

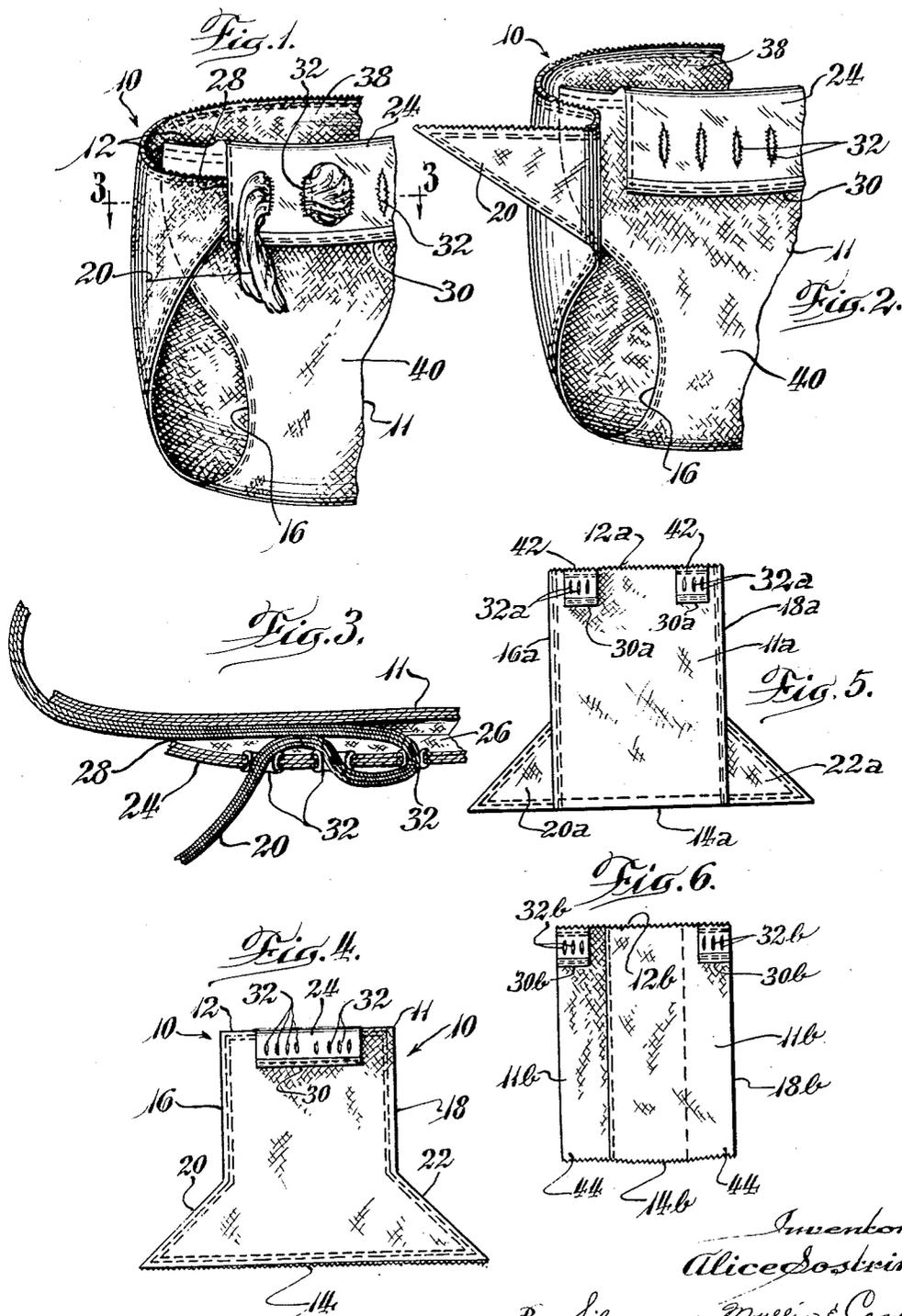
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SELF-FASTENING INFANT'S DIAPER

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SELF-FASTENING INFANT'S DIAPER

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4 Claims. (Cl. 128—284)

This invention relates to infants diapers and more particularly to improvements in such diapers affording self-fastening and adjustable diaper garments requiring no pins or other means for fastening the same in operational position.

