

April 4, 1961

J. CLYNE

2,977,957

SANITARY NAPKIN HOLDERS AND HOLDER UNITS

Filed Aug. 28, 1957

2 Sheets-Sheet 1

FIG. 1

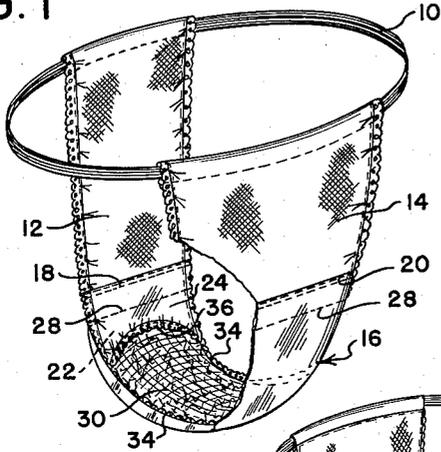


FIG. 2

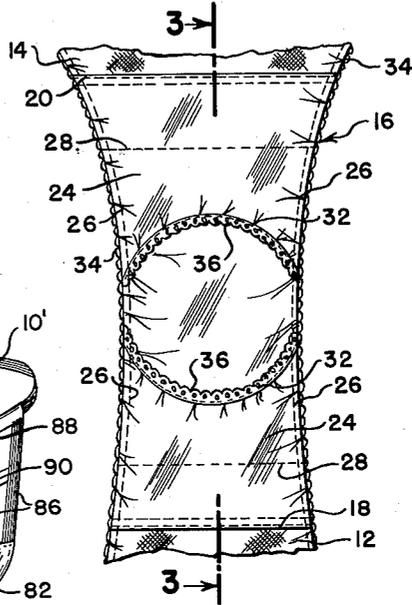


FIG. 10

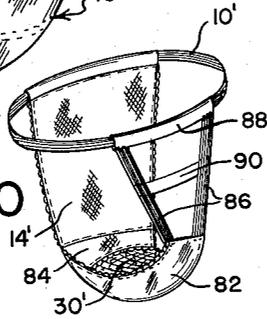


FIG. 3

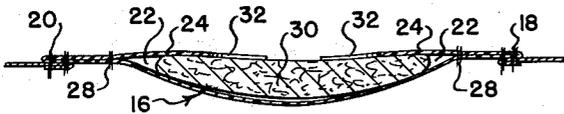


FIG. 5

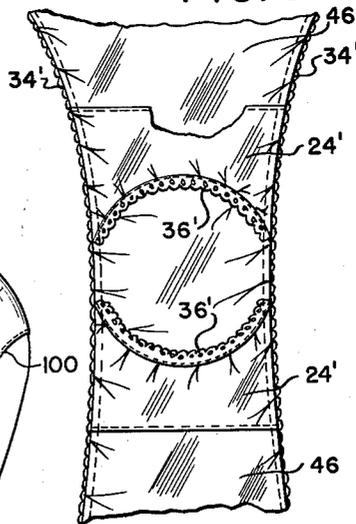


FIG. 4

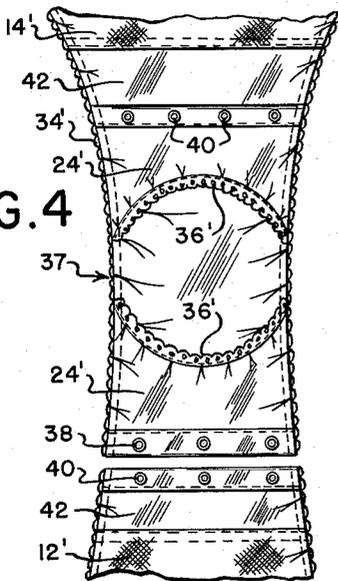
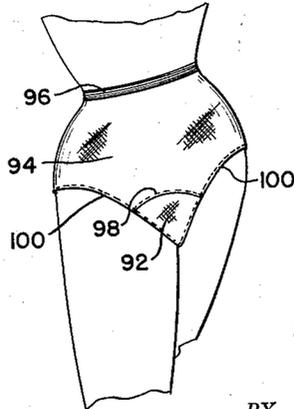


FIG. 11



INVENTOR.

