

Feb. 17, 1953

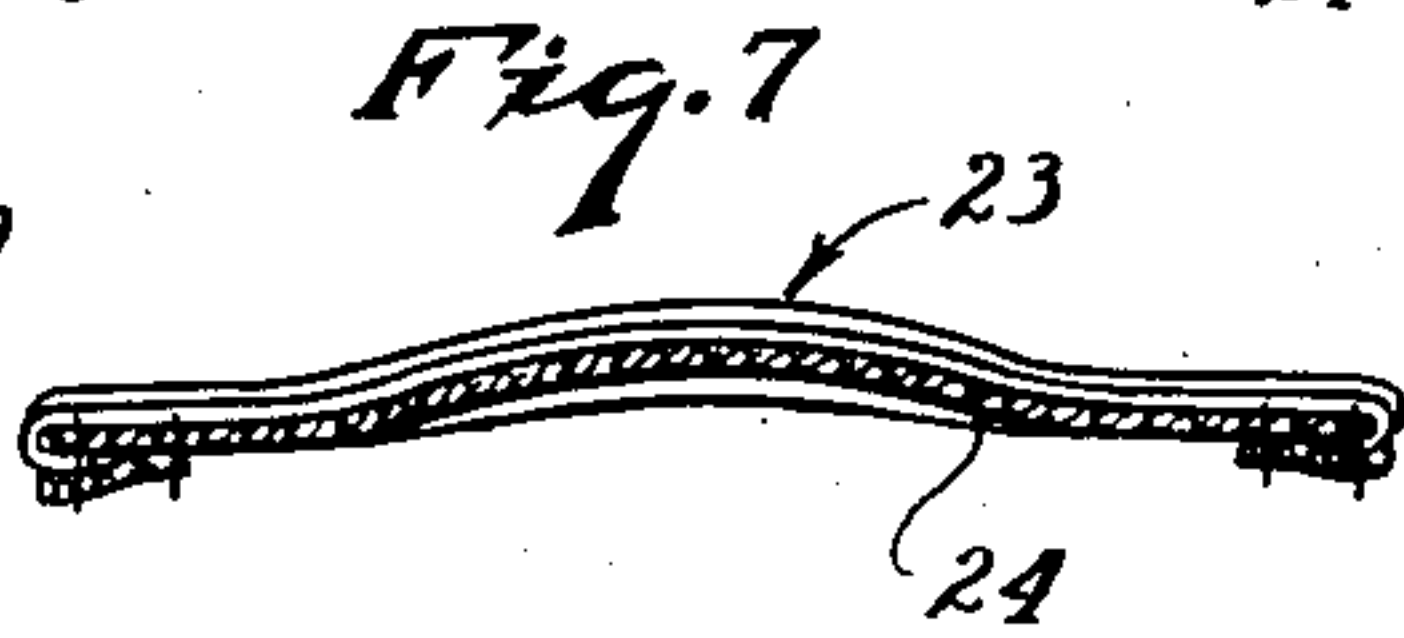
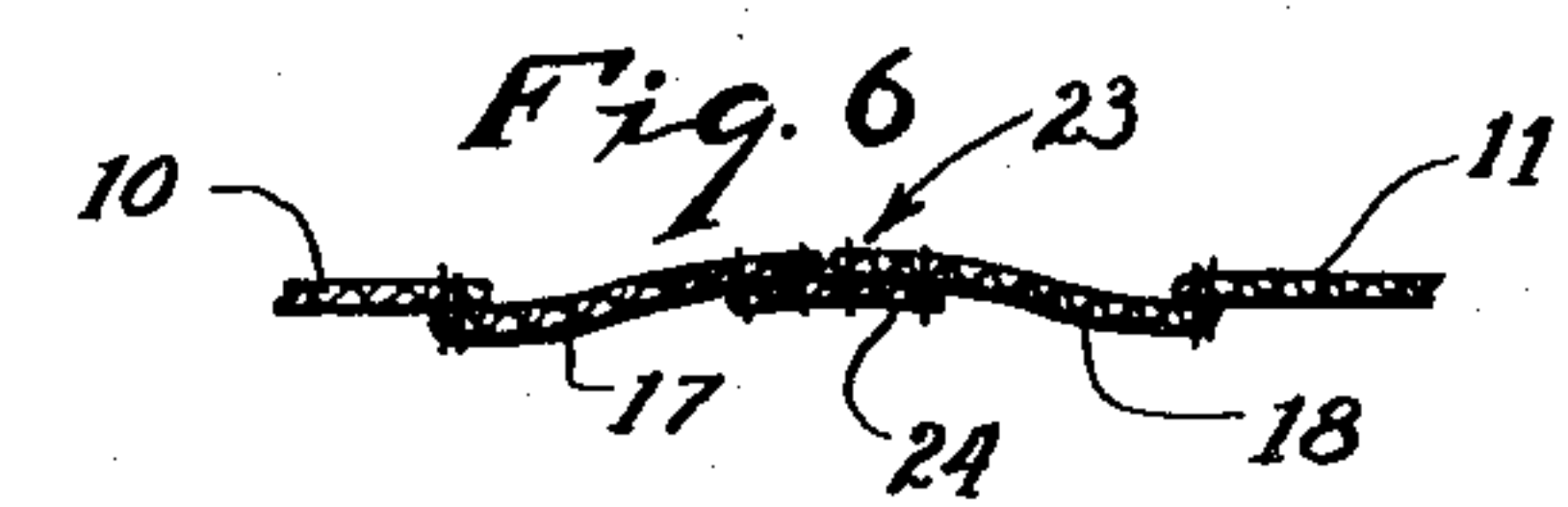
