United States Patent

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[15] **3,704,710**

[45] **Dec. 5, 1972**

[54] **SANITARY PAD HOLDER**

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[22] Filed: **Nov. 12, 1970**

[21] Appl. No.: **88,686**

[52] **U.S. Cl.** **128/288**

[51] **Int. Cl.** **A61f 13/16**

[58] **Field of Search** 128/288–291

[56] **References Cited**

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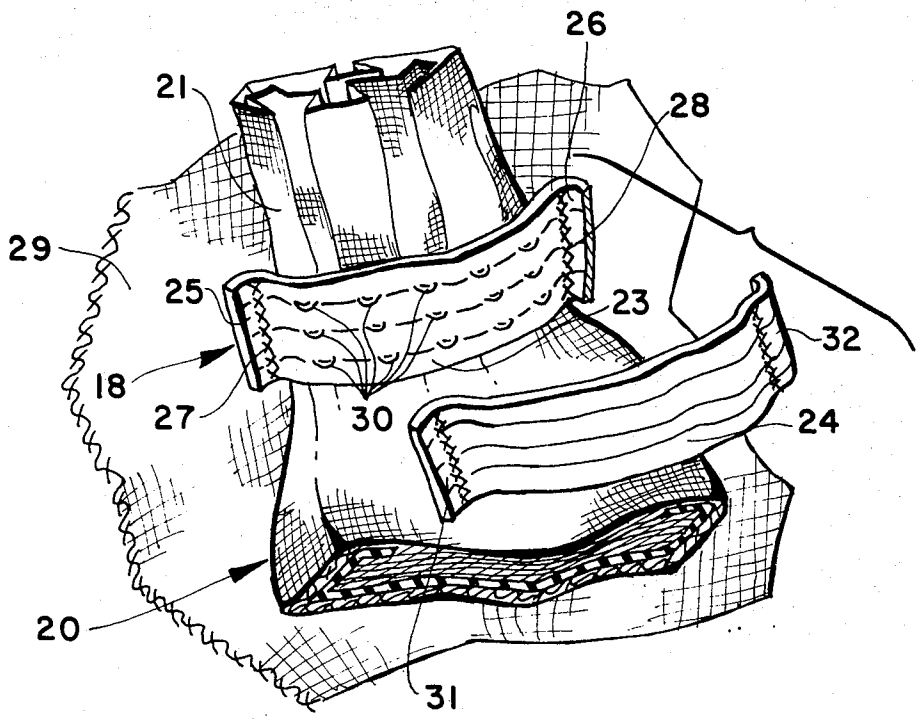
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[57] **ABSTRACT**

A holding arrangement is installed by stitching or the like into the fabric of underpants for firmly holding in place a sanitary pad with oppositely extending tabs. Holding elements are positioned along the centerline of the underpants at locations forwardly and rearwardly of the crotch portion and each has a pair of superposed locking bands. When each tab is drawn upwardly beneath its associated holding element and pulled downwardly between the locking bands it becomes positively locked in place so that the pad may be maintained securely in place.