BY Joseph Clyne

ATTORNEYS

*Ferris, Edmunds, Walter, Ferraro & Taylor*

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J. CLYNE

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FIG. 6

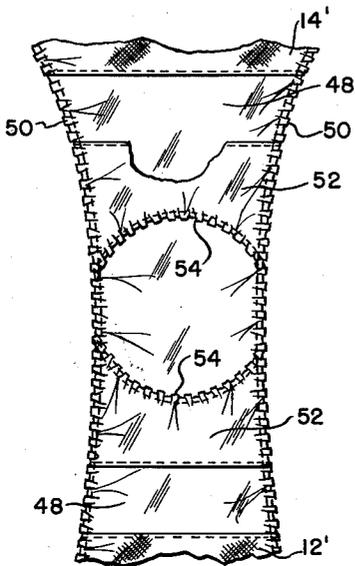


FIG. 8

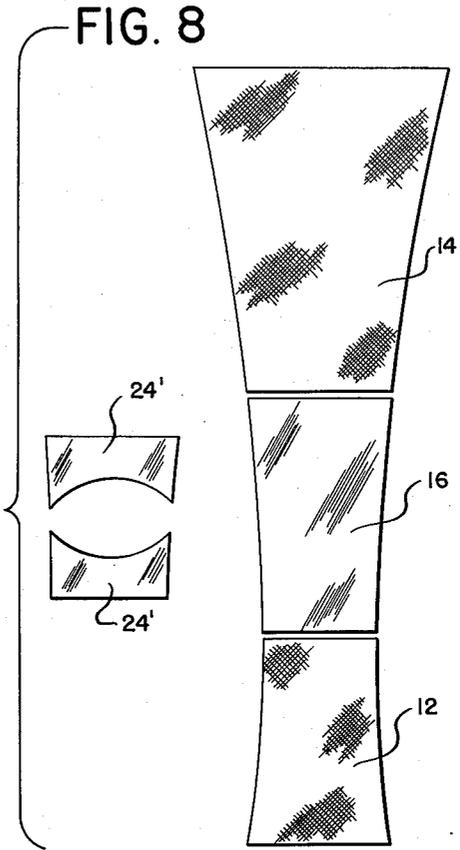


FIG. 9

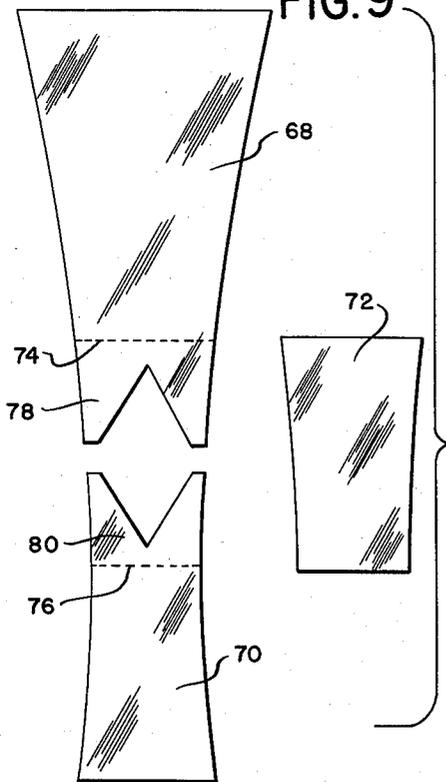
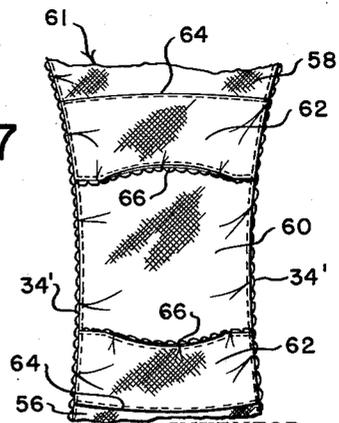


FIG. 7



INVENTOR.

