Oct. 29, 1968 G. D. GRIPPO ET AL 3,407,813

DIAPER HOLDER

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FIG.1

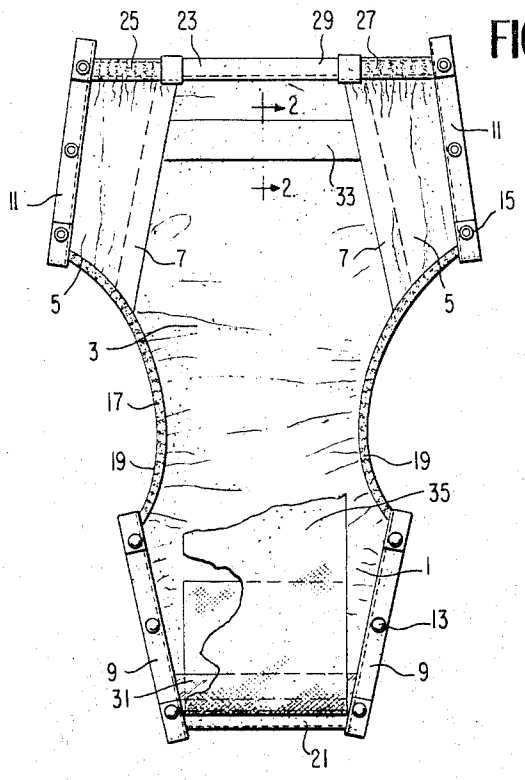


FIG.2

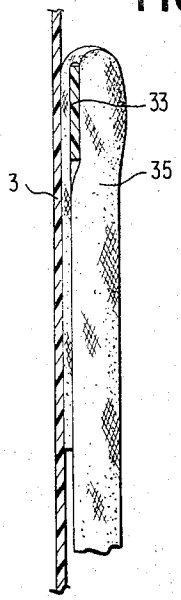


FIG.3

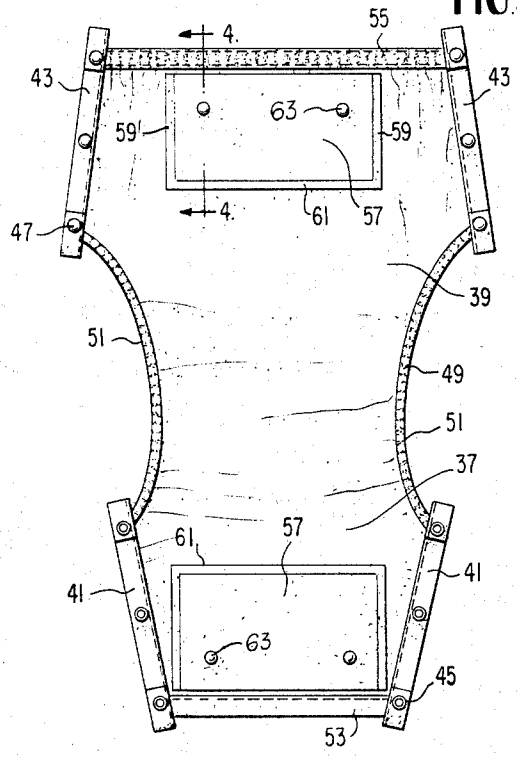
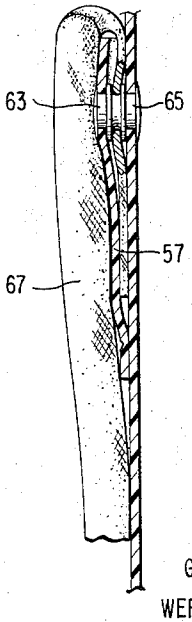


