May 24, 1949. E. C. PFEFFER, JR 2,470,950

SHIRT COLLAR CONSTRUCTION

Filed Feb. 15, 1946 4 Sheets-Sheet 1

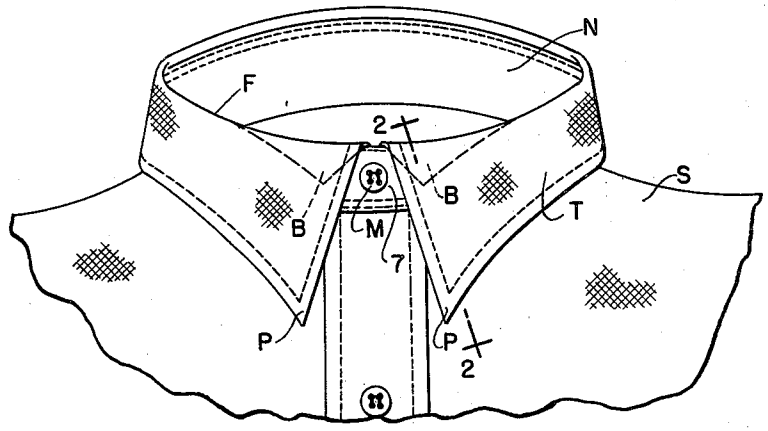


FIG. 1

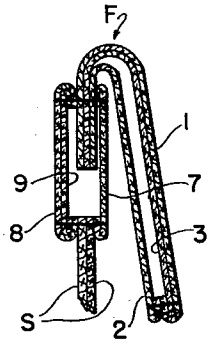


FIG. 2

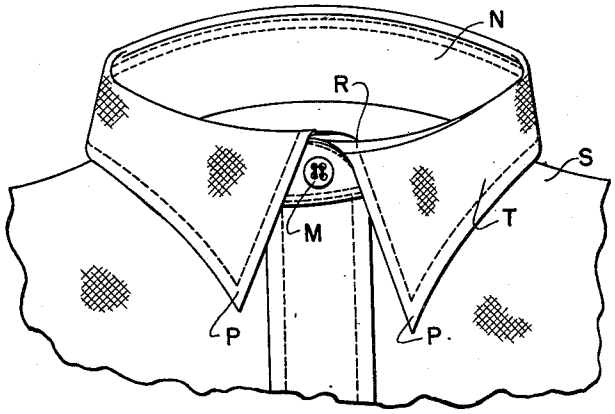


FIG. 20

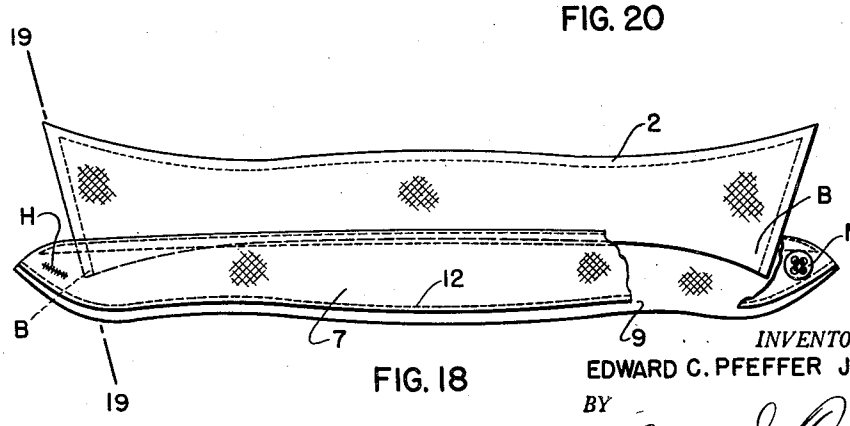


FIG. 18

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SHIRT COLLAR CONSTRUCTION