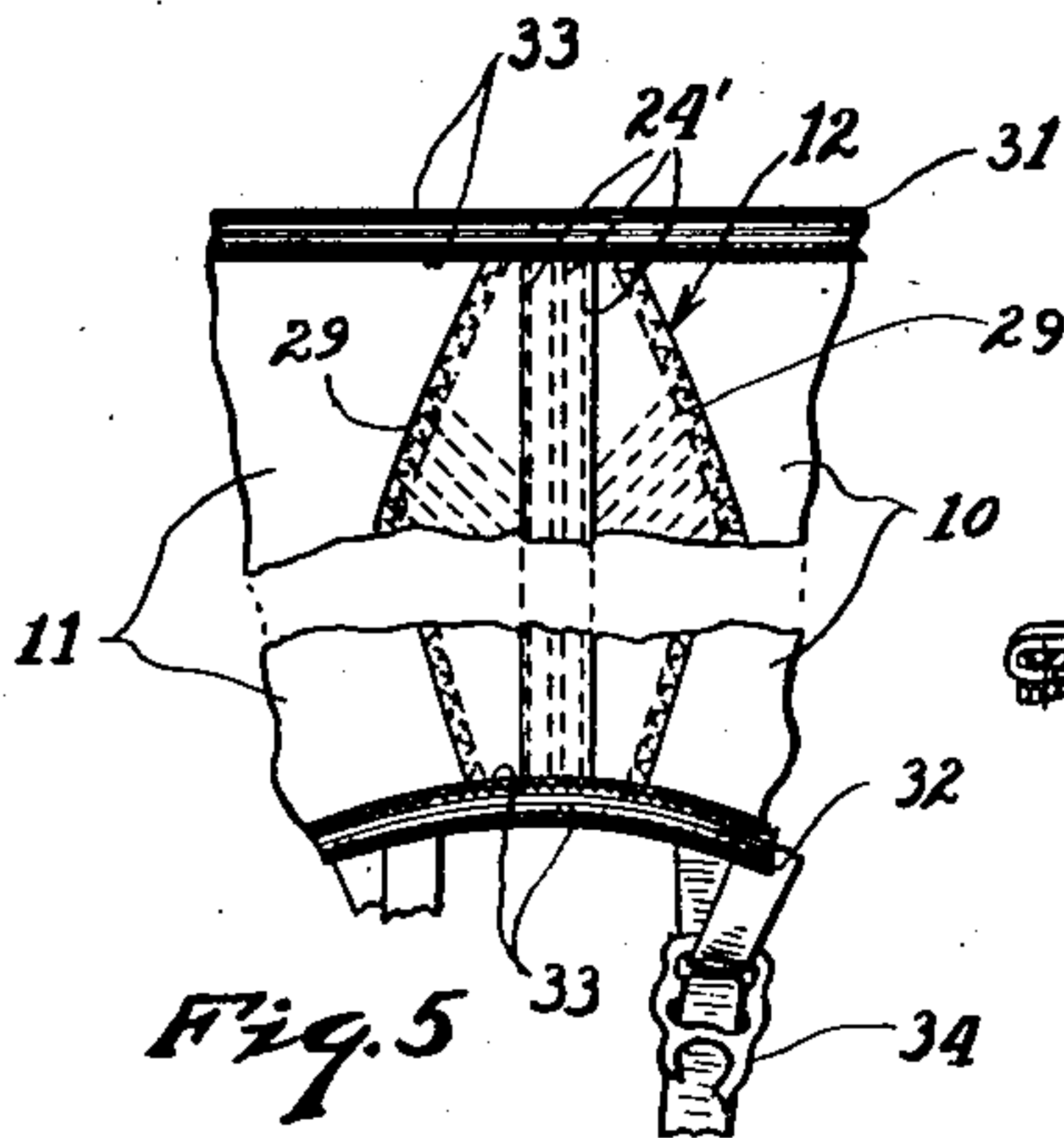