FIG.4



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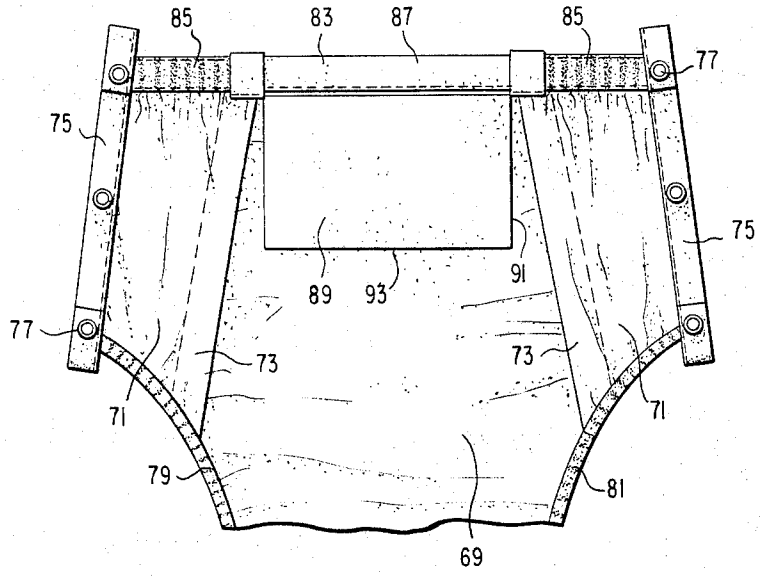


FIG. 5

FIG. 7

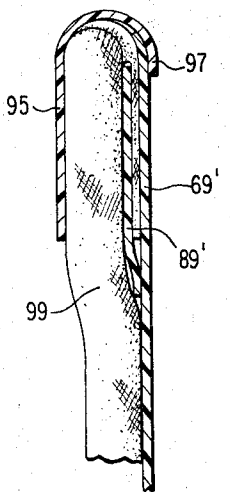
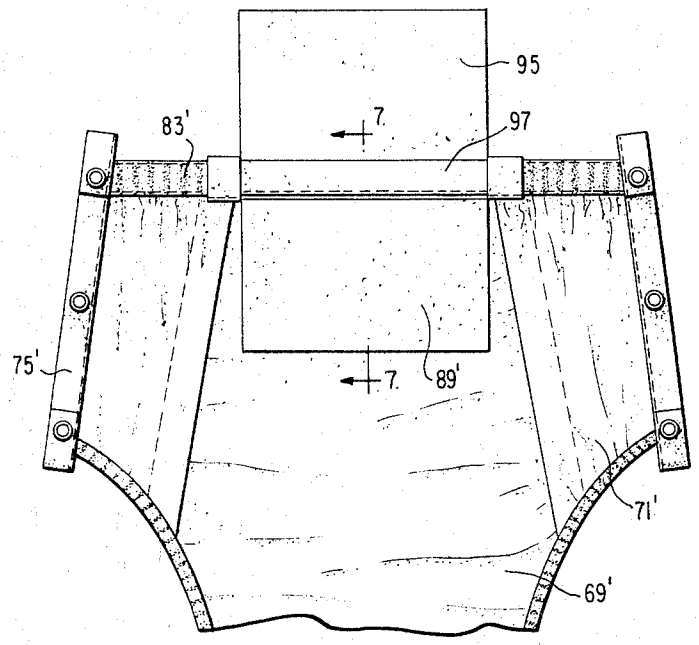