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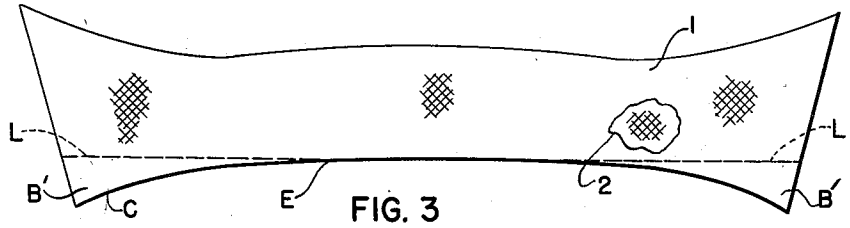


FIG. 3

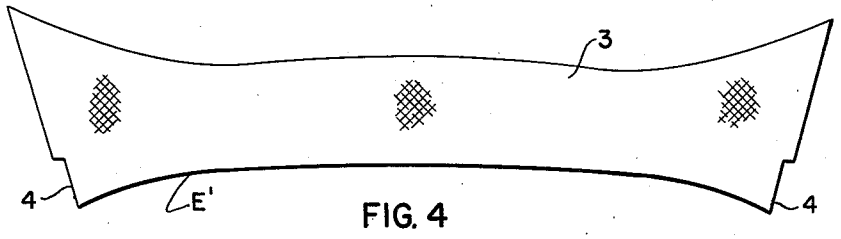


FIG. 4

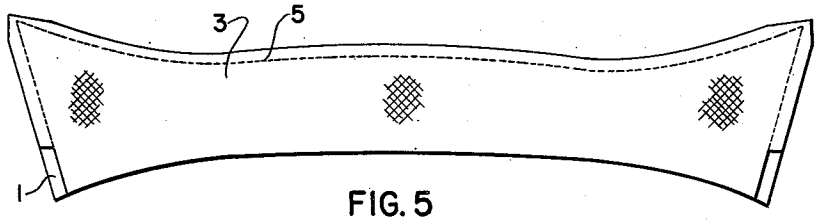


FIG. 5

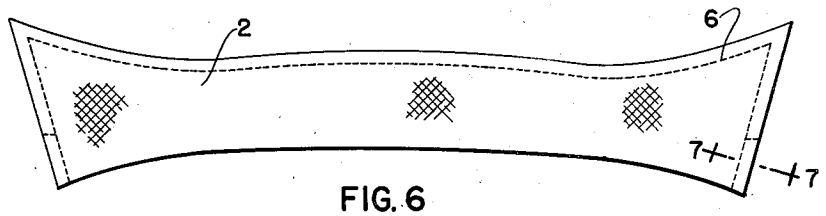


FIG. 6

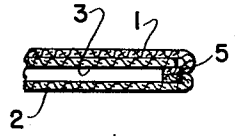


FIG. 7

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SHIRT COLLAR CONSTRUCTION

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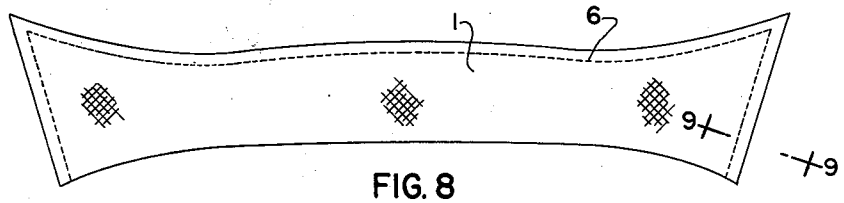