BY Joseph Clyne

ATTORNEYS

*Francis, Edmunds, Weston, Barron & Taylor*

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## SANITARY NAPKIN HOLDERS AND HOLDER UNITS

Joseph Clyne, Bronx, N.Y., assignor to Napette Sanitary Napkin Holder, Inc., New York, N.Y., a corporation of New York

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10 Claims. (Cl. 128—291)

This invention relates to improvements in holder units for absorbent pads, such as surgical or other dressings or sanitary napkins when in use.

The present invention is designed to avoid the difficulties previously encountered in supporting and retaining such pads and sanitary napkins, and has as its primary object the provision of a napkin holder which is comfortable, one which the wearer can depend upon to protect her clothing, and one in which a sanitary napkin can be inserted and removed easily.

Another object of the invention is to provide a unit for holding and supporting sanitary napkins and the like which avoids the use of pins and other fastenings and the inconveniences and discomforts resulting from their use.

A further object of the invention is to provide a complete unit for supporting and holding sanitary napkins and the like which the wearer may readily use either under or over corsets and girdles.

According to the invention, the improved unit constitutes an improvement in units for holding and supporting water-absorbent pads of the type of sanitary napkins and the like adapted to be supported from the waist of the wearer and including an elongated crotch section comprising waterproof material for holding an elongated water-absorbent pad. The invention relates to improvements in such units which include means located on the crotch section in the form of front and back pockets for retaining the absorbent pad, the pockets being located respectively at the end portions of and cooperating with the crotch section to provide openings facing toward each other for receiving and retaining the respective end portions of the absorbent pad on the crotch section. The improvements according to the invention relate more particularly to having the facing edges of the pockets stretchable transversely of the crotch section and gathered so that they are under tension over the respective end portions of the absorbent pad when mounted in the crotch section. The stretchable facing edges of the pockets cooperate with gathered or elastic edges under tension provided along the sides of the crotch section to retain the absorbent pad.

The improved absorbent pad holder and unit of the present invention includes other features, objects, advantages and modified forms of construction as described more in detail hereinafter in connection with the accompanying drawings forming a part of this application.

In the drawings:

Fig. 1 is a perspective view from the back of a unit for holding and supporting an absorbent pad or sanitary napkin, shown generally in the position of use, in which the crotch section is provided with a waterproof bottom attached to front and back supporting sections;

Fig. 2 is a plan view of the crotch section of the holder unit shown in Fig. 1, on an enlarged scale, when laid out flat and extended as in the position of use with the pad removed and parts broken away;

Fig. 3 is a sectional view taken along the line 3—3

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of Fig. 2, but showing the pad in position as in Fig. 1;

Fig. 4 is a view similar to that of Fig. 2 showing a modified form of construction, in which the front portions of the crotch section are provided with readily disengageable connections;

Fig. 5 is a view similar to that of Fig. 2 showing a modified form of construction in which the front, back and crotch sections of the holder unit structure are integral;

Fig. 6 is a view similar to that of Fig. 2 showing a similar construction in which the crotch section is made entirely of sheet rubber;

Fig. 7 is a view similar to that of Fig. 5 in which the crotch section and pocket-forming strips of the holder unit are made of waterproof material and shown extended as in use;

Fig. 8 is a plan or pattern type view showing the shapes of the sections of material used in making holder unit structures of the type shown in Figs. 1 and 2;

Fig. 9 is a pattern type view similar to that shown in Fig. 8, showing a modified form of pattern for making holder units according to the invention;

Fig. 10 is a perspective view from the front of a unit similar to that shown in Fig. 1, but with a modified form of front support; and

Fig. 11 is a front view showing the crotch sanitary napkin holder section supported by a panty brief in place on the wearer.

The combination sanitary napkin holder and supporting structure, as illustrated completely in Fig. 1, includes a belt 10, preferably of elastic material adapted to extend around the waist of the wearer, a front section 12 and a back section 14 secured to the belt, as for example by stitching, as shown. The front and back sections 12 and 14 support a sanitary napkin holder crotch section 16 of waterproof material such as a waterproof fabric or plastic, one end edge of which is attached to the front section 12 by a seam 18, while the other end edge is attached to the lower portion of the back section 14 by a seam 20.

