Aug. 1, 1933. H. Q. MOORE 1,920,876

ADJUSTABLE GARMENT SUPPORTER

Filed Oct. 31, 1930

Fig. 1.

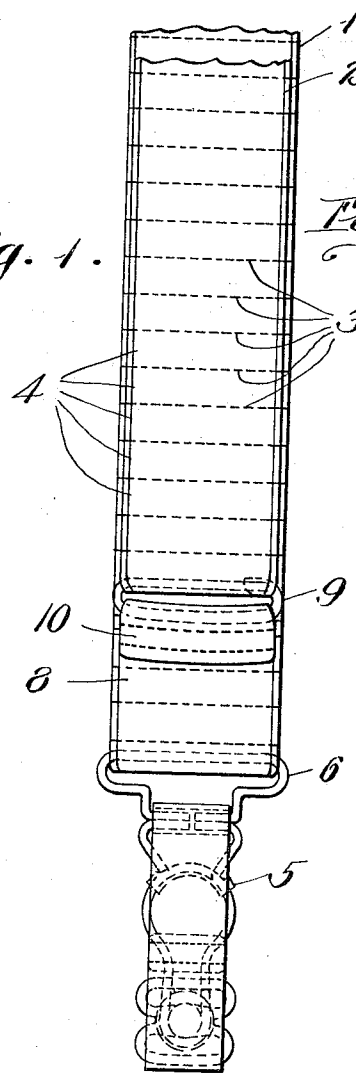


Fig. 2.

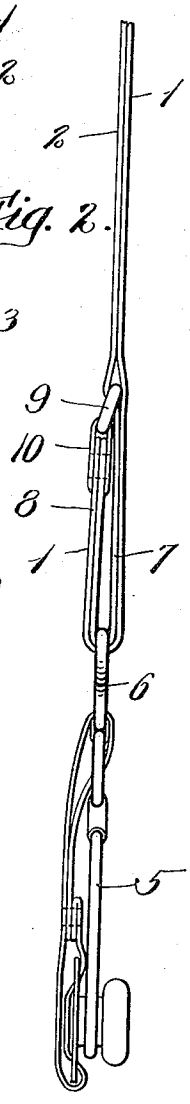
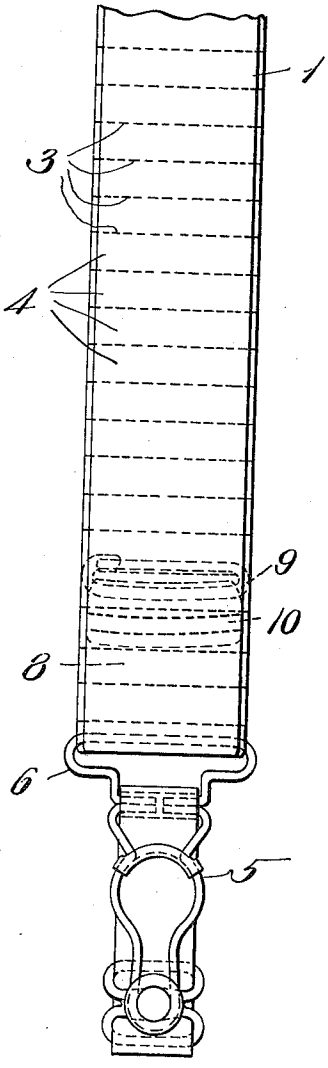


Fig. 3.



Inventor.
Harold Q. Moore,
by Robert K. Randall,
Atty.

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ADJUSTABLE GARMENT SUPPORTER

Harold Q. Moore, Westerly, R. I., assignor to George C. Moore Company, Westerly, R. I., a Corporation of Rhode Island

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7 Claims. (Cl. 241—1)

The present invention relates to adjustable elastic garment supporters, with special reference to ease in manufacture, durability of wear and effective operation.

It is an object of the invention to provide a novel and improved adjustable supporter which will have, in its completed form, no hard, sharp, or bulky projections to cause unnecessary chafing or wear upon other garments or other undesirable or uncomfortable effects. A further object of the invention is to provide for the usual adjustment of the length and tension of the supporter by reversely folding an end-portion, and to provide in novel manner for securing the upturned end by a fastener of minimum thickness, having no protruding edges or corners, which will apply its force to the fabric of the supporter without bending or bulging the latter and interrupting the smooth continuity of its surface. A further aim of the invention is to attain adjustment of the effective length of the supporter without the injury to the face of the fabric or to the inner rubber cords which is incident to the use of the usual buckles or clasps having serrated gripping edges commonly used for accomplishing such adjustments.