FIG. 8

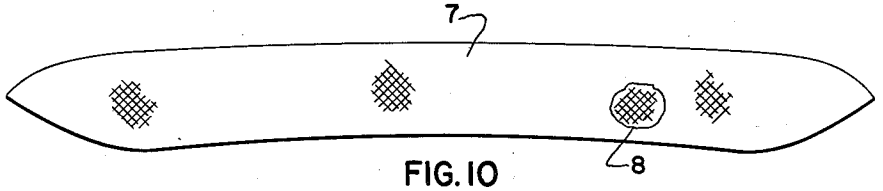


FIG. 10

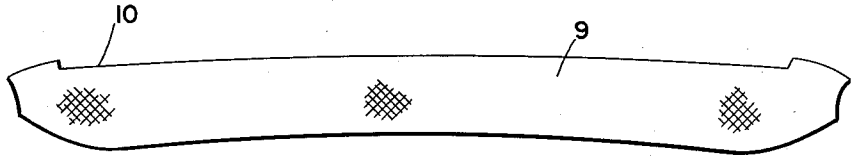


FIG. 11

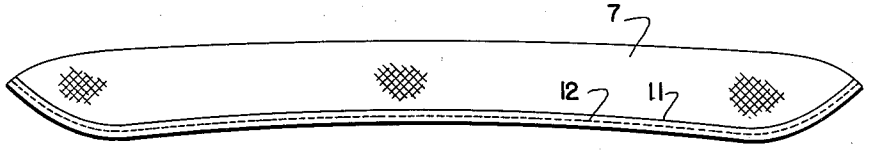


FIG. 12

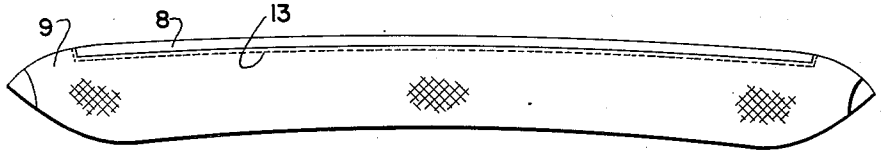


FIG. 13

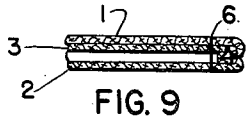


FIG. 9

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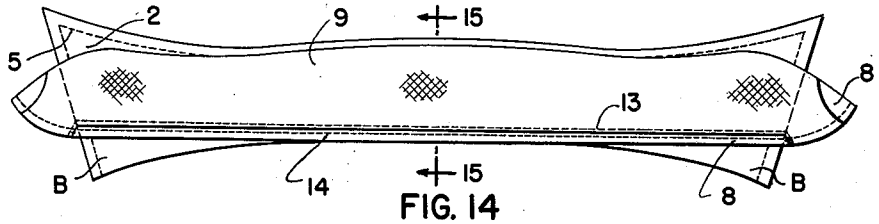