Heretofore diapers have usually been constructed in such a manner as to require independent means such as safety pins for fastening the same about the person of the infant. More recently the provision of pinless diapers has been attempted. However, these diapers have been characterized by a plurality of objectionable features such as, for example, the difficulty in providing a pinless fastening means capable of insuring secure fastening without necessitating the use of hard, stiff fasteners actually comprising mere safety pin substitutes. Moreover, most of the prior pinless diapers were so complex in design and operation as to make the same impractical either from the standpoint of the cost of manufacture or the excessive time and skill required to fasten the diaper in operational position on the person of the baby.

It is therefore a principal object of this invention to provide a self-fastening pinless diaper which will overcome all of the disadvantages mentioned hereinabove.

A further object is to afford a self-fastening diaper of such simple construction and design that it may be affixed about the person of the infant without requiring excessive time or manipulation.

Another important object of the invention is to provide a self-fastening pinless diaper capable of being securely fastened and retained for prolonged periods of time in operational position on the infant's person despite the activity and movements of the wearer.

Other disadvantages of the various diapers which have heretofore been proposed include the difficulty of laundering and storing because of irregular shape and/or protruding attachments.

It is therefore another important object of this invention to provide a diaper of simple, regular shape and design, substantially the same as standard diaper shapes and designs to facilitate ready laundering of the same.

A further object is to afford a diaper of the character described which can be conveniently folded and stored.

Still a further object of this invention is to provide a diaper which is constructed completely of standard inexpensive diaper material, thereby avoiding the use of elastics, plastics or other inflexible fastening means.

Yet another object of the invention is to afford a diaper of the character described having fastening means capable of accommodating the diaper to various torso sizes and shapes without necessitating excessive adjustment or changes in the securing means.

Yet a further object is to provide a pinless diaper which eliminates the problem of sterilization of the metal pins or similar fasteners, such as was heretofore encountered especially in institutions such as hospitals.

Another object of the invention is to afford a diaper

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with no protruding loops or other parts which might inadvertently become engaged by foreign objects.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, design and operation hereinafter fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings preferred embodiments thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

Fig. 1 is a fragmentary perspective view of a diaper embodying the principles of my invention, showing the same in operational position as if on a baby;

Fig. 2 is a similar view showing the diaper in an intermediate step during the attachment or removal of the same;

Fig. 3 is a sectional view taken on the plane of line 3—3 in Fig. 1 and viewed in the direction indicated;

Fig. 4 is a view of the diaper fully opened;

Fig. 5 is a view of a modified form of the invention;

Fig. 6 is a view of another modified form of the invention.

Referring now to the drawings, the preferred embodiment of the diaper embodying the invention is designated generally by reference numeral 10. It may be formed from a plurality of superimposed sheets of flexible, absorbent textile material or the like, or from a single ply sheet of such material.

Referring to Fig. 4 of the drawings, it will be noted that the diaper, in its open and unfolded position, may comprise a substantially rectangular body portion 11 having a top edge 12, a bottom edge 14 and lateral edges 16 and 18. Secured or integrally formed to the lateral edges 16 and 18, adjacent the bottom edge 14, may be a pair of tongues such as 20 and 22. These tongues may be of substantially triangular configuration or any other suitable shape of sufficient length and width the purpose of which will be revealed as the description proceeds.

Integrally formed or attached along the top marginal edge portion of the body 11 may be a band 24 of the same material as the body portion 11 positioned to afford a socket 26 open at both ends as at 28. The socket is provided by merely stitching the bottom edge 30 of the band to the body portion 11, at least in those embodiments in which the band 24 is integrally formed along the top edge 12 of the body portion. Obviously, if the band is an independent member, the top edge is also stitched to the body member.

It will be noted that the band 24 is provided with a plurality of vertically extending slits or button holes such as 32, each being spaced one from the other, as shown in the several figures of the drawings. The length of these slots are substantially less than the width of the wider portions of the tongues 20 and 22. The reasons therefor will likewise become apparent as the description proceeds.

As indicated in Figs. 1 and 2 of the drawings, in operation the diaper is normally folded about the person of

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the infant thereby affording a rear panel 38 and a front panel 40.