The crotch section 16, as shown in Figs. 1, 2 and 3, is provided with similar pockets 22 respectively located adjacent the end portions of the section 16 and formed by transversely-extending sections 24 of waterproof material secured along their marginal edges by seams 26 to the respective edges of the crotch section 16. The remote edges of the pocket-forming sections 24 are secured respectively in the seams 18 and 20, so that the pockets are provided with openings facing each other toward the center of the crotch section 16. The pocket-forming sections 24 are also secured to the material of the crotch section by transverse seams 28 located somewhat more than a sufficient distance apart to accommodate the full length of a sanitary napkin 30, located in the crotch section 16 with its end portions respectively extending into the pockets 22 in the manner shown in Fig. 3.

The sections 24, forming the upper portions of the pockets 22, are provided with curved edges 32 facing each other, as shown in Fig. 2, in order to provide an effective retaining means for the sanitary napkin, while at the same time leaving a relatively large upper surface area of the napkin exposed between these edges for absorbing moisture.

As indicated in the drawings, the crotch section 16 has its narrowest width approximately at its lengthwise center and from there the edges diverge in gentle curves toward the attachment edges of the front and back sections 12 and 14. The crotch section is considerably wider at the back attachment seam 20 than at the front attachment seam 18. From the seam 18 the sides of the front section 12 diverge gradually up to the belt 10 and the front section is of considerable width, so that the

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full width of the front portion of the crotch section is uniformly supported from the belt. The side edges of the back section 14 diverge from the seam 26 to the belt to a much greater extent than the front section, thereby providing a relatively wide back section which gives full support to the full width of the back attachment edge of the crotch section. Furthermore, the side edges of the unit formed by the joined sections 12, 16 and 14 are respectively gathered, particularly the edges of the crotch section 16, and secured by seams, as shown, to an elastic edging 34, which serves to extend the gatherings and conform these sections to the body of the wearer when in use. These seams form continuations in both directions of seams 26. The edges 32 of the pocket-forming sections 24 are also gathered and stitched to similar elastic tape or edging material 36 which extends in each instance to the respective edges of the crotch section 16. Instead of being stitched to the elastic edging 34, the edges of the sections 12, 14 and 16 may be provided with hems enclosing narrow plastic tape extending from the belt at the front to the belt in back and under sufficient tension to gather the hemmed edges. The edges 32 may have the same structure.

In the construction shown in Figs. 1, 2 and 3, the front and back supporting sections 12 and 14 are preferably comprised of a soft flexible elastic fabric material, preferably stretchable in all directions, but at least longitudinally of the sections 12 and 14. The elastic material conforms to the contours of the body of the wearer and permits the crotch section to be pulled down to change napkins without moving the belt down.

The sanitary napkin 30 is of a conventional type of absorbent pad having an elongated generally rectangular formation, although the end portions may be rounded. The pad is readily secured in the crotch section 16 by inserting its ends into the pockets 22, if necessary by stretching the elastic at the edges 32. When the pad is in place, the elastic at the edges 32 pulls the edges of the crotch section inwardly around the side edges of the pad, thereby holding it in place and aiding in fitting the edges of the crotch section to the body of the wearer. The elastic edging 34, combined with the wide sections 12 and 14 and the gathered diverging edges of the unit causes these edges to engage and fit the inner portions of the legs of the wearer at the crotch. The elastic tape or edging 34 along the edges of the crotch section 16 pulls these edges up along the side edges of the sanitary napkin so that it is retained in a trough-like structure by the action of the elastic tape or edging on the gathered edges of the crotch section.

All of the modifications shown in Figs. 4 to 10 preferably include the belt 10, the front and back supporting sections and crotch section having the advantageous shapes and functions described above in connection with Figs. 1 to 3, and in each instance, the back section is wider than the front section and provides a smooth straight transverse surface at the back of the wearer.