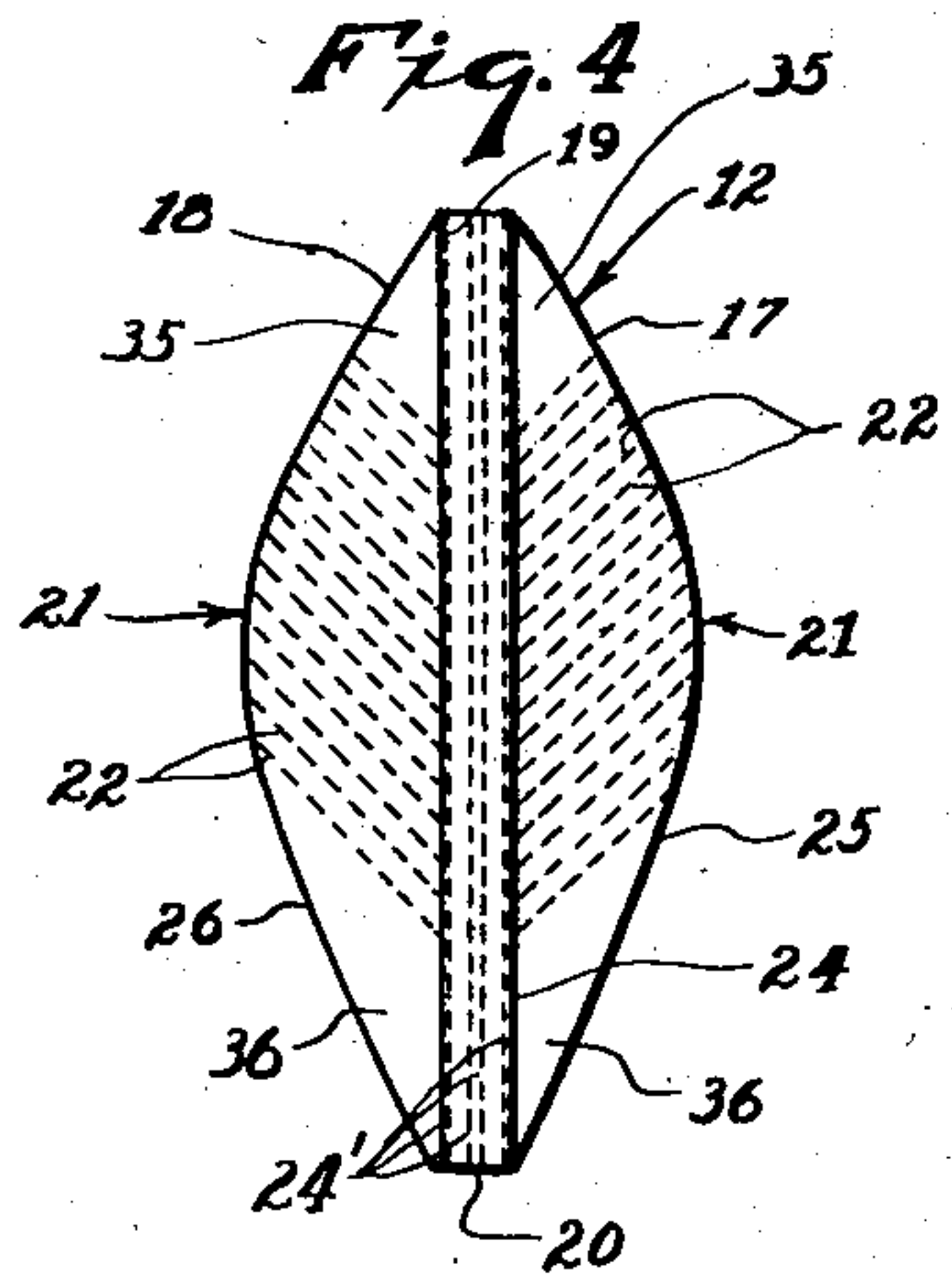
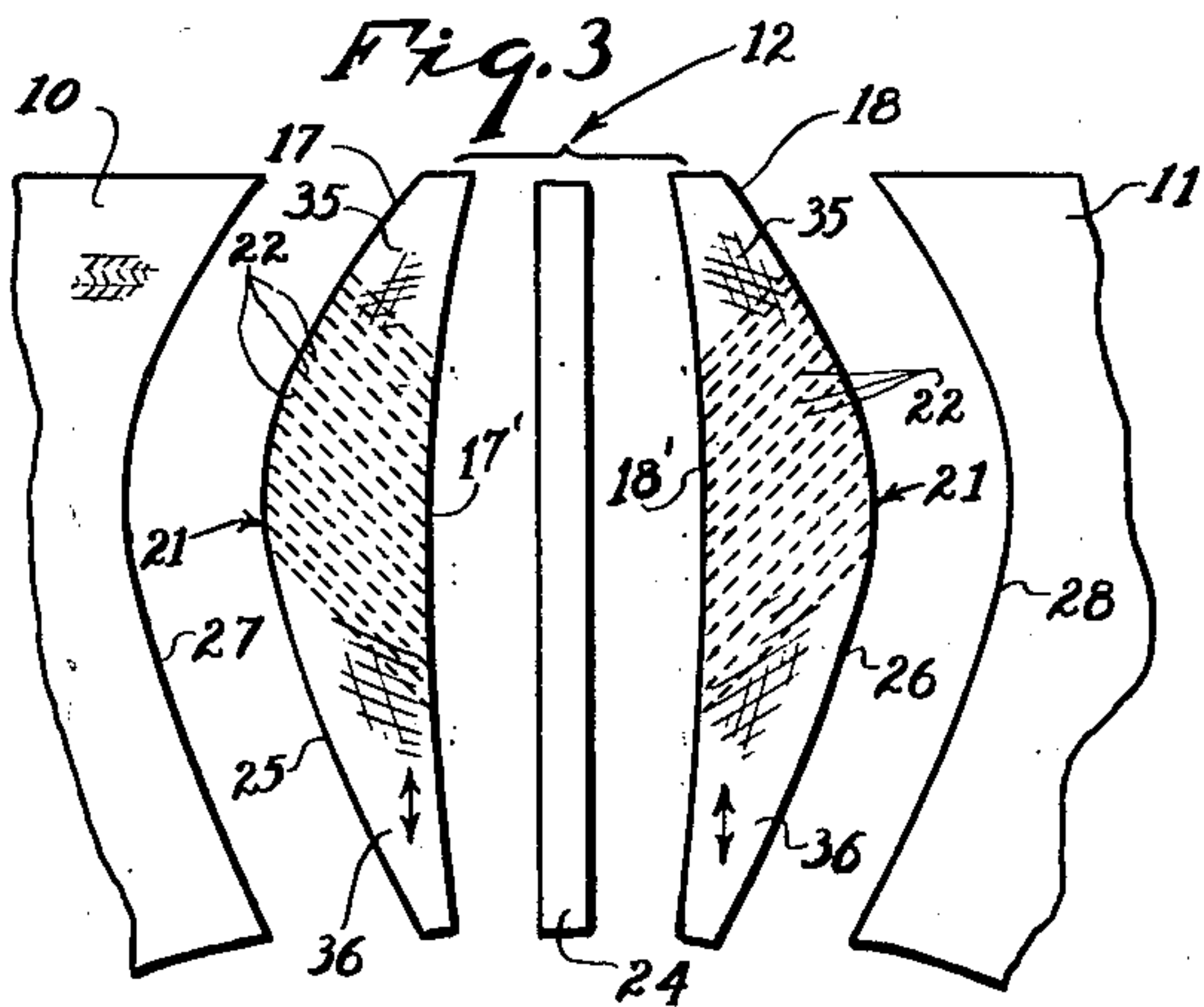
