United States Patent

Del Vecchio

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[54] FASTENER AND POSITIONING GUIDE THEREFOR

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[52] **U.S. Cl.** .....**2/218,** 2/234, 24/205.1 R

[51] **Int. Cl.**.....**A41d 1/14,** A41d 1/06

[58] **Field of Search**.....2/218, 219, 221, 234, 235, 2/237; 24/205.1 R, 205.1 C; 112/406

[56] **References Cited**

UNITED STATES PATENTS

2,336,554	12/1943	Lippmann	2/234
3,002,244	10/1961	McNamara	112/406 X

FOREIGN PATENTS OR APPLICATIONS

552,143	6/1932	Germany	24/205.1 R
182,027	4/1936	Switzerland	24/205.1 R

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[57] **ABSTRACT**

A positioning guide and fastener combination used in joining together adjacent sections of garments and the like. It is the exacting alignment of the adjoining next adjacent garment sections which is established and maintained by a mounting and positioning guide comprised of transversely stiff tapes affixed, permanently or temporarily, to the fastener assembly and having juxtaposed edges engageable into the full depth of the fold that establishes the usual seam allowance. The said tapes are longitudinally flexible and properly position the complementary sides of the fastener which are then sewed to their respective said next adjacent garment sections.

3 Claims, 8 Drawing Figures

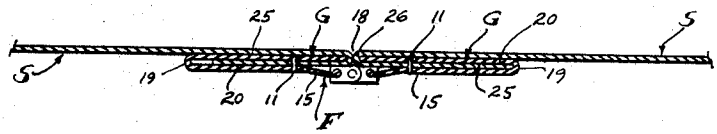


FIG. 1.

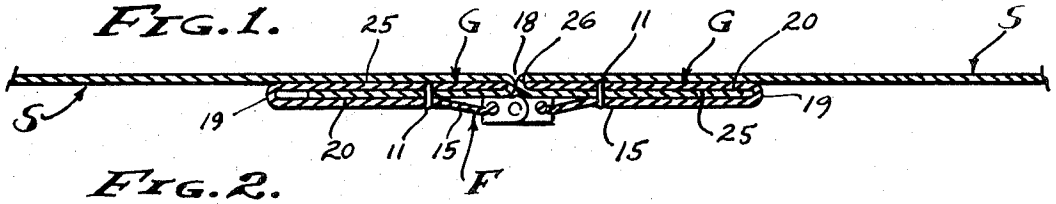


FIG. 2.

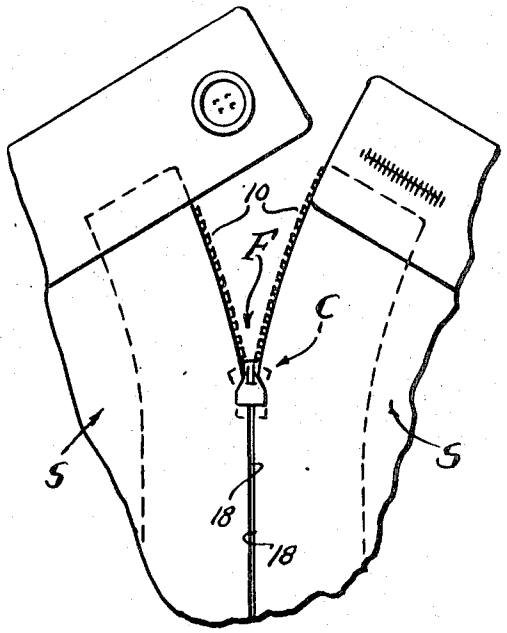


FIG. 3.

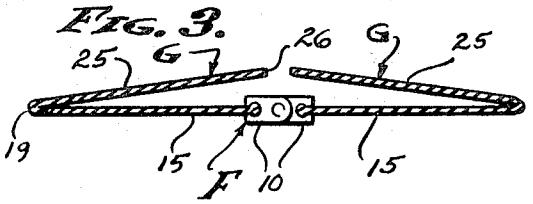


FIG. 4.

