March 19, 1940. F. SHIKLER 2,194,100

TROUSER WAISTBAND AND METHOD OF FASTENING SAME

Filed Nov. 30, 1938

Fig. 1.

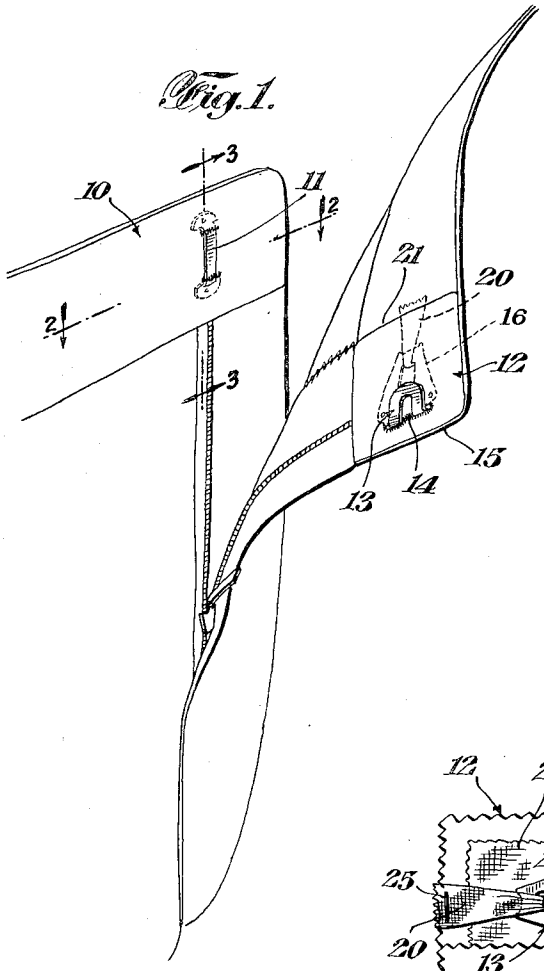
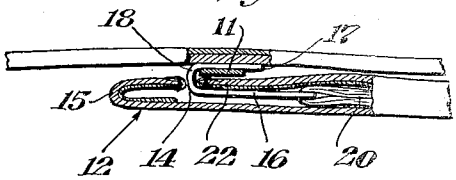


Fig. 2.



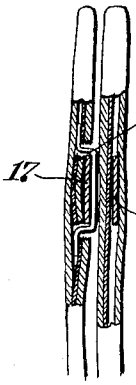


Fig. 3.

Fig. 4.

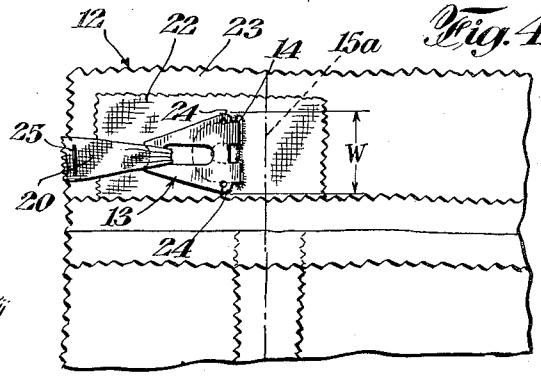
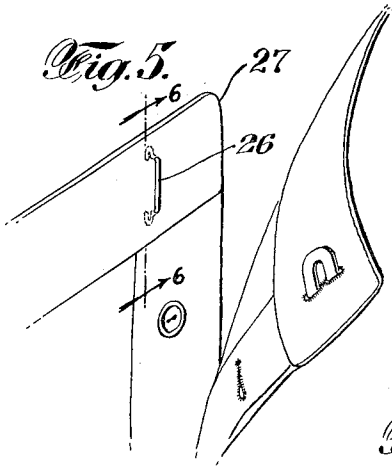


Fig. 5.



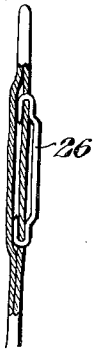
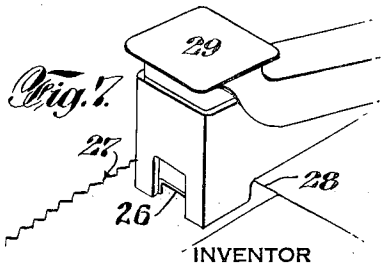


Fig. 6.

Fig. 7.



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TROUSER WAISTBAND AND METHOD OF FASTENING SAME

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5 Claims. (Cl. 2—236)

This invention relates to trouser waistband constructions, and particularly to fastening means at the overlapping portions of the waistband directly above the fly front region.