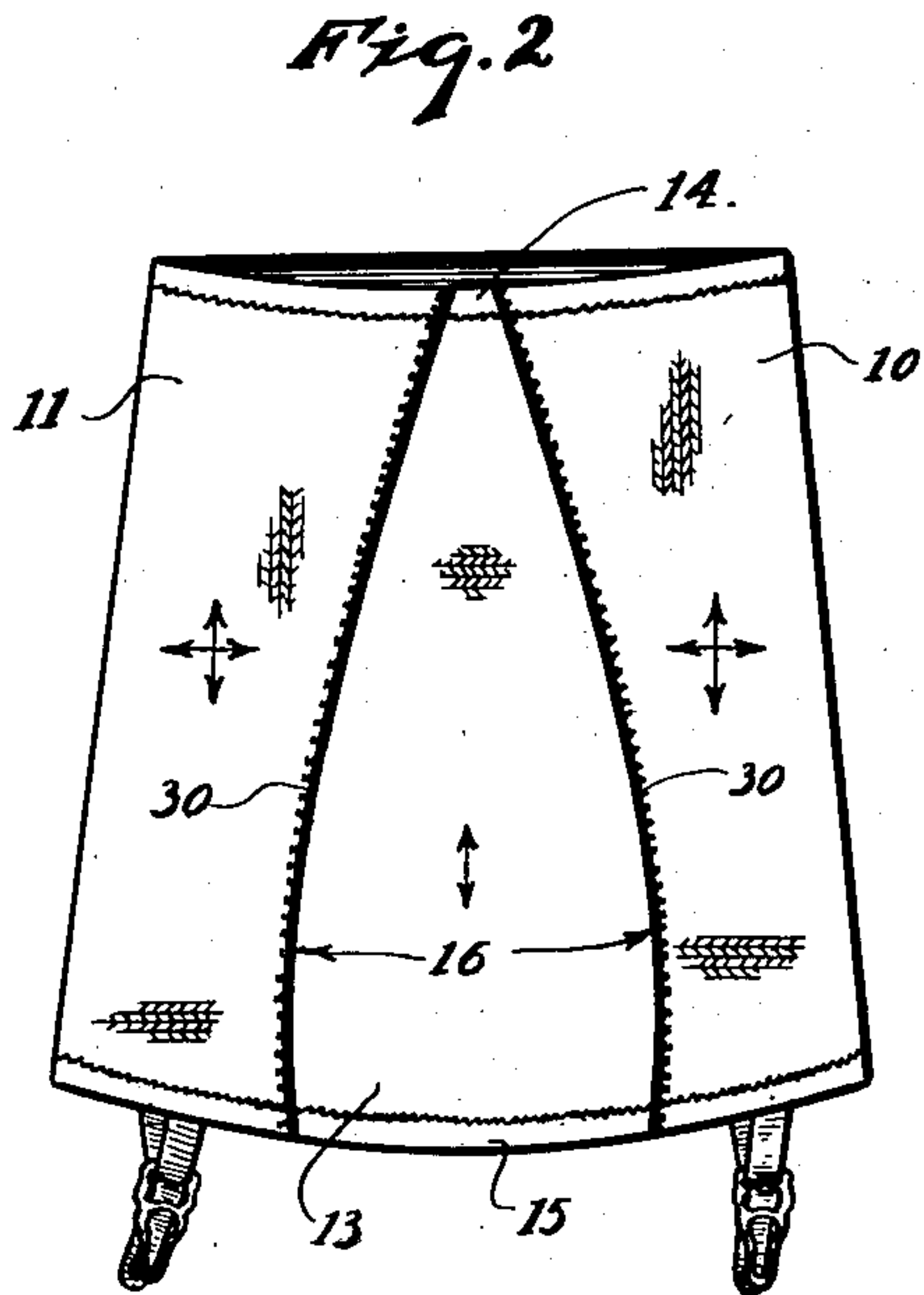
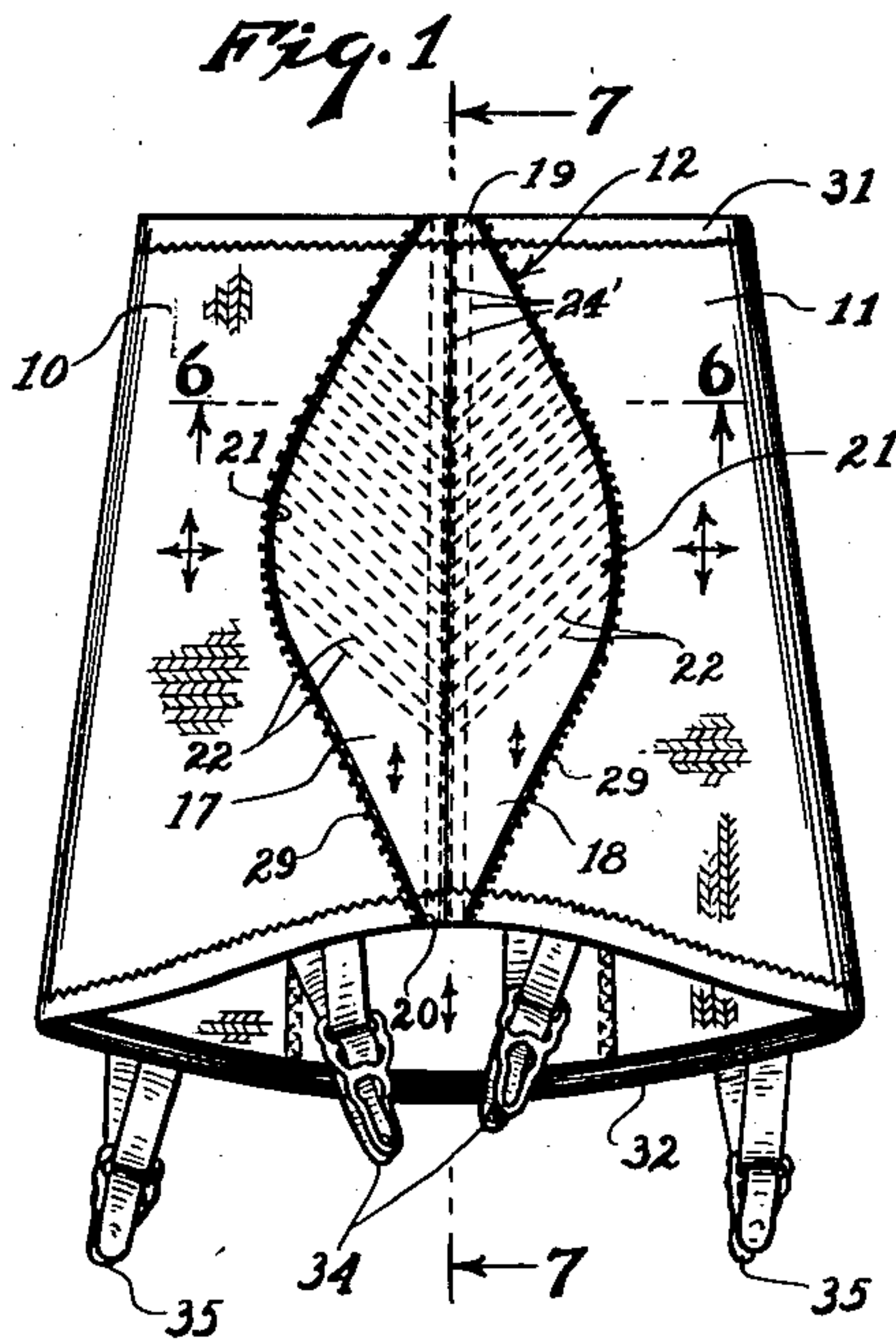
G. LEVENTHAL