FIG. 14

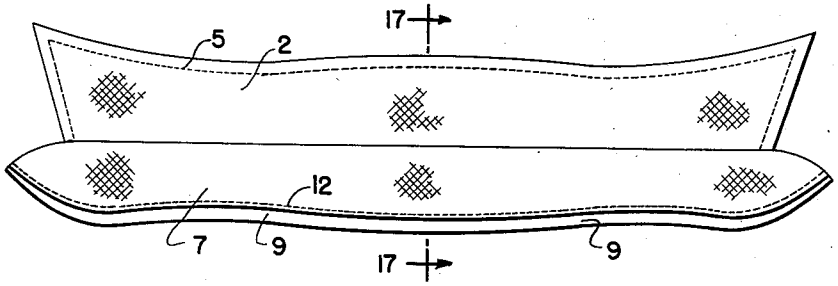


FIG. 16

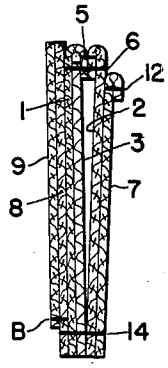


FIG. 15

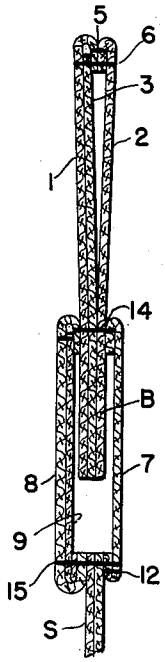


FIG. 19

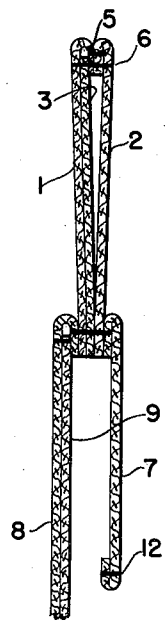


FIG. 17

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Patented May 24, 1949

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UNITED STATES PATENT OFFICE

2,470,950

SHIRT COLLAR CONSTRUCTION

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Application February 15, 1946, Serial No. 647,919

9 Claims. (Cl. 2—131)

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This invention pertains to apparel and more particularly to turn-down shirt collars of the self-stiffened type. Whether permanently attached to the shirt or detachable, such a collar comprises a top and a neckband, each consisting of two or more plies of material, the top having incorporated therein a stiffening substance, for instance cellulose acetate or a synthetic resin which imparts the desired degree of permanent stiffness. To avoid discomfort to the user and to facilitate buttoning the collar, the neckband is not usually stiffened nearly so much as the top. Thus the end portions of the neckband at the front of the collar when worn fail to provide sufficient support for the adjacent ends of the fold, the soft neckband rolling downwardly and forwardly and allowing the adjacent ends of the fold to gap apart.

The principal object of the present invention is to provide a collar of the above type having provision for supporting the adjacent ends of the fold so that they do not gap during use. A further object is to provide a self-stiffened collar wherein the stiffening element is extended into the neckband at a point adjacent to each end of the collar, thereby to provide braces for the adjacent ends of the fold. A further object is to provide a self-stiffened collar having a top and a neckband and in which the stiff top comprises an integral extension at each end which reaches down into and is housed within the neckband so as to be invisible; which affords the desired additional stiffness necessary to keep the collar from gapping, but which does not add to the normal stiffness of the neckband intermediate the end portions of the latter. Other and further objects and advantages of the invention will be pointed out in the following more detailed description and by reference to the accompanying drawings, wherein

Fig. 1 is a fragmentary front elevation of a shirt provided with the improved collar of the present invention;

Fig. 2 is a diagrammatic section, to large scale, on the line 2—2 of Fig. 1;

Fig. 3 is a plan view showing the front and rear plies of the collar top;

Fig. 4 is a plan view of the lining for the collar top;

Fig. 5 is a plan view showing the front and rear plies and the interlining sewed together and with the points of the collar trimmed;

Fig. 6 is a plan view showing the top after it has been turned and pressed;

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Fig. 7 is a diagrammatic section, to large scale, on the line 7—7 of Fig. 6;

Fig. 8 is a plan view of the collar top as it appears after it has been stitched, trimmed and fused;

Fig. 9 is a diagrammatic section, to large scale, on the line 9—9 of Fig. 8;

Fig. 10 is a plan view showing the front and rear plies of the neckband arranged in superposed relation;

Fig. 11 is a plan view of the neckband lining;

Fig. 12 is a back view of the front ply of the neckband after hemming;

Fig. 13 is a plan view showing the back ply and the lining of the neckband seamed together;

Fig. 14 is a plan view showing the collar top and neckband united by the first seam;

Fig. 15 is a diagrammatic section, to large scale, on the line 15—15 of Fig. 14;

Fig. 16 is a plan view showing the collar top and neckband after the second hemming operation;

Fig. 17 is a diagrammatic section, to large scale, on the line 17—17 of Fig. 16;

Fig. 18 is a plan view with parts broken away showing the completed collar with the button and buttonhole;

Fig. 19 is a diagrammatic section, to large scale, on the line 19—19 of Fig. 18; and

Fig. 20 is a fragmentary front elevation illustrating a collar of conventional type and illustrating its tendency to sag and gap when in use.