5 Claims, 4 Drawing Figures



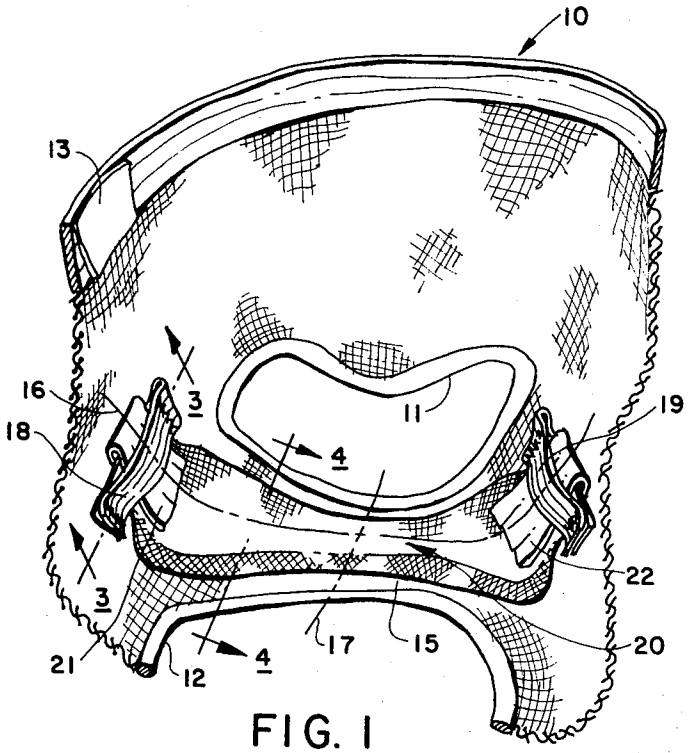


FIG. 1

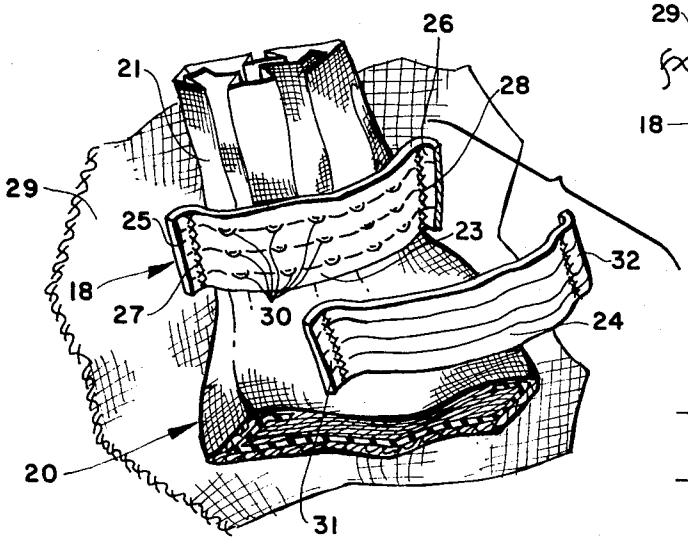


FIG. 2

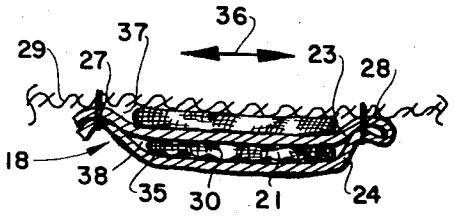


FIG. 3

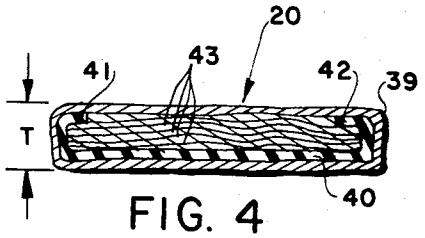


FIG. 4

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SANITARY PAD HOLDER

BACKGROUND OF THE INVENTION

This invention relates to a sanitary pad holding arrangement and more specifically to a holder secured in a pair of underpants for accurately holding and positioning the sanitary pad.

Various physical conditions and medical treatments are accompanied by the slight flow or seepage of excrement and other discharge fluids from the rectal area. Some examples are hemorrhoids, colitus, and inserted medicants and ointments. To overcome these problems belt and harness devices supported around a person's waist and posterior have been used. These devices must include connectors for securing the ends of a sanitary pad in order to hold it in close fitting engagement with the person's crotch. They are often irritating to wear and are likely to create embarassment for the wearer inasmuch as others can observe the lumpiness of the straps.

To avoid some of the above mentioned problems the sanitary pad may be simply laid on the crotch of the underpants but in this situation the pad is prone to creeping or shifting out of position in which case the excrement or discharge will seep through the underpants and eventually stain the outer garment.

Another type of device aimed at eliminating some of the problems associated with both of the foregoing arrangements involves incorporating a sanitary pad holding structure directly in the crotch portion. These devices are generally incapable of stably and accurately holding a sanitary pad in position without assistance from external connector elements. In fact, as opposed to firmly holding sanitary pads, these arrangements actually and primarily only orient the sanitary pad and incidentally serve to loosely retain the pads in position. Loose loops, single bands and dual slots have been used as demonstrated by U.S. Pat. No. 2,705,957 to Mouro and U.S. Pat. No. 3,312,981 to McGuire et al. External or additional connectors are necessitated to hold the sanitary pad in place such as safety pins.

By way of contrast with all of the above different types of holding arrangements this invention provides a pair of holding elements which themselves serve to tightly lock opposing tabs of a sanitary pad and require no additional fasteners to securely maintain the pad in a preselected position.

SUMMARY OF THE INVENTION

Briefly stated this invention comprehends a holding arrangement secured within a pair of underpants for the purpose of holding a sanitary pad in a position to collect and absorb rectal excrement.

In its broader aspects the sanitary pad holder includes a pair of underpants with a crotch portion and a longitudinal centerline that passes through the crotch portion. A first holding element is secured to the underpants across the longitudinal centerline at a location rearward of the crotch and a second holding element is similarly secured to the underpants across the longitudinal centerline at a location forward of the crotch. The tabs extending form opposite ends of an elongated sanitary pad are tightly held by corresponding holding elements so that the pad is maintained oriented in the optimum position and there is no need to resort to external connectors or intermediate attachments. The holding elements are structured to exert pressure on opposing sides of corresponding sanitary pad tabs to compress the tabs and prevent them from slipping out of place.

