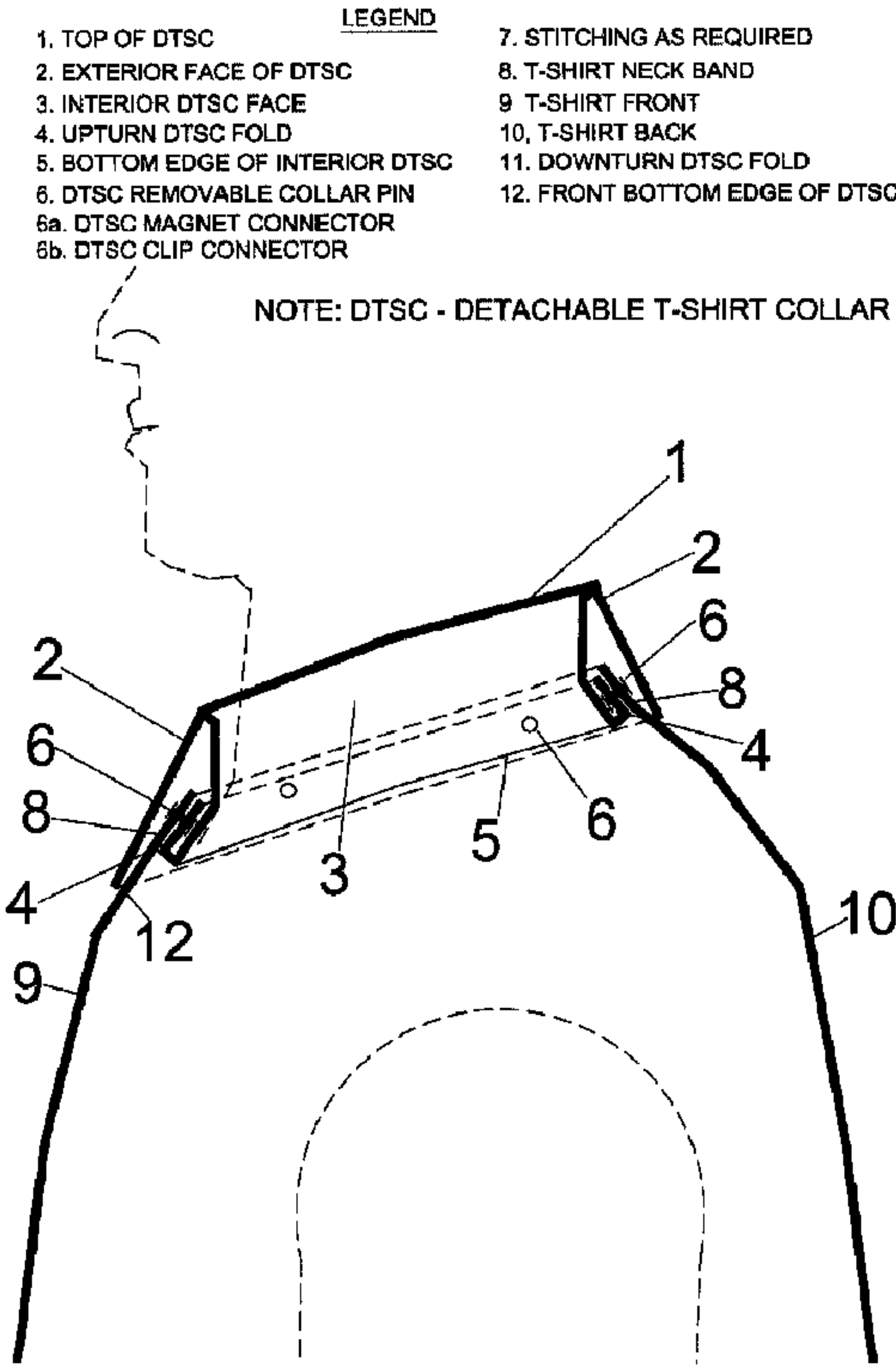




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(41) Mise à la disp. pub./Open to Public Insp.: 2019/02/23	(71) Demandeur/Applicant: HASTINGS, PAUL, CA
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(54) Titre : COL DE T-SHIRT DETACHABLE
(54) Title: DETACHABLE T-SHIRT COLLAR



(57) **Abrégé/Abstract:**
"In the clothing industry, it is known to have detachable collars for fabric shirts made of woven cloth as early as the 1880's. This invention of a detachable T- shirt collar is specific to T- shirts with the standard O-neck and V-neck and are a unisex clothing style

(57) **Abrégé(suite)/Abstract(continued):**

having the fabric material that is light, stretchable and with a characteristic pliable texture. This invention uses mechanical and improved magnetic attachment methods where the detachable collar is fixed through and around the stretchable T-shirt neck band, transforming a T-shirt, into a formal attire allowing a necktie to be placed under the DTSC with the detachable collar attachments remaining fully in place throughout the process. This DSTC and attachment methods are compatible with the stretchable T-shirt material, allowing in-situ collar attachment with over-the-head removal or put-on of the T-shirt with the detachable collar still in place, even for tight fitting T-shirts."

Abstract – Detachable T-shirt Collar, DTSC

“In the clothing industry, it is known to have detachable collars for fabric shirts made of woven cloth as early as the 1880’s. This invention of a detachable T- shirt collar is specific to T-shirts with the standard O-neck and V-neck and are a unisex clothing style having the fabric material that is light, stretchable and with a characteristic pliable texture. As T-Shirts are stretchable, this invention uses mechanical attachment methods where the detachable collar is fixed through and around the stretchable T-shirt neck band, transforming a T-shirt, into a formal attire with the detachable collar attachments remaining fully in place throughout the process. This Detachable T-shirt collar and attachment method is an improvement on prior known invention and is compatible with the stretchable T-shirt material, allowing in-situ collar attachment with over-the-head removal or put-on of the T-shirt with the detachable collar still in place, even for tight fitting T-shirts.”

Description: Detachable T-Shirt Collar

Title: Detachable T-Shirt Collar

Technical Field: "This invention relates to a detachable T-shirt collar for a typical common T-shirt where the collar can be attached and reattached very quickly without damaging the T-shirt.

In the garment manufacturing industry, T-Shirts are made without collars from stretchable fabric and the process of making a T-shirt is becoming highly automated to produce massive volumes of T-shirts worldwide as a distinct type of uni-sex garment, separate and apart from shirts made with fabrics that do not stretch and do not have a collar and for which prior art exists for collars to suit those type of shirts.

Background of the Invention: T-shirts started out as undergarments as early as 1898 where the US Navy used them as undergarments, but have now become general-use unisex clothing where they are form fitting and slipover the head to be put on or taken off as outer-wear. Current detachable collars do not address the pliable and stretchable nature of T-shirts where if the collars do not stretch, they will trap the user in the T-shirt when attempts to remove the shirt over the head occurs, as the attachment methods can be very strong and not expand sufficiently for the head to pass thru easily. As well, current collars that do not stretch require a T-shirt to then have the collar attached or detached only when the T-shirt is being worn. It allows removal of or putting on of the T-shirt when the collar is attached and is a safe and major increase in flexibility usage for and by all ages.

Summary of the Invention: T-Shirts are a separate genre of shirts where the fabric used in making T-shirts is defined as stretchable where the material expands to be enlarged under an applied force. It is common for T-shirts to be of different colors where they are used for casual settings and the cost of collarless T-shirts are very cheap in comparison to shirts with collars. Sport activities or informal work activities where T-shirts are worn by a variety of age groups can have the T-shirt transformed with a simple collar addition or collar change that is both economical and fashionable. This improvement of a detachable T-shirt collar, DTSC, allows a wider group of persons the choice for fashion upgrade on a limited budget. It maintains the features of the collars being of various fabrics but with the noted improvement of the fastening device concealed by the exterior face of the DTSC whereupon an additional fold in the collar itself of the DTSC further makes the detachable collar integral with the T-shirt and virtually indistinguishable as an add-on to the T-shirt itself. Known features are maintained where the collar is separately washable, detachable and fashionable and is for males and females in keeping with the unisex nature of T-shirt use. Other maintained features are the exterior face being articulated to invent new fashion statement designs, independent of the attachment surfaces to the T-shirt neck band, with the colors used for specific recognition of a group or company. The "belt loop-type" feature which comprises a vertical elongated strip attached at intervals to the exterior exposed rear face of the collar allows a color choice or a message strip to be inserted separately on the outer surface of the collar. The cloth fabric when stitched in production at the fold lines to the adjacent face of the collar, maintains the shape of the collar when it is attached."