FIG. 6



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FIG.8

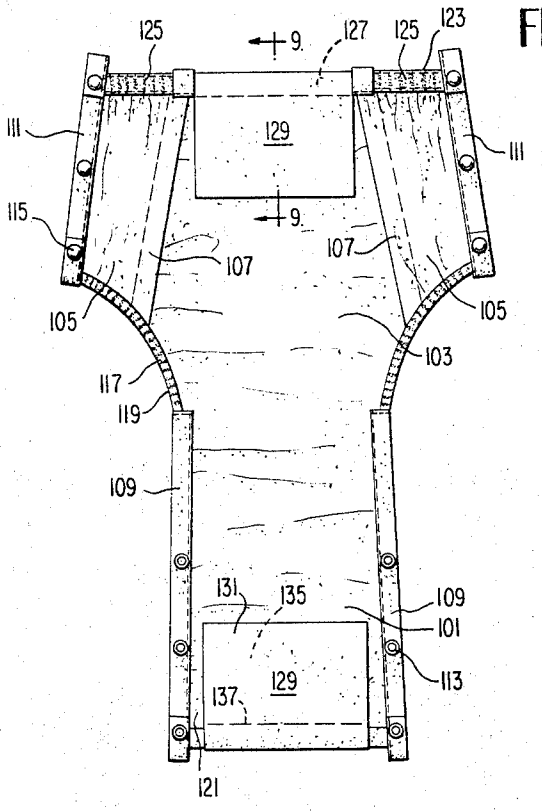


FIG.9

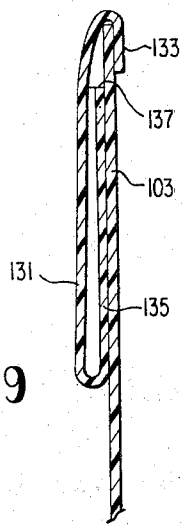


FIG.10

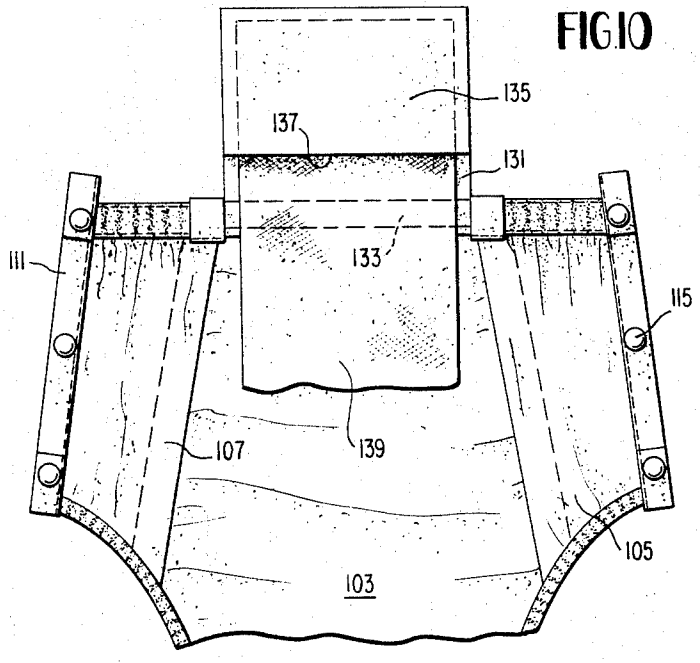
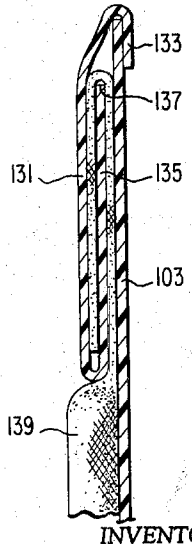


FIG.11



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3,407,813

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Filed Oct. 19, 1965, Ser. No. 497,687
3 Claims. (Cl. 128—287)

ABSTRACT OF THE DISCLOSURE

A diaper holder is provided having extensible and inextensible waist band portions with pocket means co-extensive with the inextensible section of the waist band to secure a diaper within said holder. The pocket is further provided with closure means to more effectively secure a diaper within said holder.

The present invention relates to diaper holders, more particularly of the type adapted to hold relatively inexpensive disposable diapers that need no washing but can be thrown away after becoming soiled.

It is an object of the present invention to provide such a diaper holder in which the diaper itself protects what would otherwise be exposed portions of the holder from becoming soiled.

Another object of the present invention is the provision of such a diaper holder in which a disposable diaper is held snugly and firmly in the holder.

Still another object of the present invention is the provision of such a diaper holder in which a disposable diaper can be quickly and readily inserted and removed.

It is also an object of the invention to provide such a holder from which a soiled diaper can easily be removed without soiling the hands.

A still further object of the present invention is the provision of such a diaper holder in which the diaper has reduced tendency to bunch or rope within the holder.

Finally, it is an object of the present invention to provide such a diaper holder which will be relatively simple and inexpensive to manufacture, easy to handle and to clean, and rugged and durable in use.