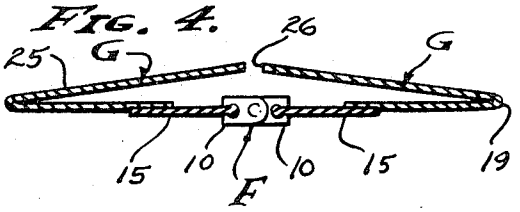


FIG. 5.

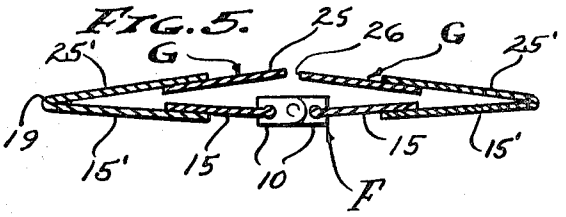


FIG. 7.

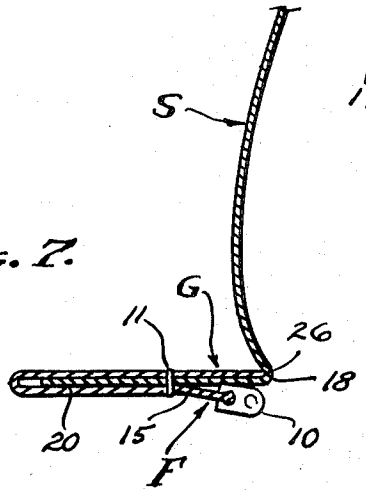


FIG. 6.

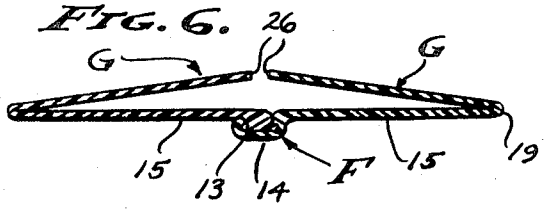
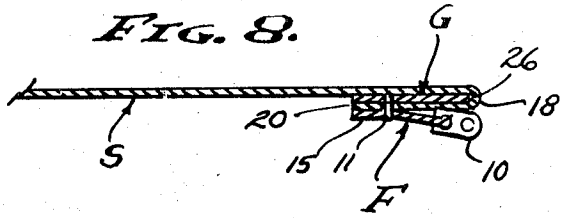


FIG. 8.



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FASTENER AND POSITIONING GUIDE THEREFOR

Fasteners, and particularly "slide fasteners" are difficult to properly locate and sew into a garment, there being no means included therewith to engage with the garment in any way to locate and align the same. Consequently, seamstresses and tailors must resort to their special ingenuity, providing methods and independent means to properly locate such fasteners and especially slide fasteners; and in the event that misalignment occurs and the fastener subsequently permanently positioned by sewing, there is a resulting misfit which remains as a conspicuous imperfection, and such is often the case. Furthermore, detectable and sometimes glaring imperfections are the rule rather than the exception where other than professionally made clothing is concerned. Thus, whether the clothing is to be professionally made or otherwise, there is a need for means to locate and to maintain fastener alignment during the sewing operation wherein permanency in position is achieved. It is at this critical step of the garment manufacturing processes wherein the ultimate fit and refined appearance is attained, and therefore it is an object of this invention to provide a mounting and positioning guide and namely a means that is carried, preferably by the fastener as an assembly, to engage the garment sections to be joined by the fastener and thereby hold the said sections in position relative to the fastener assembly while the sewing processes are performed.

In the installation of elongated and continuous slide fasteners it is common practice to independently sew the tape of each side thereof into its respectively adjoining section of the garment. This sewing operation must be done with care so as to maintain both lateral and longitudinal alignment, usually accomplished by basting and/or by pinning the fastener tapes into position while the garment sections are correspondingly held positioned. Accordingly, the present invention provides overlying tapes, having transverse stiffness and longitudinal flexibility, that are engageable into and to the full depth of juxtapositioned seam allowances, to thereby establish positive guide means that transversely positions the fastener tapes in proper alignment with the next adjacent garment sections. Further, the installation, the sewing, can be executed with the fastener operated into its closed condition, thereby assuredly establishing proper longitudinal alignment.