In applying the diaper to the infant the open diaper 10 is placed on a surface with the front side, as shown in Fig. 4 of the drawings, positioned facing the surface. The infant is then placed on the diaper so that the lower portion of his torso is positioned approximately half way down on the diaper. The diaper is then folded so that the front panel 40 extends from between the infant's legs with the front edge positioned on the infant's abdomen. The rear panel 38 is thus positioned beneath the torso with the tongues 20 extending outwardly therefrom. The tongues 20 are then folded up along the sides of the torso and threaded through the band edges 28 into the socket 26 and through one of the slits 32. The appropriate slit is selected in accordance with the torso size in order to assure the proper fit. The tongues 20 are then doubled back and threaded in and out of the two next outwardly adjacent slots as shown in Figs. 1 and 3 of the drawings.

It is important to note that when tongues 20 are threaded through the cooperating socket and slits as described above, there is a pinching or wedging of said tongues due to the disparity in size of the slits and tongues. This pinching or wedging resulting from the threading of the comparatively broad tongues through the small slots serves to frictionally engage said fastening means so that the diaper is unlikely to inadvertently become unfastened.

It should also be noted that when the diaper is in the operational position, as shown in Fig. 1, the normal pressure exerted by the baby's stomach and hips against the sides and front of the fastened diaper serves to further frictionally engage the fastening means thereby contributing to the retention of the garment in secured position.

It should be further noted that the substantially rectangular shape of the diaper, with no protrusions, attachments or trailing members, serves to expedite and simplify its laundering, folding and storage.

In Fig. 5 of the drawings there is illustrated a modified form of the diaper. In this embodiment similar parts are identified by like numerals with the added suffix "a."

In this embodiment it will be noted that the structure is identical with the preferred embodiment previously described with the exception that substituted for the elongated band 24 of the preferred embodiment are two individual short bands such as 42 each positioned in spaced relationship with the respective lateral edges 16a and 18a of the body portion 11a. In all other respects this embodiment is identical with the preferred embodiment and functions in the same manner.

In Fig. 6 of the drawings, still another modification is illustrated. Again, similar parts are designated by like numerals, but this time with the added suffix "b."

In this embodiment no outwardly protruding tongues such as 20 and 22 are provided, but instead of the tongues 20 and 22 of the preferred embodiments, the lower corners such as 44 are themselves used as securing means.

It is believed that my invention, its mode of construction and operation and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while preferred embodiments of the invention have been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of my invention as defined in the appended claims.

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What I claim and desire to secure by Letters Patent of the United States is:

1. A self-fastening pinless diaper comprising a sheet of flexible fabric material defined by at least a top edge and a pair of lower corners, at least one flexible fabric material band positioned along said top edge to afford at least one open-ended socket, said band having a plurality of narrow straight closed-end slits formed in spaced relationship one with the other, said socket and slits adapted to cooperate frictionally with said lower corners to adjustably fasten said diaper in torso-enveloping relationship on the person of an infant, said corners being characterized by the absence of any auxiliary fastening means whatsoever.

2. The diaper of claim 1 in which said sheet is foldable along a median line whereby to align said lower corners with the outer ends of said socket, the adjustable fastening of the diaper being effected by threading each of said corners through said socket and out of a pre-selected one of said slits, then doubling back said corner and threading the same through another of said slits.

3. A self-fastening pinless diaper comprising a substantially rectangular member composed of a plurality of superimposed sheets of flexible absorbent textile material, a pair of short flexible textile material bands positioned one adjacent each upper corner of said member to afford a pair of open-ended sockets, said bands having a plurality of vertically extending straight closed-end button-hole slits formed in spaced relationship one with the other, said diaper foldable along a median line whereby to align the lower corners of said members for insertion into the outer ends of said sockets, said lower corners being free of auxiliary fastening means, said corners adapted to be threaded into interwoven relationship through a plurality of said slits whereby to frictionally secure said diaper in torso-enveloping relationship on the person of an infant.

4. An infant's diaper of the character described comprising at least a one-ply sheet of absorbent textile material of substantially rectangular shape with a lower trapezoidal-shape portion affording laterally-extending triangular-shaped tongues, said tongues being free of auxiliary fastening means, at least one textile material band positioned along the top edge of said sheet to afford at least one open-ended tubular socket, said band having a plurality of straight closed-end button-hole slits formed in spaced relationship therein, said diaper foldable about a horizontal median portion whereby to align said tongues for insertion into the outer ends of said socket, each of said tongues adapted to be threaded into said sockets and out of a pre-selected one of said slits then doubled back and threaded through another of said slits positioned outwardly adjacent said first-mentioned slit, whereby to frictionally secure the diaper in torso-enveloping relationship on the infant.

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