Fig. 4 shows a construction which is particularly useful, for example, in maternity cases and hospital cases, since at least the front and crotch sections are provided with detachable fastenings, so that it is unnecessary to move a patient in order to change the absorbent pad. The construction shown in Fig. 4 is generally similar to that shown in Figs. 1, 2 and 3 and similar parts are indicated by the same reference numerals to which a prime has been added. The construction as shown includes a crotch section 37 of waterproof material provided at both its front and back ends with snap fastening members 38 adapted to be engaged by cooperating snap fastening members 40 carried by pieces of waterproof material 42 secured respectively to the front and back sections 12' and 14'. In this construction the transversely-extending pocket-forming sections 24' do not extend to the end sections 12' and 14', but the forward and rear edges of the sections 24' are sewed respectively into

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the hems carrying the snap fastening members 38. The pocket-forming sections 24' have approximately the pattern shape of the corresponding sections of material shown in Fig. 8. The edges of the front, back and crotch sections of the unit shown in Fig. 4 are gathered and secured to elastic tape or edging material in the manner described above, the ends of the elastic tape for the crotch section being fixed in the hems carrying the fastening members 38. While the disengageable and removable napkin holder section 37 is preferably combined in a unit in the manner shown, it may be attached onto girdles, corsets or similar garments for holding sanitary napkins.

In the construction shown in Fig. 5 the front, back and crotch portions of the unit comprise a single piece of waterproof material 46 having the same contoured shape as that shown in Figs. 1, 2 and 8. The pocket-forming sections 24' are of waterproof fabric and have a structure the same as those shown in Fig. 4.

In Fig. 6 the crotch section comprises a piece of soft flexible sheet rubber 48, the marginal edges of which include pressed-in gatherings or accordion pleating 50 which function like the tape or edging 34. In this unit the pocket-forming sections of material 52 are shaped the same as those in Figs. 4, 5 and 8, made of soft sheet rubber and provided with accordion pleated or crimped gathered edges 54. The other edges of the pocket-forming sections are preferably cemented to the crotch section. The front and back sections 12' and 14' are preferably of woven elastic material but may be of a tricot fabric.

Fig. 7 shows a construction including a front panel section 56, a back panel section 58 both made of soft woven elastic fabric 61, which is stretchable longitudinally, and a crotch section 60 of waterproof material provided with transversely-extending relatively wide pocket-forming bands 62 of substantially uniform width. The ends of the bands 62 are sewed to the respective edges of the crotch section 60, while the remote edges extend to the respective ends of the crotch section and are sewed therewith to the fabric of the panels 56 and 58 by transverse seams 64. The pocket-forming bands 62 are of the same material as the crotch section 60 and their inner edges 66, shown opening upwardly, are not stitched to the crotch section 60 except for a few stitches at their ends, as indicated.

The pocket sections 62 are spaced apart to a greater extent than those of the other units and cooperate with the crotch section 60 of the unit to provide pockets for receiving the end portions of relatively large and long sanitary napkins. The marginal edges of the unit are gathered on elastic tape as described or are gathered and sewed to elastic tape material 34', and the edges 66 are gathered and sewed to similar elastic tape material, as shown. Pocket-forming sections having the structure shown in Fig. 7 may be used in the units shown in Figs. 1 to 6, 10 and 11.

The construction shown in Fig. 7, particularly the pocket structure and spacing, is adapted to provide a unit which cooperates with absorbent pads and sanitary napkins of relatively large size. The unit, therefore, provides a soft body-conforming construction in which protection is afforded for those who require or can use large sanitary napkins.

Fig. 8 shows the shape of the sections of material, in pattern form, used, for example, in making up the constructions or some of the sections shown in Figs. 1 to 7, 10 and 11. In this view the shapes of the sections 12, 14, 16 conform to those shown in Figs. 1 to 3, 6 and 7 while the pocket-forming sections 24' correspond more exactly to those shown in Figs. 4, 5 and 6, that is, as to size and positioning of their remote edges with respect to the crotch section 16. The pocket-forming sections 24' shown in Fig. 2 are merely relatively longer than those shown in Fig. 8.