It is an object of this invention to provide a fastener mounting of the type thus far referred to that is adapted to be sewn to opposed seam allowances while assuring an extension of the next adjacent garment sections to the center line of the fastener. Further, it is an object to provide such a fastener mounting wherein the sewing, or other attachment means, is invisible beneath the outer layer of garment material and wherein the installation has a smooth continuous appearance.

It is also an object of this invention to provide a fastener mounting of the type thus far referred to that is adapted to be sewn to the seam allowance while projectively holding said seam allowance extended to the exact center line of the fastener.

It is still another object of this invention to provide a fastener mounting of the type hereinabove referred to that is partially or completely removable after the tapes of the fastener are sewn into the next adjacent sections of the garment.

With the present invention it is feasible to install slide fasteners and the like in garments of very lightweight material, the cross section through the construction being minimized. That is, the usual folds of material employed to stiffen the marginal edges of the next adjacent garment sections are eliminated and are replaced by a thin tape having substantial transverse stiffness, and a portion of which is removable when and if desired. As a consequence, the garment is readily made form fitting throughout the longitudinal extent of slide fasteners and the like, without buckling and bulging or like imperfections which may be caused by cumbersome constructions and/or misalignments.

The various objects and features of this invention will be fully understood from the following detailed description of the typical preferred form and application thereof, throughout which description reference is made to the accompanying drawings, in which:

FIG. 1 is an enlarged transverse sectional view taken through the fastener and positioning guide therefor as it is sewn into adjoining garment sections.

FIG. 2 is a front elevation illustrating the operation of the fastener as it is installed in the garment.

FIGS. 3, 4, 5 and 6 are each enlarged detailed sectional views showing four separate and distinct forms of the combined fastener and positioning guide therefore.

FIG. 7 is a view showing one side only of the fastener and positioning guide, illustrating accessibility for sewing.

And FIG. 8 is a view similar to FIG. 7, illustrating removal of the positioning guide.

The positioning guide and fastener combination of the present invention is applicable to adjoining next adjacent sections of material in order to releasably couple the sections together in coplanar relation. Both the material and fastener can vary widely, the material being flexible sheet material such as cloth or the like, the fastener being a continuous "zipper" or like slide fastener. Use in garments is the best and most wide spread use of the section fastening concept under consideration, and it is the application of the same to garments in combination with a unique positioning guide which is shown in the drawings and hereinafter described. Further, it is to be understood that sheet material or fabrics vary widely in form and in flexibility, and which does not affect the present invention. Still further, it is also to be understood that fastener constructions vary widely, for example from slide fasteners comprised of opposed rows of interlocking elements brought into and out of coupling engagement by means of a movable cam-slide, to manipulatable fasteners comprised of forcibly disengageable continuous cross sections usually of extruded plastic material. For example, the fastener elements can be opaque, translucent or transparent, as may be required; and the attachment to the material margin to be joined can be by means of sewing or adhesion, as by the application of heat and pressure establishing a direct bond. It is the class of material and type of fasteners thus far referred to with which the present invention is concerned, to properly position the fastener with respect to the sections of material which are releasably joined thereby.

