Oct. 3, 1967 W. W. ARTZT 3,344,435

INFANT'S GARMENT OF THE WRAP-AROUND TYPE

Filed June 2, 1965

Fig. 1.

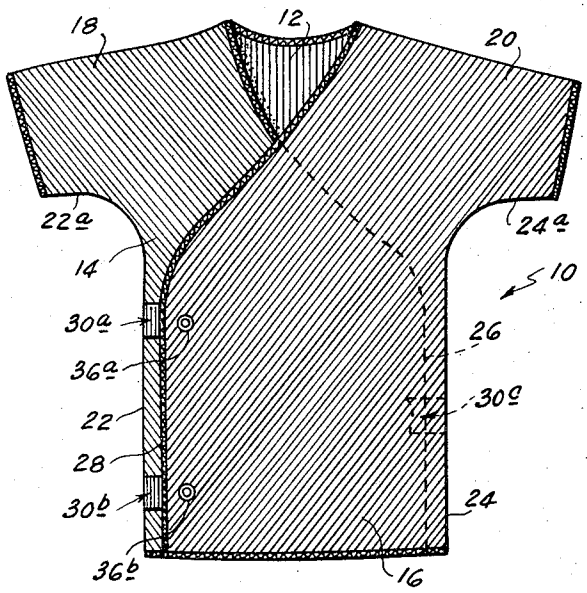
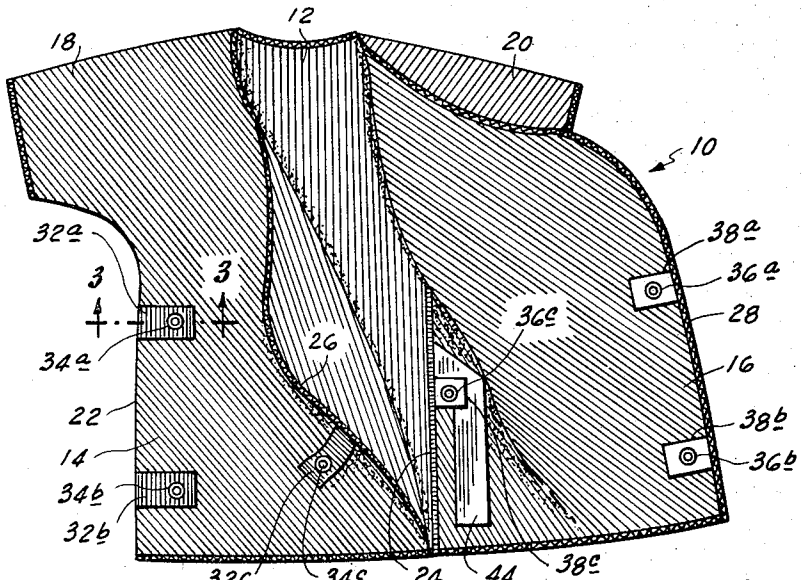


Fig. 2.



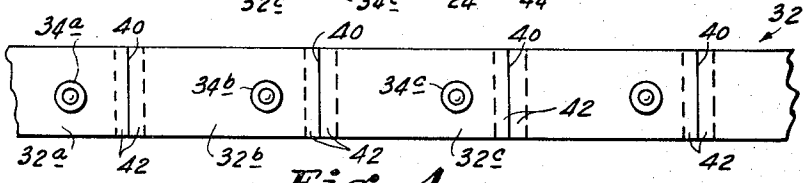
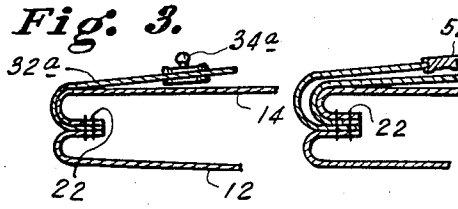


Fig. 4.

Fig. 3.



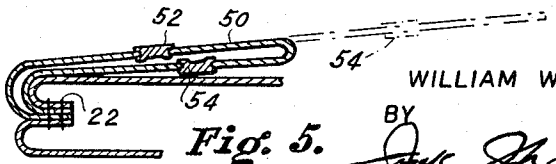


Fig. 5.