Referring to the drawings, and particularly to Fig. 1, the letter S indicates the upper part of a shirt of conventional construction having a turned-down collar comprising the top portion T, the neckband N, the fold line F, and the points P. In accordance with the present invention, this collar is provided with brace members B hereinafter more fully described, which provide necessary stiffness at the adjacent portions of the fold line to prevent the collar from sagging at this point.

In the preparation of the improved collar having these brace members for supporting the adjacent ends of the fold, it is preferred to proceed as follows, referring to Figs. 3 to 19 inclusive:

Front and rear blanks 1 and 2 are cut from suitable textile material, for instance cotton broadcloth, to form the front and rear plies respectively of the collar top. An interliner 3, also of textile material, is likewise prepared, this interliner, if the collar is to be of the fused self-stiffened type, usually comprising inclusions of a fusible stiffening material, for instance threads of

cellulose acetate or a synthetic resin, or other inclusions of a fusible cementitious material.

As shown in Fig. 3, the line L indicates the usual substantially straight edge of a conventional blank employed in making the top of a collar. However, in accordance with this invention this edge E is curved at its opposite end portions, as shown at C, so as to provide between the line L and the line C, a more or less triangular portion B', which constitutes an element of the brace member of the completed collar.

The corresponding edge E' of the interliner 3 is shaped substantially like the edge E, but preferably the ends of the interliner 3 are recessed where they intersect the edge E' to provide the edges 4.

Having provided the blanks shown in Figs. 3 and 4, these blanks are assembled in registry, as shown in Fig. 5, and united by a seam 5. However, this seam does not unite the interliner to the blanks 1 and 2, along the edges 4, since these edges are substantially in line with the seam and the stitches of the seam do not enter the interliner at this point. Having united the several plies by the seam 5, the assembled plies are turned so as to dispose the interliner between the plies 1 and 2, as shown in Figs. 6 and 7.

Following this turning operation the collar top is trimmed and then subjected to the fusing operation, the top then having the appearance indicated in Figs. 8 and 9.

Front and rear neckband blanks 7 and 8 respectively (Fig. 10), are prepared from suitable textile fabric, usually a cotton broadcloth, but ordinarily of not so fine a weave as the blanks which form the top of the collar, and a neckband interliner 9 (Fig. 11) is also prepared. This neckband interliner may or may not contain a fusible cementitious material. However, the neckband is not usually made as stiff as the collar top. As illustrated in Fig. 11, one edge of the neckband interliner blank 9 is provided with a longitudinally extending recess 10.

The front ply 7 of the neckband is then hemmed, as shown at 11, being stitched at 12. The rear ply 8 of the neckband is then assembled with the neckband lining 9, as shown in Fig. 13, and the parts are united by a seam 13, extending along the edge of the recess 10.

The assembled plies 8 and 9 and the front ply 7 of the neckband are now assembled with the collar top, as shown in Figs. 14 and 15, and united by the seam 14, this seam being substantially straight from end to end of the neckband. The parts are so assembled before forming this seam 14 that the portions B of the collar top project downwardly below this seam 14. The parts forming the neckband are now turned down along the seam 14, as shown in Figs. 16 and 17, and the buttonhole H is formed at one end of the neckband, and the button M is attached to the other end of the neckband, as shown in Fig. 18. At this stage in the operation the assembled top and neckband in section substantially midway the length of the collar, appears as illustrated in Fig. 17, the collar at this portion being of substantially conventional construction.

The neckband is now assembled with the shirt S, the lower edges of the plies 8 and 9 of the neckband being folded in and the several plies being secured to the shirt material by the seam 15 (Fig. 19). Fig. 19 illustrates the internal structure of the collar at one end and shows how the brace member B extends downwardly below the seam 14 which unites the top and neckband,

at least approximately to a line through the center of the buttom M and parallel to the fold line adjacent the button when the collar is buttoned, so as to be interposed between the front ply 7 of the neckband and the interliner 9 of the neckband.

