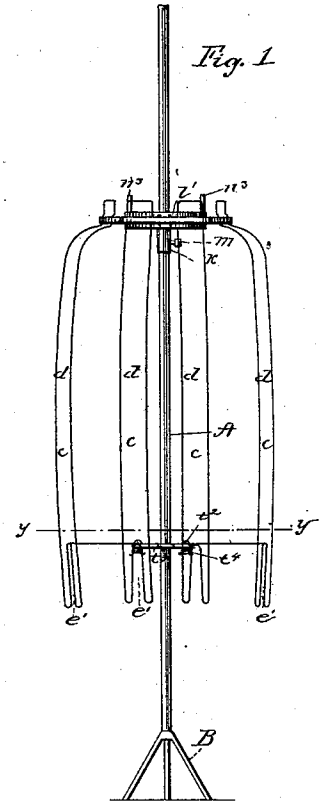
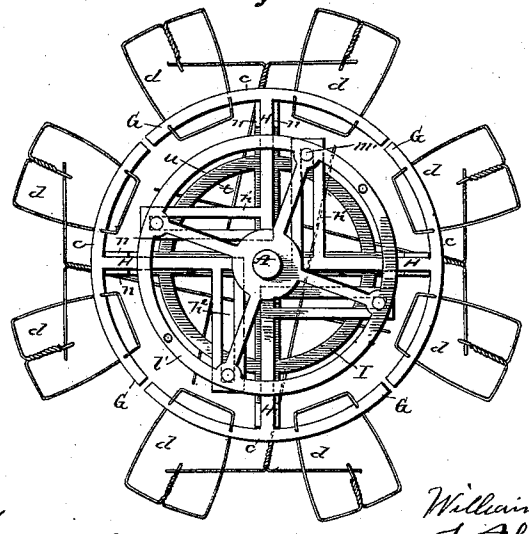