Each holding element has a lower band whose ends are secured directly to the underpants at points on opposite sides of the center line and an upper band positioned on the lower band and whose ends are secured to the lower band. A relatively loose lower slot is defined between the underpants and lower band and a relatively tight upper slot is defined between the lower and upper bands. A corresponding tab of the sanitary pad is drawn upwardly through the lower slot and then folded downwardly into the upper slot. Gripping ribs are positioned on adjacent faces of the lower and upper bands to frictionally engage the tab. The bands are constructed of fabric stretchable in the direction generally perpendicular with the underpants longitudinal centerline.

The rearward holding element is positioned by the same or greater distance from the crotch than the forward holding element in order to maintain the sanitary pad in an ideal preselected location.

As the pads become substantially soiled or saturated they may be removed and disposed of and replaced by other sanitary pads.

BRIEF DESCRIPTION OF THE DRAWINGS

The numerous benefits and unique aspects of the present invention will be fully understood when the following detailed description is studied in conjunction with the drawings in which:

FIG. **1** is a perspective fragmentary view, showing a holder constructed in accordance with this invention secured inside a pair of underpants and holding a disposable sanitary pad;

FIG. **2** is a perspective, sectional exploded view showing an end tab of the sanitary pad positioned behind a holding element prior to being inserted between a pair of locking band components;

FIG. **3** is a cross sectional view taken along line **3—3** of FIG. **1** showing a tab positively locked in place by a holding element; and,

FIG. **4** is a cross sectional view taken along lines **4—4** of FIG. **1**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to FIG. **1** a pair of conventional male underpants **10** has the customary leg openings **11** and **12**, a rear tag **13** and a crotch portion **15**. Numeral **16** represents the longitudinal centerline or axis of underpants **10** and crotch **15** and numeral **17** represents the lateral axis through the center of crotch **15** and which is perpendicular to longitudinal centerline **16**.

The sanitary pad holder of this invention is constituted by a pair of identically structured holding elements **18** and **19** that coact to accurately and securely hold a disposable sanitary pad **20** in the desired position. Holding element **18** is secured to the underpants **10**, spans across longitudinal centerline **16** and is located rearwardly of the crotch **15**. Holding element **19** is secured to the underpants **10**, similarly spans across the longitudinal centerline **16** and is located forwardly of the crotch **15**. Elongated sanitary pad **20** is

formed at its oppositely extending ends with a pair of tabs **21** and **22** shown tightly locked by corresponding holding elements **18** and **19**.

Referring to FIG. **2** it can be seen that rearward holding element **18** has a lower locking band **23** and an upper locking band **24** that are aligned in superposed relationship. End margins **25** and **26** lie on opposite sides of the centerline and are secured by stitches **27** and **28** to a rearward fabric portion **29** of the underpants. The face of band **23** that lies immediately adjacent band **24** is formed with a plurality of gripping ribs or projections **30** that may be constructed of pliable or metal material for example. The adjacent face of upper locking band **24** is likewise formed with gripping projections as shall be explained. As shown, the bands **23** and **24** may be integrally formed from a common strip folded over upon itself, and the same stitches may secure both bands to the rear fabric portion **29** when the margins **31** and **32** of band **24** are oriented to overlie the margins **25** and **26** of band **23**.

Referring now to FIG. **3** it can be seen that the adjacent faces of locking bands **23** and **24** have gripping projections **30** and **35** and the bands define a passage way or slot **38**. The band **23** and underpants portion **29** also define a slot **37** which is relatively wide and loose relative to slot **38**. Numeral **36** indicates that the fabric of bands **23** and **24** is stretchable in a direction generally perpendicular with the underpants longitudinal centerline. When the tab is slipped behind holding element **18** and through relatively loose slot **37** and is then pulled downwardly through relatively tight slot **38** the stretchable bands compress and tend to crush the tab as the gripping projections engage it with positive locking action.

Referring now to FIG. **4** the sanitary pad **20** has an open mesh covering **39**, and a plastic waterproof shield **40** with side walls and inwardly extending lips to constitute a cavity for containing a plurality of stacked fluid absorbent layers **43** that may be diaper liners. The overall thickness T of the pad **20** is between one-sixteenth and one-eighth of an inch so that it will be relatively flat and inconspicuous instead of lumpy and noticeable by others.

The rearward holding element **18** is located by the same distance from or farther from crotch lateral axis **17** than forward holding element **19** so the pad **20** will be placed sufficiently rearwardly to underlie the rectal area expected to experience the discharge of fluids.

OPERATION

Keeping the above construction in mind it can be understood how the annoyances and problems previously described are overcome or substantially eliminated by the present invention.