Brief Description of the Drawings: In drawings which illustrate embodiments of the invention of the Detachable T-Shirt Collar, DTSC, Fig. 1 illustrates a vertical section view through the T-shirt neck band and collar, Fig. 2 illustrates a 3D folded view, Fig. 3 illustrates an elevation view of Fig 2. where it is laid out flat, Fig. 4 illustrates a vertical section view through the front of the T-shirt with the folds as indicated for Fig. 2, Fig.5 illustrates another 3D folded view, Fig.6 illustrates the elevation view for Fig .5 where it is laid out flat with other folds shown, Fig. 7 illustrates the corresponding section view through Fig. 5, Fig. 8 illustrates a front view of an O-neck T-shirt without a DTSC, Fig. 9 illustrates a front view of a T-shirt with a DTSC, Fig. 10 illustrates a front view of a T-shirt with a modified DSTC collar where the ends come together, Fig. 11 illustrates a vertical section view showing relationship between collar and T-shirt wearer, Fig. 12 illustrates the V-neck T-shirt without a DTSC, Fig. 13 illustrates a V-neck T-shirt with a DTSC, Fig.14 illustrates a front view of a T-shirt with a modified DTSC collar where the ends come together, Fig. 15 illustrates a vertical section view showing relationship between collar and T-shirt wearer.

The following LEGEND indicates the corresponding items referenced in the drawings indicated as Fig. 1 to Fig. 15 inclusive.

LEGEND

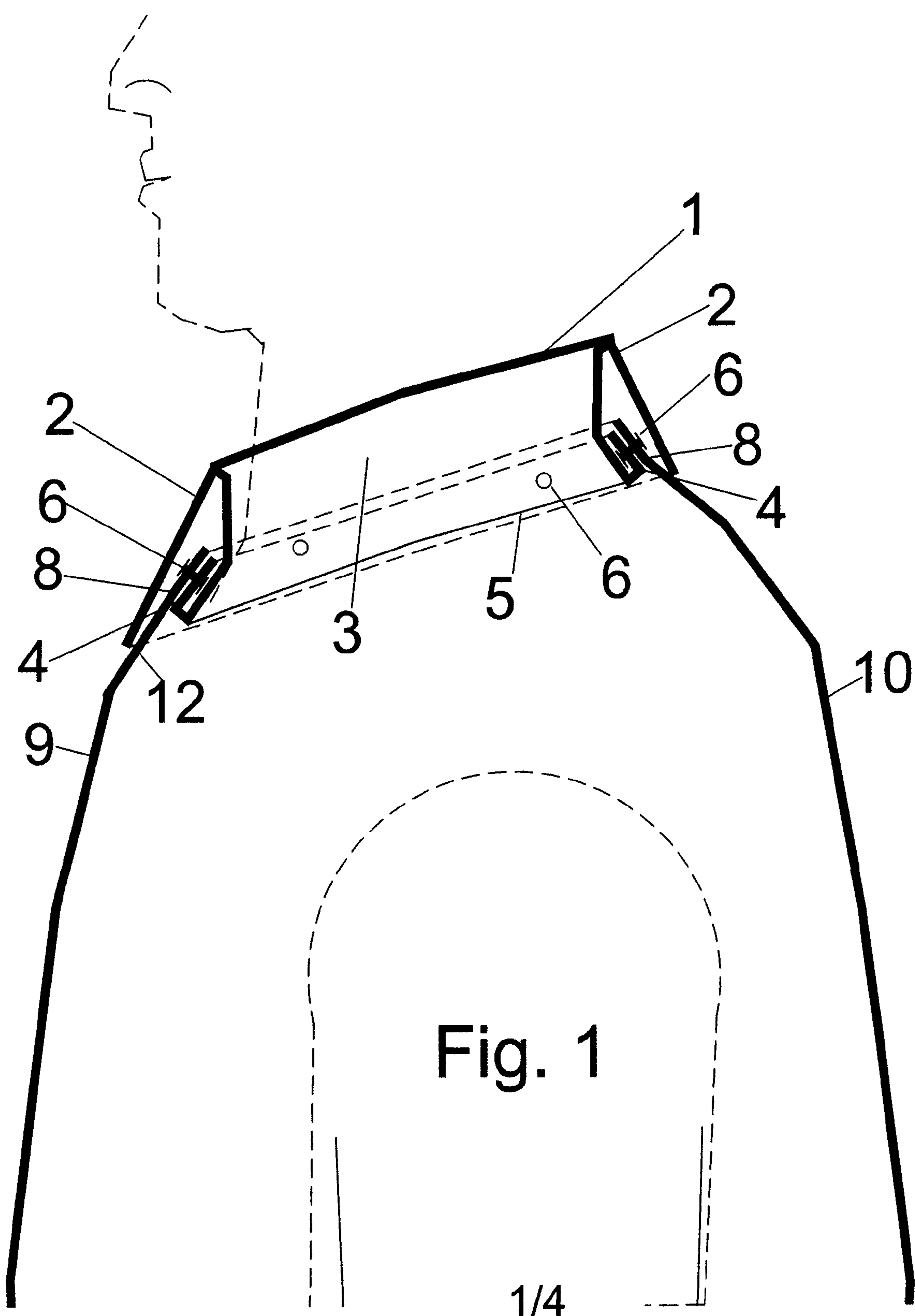
1.Top of DTSC	7. Stitching as Required
2. Exterior Face of DTSC	8. T-Shirt Neck band
3. Interior DTSC Face	9. T-Shirt Front
4. Upturn DTSC Fold	10. T-Shirt Back
5. Bottom Edge of Interior DTSC	11. Downturn DTSC Fold
6. DTSC Removable Collar Pin	12. Front Bottom Edge of DTSC

Note: DTSC – Detachable T-Shirt Collar

Detailed Description: The Detachable T-shirt Collar, DTSC, that is illustrated in Fig. 9, 10, 13, and 14 is comprised of stretchable fabric material that is made to a length as shown in Fig 3, 6 and 17, 20 to provide a gap at the front of the T-shirt dependent on the circumference of the T-shirt's neck band. Part 4 forming the DTSC where it is to be folded along the lines to have the top portion indicated as 1 for the horizontal feature elongate panel indicated as part 2 throughout and as shown in the figures such as Fig 1, 2, 3, 4, 5, 6, 7, 9, 10, 13, 14, and is sized to match the T-shirt neck band. The collar design is manifest as a 3 fold and 4 fold elongate complete fabrication where i) the collar has multiple folds to form the upper and lower portion and with the upper portion extending to form a fold to be the outer face of the collar. The upper portion is represented by part 2 in the illustrations having its bottom edge in assembly indicated as part 12. The lower portion which starts below the fold indicated as part 1 is manifest as a 2 fold and 3 fold elongated continuity where the innermost portion of the fold is adjacent to the neck of the wearer and separates the connector from the wearer's neck. The outer fold of the 2 fold lower portion allows the elongated fold to connect to the inner face of the T-shirt neck band which is indicated as part 8 throughout the illustrated figures. The additional fold of the 3 fold lower portion aligns around the neck band of the T-shirt collar and straddles neck band indicated as part 8 and which encircles the T-shirt from front indicated as part 9, to back indicated as part 10. The upper portion straddles the entire assembly over part 8 as a folded portion where it results in being virtually indistinguishable as a detachable attachment. The connectors indicated as part 6, pass through the outer fold of the portion of the 2 fold lower portion and the T-shirt neck band. The connectors pass through the outer fold and the intermediate fold of the 3 fold lower portion and the T-shirt neck band with the innermost fold separating the connector from the wearer's neck. In use, the connectors are covered from external view by the upper portion when it is folded over and straddles the T-shirt neck band and by the outermost fold of the lower 3 fold portion. In the mechanical attachment method, the 2-part fasteners are passing through the T-shirt neck band to the DTSC as shown by part 6 on Figures 1, 2, 3, 4, 5, 6, 7. and with the 2-part fastener not coming in contact with the wearer's skin to avoid any reaction with the wearer's skin. Both parts of the 2-part fastener assembly, when straddling the T-shirt neck band, are flat and grip each other for assembly and disassembly by mechanical force applied by the fingers for pulling them apart. The fasteners numbering between 3 and 9 are concealed as shown in Fig 1, 4 and 7. The outer face indicated as part 2 allows a necktie or neck scarf to be used between itself and part 8, except when part 11 is the next adjacent surface as indicated in Fig. 7 without any separating of the detachable T-shirt color as is typical of regular shirts with a regular elongated collar. The elongated folds are stitched with a loose expandable pattern along the fold lines to allow the expansion in unison of the DTSC with and around the T-shirt neckband.

Claims: The embodiments of the invention which is a detachable T-shirt collar for a separate T-shirt in which an exclusive property and privilege is claimed are defined as follows.

1. A detachable T-shirt collar, DTSC, consisting of an elongated fabric horizontally encircling around a neck of a separate stretchable O-neck or V-neck T-shirt neck band where a stretchable collar with a stretchable stitching function allowing expansion and contraction with the T-Shirt fabric at the folds and with connection points for the removable collar pins that couple and decouple when pressed together or separated by pulling apart to allow installation and removal of a T-shirt with said detachable collar in place around a wearer's neck.
2. A detachable T-shirt collar, DTSC, as defined in claim 1 where said collar has an outermost surface as an exterior face that is distinct from a T-shirt neck band and to be used as a collar similar to a permanently fixed surface on the encircling opening on the neck of a shirt where an attachment of the collar allows a necktie to be tied under the said collar without interrupting the connection points to the separate T-shirt neck band.
3. A detachable T-shirt collar, DTSC, as defined in claim 1 and 2 where an outermost surface of the collar exposed to viewing has a spacing of vertical strips attached to the outer surface of the DTSC for the insertion and containment of an elongated accent color strip by a vertical strip for identification of an industry and organizational group or where an elongated messaging strip is used for communicating a graphic or where an elongated photo luminescent strip is inserted and contained by said vertical strip for visibility around the wearer of a said detachable T-shirt collar.