Other objects and advantages of the present invention will become apparent from a consideration of the following description, taken in connection with the accompanying drawings, in which:

FIGURE 1 is a plan view of a first embodiment of a diaper holder according to the present invention, showing a fragment of a diaper assembled thereto;

FIGURE 2 is an enlarged fragmentary cross-sectional view on the line 2—2 of FIG. 1;

FIGURE 3 is a view similar to FIG. 1 but showing another embodiment of the present invention;

FIGURE 4 is an enlarged fragmentary cross-sectional view taken on the line 4—4 of FIG. 3;

FIGURE 5 is a fragment of a view similar to FIGS. 1 to 3, but showing another embodiment of the present invention;

FIGURE 6 is a view similar to FIG. 5 but showing still another embodiment of the present invention;

FIGURE 7 is an enlarged fragmentary cross-sectional view taken on the line 7—7 of FIG. 6;

FIGURE 8 is a view similar to FIGS. 1 and 3 but showing still another embodiment of the present invention;

FIGURE 9 is an enlarged fragmentary cross-sectional view taken on line 9—9 of FIG. 8;

FIGURE 10 shows a fragment of the embodiment of FIG. 8, but with the parts in such a position as to show the manner of insertion of a disposable diaper; and

FIGURE 11 is a view similar to FIG. 9 but showing the diaper in place.

Briefly, the present invention comprises the discovery that the above objects of the invention can be achieved by providing a diaper holder having a waistband characterized by a pair of elastically extensible portions spaced apart by an inextensible portion, and a flap-forming device extending generally parallel to the waistband and longitudinally coextensive with the inextensible portion, the flap-forming device defining a flap which opens in a direction beyond the associated waistband. The invention also comprises the discovery that the above objects can be attained if there is provided a diaper holder having a waistband and a pocket that opens in a direction beyond the associated waistband and that is at least partially closed in the opposite direction.

Referring now to the drawings in greater detail, and first to the embodiment shown in FIG. 1, there is illustrated a diaper holder of conventional over-all shape, including a front panel **1** and a rear panel **3** which are preferably integral with each other and are preferably of a waterproof material such as flexible sheet plastic or the like. Rear panel **3** is substantially broader than front panel **1**, and includes a pair of side panels **5** which are interconnected with rear panel **3** by means of seams **7**. Seams **7** can be of such form that they secure separate side panels **5** to rear panel **3**; or, alternatively, seams **7** can simply be folded-over portions of a unitary sheet of material that comprises both rear panel **3** and side panels **5**.

Along the opposite edges of side panels **5** are disposed the usual reinforcing strips **9**, in the case of front panel **1**, and **11**, in the case of rear panel **3**. The usual cooperating snap halves **13** and **15** are located on the reinforcing strips **9** and **11** of the panels **1** and **3**, respectively, so as to secure the diaper holder to the infant or other wearer. Between the reinforcing strips **9** and **11**, the side edges of the diaper holder are biased inwardly to provide leg-embracing portions **17** which are gathered and are bordered by elasticized edging **19**.

The edges of the diaper holder that appear as the top and bottom horizontal edges in FIG. 1 will be herein referred to as the "upper" edges of the diaper holder inasmuch as they are uppermost when the diaper holder is on the wearer and the wearer is in an upright position. Accordingly, the upper edge of front panel **1** defines a waistband **21**, while the upper edge of rear panel **3** defines a waistband **23**. The waistband **23** is characterized by a pair of elastic portions **25** and **27** on one disposed adjacent each end of waistband **23**. Between elastic portions **25** and **27** the waistband **23** is characterized by an inelastic portion **29**. Thus, the "give" of the waistband is at the ends of one of the waistband sections but not at the middle of that section.

A flap-forming device is provided adjacent each waistband in the form of substantially inextensible elongated straps **31** and **33**. Strap **31** is secured to the inner side of front panel **1** and is adjacent and parallel to waistband **21**. Strap **31** is secured at its ends in the assembly of reinforcing strips **9** and is unsecured between its ends. Strap **33** is secured at its ends in the assembly of seams **7** and is unsecured between its ends and is also on the inner side of rear panel **3**. Strap **33** is generally longitudinally coextensive with inelastic portion **29** of waistband **23**. This is to say that inelastic portion **29** and strap **33** overlie each other in a direction normal to the extent of waistband **23**. Preferably, inelastic portion **29** has a length at least about as great as the unsecured length of strap **33**. Of course, it does no harm to make inelastic portion **29** substantially longer than the unsecured length of strap **33**.