Fig. 9 shows a somewhat modified form of construc-

tion in pattern form. In this view the unit comprises a back fabric section 68, a front fabric section 70, both of waterproof material, such as soft sheet plastic, and a crotch section backing 72 of similar waterproof material which is mounted under the inner portions of the sections 68 and 70 with one end sewed to the section 68 along the dotted line 74, while the other end is sewed to the section 70 along the dotted line 76. The marginal edges of the backing 72 are sewed to the respective edges of the sections 68 and 70, so that the inner-end portions 78 and 80 cooperate with the backing 72 to provide pockets for receiving the respective ends of an absorbent pad. In this construction, therefore, the pocket-forming covers 78 and 80 are integrally combined in the fabric of the back and front sections, respectively. The edges of the unit are curved, as shown, and may be gathered and hemmed over lengths of elastic tape or stitched to elastic tape, as in the case of the constructions shown in Figs. 1 to 7 and 10. The covers 78 and 80 have V-shaped inner edges which facilitate insertion of the ends of the sanitary napkin. The sections 68 and 70 may be made of longitudinally-stretchable elastic fabric or tricot fabric as in Fig. 7 or all three sections may be made of these non-waterproof materials where the unit is to hold sanitary napkins having waterproof backings.

Fig. 10 of the drawings shows a construction similar to that of Fig. 1 but modified to the extent of including a different form of front support. In this view the sanitary napkin holder unit includes a belt 10', a back supporting section 14' and a crotch napkin holder section 82 provided with front and rear pocket-forming sections 84 holding a sanitary napkin 30' as shown. The back section 14' is preferably made of elastic fabric but may be formed of tricot, such as a nylon tricot fabric. The holder section 82 and the pocket-forming sections 84 are preferably of waterproof material, and the open edges of the pockets may have the structure shown in any of the other views but preferably the structure shown in Fig. 7.

The front support for the crotch section 82 comprises elastic bands 86 attached to the front corners of the crotch section 82 and extending in a diverging relationship up to the front portion of the elastic belt 10' where they are attached to the respective ends of a band of fabric material 88 extending around and secured to the belt 10'. At about the midpoint, the elastic bands 86 are connected by a non-elastic tape 90 to prevent excessive spreading. The elastic bands 86 exert a pull on the edges of the crotch section 82 and the elastic tape or edging thereof, so that they are caused to pull up along the side edges of the napkin and fit snugly to the wearer's body thereby providing secure protection for the wearer. Furthermore, the elastic bands 86 permit the wearer to lower the crotch section, without moving the belt, for the purpose of replacing used sanitary napkins.

Fig. 11 shows a napkin holder 92, constructed in accordance with the invention, which may have any of the forms described hereabove and be made of waterproof material, supported at front and in back by a panty brief structure 94 having an elastic belt 96. The upper front edge of the crotch section 92 is secured to the central front portion of the panty brief structure 94 by a seam 98. The other end of the crotch section is secured in a similar manner to the back central portion of the panty brief structure 94. The diverging edges 100 of the panty brief, extending around the hips or thighs of the wearer both in front and in back include enclosed narrow elastic tape in the hems and insure a perfect form fit for the curved edges of the crotch section 92, which also has the elastic tape at its edges.

It will be understood that the edges of the front, back and crotch sections are gathered with respect to the elastic tape or edging extending therealong when the latter are unstretched and that when the elastic tape or

edging is extended the gatherings smooth out, at least to a large extent when the holder or unit is fitted to the body of the wearer. In this position the elastic tape or edging supports the edge portions of the material of the crotch section.

What I claim is:

1. A unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like including a belt means for the waist of the wearer, front and back panels of material attached to the belt means and extending downwardly therefrom when the unit is being worn, a crotch panel of waterproof material the ends of which are respectively attached to the lower portions of the front and back panels, and spaced front and back pockets in the upper portion of the crotch panel with their open ends facing each other for receiving and retaining the respective end portions of an absorbent pad, the improvement comprising a strip of elastic material attached to each of the facing edges of said pockets with its ends attached to the side edges of the unit and being under tension over the end portions of an absorbent pad when mounted in the crotch panel, a supporting strip of elastic material extending entirely along each side edge of the unit from the belt means at the front to the belt means at the back, said side strips of elastic material being attached respectively to said edges and being under tension and pulling the material of the crotch panel upwardly along the respective side edges of the absorbent pad and pulling the edges of the unit into intimate engagement with the body of the wearer when the unit is being worn, whereby the exposed upper surface of the absorbent pad is completely surrounded with elastic strips under tension.