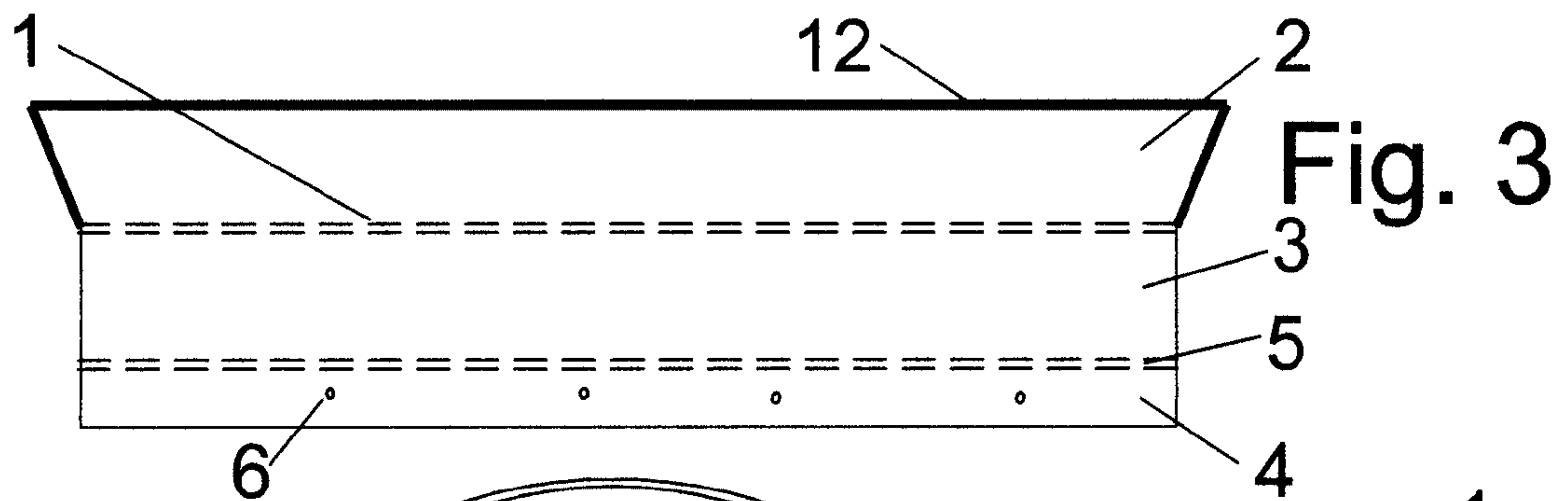


Fig. 3

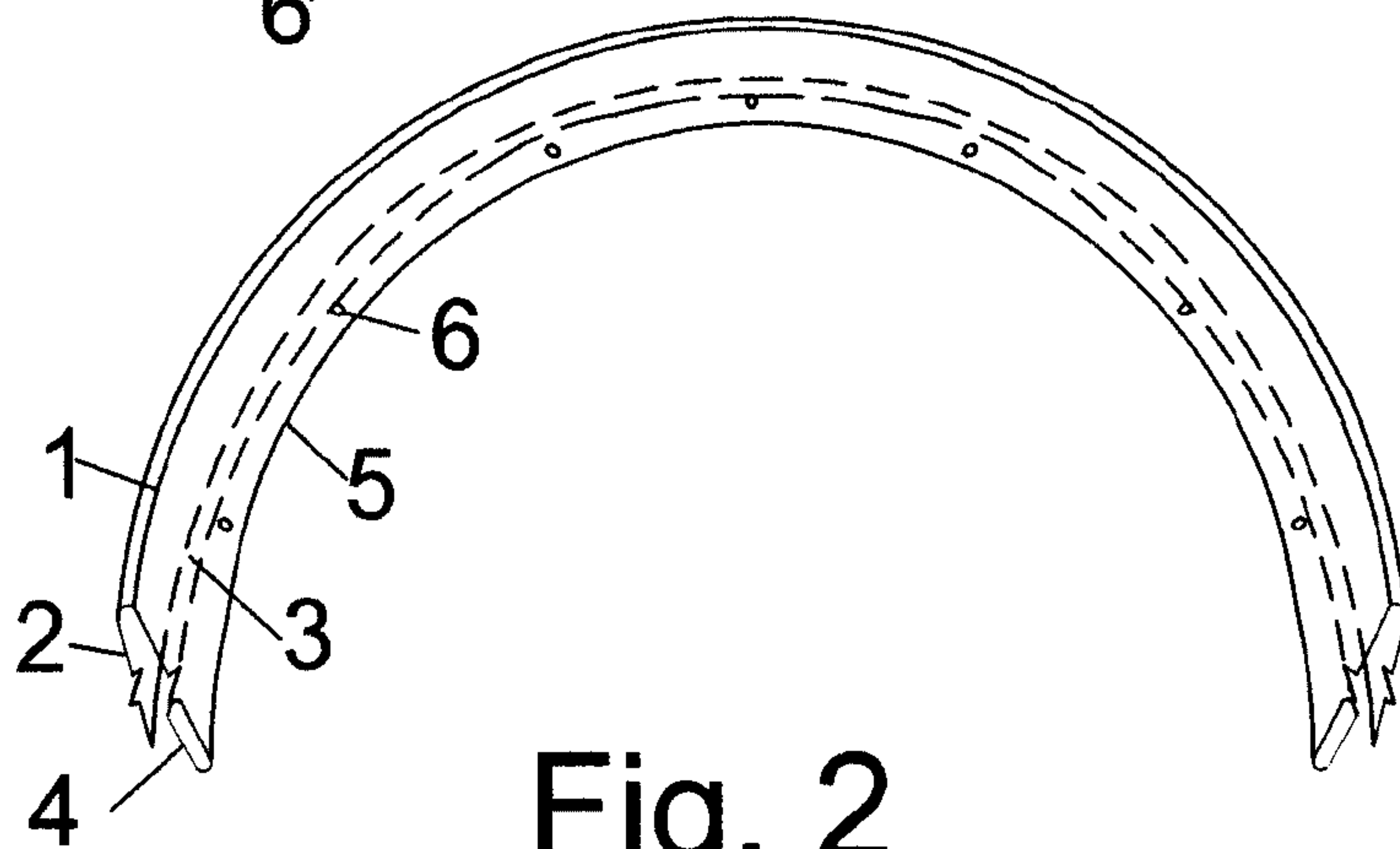


Fig. 2

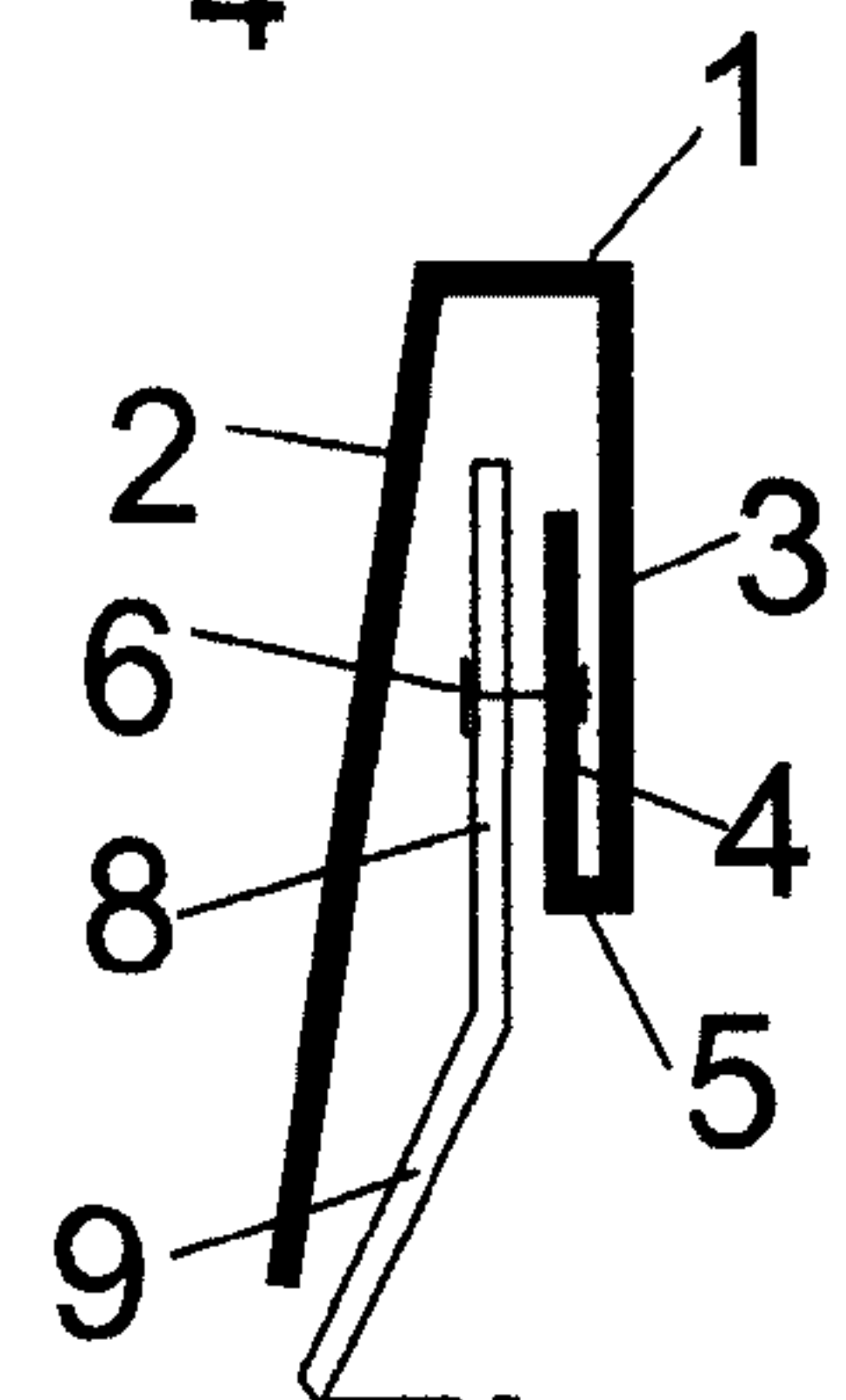


Fig. 4

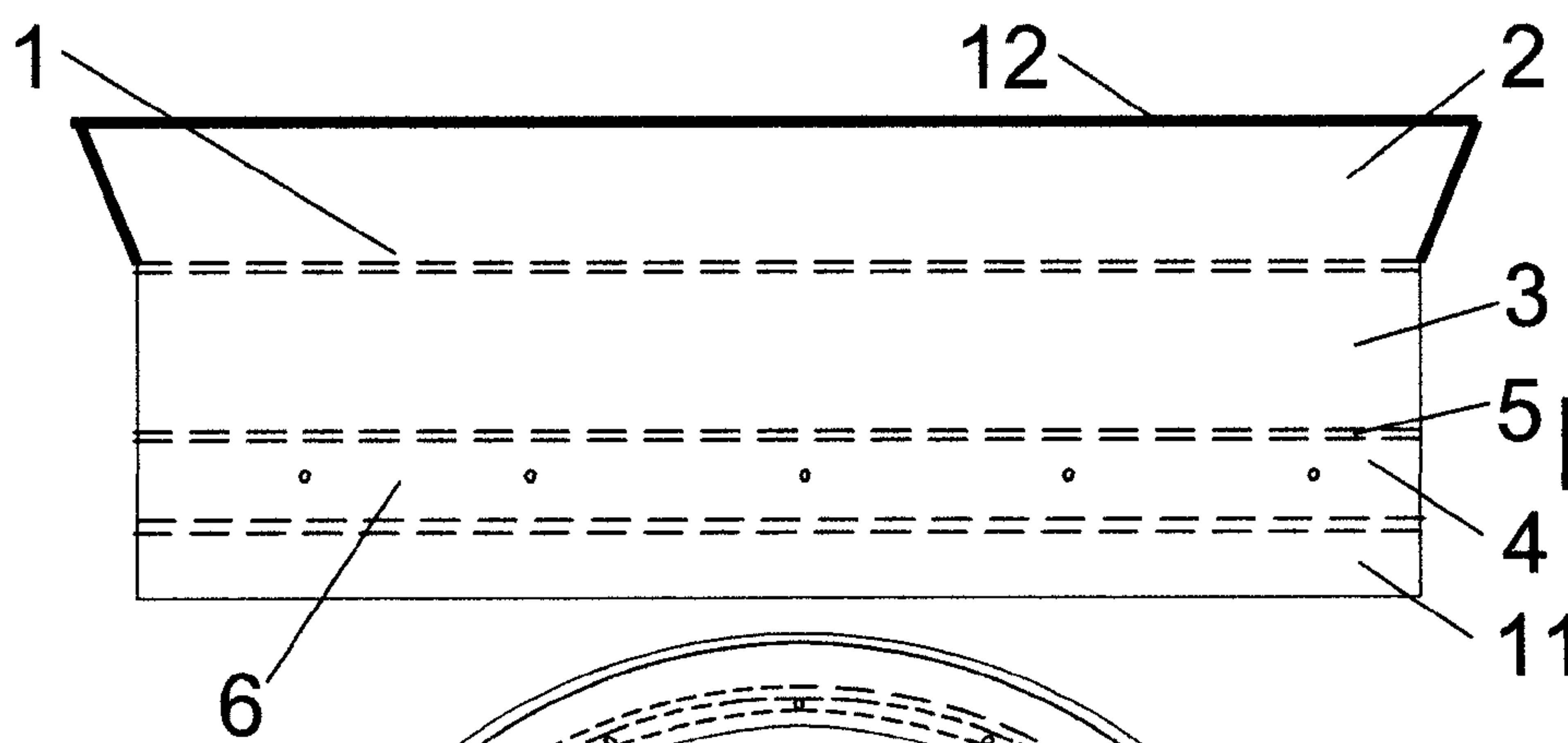