Another object of the invention is to produce novel supporters of the nature above referred to, having a greater retracting strength than equivalent prior devices of the same width.

To these ends the invention comprises an adjustable supporter having the novel characteristics, construction and combinations shown in the drawing, described in the specification and set forth in the appended claims.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which,—

Fig. 1 is a view of the back of a supporter having my improved construction.

Fig. 2 is a side view from the right of Fig. 1 on an enlarged scale.

Fig. 3 is a front view of the supporter shown in Fig. 1.

The fabric employed in the supporter illustrated consists of a multiple or two-ply structure composed of elastic fabrics or webbings using rubber cords in the warp to provide elasticity. One ply 1 of elastic fabric is attached to a substantially coextensive second ply 2 of similar elastic material. Attachment may be accomplished in any of a number of ways, and the fabric may be woven separately or independently, or each supporter may be made of a single strip folded to produce two plies, or the two fabrics may be woven simultaneously and interwoven where desired in well known manner. Attachment should be made at frequent intervals along lines of juncture 3 generally transverse to the direction of stretch, or the length of the fabric in a manner giving the appearance and effect of a single integral web devoid of loops. The same effect as that obtained by interweaving may be produced by stitching along the lines 3, but regardless of the method employed the lines of attachment should be arranged preferably in parallel relation across the width of the fabric and may, if desired, be tilted at an angle therewith. The result is the formation of a series of contiguous pockets 4 having openings at the lateral edges of the fabric.

According to the embodiment of the invention herein, the warp of each ply includes rubber or elastic cords.

Extension of the fabric causes the plies to stretch equally under normal conditions, but when one ply is given a greater tension it will tend to separate from the other to a certain extent over an interval of more than one of the pockets, resulting in an evenly curved surface, without sudden or sharp changes of direction which would subject the fabric to undue strain or wear. In this way there is a tendency to equalize the stress applied to the two plies of the fabric. The lines of attachment 3 are arranged at regular intervals in the form shown, producing a series of equally spaced contiguous pockets 4 having openings at the lateral edges of the material. These pockets 4 provide a novel and improved means for securing a reversely folded lower end of the fabric, when employed for supporters and the like. Positive and non-slipping engagement is insured by this form of attachment, which avoids all injury to the surface of the webbing and the rubber cords combined therewith.

The improved adjustable supporter is made from the special fabric in the following preferred manner:—

A supporting device or clasp 5 of well-known design having a metal slider loop 6 connected to it is slipped over a section of the fabric, and a loop 7 is produced in the fabric by reversely folding an end 8 of the fabric. The extremity of the folded-back end 8 is adapted to be attached to any selected pocket 4 in the fabric formed between the two plies of the elastic webbing, in order to adjust the effective length and desired tension of the supporter. Any desired or preferred device may be used to combine the folded-back end 8 with the selected loop 4, as a fibula or safety pin 9 attached to such end 8 by means of binding tape 10 folded about pin 9 and sewed to the end 8. The pin may be blunt pointed to facilitate slipping through the pockets. The upper end of the section is attached in suitable manner, as by stitching, to a girdle or other garment, as usual. The clasp 5 may either be faced in the direction away from the reversely-folded end 8, or in the opposite direction if

greater ease of adjustment of the effective length and tension of the supporter while being worn is desired.

It will thus be seen that the improved structure is particularly adapted for use as a supporter for hose, as well as for suspenders and the like, and provides means for attaching the reversely folded lower end portion of a section of webbing at any desired intermediate point along its length without the necessity for the use of a buckle, clasp or similar device encircling the entire strip of webbing as has usually been necessary heretofore. Thus, there is avoided the need of compressing, clamping or pinching the elastic members hitherto necessitated through the use of such buckles or clasps which relied for their holding power on frictional or on toothed engagement with the two surfaces, front and back, of the elastic webbing which they encircle. Through the use of the principles of the invention, both face and back of the elastic webbing are left free from all wear and tear incident to the action of the clasps hitherto needed and the rubber warps are freed from the chafing and cutting by the frictional or toothed clasps with consequent greatly prolonged life. The attaching means 9, taking the place of such buckles and frictional clasps, can be greatly reduced in bulk, thickness and weight, with resultant increase in comfort to the wearer.