2,628,353

UNDERGARMENT

Filed Oct. 18, 1950

2 SHEETS—SHEET 1



INVENTOR.
GABRIEL LEVENTHAL

BY

Paul M. Klein

ATTORNEY

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G. LEVENTHAL
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2 SHEETS—SHEET 2

Fig. 8

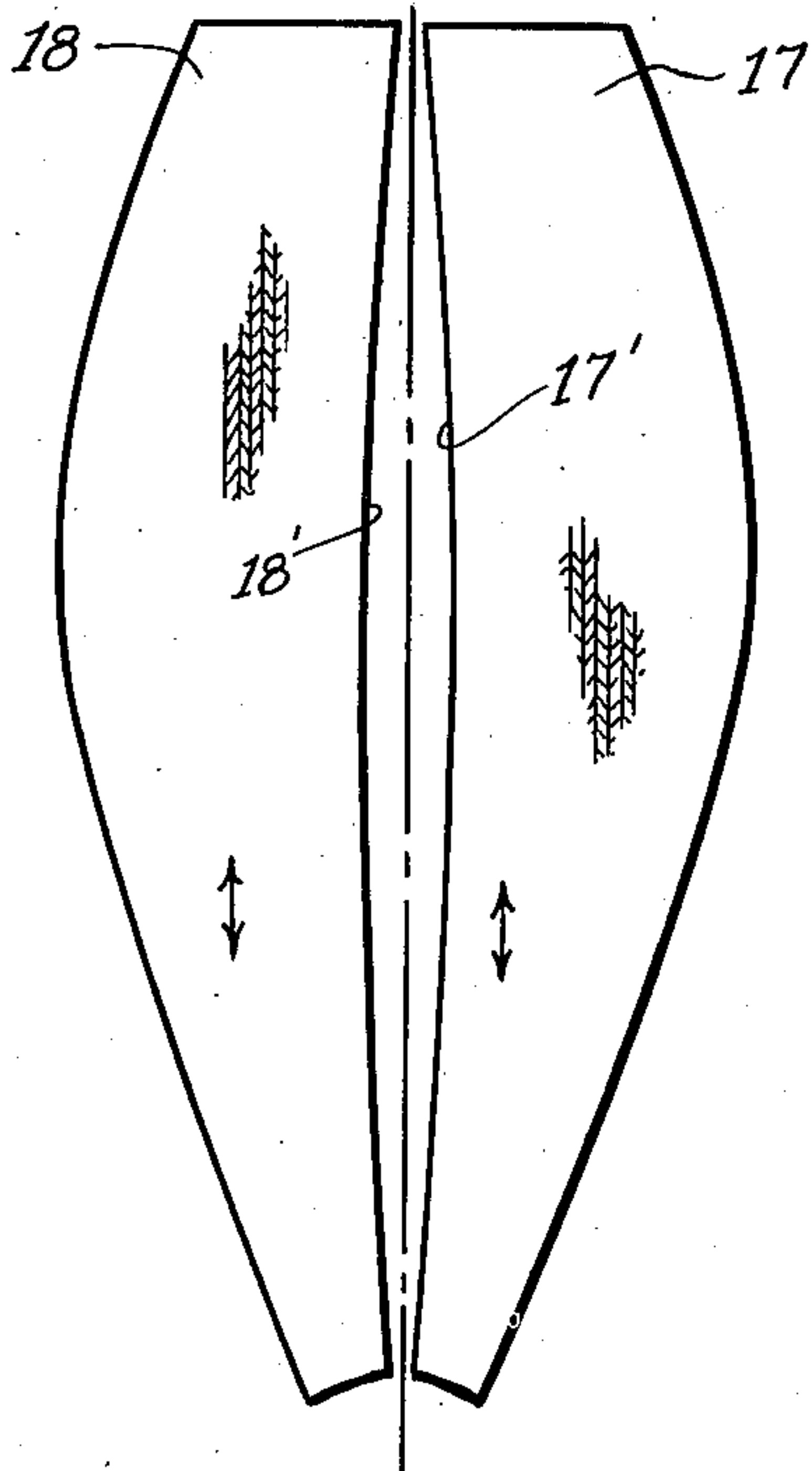


Fig. 10

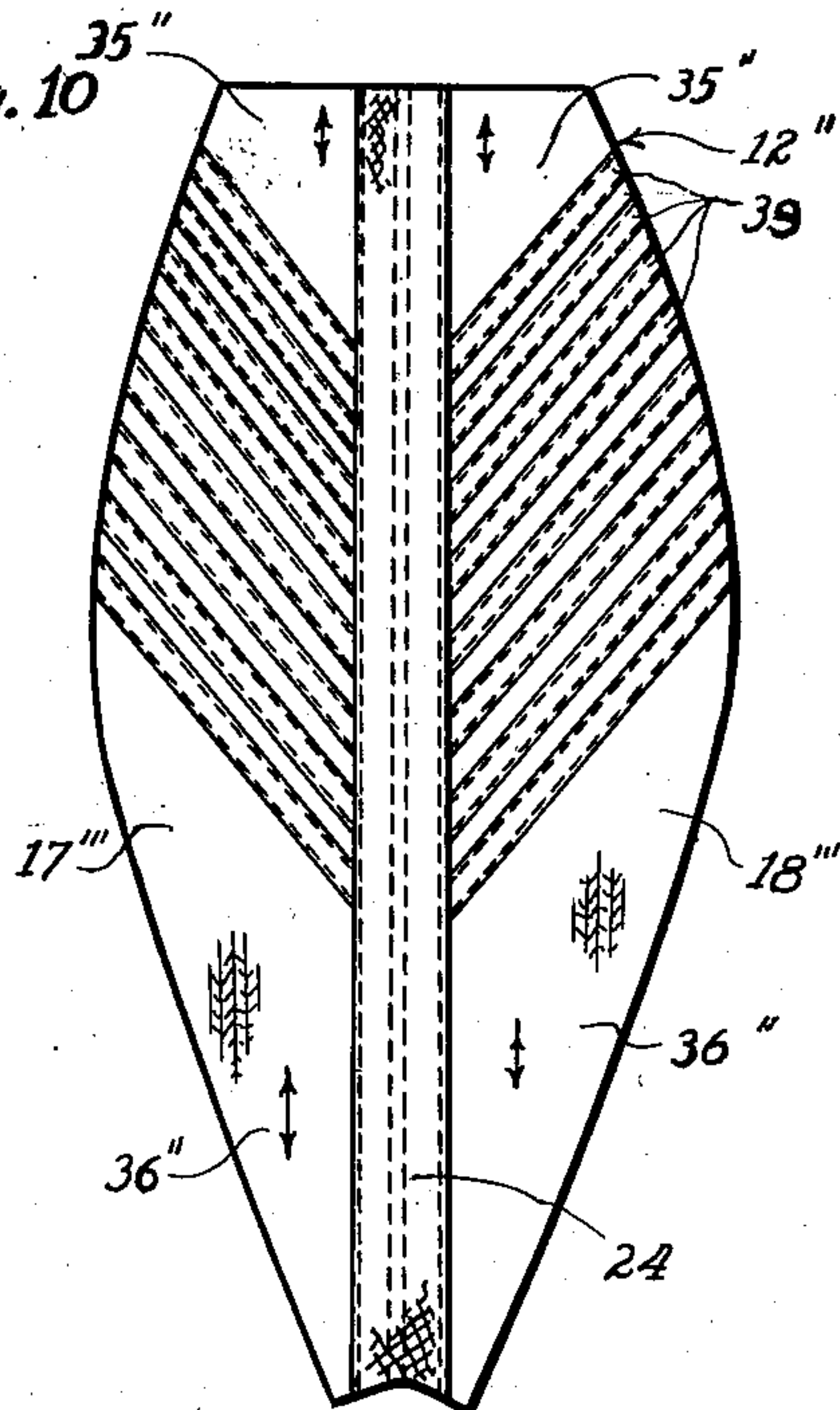


Fig. 9

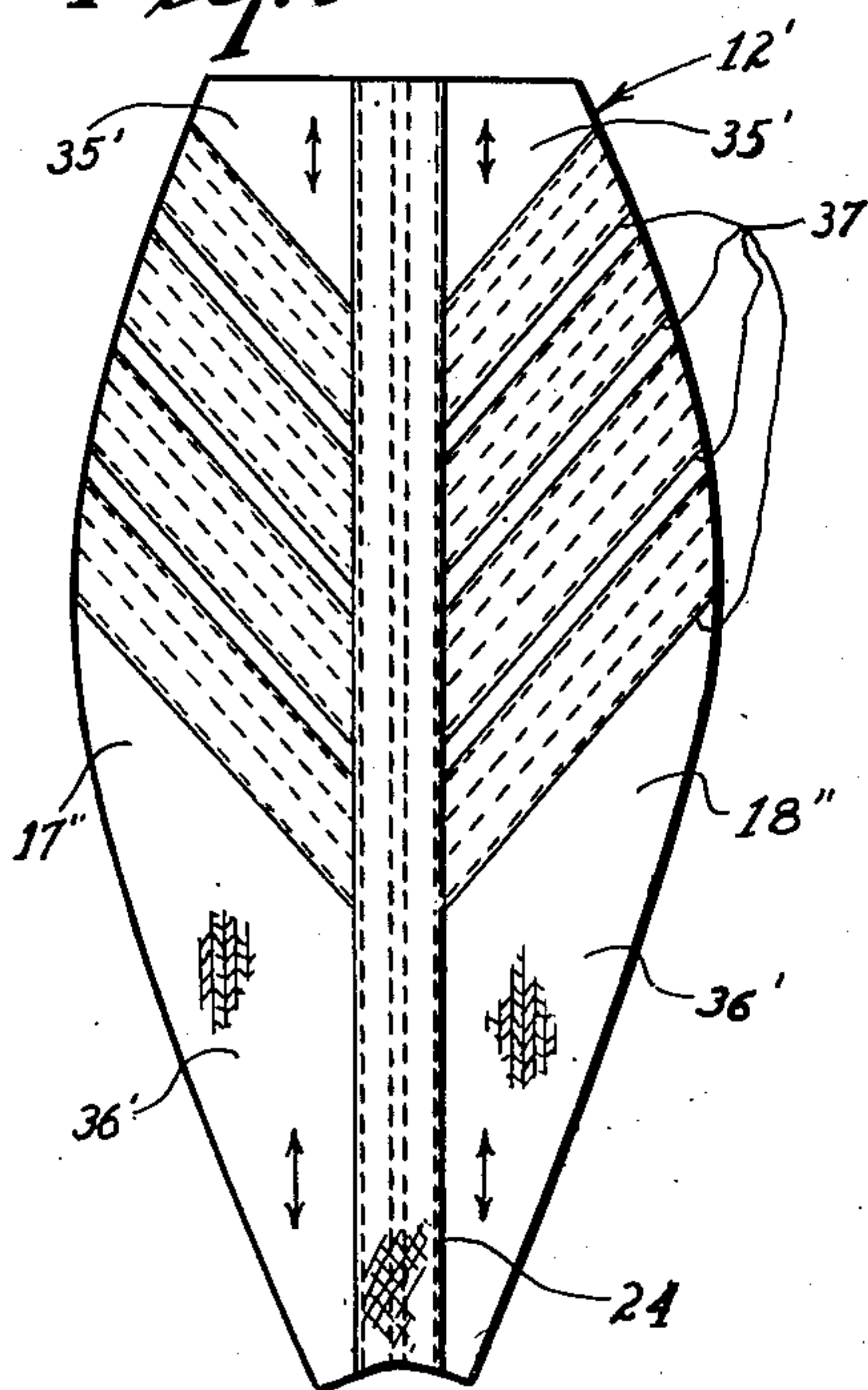
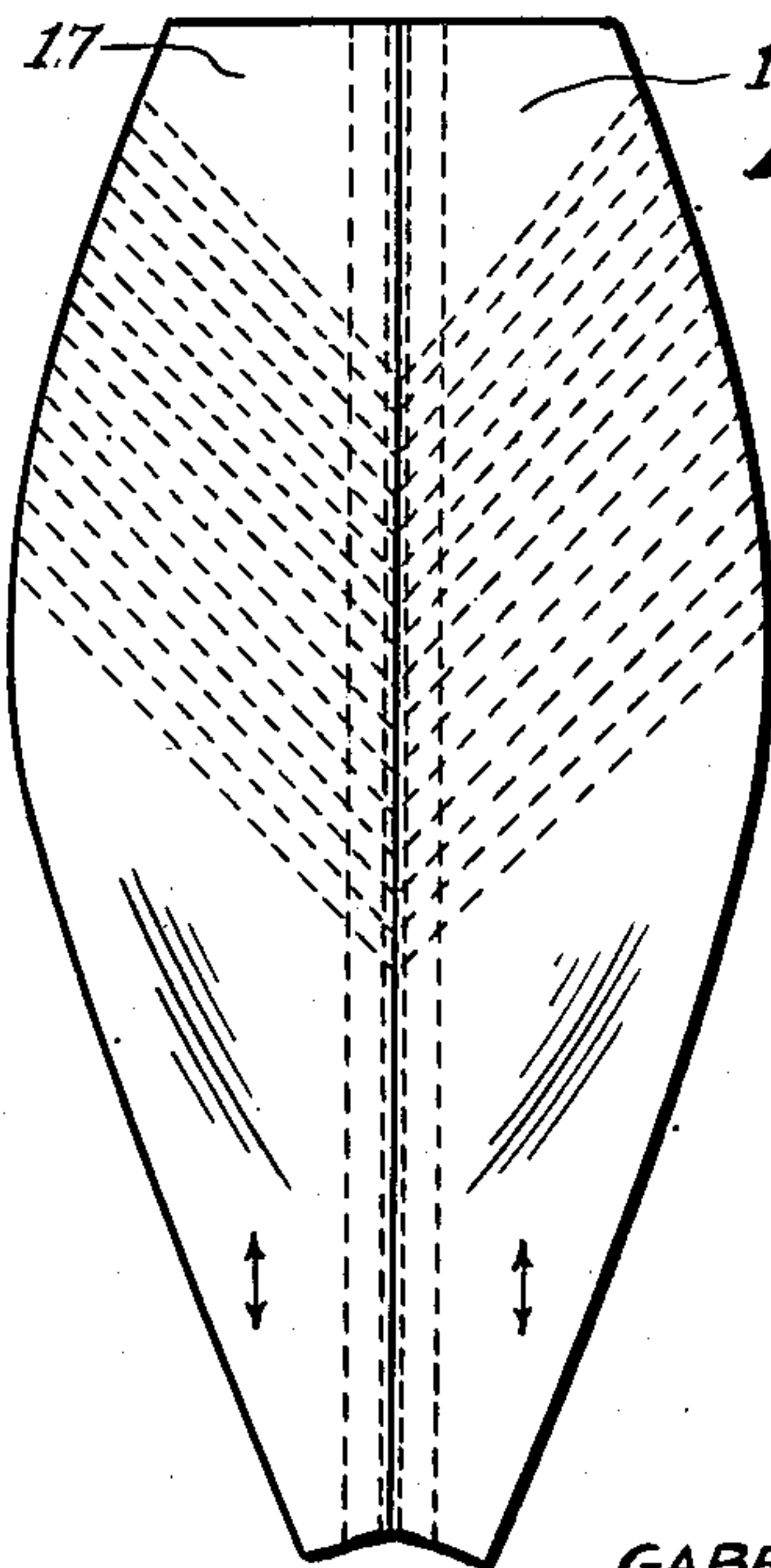


Fig. 11



INVENTOR.
GABRIEL LEVENTHAL

BY

Antoine Klein

ATTORNEY

UNITED STATES PATENT OFFICE

2,628,353

UNDERGARMENT

Gabriel Leventhal, New York, N. Y.

Application October 18, 1950, Serial No. 190,839

7 Claims. (Cl. 2—28)

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The present invention relates generally to feminine undergarments and especially to the types known as foundation garments, girdles or pantie girdles, and which undergarments are designed to produce certain desirable effects and advantages over prevailing garments of that class, particularly at the abdominal region.

The prime purpose of undergarments of the type indicated is to provide so-called figure control and figure-support, with the consequent restrain of not only about the hips and back, but also about the abdominal region, although being intended to afford sufficient yield to natural, normal body movements without undue discomfort to the wearer. In most of such garment structures little heed is paid to the wearer's anatomy, especially as to the abdominal area which is more sensitive than other body portions and is subject to frequent variations in shape and size in the course of the day.

A serious problem with form-fitting and form-shaping undergarments is their tendency of creeping upwardly, due to the generally upwardly tapering shape of the feminine torso and the pattern of the garment to conform with the latter.