Fig. 6

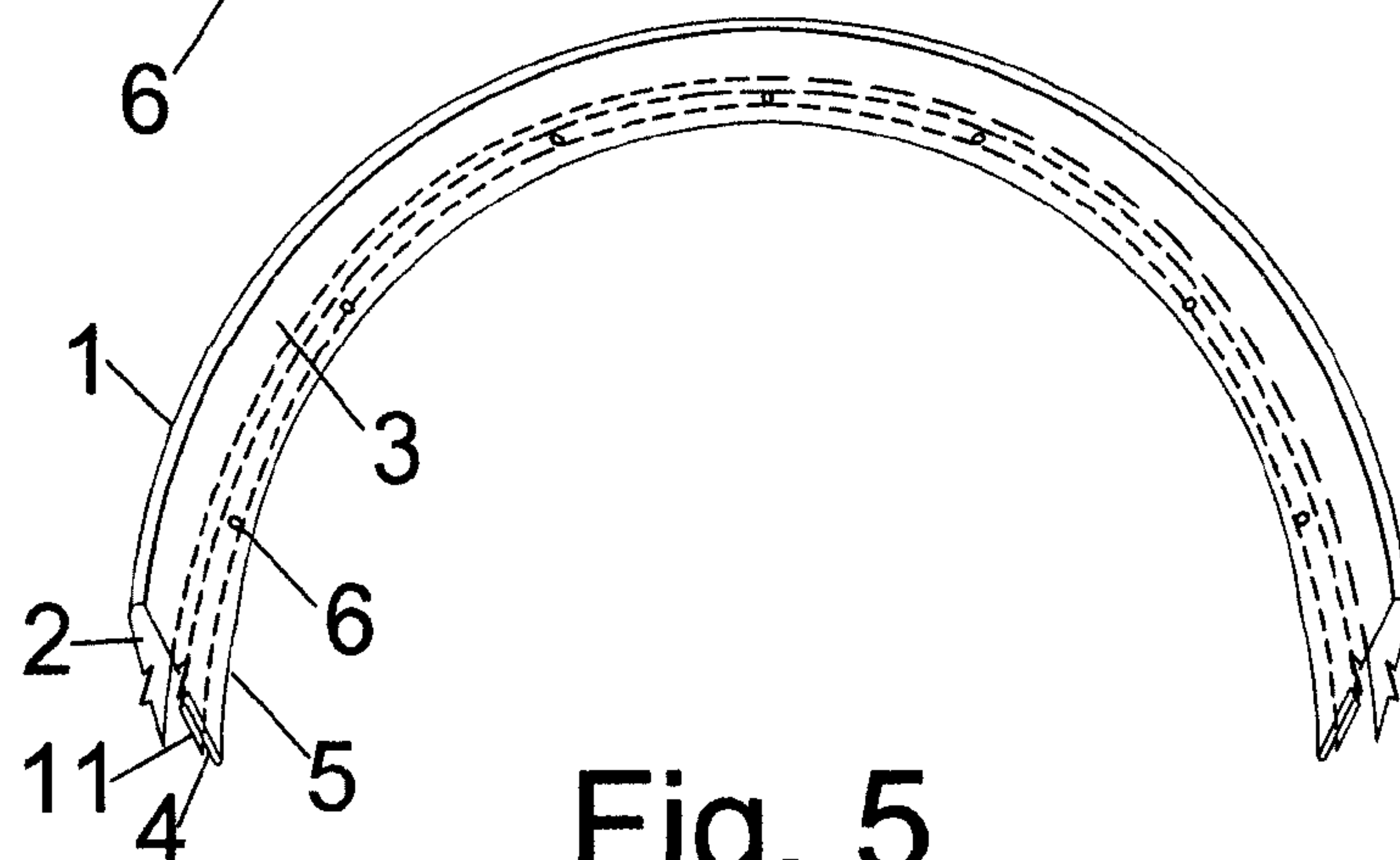


Fig. 5

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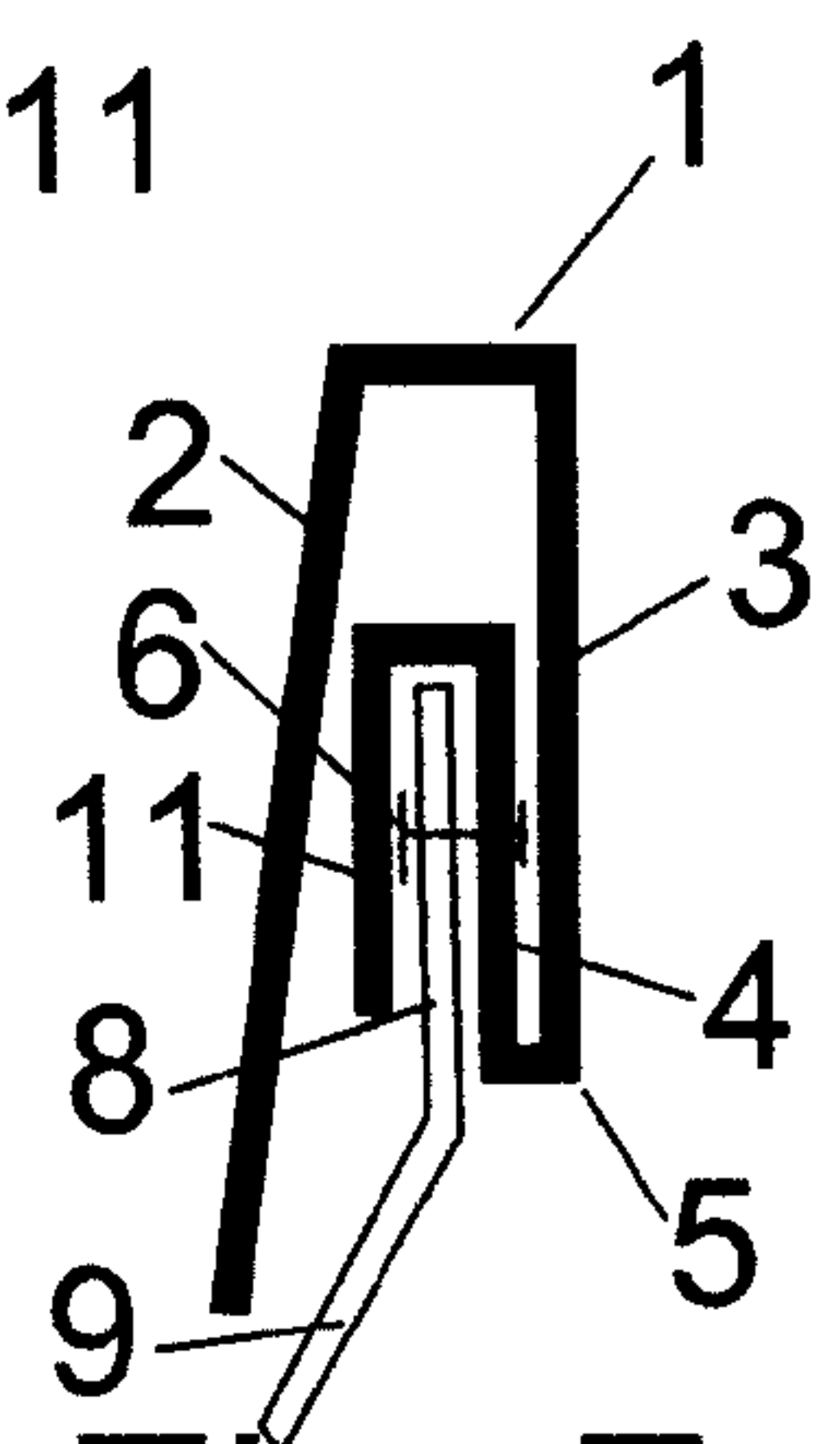