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United States Patent Office

3,344,435
Patented Oct. 3, 1967

3,344,435

INFANT'S GARMENT OF THE WRAP-AROUND TYPE

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Filed June 2, 1965, Ser. No. 460,624
1 Claim. (Cl. 2—111)

ABSTRACT OF THE DISCLOSURE

As disclosed herein, an infant's garment of the double-breasted wrap-around type having fastener elements such as snap fasteners mounted on tabs secured to the side seams of the inner and outer front portions respectively, is provided with tabs of elastic tape, thus permitting fastening of the garment while at the same time permitting yielding to the infant's movements and fitting the garment to infants of different sizes or an infant as it grows. Additionally, there is disclosed means for adjusting the length of the tabs or some of them by means of a fold therein seamed into the side seam so that by cutting one of the legs of the folded tape, the tape may be extended as a single tape, thereby readily adjusting the length thereof easily. Also disclosed is a garment in which at least the front inner and outer panels are cut on the bias so that the side seams are stronger and the tapes which are sewn into these side seams are more securely fastened.

This invention relates generally to infant's wear, and more particularly is directed to an undershirt or garment of the double-breasted, wrap-around type. Such garments were originally provided with non-yielding tapes or strings stitched, at one end, to the garment and which were knotted or tied together for holding the front panels or flaps of the garment in overlapping relation. However, normal movements of the infant exert pulls on the non-yielding tapes or strings so that the knitted fabric of the garment soon tears at the points where the tapes or strings are stitched thereto. Further, the tying and untying of knots or bows in such tapes or strings is troublesome. In order to avoid the last mentioned disadvantage of the tied tapes or strings, garments of the described type have been provided with snap fasteners for holding the front flaps or panels in overlapped relation. Since an infant has a relatively fast rate of growth, it has also been proposed to mount one of the complementary elements of each snap fastener on a non-yielding, woven tape secured, at one end, to the garment for accommodating the garment to the growth of the infant. Another proposed arrangement for accommodating growth of the infant includes non-yielding woven tapes secured to the garment so as to extend circumferentially on the body portion thereof and each carrying a plurality of snap fastener elements which are spaced apart therealong and adapted to be selectively engaged by a complementary snap fastener element so that the girth or circumferential dimension of the body portion of the garment can be adjusted.

However, where non-elastic or non-yielding woven tapes carry the snap fastener elements for holding the front flaps or panels in overlapped relation, the infant's movements tend to open the snap fasteners or to tear the fastener elements from the tapes, and the pull on each non-elastic tape is further transmitted to the stitched attachment of

the tape to the knitted fabric of the garment to rip or tear the latter.

Accordingly, it is an object of the present invention to provide closure means for infants' garments of the wrap-around type which prevent tearing or ripping of the knitted fabric of the garment at the points of attachment of the closure means to the garment.

Another object is to provide closure means for infants' garments of the wrap-around type which include snap fasteners, and wherein the snap fasteners are attached to the garment in a manner to avoid opening thereof as a result of the infants' movements.

A further object is to provide closure means for infants' garments of the described type, which closure means permit the garment to accommodate automatically to growth of the infant, while avoiding the imposition of excessive strains on the knitted fabric of the garment.

In accordance with an aspect of this invention, an infant's garment of the wrap-around type formed of knitted fabric and including a body portion having a back panel and right and left front panels which are joined to the sides of the back panel by sewn side seams and disposed in overlapping relation, when worn, with a free edge of each of the overlapped front panels then extending adjacent to the side seam by which the other front panel is joined to the back panel, is provided with releasable closure or securing means for holding the free edge of each of the front panels near to the side seam which is adjacent thereto when the front panels are overlapped, and each of such releasable securing means includes two tapes respectively attached to the body portion adjacent the free edge of a front panel which is held thereby and at the side seam which is adjacent thereto, and a snap fastener having complemental elements thereof carried by the two tapes, with at least one of the tapes of each securing means being elastically extensible or longitudinally yieldable so as to accommodate the garment to increasing girth of the infant and to relieve the snap fastener and the attachments of the tapes to the body portion of excessive strains.

In a preferred embodiment of this invention, each elastically extensible or longitudinally yieldable tape has at least a portion of the warp thereof formed of Spandex, and the remainder of the tape is formed of nylon, with the opposite ends of the tape being fused to prevent unravelling thereof.