The arrangement by which waistband **23** as a whole is elastically extensible, but by which at the same time the

inelastic portion **29** extends along strap **33**, ensures that a diaper holder is provided which will fit the wearer, but that at the same time the disposable diaper will be readily insertable into and removable from the diaper holder. To this end, it will be noted that a disposable diaper **35** is laid over the diaper holder with the ends of the disposable diaper overlying the straps **31** and **33**. Those ends are then tucked under the straps into the position shown in FIG. 2 and at the bottom of FIG. 1, so that the free ends of the diaper underlie the diaper and the associated straps. In this way, the diaper itself protects the straps against becoming soiled as would be the case if the diaper extended first under the straps and the straps were thus exposed to the wearer.

Of course, it is known to provide straps on the inside of diaper holders for the purpose of retaining diapers. Such structure is shown in U.S. Patents Nos. 2,591,182, 3,000,381 and 3,077,193. However, the combination of a strap with a coextensive inextensible backing portion and elastically extensible side portions is believed to be a new and patentable combination which gives not only the advantages of an elastic waistband but also the advantages of the combination of a strap with an inextensible waistband so that the strap does not become kinked and the diaper does not tend to bunch and roll between the strap and its associated waistband.

In FIG. 3 there is shown a modified form of diaper holder according to the present invention. In that embodiment, the diaper holder comprises a front panel **37** and an integral rear panel **39** of the same material as the embodiment of FIG. 1. As also in FIG. 1, reinforcing strips **41** border the front panel **37**, and reinforcing strips **43** border rear panel **39**. Snap halves **45** and **47** on strips **41** and **43**, respectively, provide for fastening the holder on the wearer. The same shaped leg-embracing portions **49** as in the previous embodiment are provided, with elasticized edging **51** along the full length thereof.

As also in the embodiment of FIG. 1, so also in the embodiment of FIG. 3 the upper and lower edges of the holder as seen in FIG. 3 will be referred to herein as "upper" because they are uppermost on the wearer when the wearer is upright. These edges accordingly define waistbands **53** and **55** on the front and rear portions, respectively. However, the waistbands of the embodiment of FIG. 3 differ from those of FIG. 1, in that while the waistband **53** is inextensible, as is also its counterpart in FIG. 1, the waistband **55** is elastically extensible along its full length. To this end, the waistband **55** may be gathered and provided with an elastic edging.

Flap-forming means are provided, in the form of pockets **57**, on the inner surfaces of front and rear panels **37** and **39**, centered on those panels and disposed adjacent the respective waistbands. Each pocket **57** is characterized by a pair of side edges **59** by which it is secured to the associated panel, and a bottom edge **61** which is secured along its full length to the associated panel. The edges **61** are termed "bottom" edges, despite the fact that one faces up and the other faces down in FIG. 3, because when the diaper holder is on the wearer, the edges **61** are the lowermost portions of the pockets **57**. The pockets **57** open upwardly, that is, in a direction beyond the associated waistband. Preferably, the open side of each pocket **57** is at or closely adjacent the associated waistband. It will of course be understood that bottom edges **61** need not be closed along their full length. Indeed, they can be tacked at large intervals and otherwise open, it being necessary only that some impediment be provided against the free entry of a disposable diaper through the bottom of the pocket. It is, however, preferred that the bottom edges **61** are closed so that the inside of the pocket will not become soiled from that direction.

The pockets **57** are provided with snap halves **63** that cooperate with correspondingly placed snap halves **65** on the associated panel **37** or **39** directly therebeneath. Each pair of snap halves **63** and **65** thus is adapted releasably to register with each other.

In use, a diaper **67** is placed on the embodiment shown in FIG. 3, with the ends of the diaper extending endwise beyond the pockets **57**. The ends of the diaper are then folded under and tucked into the open upper side of each pocket **57**, and the corresponding snap halves **63** and **65** are brought together and snapped through the material of the diaper, as best seen in FIG. 4. To this end, it is quite preferable that the diaper ends be paper or other material thinner than a woven cloth diaper.

In view of this manner of use, it will be appreciated why the pockets should be at least partly closed along their bottom edges: with the bottom of the pockets thus closed, the ends of the disposable diapers cannot be incorrectly inserted into the pockets. There is only one way in which the end of the diaper can be put into the pockets **57**, and that is the intended way, so that the diaper itself in effect closes the open end of the pocket and hides the pocket and prevents the flap of the pocket from becoming soiled by the wearer of the diaper.