The principal object of this invention is the provision of a figure-controlling, figure-shaping and form-fitting feminine undergarment which will sufficiently constrict, but correctly mold without undue restrain all of the individual body sections located between the waistline and the line below the buttocks, and wherein the abdominal section or panel of the garment possesses a preformed area to provide a certain tensionally biased, restricted fulness for automatically conforming with size-variation of the abdominal region due to the latter's normal expansion and contraction, thereby not only assuring comfort to the wearer during all of the time the garment is being worn, but also providing a so-to-speak anchorage for the garment against shifting or upward creeping in that the preformed area is constantly kept under sufficient tension to exert just enough pressure against the upper abdominal region to effect such anchorage and causing flattening of the latter.

Another important object of the present invention is the provision of an undergarment of the characteristics stated above which is of an exceptionally simple, but effective construction and is composed of only a few likewise simple elements which can be economically produced and joined with one another to complete a garment of a superior quality and high efficiency.

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A more specific object of this invention is the provision of an abdominal section in a foundation garment which comprises a substantially leaf-shaped structure composed of two normally vertically stretchable like half-leaf-shaped elements, which have curved joining edges, and which elements are arranged and joined symmetrically along the frontal vertical center line of the garment, and which elements become pre-shaped by means of their curved joining edges to provide a certain, automatically adjustable fulness at their upper middle areas and wherein means are provided with said elements to restrict their inherent tendency of expanding or stretching in vertical direction at that middle area, while a relatively short portion at their upper ends and a relatively longer portion at their lower ends adjacent said restricted middle area are free to expand vertically, and wherein the vertical joining area of the two elements is reinforced by a non-expandible or inert element in such a manner that the fulness effect imparted to the two normally stretchable elements remains unimpaired, said inert element serving as a restraining factor against expansion of a relatively narrow vertical central area along which the two symmetrical elements are united, without affecting the resiliency especially of the longer, lower end portions of the elements, which latter are intended to exert some restrain against the groin area of the wearer.

Another specific object of the present invention is the provision of a foundation garment constructed of virtually only four major single-ply components, that is two alike loin sections made from material stretchable both in vertical and horizontal directions, a buttocks section or panel made from material stretchable in vertical direction only and assuming substantially the shape of an inverted letter V, and a substantially leaf-shaped abdominal section or panel, also made from material stretchable in vertical direction only, but being pre-shaped at its central area to provide an automatically adjustable fulness, the vertical expansibility of that central area being somewhat restricted by an arrangement of downwardly-directed chevron-like reinforcements in the form of either spaced, parallel stitches or in the form of a series of parallel strips stitched to the undersurface of that section, and which abdominal section is composed of two symmetrical half-leaf-shaped elements having curved joining edges secured along the vertical center line at the front of the garment by means of a non-resilient band or strip so that the self-adjustable fulness

imparted to the elements remains unimpaired, the two two-way stretchable loin sections or panels being adapted to constantly keep both the buttocks and abdominal panel, and particularly the latter panel tensionally biased, the structure of the garment being fully self-contained and requiring neither multiple plies of panel material, nor resilient stays to render the garment most serviceable for the intended purpose.

The foregoing and other objects and advantages of this invention will become more clearly understood from the ensuing description in connection with the accompanying drawings, embodying the structural features and arrangement of the essential elements of which the garment is composed, and in which drawings:

Fig. 1 is a front elevation of the garment constructed in accordance with the present invention, disclosing the preformed, automatically adjustable and tensionally biased abdominal panel;

Fig. 2 is a rear elevation of the garment;

Fig. 3 is an exploded plan view of the various elements of the garment in one of its embodiments, prior to the union of these elements;

Fig. 4 is a detail inside plan view of the abdominal panel, in one of its forms;

Fig. 5 is a fragmental interior plan view of the front garment portion, in one of its embodiments;

Fig. 6 is a sectional view approximately along line 6—6 of Fig. 1;

Fig. 7 is a sectional view taken approximately along line 7—7 of Fig. 1;

Fig. 8 is a plan view of the two abdominal panel elements without reinforcements and showing their curved joining edges;

Fig. 9 is an interior plan view of a preformed abdominal panel disclosing a modified reinforcement at its upper middle area;

Fig. 10 is a similar illustration of the abdominal panel provided with different type of reinforcement; and

Fig. 11 is a frontal plan view of the abdominal panel constructed in conformity with either Figs. 4, 9 or 10.

In the Figures 1 to 8 and 11 numerals 10 and 11 denote the loin or side panels of the garment, whereas numeral 12 generally indicates the frontal or abdominal panel, and numeral 13 the buttocks or rear panel. Loin panels 10 and 11 are preferably constructed in continuous pieces made from two-way expansible material, as indicated by the crossed arrows, whereas the buttocks panel 13 constitutes a single element which is expansible in vertical direction only and takes the shape substantially of an inverted letter V. In other words, its upper end 14 is narrow, while its lower end 15 is substantially wider, but the widest portion of panel 13 is in the vicinity indicated at 16, corresponding to the position of the buttocks.

Abdominal panel 12, shown in exploded view in Fig. 3 and in its completed shape in Fig. 4, is made of two elements 17 and 18, both expansible in vertical direction only, their joining edges being curved as at 17' and 18'. This abdominal panel with its elements united, along their curved joining edges is substantially in the shape of a leaf having narrow ends 19 and 20 and gradually enlarging in width and being widest at its upper portion between points 21, as shown in Figs. 1, 3 and 4, and which widest portion corresponds to the vicinity of the outward bulge of the abdomen. In this embodiment the central portions of these elements become not only preformed by joining

them at their curved inner edges 17' and 18', but are also reinforced by a series of chevron-like, downwardly slanting stitches indicated at 22. It will be noted that that stitching commences a shorter distance from the upper ends of the elements and terminates a longer distance from their lower ends.

The pre-shaping of the abdominal panel is exaggeratedly indicated in Figs. 6 and 7 to show that its upper abdominal area 23 is bowed outwardly. After reinforcing the two elements 17 and 18, by means of the chevron stitching, they are united along their curved joining edges by means of longitudinal strip 24 placed in rear of these edges as clearly seen in Fig. 4, said strip and the elements being secured together by a series of four parallel vertical rows of stitches 24'. The attachment of strip 24 does not in any way impair the fulness imparted to elements 17 and 18 by their curved joining edges, and the same applies to reinforcing stitches 22, as may be observed from Figs. 6 and 7.

The outer curved edges 25 and 26 of elements 17 and 18 are joined with the correspondingly curved edges 27 and 28 of panels 10 and 11. The connection between the abdominal panel and the two loin panels is preferably affected by feather stitching 29 and a similar feather stitching 30 is employed for joining the outer edges of buttocks panel 13 with the rear edges of panels 10 and 11.

The upper and lower edges of the garment are reinforced by peripherally expansible tapes or bands 31 and 32, respectively, which are attached by way of zigzag stitching 33.

In order to facilitate the attachment of hose there are provided front and rear garters 34 and 35, respectively, extending from the lower edge of the garment.