Fig. 2



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

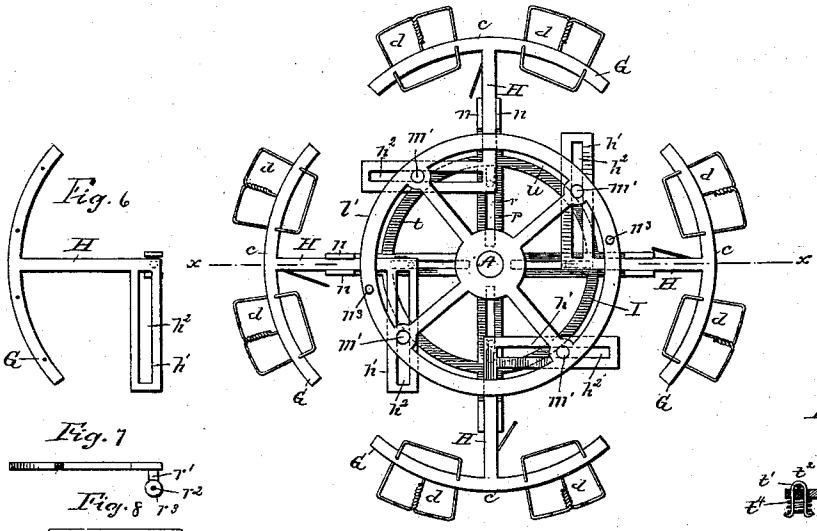


Fig. 6

Fig. 7

Fig. 8



Fig. 10

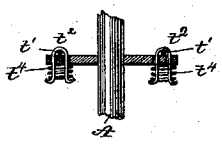


Fig. 4

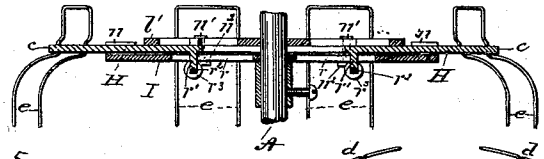


Fig. 5

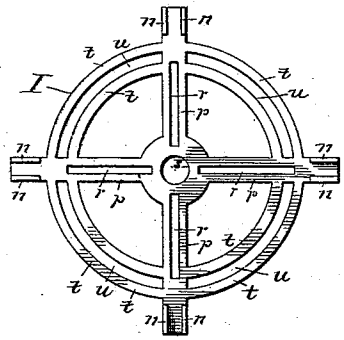


Fig. 9

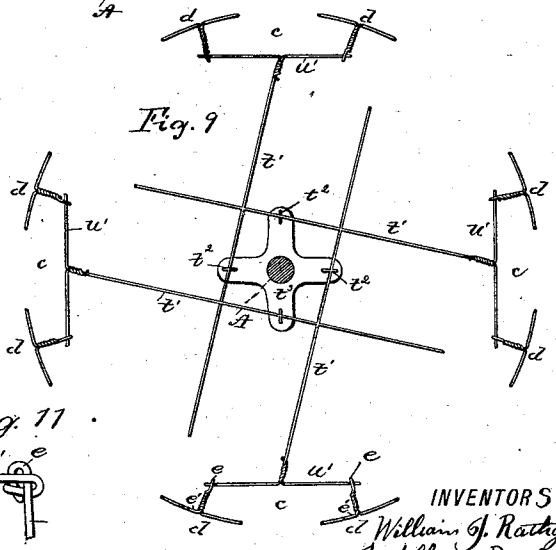


Fig. 11

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UNITED STATES PATENT OFFICE.

WILLIAM J. RATHGEBER AND JOHN ALBERT RATHGEBER, OF NEW HAVEN, CONNECTICUT.

DRESS-FORM.

SPECIFICATION forming part of Letters Patent No. 455,475, dated July 7, 1891.

Application filed August 4, 1890. Serial No. 360,908. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. RATHGEBER and JOHN ALBERT RATHGEBER, citizens of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Dress-Forms, of which the following is a specification.

The object of our invention is to provide a dress-form of simple and durable construction, adapted to be readily adjusted to conform to different proportions of figure or style, and the expanding mechanism of which may be operated rapidly and with direct radial movements.

The invention consists in the novel arrangement and combination of the radially-sliding cam-slotted segment-arms carrying the frame-sections and the rotating operating-disk having pins engaging and adapted to operate the segments, and in the mechanism for adjusting the foot of the skirt-frame independently of the waist thereof, as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is an elevation of our improved dress-form, and Fig. 2 is a plan view thereof in closed or contracted position. Fig. 3 is a plan view showing the sections partly expanded. Fig. 4 is a vertical section through Fig. 3 on the line x. Fig. 5 is a plan view of the head on which the expanding-segments and their arms are supported and guided. Figs. 6, 7, and 8 are detail views of a segment and arm. Fig. 9 is a section horizontally on the line y, Fig. 1, showing the adjusting mechanism for the foot of the frame; and Figs. 10 and 11 are details of the same.

Referring to the drawings, A designates the vertical staff or rod, which, with the supporting tripod or base B, constitutes the stand upon which the form is mounted. A dress-form may consist of a bust and a skirt-frame mounted on a single staff, or of either of those parts mounted separately, and the skirt-frame only is here shown and described; but it will be understood that the expanding mechanism hereinafter set forth is applicable to a bust-form as well as the skirt-frame.

Our improved skirt-frame is formed in quarter-sections c, which may be of any suitable material or shape, but are each here shown to consist of two wires d, bent into U shape, forming four parallel strands e, which are passed down through perforations in the supporting-segments G and bent, as shown, to hold them in place, with the loops or bends projecting a little above the segments. At the foot of the frame the two strands of each wire are bent upward a short distance between the main strands e and twisted together to form a re-entrant loop e', as shown.

The segments G are carried on the outer ends of suitable radial arms H, arranged and guided horizontally on a supporting head or disk I, which is mounted concentrically on the staff A and supported by a collar k, also fitted on the staff and clamped in place by a set-screw m. The head is of cruciform shape, having a pair of flanges n on the end of each arm p thereof, and a radial slot r interior to the flanges and extended nearly to the central bearing s, which receives the staff. Quadrant-braces t connect the arms p to strengthen the head and provide the segmental slots u, for the purpose hereinafter described. Supported on the said head I and fitted to slide between the flanges n are the arms H, each having a suitable projection or pin r', received in the corresponding slot r to guide the arm. The said projections are each preferably perforated transversely to receive a loose pin r^2, upon the ends of which suitable rollers r^3 are riveted and adapted to bear against the lower side of the arm P to hold it in place and reduce the friction of the arm H as it slides in the head. Each arm H has a lateral extension h' at its inner end, having a cam-slot h^2 therein, which is arranged at right angles to the arm or transversely across the corresponding segmental slot u. Above and resting upon the arm is a rotatable operating wheel or disk l', mounted loosely on the staff and adapted to turn thereon. Suitable studs or pins m' are passed vertically through the wheel, and also through the cam-slots h^2 in the arms H and the segmental slots u in the head I, each pin being held in place by means of a head n' on the upper end thereof and a washer n^2 on its lower end, through which it is securely riv-