It will also be understood that it is not necessary that the pockets **57** be identical at both ends of the diaper holder. It is possible to provide a pocket **57** at one end of the diaper and a strap such as one of the previously described straps **33** at the other end of the diaper.

It is also unnecessary to provide a fully elasticized waistband as in FIG. 3. To this end, a construction as seen in FIG. 5 can be provided. In FIG. 5, a construction is provided which resembles that of FIG. 3 except in two principal respects: the waistband is like the corresponding waistband of FIG. 1; and, in addition, the corresponding pocket has no snaps. To this end, there is provided in FIG. 5 a diaper holder having a rear panel **69** bordered by side panels **71** which are spaced on either side of rear panel **69** by means of seams **73**. As before, seams **73** can be joints between separate portions of the plastic sheet material of the holder, or else they can simply be folded-over portions of an integral sheet that comprises panels **69** and **71**. Reinforcing strips **75** border the opposite sides of side panels **71**, while snap halves **77** are so positioned on reinforcing strips **75** as to mate with complementary snap halves on the front panel of the holder (not shown). As before, leg-embracing portions **79** border the medial portions of the diaper, and these leg-embracing portions in turn are bordered by elasticized edging **81**.

The waistband **83** of the rear panel of the embodiment shown in FIG. 5, as mentioned above, resembles that of FIG. 1. It is comprised of a pair of terminal elastic portions **85** that are disposed on either side of and are spaced apart by an inelastic medial portion **87**. In other words, all the stretch of waistband **83** is at its ends and not its middle.

Flap-forming structure is provided in the embodiment of FIG. 5 by a pocket **89** which is secured to rear panel **69** along its side edges **91** and its bottom edge **93** and is open upwardly, that is, in a direction beyond waistband **83**.

The use of the diaper holder shown in FIG. 5 is the same as that shown in FIG. 3, except that no snaps are forced through the diaper material. FIG. 5 thus illustrates that when the end of the diaper is disposed in a pocket such as pocket **89**, and the pocket is pressed closed upon the diaper end by the pressure of the body of the wearer, the end of the diaper is securely held in the pocket. For this purpose, the ends of the disposable diapers can be treated so as to increase their coefficient of sliding friction with the plastic material of the interior of the pockets, as by impregnation with a rubbery substance or the like. Coatings or inserts of high friction material can also be located inside the pocket **89**.

In a variant shown in FIG. 6, some of the same reference numerals are used as in FIG. 5 but are primed. This is because FIG. 6 closely resembles FIG. 5, except that

to the pocket there is added a flap **95** adapted to fold over and close the pocket. To this end, the flap **95** is constructed of a piece of sheet plastic preferably like that of the rest of the diaper holder, and is bonded to the inelastic portion of waistband **83'** along a seam **97** that may be formed by cementing or the like, but which is preferably formed by heat sealing along a line extending lengthwise of the waistband.

The use of the variant of FIG. 6 is shown in FIG. 7, in which the end of the diaper **99** is tucked into the pocket **89'** and then the flap **95** is brought over the exposed inner side of the end of the diaper. The body of the wearer presses against the outer side of flap **95** and presses the diaper between flap **95** and pocket **89'**, and also presses the very end of the diaper between pocket **89'** and rear panel **69'**. The embodiment of FIGS. 6 and 7 thus provides for a stronger grip of the diaper end by the diaper holder than in the embodiment of FIG. 5.

Another variant form of the invention is shown in FIGS. 8–11. In the embodiment there shown, a diaper holder is provided which is of a slightly different but still conventional over-all shape, from the diaper holders of the previous embodiments. The holder of FIG. 8 comprises a front panel **101** and an integral rear panel **103** formed of the same piece of plastic material. Side panels **105** border opposite sides of rear panel **103**, and seams **107** separate the rear and side panels **103** and **105**. Relatively inextensible reinforcing strips **109** border front panel **101** but extend rearwardly a considerably greater distance than in the case of the preceding embodiments. Indeed, reinforcing strips **109** extend at least about halfway the length of the diaper. The reinforcing strips **111** that border opposite side edges of side panels **105** are of the type illustrated in the preceding embodiments. Snap halves **113** on reinforcing strips **109** are adapted to cooperate with complementary snap halves **115** on reinforcing strips **111**, thereby to hold the diaper holder releasably on the body of the wearer. Leg-embracing portions **117** are provided at the throated waist of the holder shown in FIG. 8; and elasticized edging **119** borders a portion of the leg-embracing portions up to ends of reinforcing strips **109**, so that the extensible portion of the leg-embracing portions **117** is considerably shorter than in the case of the preceding embodiments.