In Figs. 3 to 7 the reinforcing tape 24 in back of the curved joining edges of elements 17 and 18 is made of inert or non-expansible material, and inasmuch as this strip is attached without affecting the fulness 23 imparted to elements 17 and 18, panel 12 is always retained in its preformed shape. Strip 24, because of its non-expansibility, will effectively restrict the expansion of the vertical central portion of panel 12, and the chevron-like stitching 22 will also, in a measure, restrict the expansion of its upper central abdominal area. As will be noted, only the relatively short upper corner areas 35 and the substantially longer lower areas 36 of half-leaf-like elements 17 and 18 are not restricted in their expansibility in vertical direction. Due to the unrestricted resiliency of these upper and lower areas, the preformed part of the abdominal panel is kept under tension in vertical direction. Additionally they exert pressure upon the areas above and below the preformed abdominal part; and the lower areas 36 have the tendency of pressing against the groin region. Moreover, abdominal panel 12 is held constantly under tension by loin panels 11 and 12. In consequence of the preformed area of panel 12 being tensionally biased in all directions, it will have the tendency of flattening, but will accommodate the natural variations in size of the abdominal region of the wearer, without even losing its function as an anchorage against the creeping or shifting of the garment, thus providing not only abdominal, but overall comfort and security in wear at all times.

Fig. 8, illustrating in plan view the abdominal panel elements 17 and 18 without reinforcement of any kind, clearly indicates their relative position prior to their union and the separation of

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their curved joining edges 17' and 18'. This basic construction of the panel elements is employed in the modified forms shown in Figs. 9 and 10 as well as in the embodiment illustrated in Fig. 4.

In Fig. 9 the central abdominal reinforcement of panel 12' includes, besides vertical reinforcing tape 24 employed in every one of the embodiments of the abdominal panel, the provision of a chevron-like arrangement of tapes 37, each of which tapes being secured by uniformly spaced parallel stitches 38.

The positioning of reinforcing tape 37 is such that only the upper middle portion of the abdominal panel is reinforced, thus being restricted in its vertical expansibility. Of course the upper ends 35' as well as the lower corners of the elements 36' are free to expand and are designed, as stated before, to hold the restricted area of the panel under tension. It will be again seen that the upper free or expansible areas are considerably shorter than the lower areas, the latter having their designed function of exercising pressure against the groin.

It is preferred to employ reinforcing tapes 37 of the same inert quality and advantageously of the same width as vertical reinforcing strip 24.

In Fig. 10 a construction similar to that shown in Fig. 9 is illustrated wherein a relatively larger number of substantially narrower reinforcing strips 39 are employed at the upper middle area of abdominal panel 12'' without change in the vertical central reinforcing strip 24.

The reinforcing strips 37 in Fig. 9 and strips 39 in Fig. 10 are so stitched to the material of the panel elements that their attachment appears at the front of the panel shown in Fig. 11 as a uniformly spaced series of chevron-like stitching similar to that illustrated in Figs. 1, 3 and 4.

Through the strip reinforcements 37 or 39 panel elements 17'' and 18'', and 17''' and 18''' in Figs. 9 and 10 render the upper middle portion of the abdominal panel relatively stiff in their preformed shapes. That imparted stiffness is instrumental in providing a more accentuated desired flattening effect of the preformed abdominal portion of the panel induced by the combined action of the free upper and lower expansible portions 35' and 35'' and 36' and 36'' of the panels shown in Figs. 9 and 10, and the action of the two-way expansible loin panels 10 and 11.

In the drawing an undergarment of only the girdle type is illustrated. Obviously the same or similar structures of preformed abdominal panels may be employed for corsets, panty girdles or any other kind of undergarments with equally good results of restrictingly accommodating the abdomen in its periodical expansion and contraction, and at the same time anchoring the garment in place.

What is claimed as new is:

1. In a garment of the figure-controlling, form-fitting and form-shaping type, a structure composed of but four major interunited parts, that is, two alike side or loin panels made from material stretchable in both vertical and horizontal directions, a buttocks or rear panel having a relatively narrow top end and a substantially wider bottom end and being stretchable in vertical direction only, and an abdominal panel stretchable in vertical direction only and having a vertically preformed portion to provide a limited fulness at its upper central area and having restricting reinforcements along its vertical center line for partly limiting vertical elongation of

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the panel substantially along that line, and wherein said vertically preformed portion consists of two symmetrical, elongated elements having originally curved interior joining edges fixedly secured together along said vertical reinforcements, and wherein said elements have relatively small upper and relatively larger lower end areas which are rendered free to expand vertically, while the areas of the elements between their upper and lower areas are provided with means for restricting their inherent tendency of expanding in vertical direction.

2. In a garment according to claim 1, in which the rear panel is shaped to substantially an inverted letter V.

3. In a garment according to claim 1, in which said restricting means of the pre-shaped portion of said abdominal panel constitutes a plurality of downwardly directed chevron-like, parallel stitches starting a relatively short distance below the top end of the panel and terminating substantially above its bottom end for restricting the inherent vertical expansibility of that pre-shaped portion of the abdominal panel.

4. In a garment according to claim 1, wherein the abdominal panel constitutes a substantially leaf-shaped structure which is broadest at its upper, central area, while both the upper and lower areas of the panel gradually taper from that central area towards their respective termini.

5. In a garment according to claim 1, wherein the abdominal panel comprises two individual, substantially half-leaf-shaped, symmetrical elements united at their originally curved, substantially vertical interior joining edges along the vertical front center line of the garment, and wherein both elements, upon their union, are caused to provide a certain fulness at their upper central areas, and wherein the union of the interior joining edges of the elements is accomplished by the employment of an inert strip placed against the interior faces along these edges, said strip being secured to the elements by a series of vertical stitches without restricting their preformed fulness.

6. A garment of the character indicated, comprising a plurality of interconnected panels, at least one of them forming the abdominal panel, the latter being vertically stretchable and comprising two like sections having curved joining edges connected together along the vertical center line of the panel, whereby the panel becomes vertically preformed to provide a self-adjusting fulness at its upper central area, the corresponding central areas of the two panel sections being provided with reinforcements for limiting their vertical expansion at those areas, the panel sections having vertically stretchable upper and lower areas adjacent their reinforced central areas, and vertically disposed inert reinforcement extending along the joined edges of the sections and extending beyond the upper and lower limits of their reinforced central areas.

7. The combination with a foundation garment, of an abdominal panel having a tensionally biased, centrally reinforced middle abdominal area which is preformed along its vertical center line and having non-reinforced upper and lower end areas stretchable one-directionally and being adapted to hold that centrally reinforced middle area under vertical tension, the lower end areas being designed to bear against the groin of the wearer, and at least one non-expansile vertical element extending centrally

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along the entire height of the panel for restricting vertical stretching thereof along its vertical center line; said panel comprising a pair of independent, symmetrical sections having curved joining edges for effecting, when joined, the pre-forming of the upper middle abdominal reinforced area of the panel.

GABRIEL LEVENTHAL.

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