Further, in a preferred embodiment of the invention, the side seams of the garment are on the bias with respect to the knitted fabric of at least the front panels, and the tapes of the closure means which are attached to the body portion at the side seams are sewn into the latter thereby to avoid ripping or tearing of the knitted fabric.

The above, and other objects, features and advantages of the invention, will be apparent in the following detailed description of an illustrative embodiment thereof which is to be read in connection with the accompanying drawing forming a part hereof, and wherein:

FIG. 1 is a front elevational view of an infant's garment of the wrap-around type having closure means in accordance with this invention, and which is shown in its closed condition;

FIG. 2 is a view similar to that of FIG. 1, but showing the front flaps or panels of the garment folded back or partially opened to expose the closure means embodying this invention;

FIG. 3 is an enlarged, fragmentary sectional view taken along the line 3—3 on FIG. 2;

FIG. 4 is a view illustrating the manner in which the longitudinally yieldable tapes of the closure means embodying this invention are preferably produced; and

FIG. 5 is a view similar to that of FIG. 3, but illustrating another form of closure means.

Referring to the drawing in detail, and initially to FIGS. 1 and 2 thereof, it will be seen that an infant's garment of the wrap-around type embodying this invention, as there shown and generally identified by the reference numeral **10**, includes a body encircling portion consisting of a back panel **12** and right and left front flaps or panels **14** and **16** which, when the garment is worn, are in overlapping relation (FIG. 1) to respectively constitute an inner front panel and an outer front panel. Shoulder and sleeve portions **18** and **20** extend from back panel **12** and from front panels **14** and **16**, respectively.

In a preferred embodiment of the invention, as shown, the entire garment **10** is formed of a one-piece blank of knitted fabric, that is, with the sleeve and shoulder portions **18** and **20** being integral with the panels **12**, **14** and **16**, for example, as disclosed in U.S. Patent No. 3,078,467, issued Feb. 26, 1963, to William W. Artzt. When the garment is thus formed of a one-piece blank of knitted fabric, the front panels **14** and **16** are joined to the side edges of back panel **12** by sewn side seams **22** and **24**, respectively, and such side seams continue along the undersides of the sleeve portions, as at **22***a* and **24***a* on FIG. 1. Further, the side seams **22** and **24** are preferably on the bias with respect to the knitted fabric of at least the front panels **14** and **16** for a purpose hereinafter described in detail.

When the garment **10** is worn, that is, has its front panels **14** and **16** in overlapped relation, the free edge **26** (FIG. 2) of the inner panel **14** is adjacent to side seam **24** at the inside of the body-encircling portion of the garment, and the free edge **28** of the outer panel **16** is adjacent to side seam **22** at the outside of the body-encircling portion of the garment. Releasable securing or closure means **30***a* and **30***b* are provided for holding the free edge **28** of front panel **16** near to side seam **22**, and releasable securing or closure means **30***c* (shown in broken lines on FIG. 1) is provided for holding free edge **26** of front panel **14** near to side seam **24**.

In accordance with this invention, each of the releasable closure means **30***a*, **30***b* and **30***c* includes at least one longitudinally yieldable or elastic tape **32***a*, **32***b* or **32***c*, respectively, carrying a snap fastener element **34***a*, **34***b* or **34***c*, respectively, and being stitched, at one end, to the body portion of the garment, and a complemental snap fastener element **36***a*, **36***b* or **36***c*, respectively, which is suitably secured to the garment body portion by way of a non-yieldable, woven reinforcing tape **38***a*, **38***b* or **38***c*, respectively.

The longitudinally yieldable or elastically extensible tape **32***a*, **32***b* or **32***c* of each closure means preferably has at least 10 percent of Spandex therein, that is, the elastically yieldable yarn available commercially from E. I. du Pont, of Wilmington, Del., under the trademark Lycra, with the Spandex yarns being contained in the warp, and with the balance of the warp and the filling of the tape being of nylon. Further, the opposite ends of each yieldable tape are preferably fused to prevent unravelling thereof.

As shown on FIG. 4, the several tapes **32***a*, **32***b*, **32***c* may be conveniently formed by cutting a continuous ribbon **32** of Spandex and nylon as, described above, at the suitably spaced lines **40**, and by using a blade heated to 1000 to 1200° F. for such cutting so that the zones **42** adjacent each cut will be fused to constitute the fused ends of the several tapes. The snap fastener elements **34***a*, **34***b*, **34***c* may be of plastic and fused to the related portions of ribbon **32**, or such fastener elements may be of the conventional metal type and suitably secured to the yieldable tapes either before or after the cutting of the latter from ribbon **32**.