Referring now to the drawings, FIGS. 7 and 8 show the mode of sewing in the fastener F to a next adjacent garment sections S, the sections being like mirror opposite right and left sections. FIG. 1 shows the adjoining sections S coupled together by the fastener F, and FIG. 2 illustrates a portion of a garment wherein the fastener F is partially released through movement of the controlling cam-slide C and which permits lateral separation of the garment sections S which normally come together into juxtaposed relation and/or touching edge to edge engagement when the sections are coupled by the fastener F (all of which is clearly shown). Except in FIG. 6, the fastener F is shown as a conventional slide fastener comprising a pair of complementary and opposed rows of interlocking elements 10 that revolve into and out of coupling engagement and a cam-slide C that is movable thereover and which has rails that have controlling engagement with the said interlocking elements. A manually operable tab pivotally extends from the slide to move it longitudinally over the interlocking elements 10 thereby to alternately interlock and/or separate them dependent upon the direction of slide travel. In FIG. 6 the fastener F' is shown as a manipulatable fastener comprised of male and female cross sections 13 and 14 that are forcibly disengageable, and preferably extruded cross sections of flexible plastic that has a memory so as to maintain a hooked together engagement when joined as shown; it being a simple matter to displace the coplanar engagement of the cross sections 13 and 14 to thereby separate the sections of the fastener F'. In either case the fastener F and F' is characterized by a pair of laterally extending tapes 15, or the equivalent, through which it is sewn to the garment sections S, the tapes 15 being

of special construction in the fastener F to mount the multiplicity of interlocking elements **10** and generally of limited width sufficient to receive the stitching **11** of sewing placed parallel along the tapes as close as practical to the rows of said elements **10**. Normally, this tape **15** suffices to mount the fastener but is without special provision to locate the same in the construction of and in the finished garment.

In accordance with the invention I provide a positioning guide G which is combined with a fastener F or F' as the case may be, to locate the fastener in the complementary and adjoining next adjacent sections S of the garment or the like. It is the exact alignment of the section edges which is sought to be established and maintained, and to this end the marginal portion of the section S is in each instance prepared in the most simple way. In practice, it is only necessary to fold the marginal portions along a single fold line **18**, so as to establish an underlying marginal portion referred to generally as a seam allowance **20**. This seam allowance **20** need not be of uniform width but only of sufficient lateral extent to overly the line of stitching **11** which will subsequently be applied. Thus, it is the fold line or apex **18** which is important and controlling, the line or apex **18** of next adjacent garment sections S being juxtaposed and/or coming together into touching coplanar contact. Significantly, there is a single layer of material comprising the underlying seam allowance **20** which reinforces the marginal edges of the garment section S and which adds to its thickness but one layer of material prior to the fastener installation.

The positioning guide G is comprised generally of a single fold of tape **25** that coextensively overlies the fastener mounting tape **15**. The tape **25** is affixed to the mounting tape **15** and extends inwardly from the side thereof opposite the row of elements **10**, or equivalent coupling means. A feature of the guide G is that each separable side of the fastener is provided with an overlying tape **25** which projects freely to the center line of the fastener, or substantially so. In practice, the overlying tapes **25** have opposed edges **26** spaced from each other a distance to accommodate the material thickness of the garment section S. As a result, the tape **25** can be received to the full depth of the fold terminating at the apex **18** and where it is confined and stopped. The tape **25** projects free and clear of the mounting tape **15**, parallel thereto and with some space therebetween, and which accommodates the seam allowance **20**, the lateral extent of the tape **25** being greater than the width of the said seam allowance **20**.

The tape **25** of the positioning guide G can be an integral continuation of the mounting tape **15**, providing the tape material is sufficiently stiff to afford the required transverse stiffness; it being understood that the tape in the remaining longitudinal direction is flexible or reasonably so. It is the transverse rigidity of the tape **25** which is required, sufficient to maintain a substantially straight line between the apex **18** and joinder **19** with the outside edge of the tape **15**. In practice, a stiffened material such as Buckram or Crinoline is employed in the manufacture of the tape **25**, or in the alternative a permanently stiff plastic material such as Nylon or Teflon, and to the end that the tape remains substantially straight in the relatively short transverse plane, but that will readily bend in the more lengthy longitudinal plane. An unobvious effect is this preventative and permissive bending of the tape **25**, which is inherently subject to simple curvature and which rejects compound bending. Consequently, the tape **25** bends only in the longitudinal direction in which the applied bending movements are greatest, and once having been bent or deflected in said one direction it will not under ordinary circumstances bend in the other transverse direction.