Most trousers of both the button and the slide fastener types are provided with hook and catch means for effecting a closure of the split waistband portion about the waist of the wearer. In conventional garments of this class, the catch is generally a flat bar of metal attached, by a sewing operation, to the inner overlapped portion of the waistband. The hook, in such conventional garments, contains an inner portion positioned between two contiguous layers of material of the outer overlapping portion of the waistband and suitably anchored in place therein, and an outer exposed portion bent back substantially parallel to the said inner portion, and adapted for engagement with the catch in well-known manner,—the bend of the hook, that is, the juncture of the inner and outer portions thereof, being positioned at the very edge of the said overlapping or outer portion of the waistband.

In order to operatively attach the hook in the aforesaid position, it has always been necessary to construct the waistband of two separate pieces of material having their foremost edges bent inwardly and in abutment, to be subsequently sewed together,—the inner portion of the hook being inserted between the two inbent portions and sewed into place against an inner lining, and the outer portion of the hook contacting the inner layer of material. Wherever this arrangement was used, it was obviously impossible to employ the very desirable form of waistband made of a single sheet of fabric, inasmuch as two separate layers of material separated at the edge to accommodate the hook were absolutely necessary.

It is also an accepted fact that wherever the old conventional hook and catch construction is employed, the hook is generally visible, protruding outwardly a considerable amount particularly after being subjected to repeated pulls resulting from ordinary use. It is also known that this type of structure is inherently weak, inasmuch as the hook is only held in place by a few stitches attached to the goods,—the stitches not being able to withstand the stresses due to the repeated pulls exerted by the catch.

It is hence primarily within the contemplation of my invention to eliminate the aforesaid shortcomings by providing a hook and catch construction that is at all times hidden from view, hence eliminating the disadvantage of unsightliness—that will permit the employment of a continuous sheet of fabric in the overlapping portion of the waistband, whereby it will be free of sewed junctures,—and that will be sufficiently strong structurally to withstand the stresses and strains of ordinary use.

It is also another object of my invention to enable hook and catch attachments of the above type to be readily fastened in place by means of a simple operation, whereby the separate step of sewing the hook into place will be completely eliminated.

And another object of this invention, in one form thereof, is to provide a highly improved method of anchoring the catch attachment in place whereby the conventional sewing step will be eliminated.

Other objects, features and advantages will appear from the drawings and the description hereinafter given.

In the drawing,

Figure 1 is a fragmentary perspective of the fly front portion of a pair of trousers partly open, disclosing the hook and catch structure of my invention.

Figure 2 is a transverse section of Figure 1 taken substantially along line 2—2 when the hook and catch are in interlocking engagement.

Figure 3 is a fragmentary longitudinal section of Figure 1 taken substantially along line 3—3 when the hook and catch are in interlocking engagement.

Figure 4 is a fragmentary plan of the front overlapping portion of the trousers of Figure 1, the hook being shown in place before the folding operation of the waistband.

Figure 5 is a fragmentary perspective view of a fly front portion of a pair of trousers showing a modified form of catch comprising part of this invention.

Figure 6 is an enlarged longitudinal fragmentary section of Figure 5 taken substantially along line 6—6, and

Figure 7 represents a stapling machine positioned for applying a staple to the inner overlapping portion of the waistband to form a catch thereon in accordance with my invention.

In the drawing, the inner overlapped portion 10 of the waistband has suitably attached thereto the catch 11, the outer overlapping portion 12 of the waistband having anchored thereto, in a manner to be more fully hereinafter described, the hook element 13 extending through the button-hole 14 positioned remote from the edge 15 of said outer waistband portion 12.

As will be observed particularly in Figures 1, 2

and 4, the hook consists of an inner portion 16 extending through the opening in said buttonhole 14, and an outer or exposed portion 17 extending along the inner surface of the waistband portion 12 and being adapted for operative engagement with the catch 11. The bend 18 of the hook, that is, the juncture of the said outer and inner portions thereof, is obviously remote from the edge 15 of the overlapping portion of the waistband. The said inner portion 16 of the hook is held, in conventional manner, against outward displacement by the tape 20 which may be anchored in place by a sewing operation along edge 21. As a reinforcing element, the lining 22 is employed, this being secured to the inner portion of the waistband 12 during the operation of forming said buttonhole 14 through both the lining 22 and material 23.

It will be noted, particularly by referring to Figures 2 and 4, that the waistband portion 12 is formed of a continuous sheet of material, not being interrupted at the outer edge 15 by any seam or juncture. This is to be distinguished from the conventional structures previously referred to, in which the equivalent of waistband portion 12 is formed of two pieces joined at the equivalent of edge 15,—at which juncture the hook is inserted and then sewn into place. It will also be observed that the hook 13 has no portion thereof positioned at the region of edge 15, the outermost portion 18 of the hook being remotely positioned with respect to said edge 15. Hence, not only is the hook invisible at the time the garment is fabricated, but it will also remain so regardless of any outward pull exerted thereagainst, unless it should be completely detached from its anchorage. And such detachment is rendered very difficult, if not impossible, not only by virtue of the action of tape 20, but also due to the fact that the length of buttonhole 14 is less than the extreme width of the inner portion of the hook, as indicated in Figure 4 by the letter W,—the shoulders 24 of the hook extending beyond the terminal edges of the buttonhole 14. It should furthermore be noted that any pull exerted upon the hook will be resisted in all directions by the stitched marginal reinforcement of the buttonholes. This construction is obviously considerably stronger and sturdier than the conventional structures above referred to wherein the hook is held from displacement outwardly only by the few threads attached either to the hook or to a tape secured thereto. Obviously it would be more difficult to tear the material of waistband 12 than a few threads of cotton holding the hook in place, whereby it is apparent that with the buttonhole arrangement constituting part of my invention, a more sturdy structure is presented.