When the collar is folded, as shown in Figs. 1 and 2, in the position of use, these triangular brace members B, which are integral with the collar top and which have the same degree of stiffness as the collar top, since they consist of the same plies of material and the same stiffening substance, are disposed close to the adjacent ends of the fold line F, and close to the point at which the ends of the neckband are buttoned together.

As shown in Figures 1 and 18 particularly, the triangular brace members B extend into the neckband at least approximately to or beyond a theoretical straight line of the neckband connecting the center of the button and the outer end of the button hole, or in other words approximately to or beyond a theoretical line through the center of the button M and generally parallel to the end sections of the fold line when the collar is buttoned. Preferably the brace members B extend slightly past the center or theoretical line of the neckband joining the outer end of the button hole and the center of the button, as appears clearly from Figure 18. Each brace member B preferably extends only partially around the neckband, as shown clearly in Figures 1 and 10, or along the fold line for less than ¼ of the length of the collar top at the fold line. The ends of the neckband thus have generally triangular portions of greater stiffness than the rest of the neckbands, with one side of each triangle forming an approximate extension of the adjacent end edge of the collar top, and another side adjacent, and generally parallel to, the adjacent end of the fold line.

The stiff triangular brace members thus constitute supports for the adjacent ends of the fold line and prevent the neckband from rolling outwardly. Thus the points P of the collar remain at substantially the same level and the collar has a neat and trim appearance. This is in substantial contrast to the effect commonly observed when the collar is of conventional type, as shown in Fig. 20. As indicated in this latter figure, the neckband N very often rolls outwardly and downwardly, as shown at R, permitting the left-hand point P of the collar to drop below the level of the right-hand point P. Such outward rolling of the neckband at this point is due in part to the fact that the neckband is not always so stiff as the collar top, and second that at the end of the fold the material of the top is not supported except by the button which is spaced downwardly some distance from the fold line. Moreover, the act of buttoning the collar has a tendency to break down the stiffness of the buttonhole tab of the neckband, and this operation may in itself be sufficient to cause the collar to roll forwardly as above described.

With the arrangement herein disclosed the ends of the fold are adequately supported and the collar maintains its neat and trim appearance during use.

While the integral portions of the collar top as herein illustrated are preferred as means for supporting the adjacent ends of the fold, it is contemplated that other and equivalent brace elements not necessarily integral with the collar top may be employed for the purpose, such ele-

ments being parts of the collar itself, and concealed between folds of the neckband.

While a desirable embodiment of the invention has been illustrated by way of example, it is to be understood that the invention is broadly inclusive of any and all equivalent constructions falling within the terms of the claims.

I claim:

1. A turn-down shirt collar having a neckband part and a relatively stiff top part connected together by a seam, said neckband part having a button near one of its ends and a button hole near the other of its ends by which the neckband part may be secured in closed loop condition, said top part having its end portions only extending into and partly across the neckband part, beyond said seam that connects the top and neckband parts, at least approximately to the theoretical straight line of said neckband part connecting the center of the button and the outer end of the button hole.

2. A turn-down shirt collar having a neckband part and a relatively stiff top part connected together by a seam, said neckband part having a button near one of its ends and a button hole near the other of its ends by which the neckband part may be secured in closed loop condition, said top part having its end portions only extending into and partly across the neckband part, beyond said seam that connects the top and neckband parts, at least approximately to the theoretical straight line of said neckband part connecting the center of the button and the outer end of the button hole, said extending end portions progressing along the neckband beyond said seam connection for less than one-fourth of the fold line of the collar and then terminating.