Referring to the first and fundamental form of the invention as it is shown in FIG. **3**, the tape **25** is integral with the mounting tape **15**. In this form the material of the tape or tapes is sufficiently stiff so as to enforce the transverse rigidity hereinabove referred to. However, in the event that the mounting tape **15** is soft and pliable, then sizing or any suitable stiffening agent is applied or impregnated therein to stiffen the tape **25**. Thus, the tapes can be integrally formed.

Referring now to the second form of the invention as shown in FIG. **4**, the tape **25** is a separate part permanently affixed to the tape **15**. Thus, the tape **15** can remain made of soft and pliable material while the tape **25** can be separately made of the stiffened material hereinabove described.

Referring now to the third form of the invention as shown in FIG. **5**, the tape **25** is releasably affixed to an extension tape **15'–25'** which can be secured to the respective tapes **15** and **25** by overlapping as shown, and held by means of pressure contact adhesive or the like. Alternately, the joinder to the said two tapes can be by means of lines of weakening, such as for example by means of perforations. In practice, the extension tape **15'–25'** is lapped over or outside the tapes **15** and **25** so that it can be stripped after sewing.

Referring now to the fourth form of the invention as shown in FIG. **6** the configuration of the first form, above described, is repeated with the innovation of integral male and female forcibly disengageable coupling elements incorporated therein, all as hereinabove described.

From the foregoing it will be seen that the continuous fastener F has combined therewith a coextensive positioning guide means in the form of a laterally stiff tape of sufficient rigidity to hold the fastener tape **15** properly positioned when the guide G is fully inserted into the seam allowance **20** with its edge **16** stopped at the fold or apex **18**. Referring now to FIG. **7**, and in the event that the stitching **11** is to be hidden, the garment material is lifted back as shown without distroying the corner established by the fold **18**, and the stitching **11** applied only through the seam allowance **20**, overlying tape **25** and underlying tape **15**. It will be observed that the overlying tape **25** maintains its extension to the center line of the fastener F, thereby maintaining the projection of the fold **18** to that point and all to the end that the connected garment sections S always come together in exact alignment as indicated. Referring now to FIG. **8**, the garment section S is, in each instance, returned to its coplanar position after the sewing operation, and further the subsequently unnecessary marginal portions of the tapes **15** and **25** are removed; the third form hereinabove described being employed in this instance, or alternately the same effect accomplished by simply shearing off the unwanted margins, all as circumstances require. In any case, a portion of the tape **25** remains and with its projected edge **16** which assures a correct and continued positioning of the fold **18** relative to the center line of joinder effected by the fastener F.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any modifications or variations that may appear to those skilled in the art.

Having described my invention, I claim:

1. In combination: adjacent garment sections with aligned opposed edges, an elongated fastener for alignably joining said edges and comprising complementary elements disengageably coupled along a center line and opposite side tapes of flexible material extending laterally therefrom and secured to the garment sections respectively, and positioning guides for placement of the said side tapes with respect to the adjacent garment sections with inwardly disposed tapes of transversely stiff material secured to and projecting from the outer edge of each of the first mentioned side tapes and overlying each side tape respectively, and said second mentioned tapes having opposed edges at said center line, the opposed edges of the second mentioned tapes being aligned respectively with the opposed edges of the adjacent garment sections and secured thereto the aligned opposed edges of the next adjacent garment sections being folded at the said center line to have an underlying seam allowance, and the opposed edges of the second mentioned positioning guide tapes engaging the apex of the fold, in each instance, to place the first mentioned side tapes of the fastener.

2. The garment and fastener with positioning guide combination as set forth in claim **1**, wherein the second mentioned positioning guide tapes are separate tapes removably affixed to the first mentioned tapes respectively as extensions thereof.

3. The garment and fastener with positioning guide combination as set forth in claim 1, wherein the second mentioned positioning guide tapes are separate and removably affixed to the first and second mentioned tapes at opposite sides of the joinder.

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