It is preferred, in the fabrication of a waistband portion of trousers provided with my invention, that the material to constitute the waistband portion be first positioned in its unfolded condition substantially as illustrated in Figure 4. The reinforcing lining 22 is then placed in position, and the buttonhole 14 formed, preferably by well-known mechanical methods, at a predetermined distance from the line 15a along which the material is to be subsequently folded to form edge 15. During the process of forming the said buttonhole 14, the lining 22 and material 23 are secured together by the peripheral stitching of the buttonhole, thereby dispensing with any hand sewing operations. The hook 13 is then inserted as indicated, and secured in place preferably by the tape 20 which can be attached to material 23 by a staple 25 as indicated in Figure 4, or by a line of stitching along edge 21 (Figure 1), as aforesaid. And when the material 23 is folded back along line 15a, and operatively sewed together, the hook 13 will be in proper position on the waistband, adapted for operative engagement with a catch such as 11,—the entire process having been completed without any hand-sewing operation.

Figures 5 to 7 inclusive illustrate a method of supplanting the conventional catch with a staple catch, whereby among other advantages, the usual hand sewing operation is eliminated. The inner or overlapped portion 27 of the waistband is spread out, as indicated in Figure 7, and then by operatively applying, at a predetermined distance from edge 28 of the waistband, the conventionally illustrated stapling machine 29, the staple 26 is driven into the material to form a staple catch, one form of which is illustrated in Figure 6.

As various possible embodiments might be made of this invention, and as various changes might be made in the embodiments and method above set forth, it is to be understood that all descriptions and disclosures herein set forth or shown in the accompanying drawing are to be considered and interpreted as illustrative and not in a limiting sense.

What I claim is:

1. In a trouser having a front fly construction, a waistband split above the region of the fly and containing an inner end portion and an outer end portion overlapping said inner portion, said outer portion comprising a double layer of material formed of a single continuous sheet folded at the edge thereof, the inside layer containing an opening in spaced relation to and remote from said edge, a catch on said inner end portion, a hook member comprising a catch-engaging portion adapted for operative coaction with said catch and a return-bend portion extending through said opening and completely positioned within the said double layer, the juncture of said catch-engaging and return-bend portions being positioned within said opening and of less width than the opening but engageable with the entire peripheral wall thereof, whereby the hook will not be visible when the waistband is operatively closed and the said peripheral wall will aid in resisting a pull exerted upon the hook in any direction.

2. In a trouser having a front fly construction, the combination according to claim 1, wherein the said opening comprises a buttonhole with reinforcing marginal stitching forming the said peripheral wall.

3. In a trouser having a front fly construction, the combination according to claim 1, further provided with a reinforcing lining between the two layers of material of the outer waistband portion, the said opening comprising a buttonhole with marginal stitching joining said lining and the inner of said layers and forming the said peripheral wall, the said return-bend portion being disposed between the said lining and the outer of the two said layers.

4. In a method of forming a trouser waistband of the type that is split above the region of the fly, the steps of providing a single sheet of waistband material, placing thereagainst a sheet of lining at a predetermined distance from the edges thereof, sewing a single buttonhole through the waistband material and the lining whereby

the stitches extend through both sheets, inserting a hook through said buttonhole whereby a portion thereof operatively extends on both sides of the combined waistband and lining material, folding the combined waistband and lining material along a line parallel to and in spaced relation to the buttonhole to form the edge of the outer overlapping end portion of the waistband, the material being folded so as to form a double layer thereof with the inside layer containing the buttonhole and the hook, sewing said double layer together, and fastening a catch to the opposite end portion of the waistband adapted for engagement with said hook.

5. In a method of forming a trouser waistband of the type that is split above the region of the fly, the steps of providing a single sheet of waistband material, sewing a buttonhole through the waistband material, inserting a hook through said buttonhole whereby a portion thereof operatively extends on both sides of the material, folding the material along a line parallel to and in spaced relation to the buttonhole to form the edge of the outer overlapping end portion of the waistband, the material being folded so as to form a double layer thereof with the inside layer containing the buttonhole and the hook, sewing said double layer together, and fastening a catch to the opposite end portion of the waistband adapted for engagement with said hook.

FRANK SHIKLER.