2. A unit as claimed in claim 1, in which the side edges of the unit are gathered with respect to the elastic edge strips therealong when such edge strips are in their unstretched condition.

3. A unit as claimed in claim 1, in which the material forming each pocket is integral with one of the panels of the unit.

4. A unit as claimed in claim 1, in which the front and back panels are of longitudinally-stretchable material adapted to stretch sufficiently to permit the crotch panel to be pulled down with the belt means in place for inserting an absorbent pad without removing the unit from the body of the wearer.

5. A unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like including a belt means for the waist of the wearer, front and back panels of material attached to the belt means and extending downwardly therefrom when the unit is being worn, a crotch section of waterproof material the ends of which are respectively connected to the lower portions of the front and back panels, and spaced front and back pockets connected to the upper portion of the crotch section with their open ends facing each other for receiving and retaining the respective end portions of an absorbent pad, the improvement in which the respective side edges of the unit from the belt at the front to the belt at the back are gathered and elastically stretchable lengthwise, said gathered edges being under tension and pulling the material of the crotch section upwardly along the respective side edges of the absorbent pad and pulling the edges of the unit into intimate engagement with the body of the wearer when the unit is being worn, and the facing edges of said pockets being gathered and stretchable transversely of the unit and being under tension over the end portions of an absorbent pad mounted in the crotch section.

6. In a unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like adapted to be supported from the waist of the wearer, said unit including an elongated crotch section comprising waterproof material for holding an elongated water-absorbent pad, and spaced front and back pockets connected to the upper portion of the crotch section with their open ends

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facing each other in spaced relation for receiving and retaining respective end portions of an elongated absorbent pad, the improvement in which the respective side edges of the crotch section are gathered and elastically stretchable lengthwise, said gathered edges being under tension and pulling the material of the crotch section upwardly along the respective side edges of the absorbent pad and pulling said edges of the crotch section into intimate engagement with the body of the wearer when the unit is being worn, and the facing edges of said pockets being gathered and stretchable transversely of the crotch section and being under tension over the respective end portions of the absorbent pad when mounted in the crotch section.

7. A unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like as claimed in claim 6, including a strip of elastic material extending along and connected under tension to each of the facing edges of said pockets, said facing edges of the pockets being gathered with respect to the strip of elastic material extending therealong.

8. A unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like as claimed in claim 6, in which the spaced front and back pockets each comprise a section of material extending transversely of the crotch section with the marginal edges thereof secured to the respective side edges of the crotch section, elastic material under tension along the facing edges of said pockets pulling the edges of the crotch section inwardly around the side edges of the absorbent pad, thereby holding it in place and aiding in fitting the edges of the crotch section carrying the absorbent pad to the body of the wearer.

9. In a unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like in the form of a panty brief supported from the waist of the wearer, said panty brief including an elongated crotch

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section comprising waterproof material for holding an elongated water-absorbent pad, and spaced front and back pockets connected to the upper portion of the crotch section with their open ends facing each other in spaced relation for receiving and retaining respective end portions of an elongated absorbent pad, the improvement in which the facing edges of said pockets are gathered and stretchable transversely of the crotch section and are under tension over the respective end portions of the absorbent pad when mounted in the crotch section, and the respective side edges of the crotch section being gathered and elastically stretchable lengthwise, said gathered edges of the crotch section being under tension and pulling the material of the crotch section upwardly along the respective side edges of the absorbent pad and into intimate engagement with the body of the wearer when the unit is being worn.

10. A unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like as claimed in claim 8, including a strip of elastic material extending along and connected under tension to each of the facing edges of said pockets, said facing edges of the pockets being gathered with respect to the strip of elastic material extending therealong.

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 2,977,957

April 4, 1961

Joseph Clyne

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 8, line 20, for the claim reference numeral "8"  
read -- 9 --.

Signed and sealed this 3rd day of October 1961.

(SEAL)

Attest:

ERNEST W. SWIDER

Attesting Officer

DAVID L. LADD

Commissioner of Patents

USCOMM5C