3. A turn-down shirt collar having a neckband part and a relatively stiff top part connected together by a seam, said neckband part having a button near one of its ends and a button hole near the other of its ends by which the neckband part may be secured in closed loop condition, said top part having its end portions only extending into and partly across the neckband part, beyond said seam that connects the top and neckband parts, at least approximately to the theoretical straight line of said neckband part connecting the center of the button and the outer end of the button hole, said extending end portions having their maximum extension into said neck band part adjacent the ends of the fold line, the amount of the extension progressively decreasing throughout its length in a direction away from said maximum extension and the adjacent ends of the fold line.

4. A turn-down self-stiffened shirt collar having a neckband part and a relatively stiff top part connected together by a seam, said neckband part having a button near one of its ends and a button hole near the other of its ends by which the neckband part may be secured in closed loop condition, said top part having a relatively stiff portion thereof extending beyond said seam and into and partially across said neckband part from closely adjacent each end of the top part at the fold line for a distance less than one-fourth of the length of the fold line and then terminating, said top part stiff portion within said neckband part and beyond said seam extending at least approximately to a theoretical straight line connecting the center of said button with the outer end of the button hole.

5. A turn-down shirt collar having a neckband part and a top part connected together by a seam, said neckband part having a button near one of its ends and a button hole near the other of its ends by which the neckband part may be secured in closed loop condition, at least a part of said top part extending beyond said seam and into and partially across said neckband part at least to a theoretical straight line connecting the center of said button and the outer end of said button hole from closely adjacent each end of the top part at the fold line in a direction along the fold line, and being generally triangular in shape with one side of the triangle disposed approximately along the seam, and another side of the triangle forming an approximate extension of the end edge of the top part.

6. A turn-down shirt collar having a neckband part and a top part connected together by a seam, said neckband part having a button near one of its ends and a button hole near the other of its ends by which the neckband part may be secured in closed loop condition, said top part extending beyond said seam and into and partially across said neckband part at least to a theoretical straight line connecting the center of said button and the outer end of said button hole from closely adjacent each end of the top part at the fold line in a direction along the fold line, and being generally triangular in shape with one side of the triangle disposed approximately along the seam and of a length less than one-fourth of the length of the fold line, and another side of the triangle forming an approximate extension of the end of the top part.

7. A turn-down shirt collar having a neckband part and a top part, said neckband part having means by which its ends may be detachably interconnected, said top part having a portion thereof extending partially across the neckband part from adjacent an end edge of the top part at the fold line for a distance less than one-fourth of the length of the fold line, and in a direction transversely across the neckband part at least approximately to a theoretical straight line through said interconnecting means at opposite ends of the neckband part, such extending portion of the top part being generally triangular in shape, with one side of the triangle adjacent and generally parallel to the fold line and of a length less than one-fourth of the length of the fold line, and with another side of the triangle forming an approximate extension of the adjacent end of the top part.

8. A turn-down shirt collar having a top and a neckband connected together by a seam, with a fold line close to and generally parallel with the seam junction between said top and neckband, the neckband having a button hole in an end thereof and a fastener at the other end of the neckband, each end portion of said top extending beyond said seam and into the neckband solely for a distance less than about one-fourth the length of the neckband, each of said extending portions being generally triangular in shape with one side of the triangle in approximate end to end alignment with the adjacent end edge of the top part, and another side adjacent and generally parallel to the fold line, and each of said portions also extending from the fold line toward the opposite edge of the neckband, at least approximately to a theoretical straight line through the outer end of the buttonhole and the center of said fastener.

9. A turn-down shirt collar having a top and a neckband connected together by a seam, with

a fold line close to and generally parallel with said seam between the top and neckband, the neckband having a plurality of plies, a button hole at one end thereof and a cooperating fastener at the other end thereof, said top extending through said seam between said plies in said neckband from the ends of the fold line for a substantial distance towards the intermediate part of the neckband, but less than about one-fourth the length of the neckband at each end, said top extending into the neckband, at the ends of the top, from the seam toward the opposite longitudinal edge of the neckband, for a distance at least approximately to a theoretical straight line passing through the outer end of the button hole and the center of said fastener.

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