By making the elastic ply 2 of slightly less width than the elastic ply 1, the transverse length of the attaching means or pin 9 may be made less than the width of the ply 1, so that the entire attaching means may be concealed behind or underneath the ply 1 when worn, and wholly out of sight.

As appears in connection with the enlarged view of Fig. 2, the insertion of pin 9 within a pocket 4 produces a slight bowing of the fabric plies away from each other which results in only a slightly different tension being applied to the two. This produces a divergence of the sides of the plies in a smooth slope, the major portion of this difference in tension falling on the ply lying toward the folded-back end 8 so that this ply diverges from the other at substantially the same angle assumed by the end 8 with respect to the main extent or upper portion of the supporter, producing in effect a gradual or tapering reduction in thickness of the article from the supporting device to or beyond the line of juncture next above the pin 9. Thus a substantially smooth contour is produced having no projections or other angular edges which might catch or be subject to undue wear, and no thick or lumpy portions to cause discomfort through being pressed into the wearer's flesh. Also, the folded-back portion may be folded reversely after being worn with one surface exposed, to conceal worn or soiled surfaces, as the pin 9 may engage the pockets from either face of the fabric.

The fabric plies may be woven with a stretch-limiting element embodied therein or an equivalent effect may be obtained by any one of the well-known methods of construction applicable to elastic garters.

Having thus described in detail a preferred form of my invention, I desire that it be construed as illustrative only and not in a limiting sense, and intend to include all features and combinations specified to the extent indicated in the annexed claims.

What is claimed as the invention is:

1. A supporter device, having in combination an elongated two-ply elastic fabric constructed with a series of pockets throughout its length along at least one of its edges, means attached to one end of the fabric adapted to cooperate with the pockets to hold the end in fixed relation therewith, and garment-supporting means carried by the fabric between such end and its cooperating pocket and freely slidable over the intervening pockets.

2. A supporting device having in combination an elongated two-ply elastic fabric constructed with a series of pockets extending between the plies and means attached to the ends of both plies of the fabric adapted to cooperate with the pockets to hold said ends in fixed relation therewith.

3. A supporter device, having in combination, an elongated elastic fabric, a second elastic fabric of equal length united at intervals along lines transverse with respect to the direction of stretch to form contiguous pockets throughout the length of the supporter, means attached to the co-terminous ends of the two fabrics to project into said pockets for holding said ends in fixed relation, and garment-supporting means carried by the fabrics between such ends and the cooperating pocket and freely slidable over the intervening pockets.

4. A supporter having in combination, a plurality of separate elastic plies and a terminal fastening device secured to the ends of all plies, and uniting the said ends to an intermediate portion of the supporter, the plies being united by a line of juncture adapted to prevent the fastening device when inserted between the plies from movement lengthwise of the web.

5. A supporter device having in combination, an elongated elastic fabric formed of two plies of equal length joined at intervals to form a series of pockets opening into its lateral edge, a fastening means attached to the co-terminous ends of the two plies and inserted into one of the pockets to form a loop, and a garment-supporting slider surrounding the fabric in the loop and engaging the exterior of the pockets.

6. A supporter having in combination, a plurality of elastic plies coextensive in length and joined together at intervals, and means for adjusting its effective length and tension including a reversely folded end-portion, a terminal fastening device attached to the co-terminous ends of the two plies adapted to engage the intermediate portion of the fabric between two plies thereof, from either face of the fabric, and a garment-supporting device on the fabric between the end-portion and its point of engagement with the intermediate portion.

7. A supporter device having in combination a two-ply fabric each of which plies is itself elastic in the direction of the length of the supporter, and is separated for short distances from the other ply uniformly throughout its length, one of such plies being wider than the other, a fastening pin longer than the width of one ply and shorter than the width of the other, attached at one end of said fabric, and a slider surrounding the fabric.

HAROLD Q. MOORE.