eted. In operation the said pins thus fastened in the rotatable wheel and being fitted and held in engagement with the surfaces of the cam-slots h^2 are adapted to actuate the arms H radially inward or outward as the wheel l' is revolved, the said cam-slots being inclined to or at an angle with the circular path of the pins, and the arms H being securely held in place between the wheel and head I and fitted to slide freely in their bearings, whereby the size of the form will be expanded or contracted and varied as desired. Suitable pins or knobs n^3 may be secured in the wheel l', by which it may be turned with one hand while the form is held with the other hand, and thereby prevented from rotating.

At the foot of the form the sections c are supported in place and adapted to be adjusted by means of radial wire stays t', arranged through friction loops or eyes of wire t^2, which are extended through a central plate t^3 and are each held down upon the wire stay and plate by suitable springs t^4, through which the parts of the loop pass, being clinched over at the ends to retain the spring in place and receive the thrust thereof, as shown in Fig. 10. Thus arranged the wire stays will be normally held securely to the plate t^3, but may be moved through the loop t^2 as required. The plate is fitted loosely to the staff and requires no other support than that afforded by the wire stays. At their outer ends each of the stays t' is twisted into attachment with a short wire w', as shown in Fig. 9, the ends of the wires thus provided being connected to the respective parts of the sections by being hooked thereto, as shown in Fig. 11, or otherwise suitably fastened. By means of this mechanism the form-sections may be adjusted at the foot independently of each other and of the waist, and the form may thus be varied to conform to any required size, shape, or proportion. About a quarter-turn of the wheel or plate l' is sufficient to operate the waist-adjusting mechanism throughout its entire range of expansion, and such adjustment may therefore be made with rapidity and conveniently. The mechanism is strong and simple and not liable to get out of order in use, and the independence and simplicity of its motions adapt it for effective service and convenience of operation.

We claim—

1. In a dress-form, the combination of the form stand or staff, a supporting head or fixture mounted thereon, a series of horizontally-sliding arms guided radially on the said fixture, each provided with a transverse cam groove or slot, the form-sections supported and carried on the outer ends of the said arms, and a rotating operating-wheel revolubly mounted on the staff and provided with vertical projections or pins received in or engaging the said cam-slots, and thereby adapted when caused to travel therein by rotating the said wheel to actuate the said arms radially to adjust the size of the form, as specified.

2. In a dress-form, the combination of the form stand or staff, a supporting head or fixture mounted thereon and provided with slotted arms, each having guide-bearings or flanges at their outer ends, the series of horizontally-sliding arms fitted to and guided by the flanges of the head and radial slots thereof, each provided with a lateral extension at its inner end having a slot therein, the form-sections attached to the outer ends of the sliding arm, and an operating-wheel rotatably mounted on the form-staff and provided with vertical pins or projections fitting and engaging the slots of the sliding arms to actuate the arms and slide them in their seats, as and for the purpose specified.

3. In a dress-form, the combination of the form staff or stand, a supporting head or fixture mounted thereon provided with the flanges n and having the radial slots r and segmental slots u, the sliding arms H, guided between the flanges n and provided with projections fitting said radial slots, segments carried on the outer end of the said arms, the form-sections attached thereto, the lateral extensions at the inner end of said arms having the slots h^2, and an operating-wheel carrying pins or studs fitted through the slots h^2 and the segmental slots of the supporting-head, all arranged substantially in the manner and for the purpose specified.

4. In a dress-form, the combination of the form-sections, the supporting stand or staff, adjustable expanding mechanism supporting the form-sections, the independent adjusting rods or braces attached to the foot of the form-sections, a central plate loosely mounted on the staff, the **U**-shaped clamping-loops receiving the rods, and springs arranged on the loops to act between the rods and bent-over ends of the loops and clamp the rods to the plates, substantially as and for the purpose specified.

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