Fig. 7

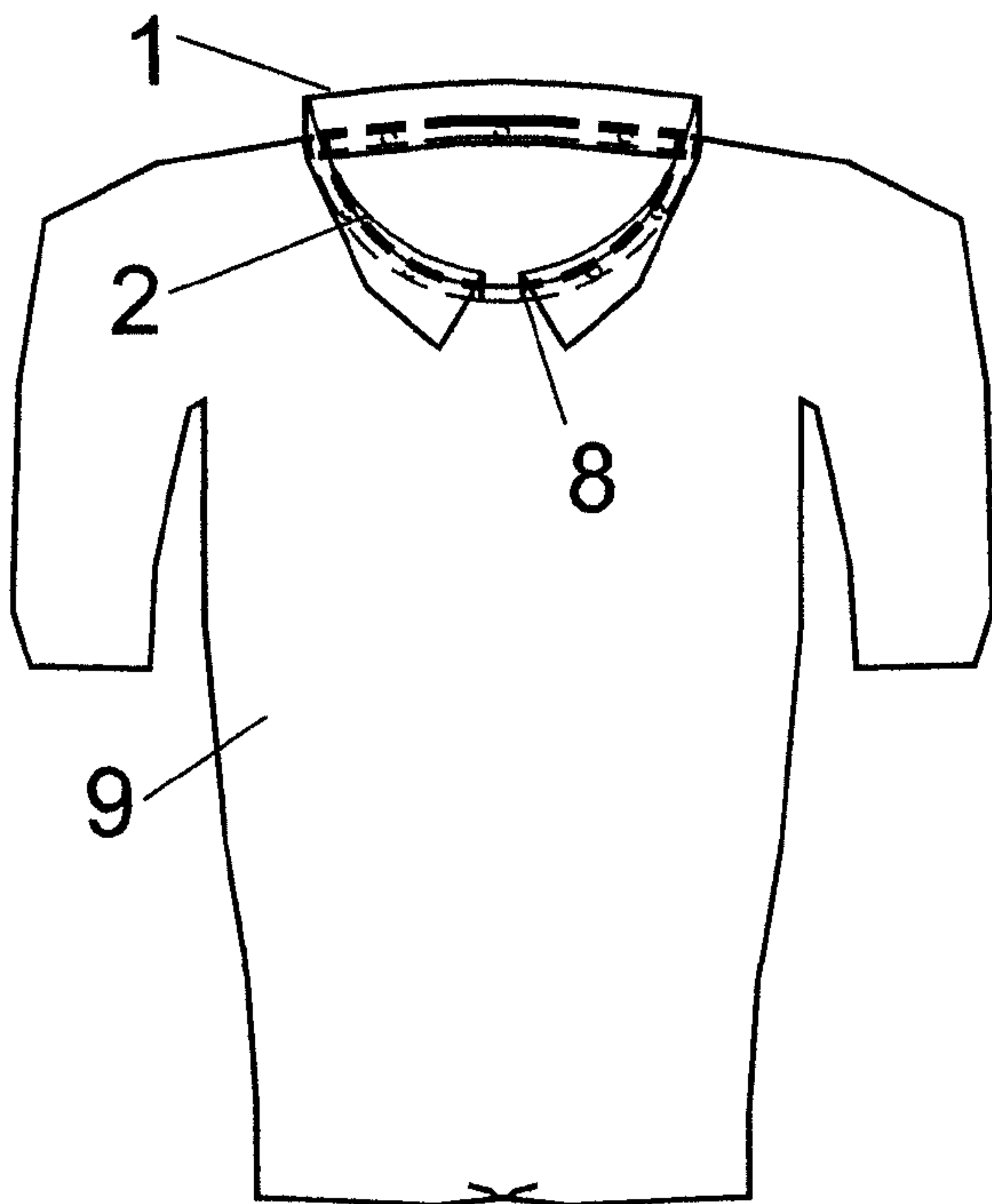


Fig. 9

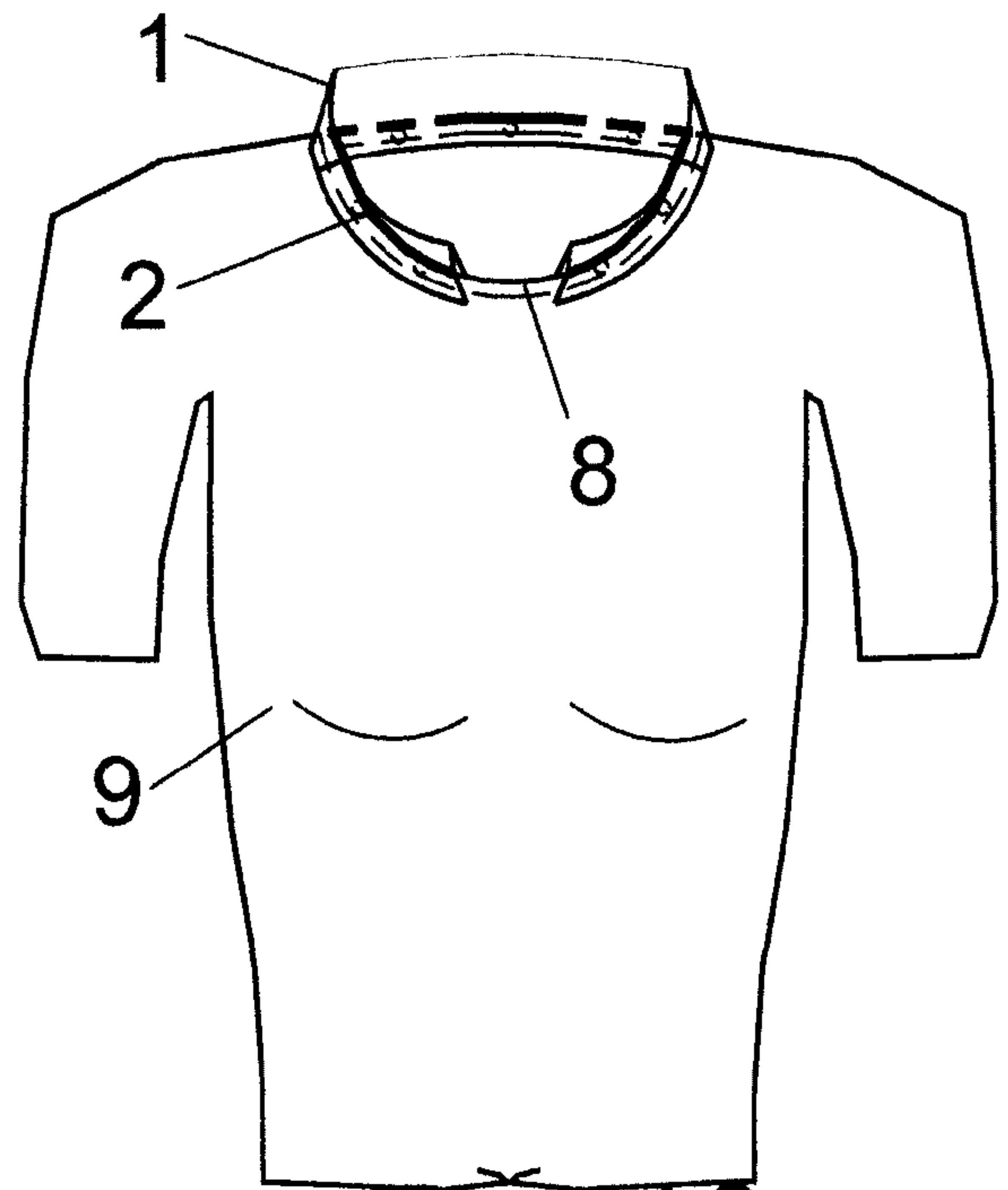


Fig. 10

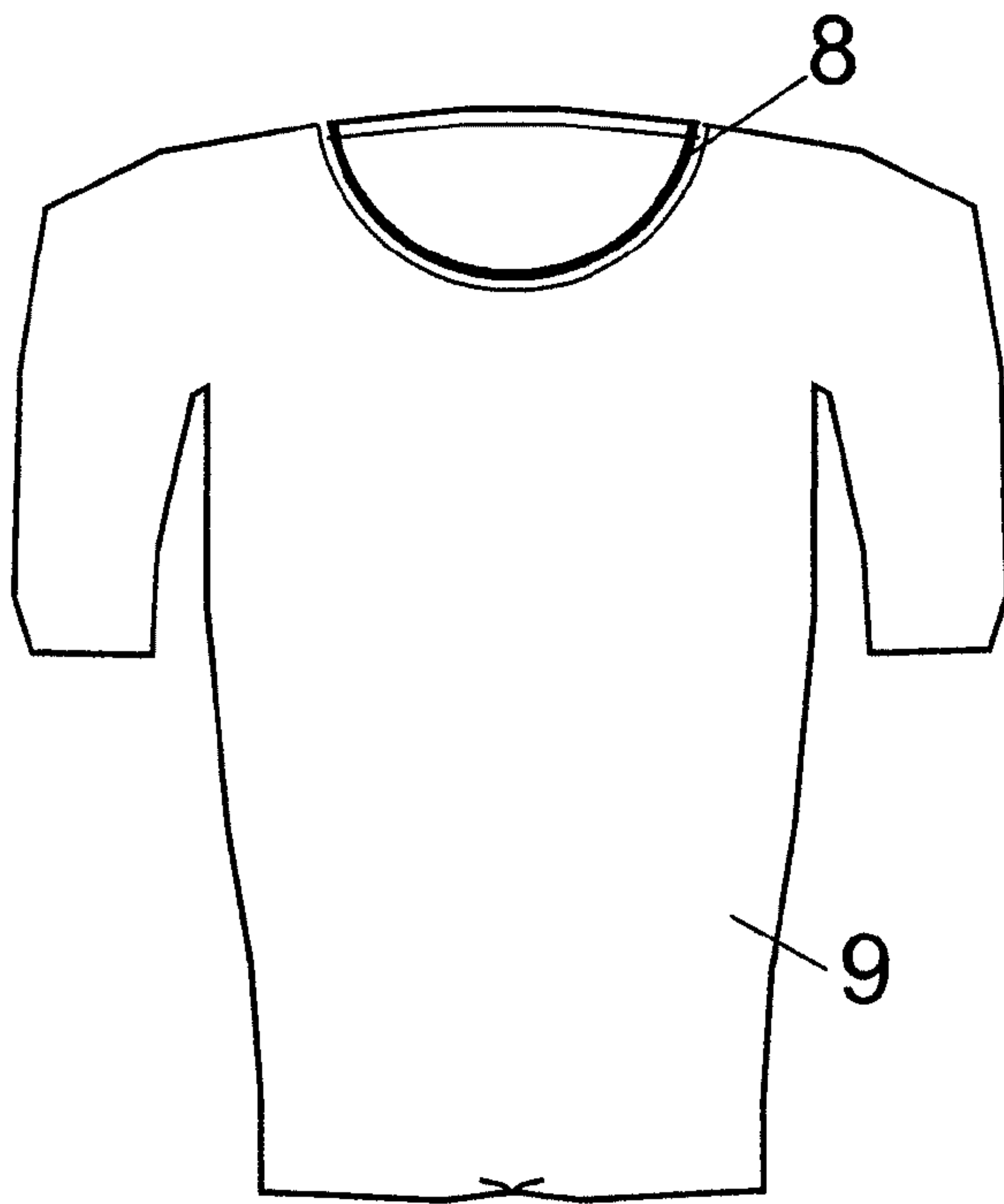


Fig. 8

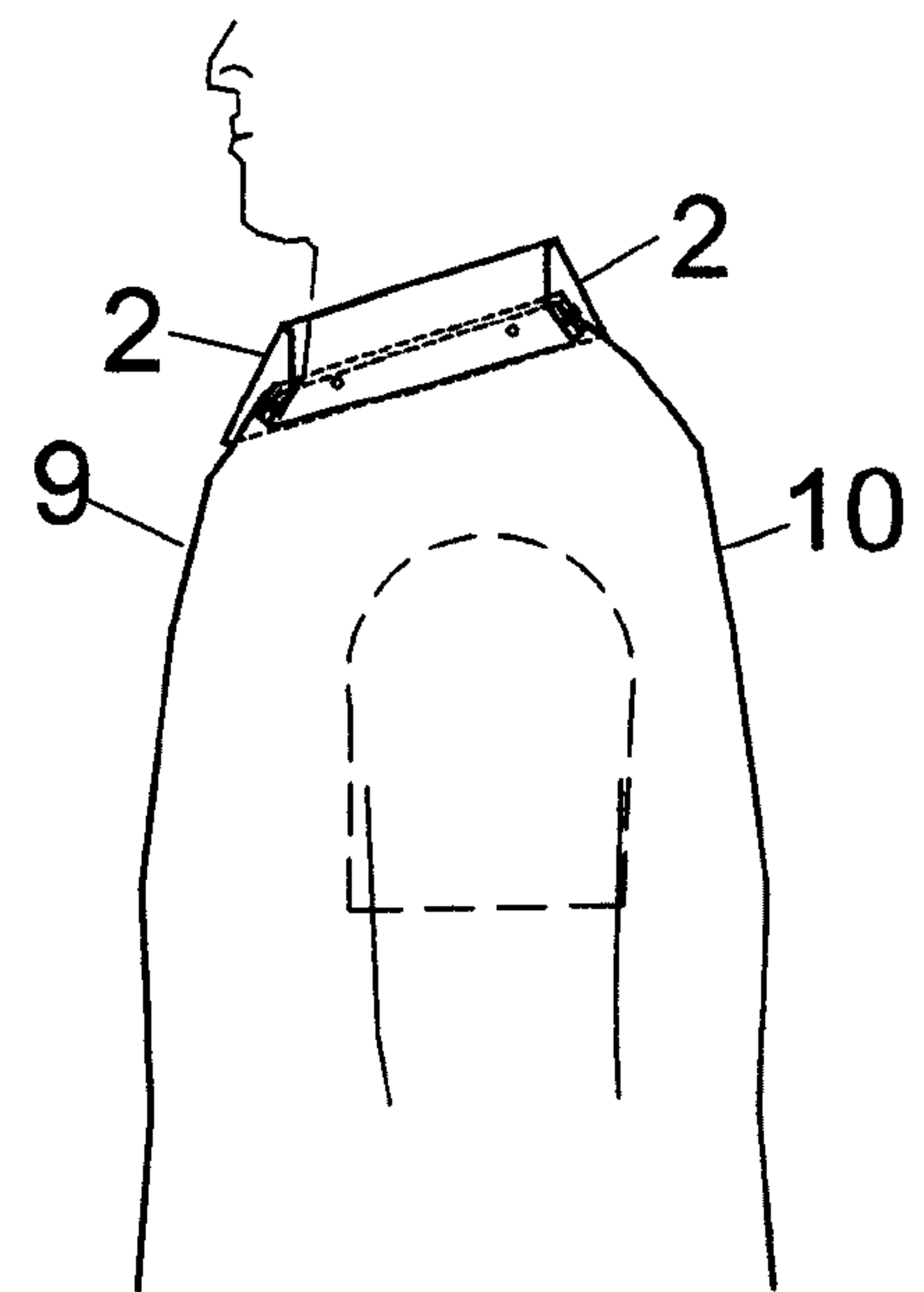


Fig. 11