The sanitary pad holder may be incorporated within the underpants **10** by the manufacturer or alternatively may subsequently be installed in a conventional pair of underpants by a tailor, seamstress or personally by the individual planning to wear the underpants. The person may carry a supply of relatively thin disposable sanitary pads **20** in a paper envelope or other package so that new pads may replace soiled pads from time to time as the personal needs arise.

In order to install the pad **20** into its operative arrangement so it will eventually underlie a person's rectal area the pad is removed from an envelope or other container, and, the opposing end tabs **21** and **22** are slipped upwardly between the rearward and forward holding elements **18** and **19** and adjacent portions of the underpants. After the tabs have been pulled through these relatively loose slots they are bent downwardly and pulled through the relatively tight slots defined by the superposed pairs of locking bands. The tabs are adjusted so that the alignment and height of the pad are optimum to accommodate the personal needs of the wearer. The superposed locking bands tightly press against opposing faces of the associated tab as the gripping projections frictionally engage the tab with the result that the tab is virtually immobilized and maintained in the selected position.

When the wearer puts on the underpants the underpants will expand and this action will further stretch the tabs and cause an increased clamping pressure to be exerted by the holding elements against the tabs.

Because the pad is relatively thin instead of being bulky, the wearer may attend to his customary business and social activities with reasonable confidence and peace of mind that others will not detect or suspect that a pad is being worn.

When the pad approaches saturation the wearer may easily withdraw the pad from a holding arrangement, toss it away and then install a substitute pad in the manner described above.

From the foregoing it will be evident that the present invention has provided a sanitary pad holder in which all of the various advantages are fully realized.

What is claimed is:

1. A holder for holding a sanitary pad having a pair of tabs extending from opposite ends, comprising:

a. underpants with a crotch and a longitudinal centerline through the crotch;

b. a first holding element secured to the underpants across the longitudinal centerline at a location rearwardly of the crotch and including a first lower locking band whose ends are secured directly to the underpants at positions on opposite sides of the central line and a first upper locking band positioned on the first lower band with its ends secured to the first lower band;

c. a first loose lower slot defined by the underpants and first lower locking band and a first tight upper slot defined by the first lower and first upper locking bands, wherein, the corresponding sanitary pad tab may be drawn upwardly through the first lower slot and folded downwardly through the first upper slot.

d. a second holding element secured to the underpants across the longitudinal centerline at a location forward of the crotch and including a second lower locking band whose ends are secured directly to the underpants at positions on opposite sides of the centerline and a second upper locking band positioned on the second lower band with its ends secured to the second lower band;

e. a second loose lower slot defined by the underpants and second lower locking band and a second tight upper slot defined by the second lower and second upper locking bands, wherein, the corresponding sanitary pad tab may be drawn upwardly through the second lower slot and folded downwardly through the second upper slot;

f. second gripping projections positioned on the adjacent faces of the second lower and second upper bands to frictionally engage the associated tab, and,

wherein the holding elements and their components are structured to hold the tabs of the sanitary pad and orient the sanitary pad along the underpants centerline, and, each holding element and its components is structured to exert pressure on opposing sides of a corresponding sanitary pad tab to compress the tab and prevent it from slipping out of place without requiring any connectors between the holding elements.

2. The structure according to claim 1, wherein;

the bands are constructed from fabric stretchable in a direction generally perpendicular with the underpants longitudinal centerline.

3. The structure according to claim 1, wherein the rearward holding element is positioned by the same or greater distance from the crotch than the forward holding element so that the sanitary pad may be maintained in an optimum position to collect rectal excrement.

4. A sanitary pad holding arrangement comprising:

a. underpants with a crotch and longitudinal centerline through the crotch;

b. a sanitary pad having a pair of tabs extending from opposite ends;

c. a first holding element secured to the underpants at a location rearward of the crotch and including upper and lower superposed locking bands constructed of stretchable fabric, the adjacent faces of the bands defining a tight slot and being formed with gripping projections; and,

d. a second holding element secured to the underpants at a location forward of the crotch and including upper and lower superposed locking bands constructed of stretchable fabric, the adjacent faces of the bands defining a tight slot and being formed with gripping projections,

wherein, the pad may be accurately installed by slipping the tabs upwardly beneath their corresponding holding elements and folding the tabs downwardly through the tight slots so that frictional engagement from the gripping projections and compressive force from the stretchable bands serve to tightly and stably hold the tabs against slipping without requiring any connectors between the holding elements.

5. The structure according to claim 7, wherein the rearward holding element is positioned by the same or greater distance from the crotch than the forward holding element in order to maintain the pad in an optimum position for collecting rectal excrement.

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