As shown particularly on FIG. 2, the yieldable tapes **32***a* and **32***b* have the ends thereof remote from the fastener elements **34***a* and **34***b* sewn in the side seam **22** (FIG. 3) at locations spaced along the side seam. The corresponding fastening elements **36***a* and **36***b* and reinforcing tapes **38***a* and **38***b* are secured to front panel **16** adjacent free edge **28** at similarly spaced locations.

The yieldable tape **32***c* is sewn, at its end remote from fastener element **34***c*, to free edge **26** of panel **14**, and the tape **38***c* carrying the complemental fastener element **36***c* is sewn into side seam **24** (FIG. 2).

The garment **10** may also have diaper tabs **44** (FIG. 2) sewn into the side seams **22** and **24** so that a diaper may be pinned to such tabs.

When the garment **10** is worn, the fastener elements **34***a*, **34***b* and **34***c* may be conveniently engaged with the fastener elements **36***a*, **36***b* and **36***c*, respectively, to hold the front flaps or panels **14** and **16** in their closed or overlapped condition. If the girth of the infant increases, the longitudinally yieldable tapes **32***a*, **32***b* and **32***c* extend to correspondingly increase the circumferential extent of the garment without imposing undue strains on the knitted fabric thereof. Further, movements of the infant which would tend to pull apart the engaged snap fastener elements, merely cause yielding of the tapes **32***a*, **32***b* and **32***c* and such yielding of the tapes further avoids tearing of the fastener elements from the tapes or ripping of the knitted fabric at the attachments of the tapes to the garment. The fact that the tapes **32***a*, **32***b* and **32***c* are sewn into seams **22** and **24** which are on the bias with respect to the knitted fabric of at least the front panels **14** and **16** further prevents ripping of the fabric by loads on the closure means.

In the event it is desired to provide for an even greater growth of the infant, the form of closure means illustrated in FIG. 5 may be employed. The closure means of FIG. 5 comprises a tape **50** similar to the tape **32***a* previously described herein, but of a greater length and normally being folded upon itself and having its free ends secured in the stitching of the side seam **22**. The tape **50** is provided with spaced apart complemental female snap fastener elements **52** and **54**. Normally the complemental element **52** is engaged by a snap fastener complemental male element carried by the tapes **38***a* or **38***b* (FIG. 2).

When it is desired to provide for a greater growth of the infant beyond that provided by attachment of the complemental members **52** and **36***a* or **36***b*, the folded under portion of the tape **50** is severed adjacent the seam **22** and extended as shown in dotted lines on FIG. 5. When extended as illustrated, the female complemental element **54** is engaged by a complemental male element carried by the tapes **38***a* or **38***b* (FIG. 2) to provide for greater growth of the infant.

Although a particular embodiment of this invention has been described in detail herein with reference to the accompanying drawing, it is to be understood that the invention is not limited to that precise embodiment, and that various changes and modifications may be effected therein by one skilled in the art without departing from the scope of the invention.

What is claimed is:

In an infant's garment of the wrap-around type formed of knitted fabric and including a body portion having a back panel and bias cut right and left front panels which are joined to the sides of said back panel by sewn side seams and disposed in overlapping relation, when worn, with a free edge of each of the overlapped front panels extending adjacent to the side seam by which the other front panel is joined to the back panel; releasable securing means for holding the free edge of each of the front panels near to the side seam which is adjacent

thereto when said front panels are overlapped; each of said releasable securing means including two tapes respectively attached to said body portion adjacent the free edge of the front panel which is held thereby and at the side seam which is adjacent thereto and a snap-fastener having complemental elements thereof carried by said two tapes, at least one of said tapes of each securing means being elastically extensible, the warp of said tape being at least partially formed of Spandex, the remainder of said tape being formed of nylon, the ends of said elastically extensible tapes being fused to prevent unravelling thereof, and said tape being folded upon itself with its free ends secured to said side seam, the folded under portion of said one tape having an additional complemental element thereon, said portion being severable adjacent said seam and extendable so as to accommodate the garment, selectively, to bodies of different girth.

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