Front panel **101** has an inextensible waistband **121**, while rear panel **103** has a waistband **123** that comprises a pair of elastically extensible portions **125** that are spaced apart by a medial inelastic portion **127**.

Flap-forming devices are also provided at each end of the diaper holder, in the form of pockets **129**. However, the pockets **129** are different in structure from the pockets of the preceding embodiments. Specifically, each pocket comprises an outer panel **131** that is secured to inextensible waistband portion **127** along a seam **133** which may be formed by cementing or the like but which is preferably formed by heat bonding as in the case of seam **97**. Panel **131** could also be an extension of rear panel **103**. An inner panel **135** is also provided which is sealed along its edges to outer panel **131** but which is open along its side most closely adjacent seam **133**, that is, along the side which is uppermost when outer panel **131** is folded down over rear panel **103** of the diaper holder. In this folded-down position, pocket **129** opens upwardly, that is, in a direction beyond the associated waistband. Inner panel **135** terminates in an unsecured edge **137** that is secured only at its ends to the corresponding edges of outer panel **131**. Edge **137** is the portion of inner panel **135** that is most closely adjacent seam **133**. In its folded-down position, pocket **129** is disposed as seen in FIG. 9, with inner panel **135** disposed between outer panel **131** and rear panel **103**.

The use of a diaper **139** in connection with the embodiment of FIGS. 8–11 is shown best in FIGS. 10 and 11. To insert the diaper, it is necessary only to fold pockets **129** outwardly, to the position shown for one of them in FIG. 10. It is then possible to slip the ends of a disposable diaper **139** into the associated pockets **129**, after which the pockets are folded back down into the position shown in FIG. 11. In this folded-down position, the body of the wearer presses against outer panels **131** and thus compresses two lengths of diaper between the three members **131**, **135** and **103** at each end of the diaper, thereby to provide a strong grip by the diaper holder on the ends of the diaper.

In FIGS. 7, 9 and 11, the waistband structure is shown in a very much simplified form, so as to show the important relationships of the invention more clearly.

In all the embodiments described, it will be recognized that the flap-forming structure is protected from becoming soiled by the wearer by a length of the diaper itself. It will also be recognized that, in order to remove the soiled diaper from the diaper holder, it is always possible to work with clean ends of the disposable diaper. This is because the ends of the disposable diaper that will be loosened or removed from the diaper holder by use of the fingers are so protected by the construction of the present invention that these ends do not themselves become soiled. It is always possible, therefore, to dislodge clean ends of the diaper from the diaper holder of the present invention, after which the soiled disposable diaper can be removed from the diaper holder by grasping these clean ends.

From a consideration of the foregoing disclosure, therefore, it will be evident that all of the initially recited objects of the present invention have been achieved.

Although the present invention has been described and illustrated in connection with preferred embodiments, it is to be understood that modifications and variations may be resorted to without departing from the invention, as those skilled in this art will readily understand. Such modifications and variations are considered to be within the purview and scope of the present invention as defined by the appended claims.

What is claimed is:

1. A diaper holder having front and rear panels and associated upper edges, the upper edge of at least one of said panels defining a waistband of the holder, at least one of the said upper edges having a pair of portions elastically extensible lengthwise of the waistband, said extensible portions being spaced apart by an inextensible portion, a pocket open at one end thereof serving as a flap-forming means, said pocket secured to at least one of said panels and extending generally parallel to said waistband and being longitudinally co-extensible with said inextensible portion, said inextensible portion having a length at least about as great as the length of said pocket, said pocket being further provided with closure means at the open end thereof.

2. A diaper holder as defined in claim **1** wherein the closure means comprises a flexible flap.

3. A diaper holder as defined in claim **1** wherein the pocket is adapted to swing upwardly beyond its associated waistband and in that swung position to open downwardly, said pocket opening upwardly when folded down over said diaper holder, and said opening also being beyond said waistband in its upwardly swung position.

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