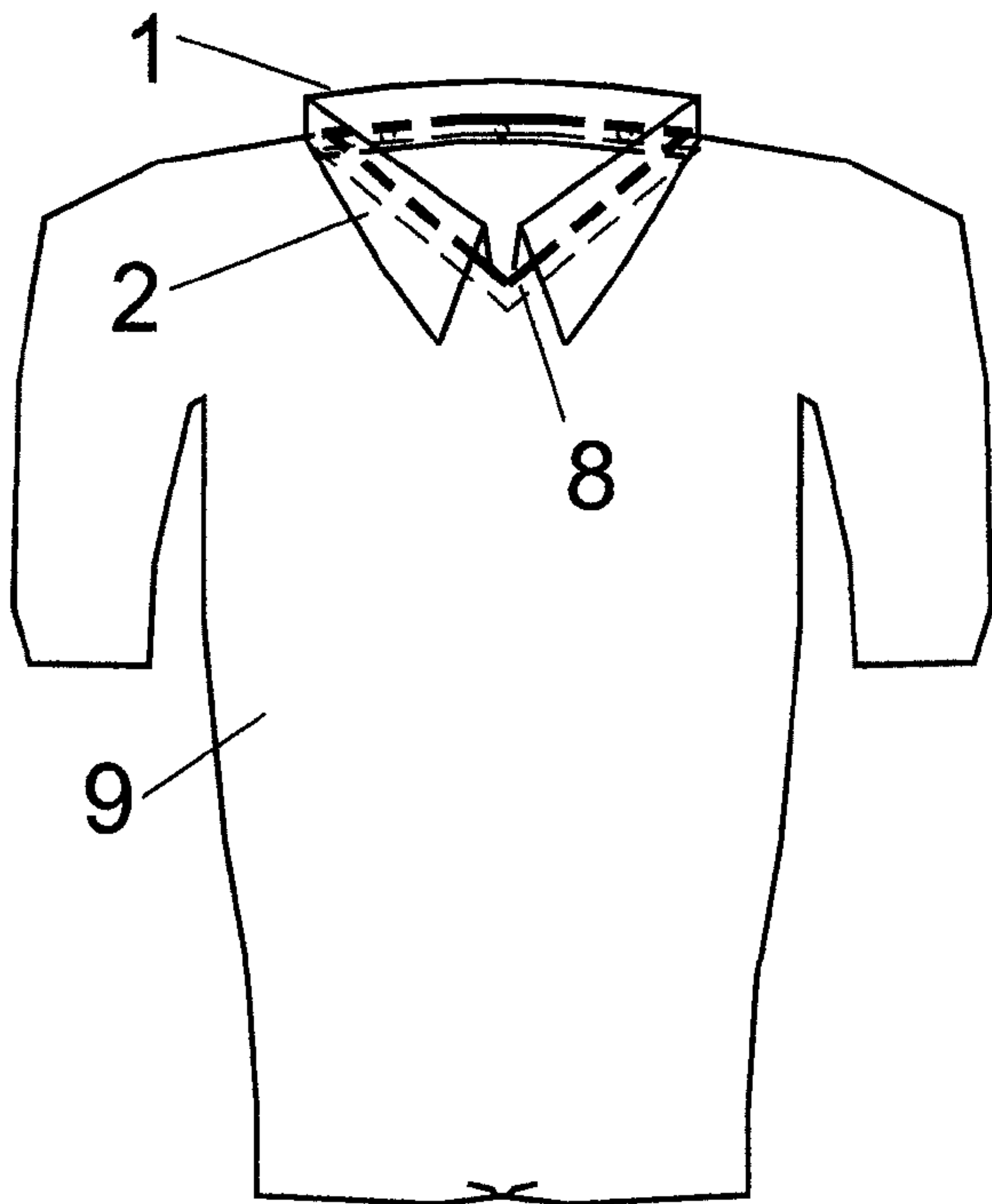


Fig. 13

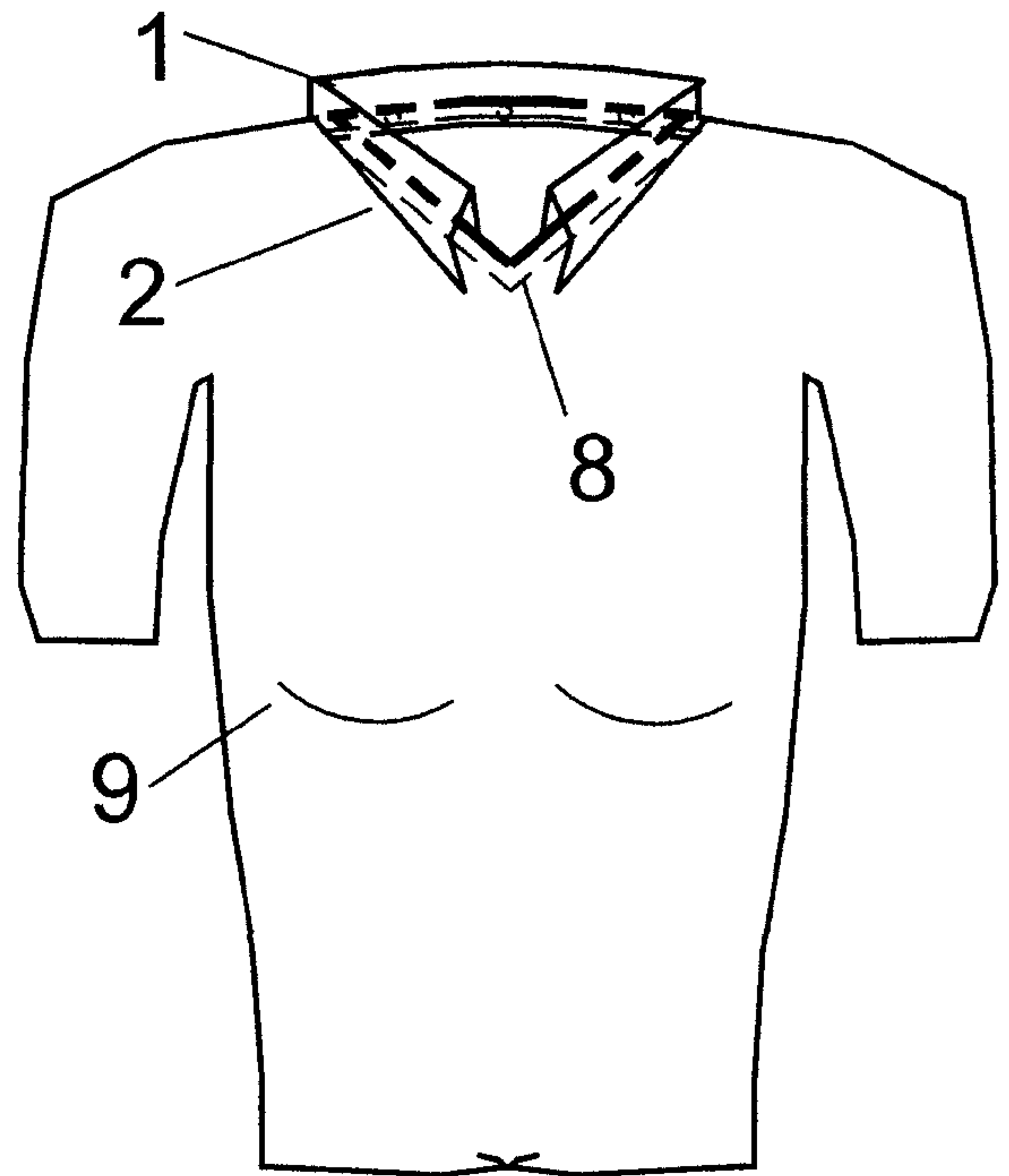


Fig. 14

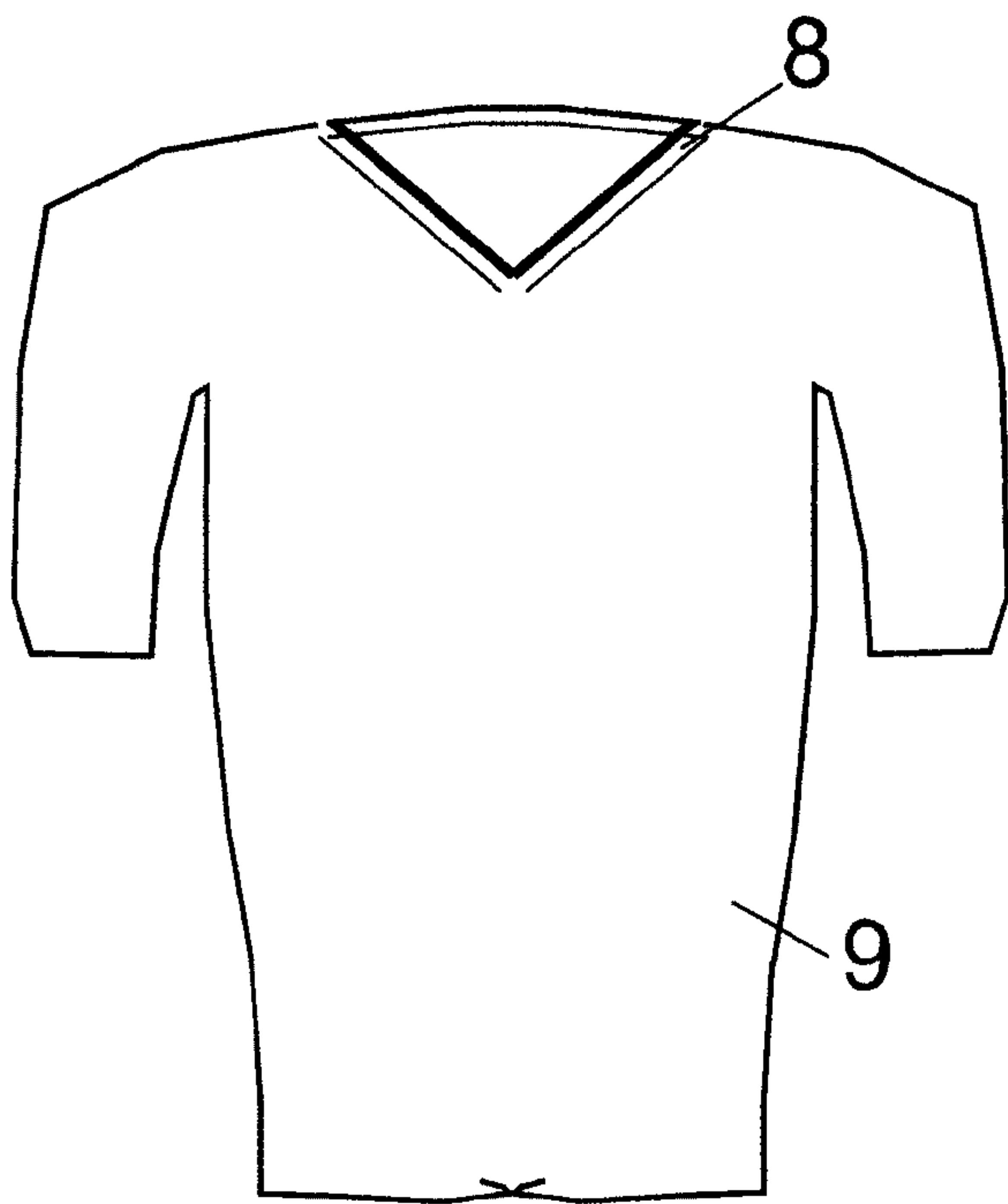


Fig. 12

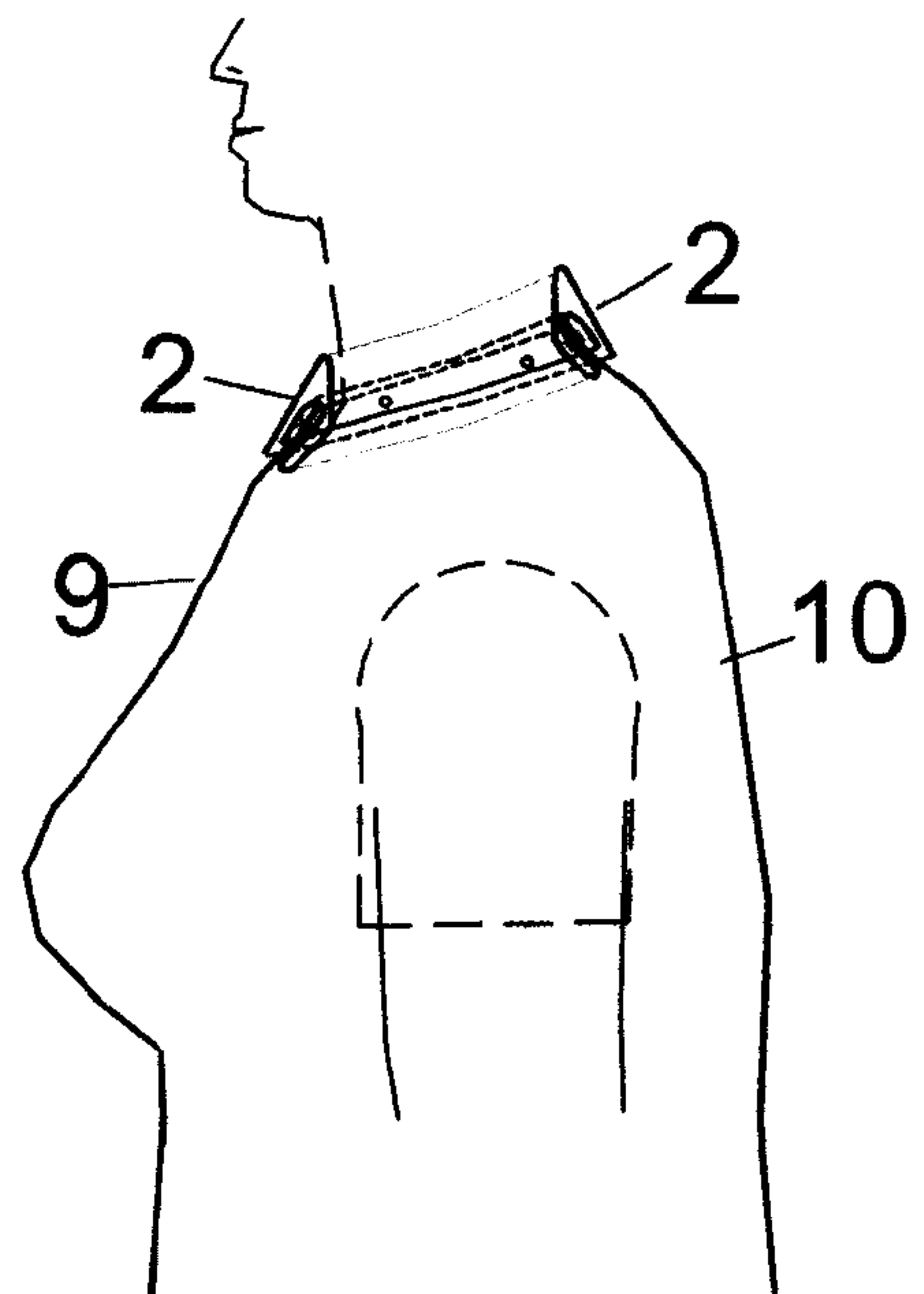


Fig. 15

LEGEND

- | | |
|---------------------------------|-------------------------------|
| 1. TOP OF DTSC | 7. STITCHING AS REQUIRED |
| 2. EXTERIOR FACE OF DTSC | 8. T-SHIRT NECK BAND |
| 3. INTERIOR DTSC FACE | 9. T-SHIRT FRONT |
| 4. UPTURN DTSC FOLD | 10. T-SHIRT BACK |
| 5. BOTTOM EDGE OF INTERIOR DTSC | 11. DOWNTURN DTSC FOLD |
| 6. DTSC REMOVABLE COLLAR PIN | 12. FRONT BOTTOM EDGE OF DTSC |
| 6a. DTSC MAGNET CONNECTOR | |
| 6b. DTSC CLIP CONNECTOR | |

NOTE: DTSC - DETACHABLE T-SHIRT COLLAR

