Feb. 12, 1952 G. W. ROSENBERG 2,585,175

TROUSER FLY CONSTRUCTION

Filed March 11, 1949

FIG. 1.

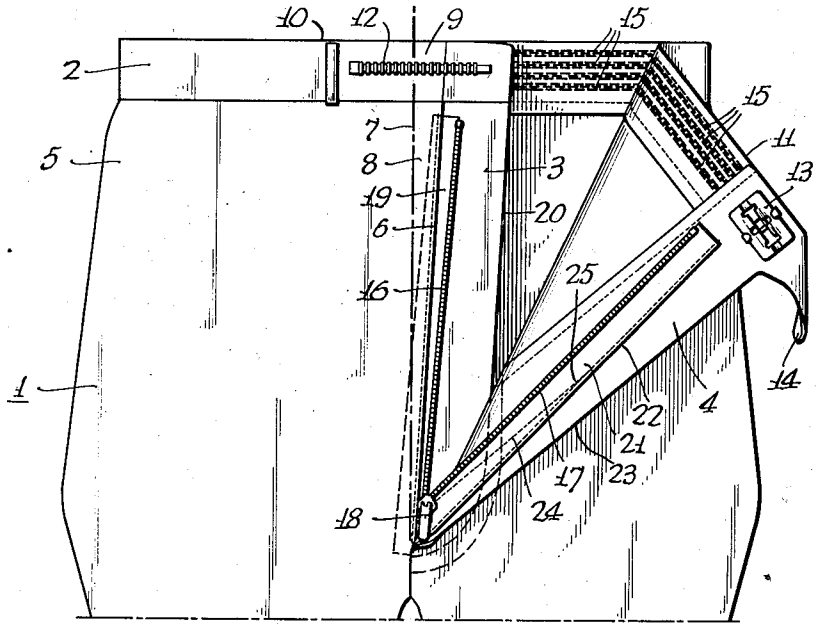


FIG. 2.

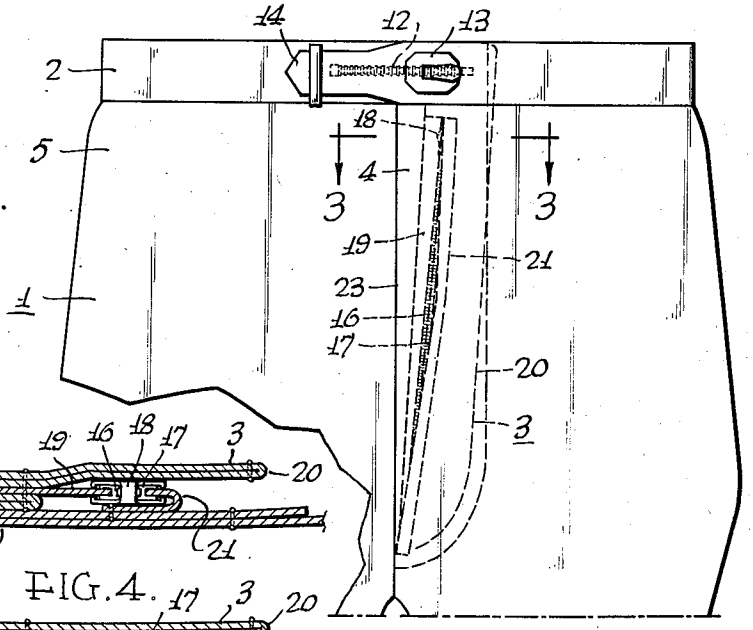


FIG. 3.

FIG. 4.

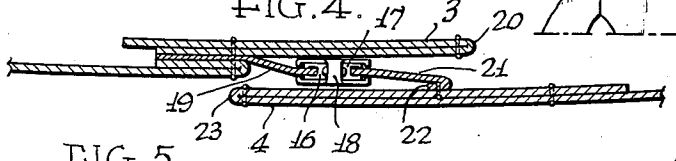
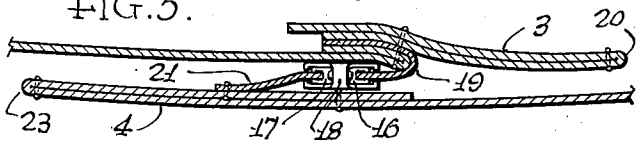


FIG. 5.



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TROUSER FLY CONSTRUCTION

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8 Claims. (Cl. 2—234)

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This invention relates to improvements in men's trousers, and more particularly to a novel trouser construction which will enable adjustment of the waist portion and, at the same time, preserve the general appearance of the trousers.

The present application is a continuation-in-part of my prior application, Serial No. 743,919, filed April 25, 1947 now Patent No. 2,563,190, dated August 7, 1951.

In my said prior application, there is disclosed a trouser construction wherein the waist portion is adjustable, preferably through the provision of an adjustable slide fastener, and the fly portions are constructed and arranged to preserve a neat and sightly appearance. In that construction, a slide fastener is employed to close the fly portions, and the elements of said fastener are carried by tapes which serve as a flexible connection between the fly portions. Additional material is provided in the body and waist portions of the trousers to permit the desired adjustment.

The above-mentioned trouser construction of my earlier application supplied a long-existing need for satisfactory waist adjustability in men's trousers without resort to unsightly devices or constructions. While the construction of my earlier application has been very successful, I have now devised an improved construction of the same general character. More particularly, I have discovered that the trouser construction of my earlier application can be greatly improved by a certain construction and arrangement of the slide fastener elements and securing tapes on the fly portions of the trousers, as hereinafter described.

The principal object of the present invention, therefore, is to provide an improved trouser construction embodying waist adjustability, and adapted to preserve a neat and sightly appearance of the fly portions.

The invention may be fully understood from the following detailed description with reference to the accompanying drawing wherein:

Fig. 1 is a fragmentary front view of a pair of men's trousers constructed according to a preferred embodiment of the invention, with the fly open to show the construction;

Fig. 2 is a similar view with the fly closed and with an intermediate adjustment of the waist;

Fig. 3 is an enlarged sectional view taken along line 3—3 of Fig. 2; and,

Figs. 4 and 5 are similar sectional views showing extreme conditions of adjustment.

Referring particularly to Fig. 1, the trousers illustrated comprise a fly-cut body 1, a waist portion 2 which may be a continuation of the body or a waist band secured thereto, and a pair of fly portions 3 and 4. The fly portion 4 is adapted to overlie the fly portion 3, so that the latter is the underlying fly portion.

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Preferably, though not necessarily, the side 5 of body 1 is cut along an oblique line 6, instead of along the usual vertical line indicated in dot and dash representation at 7. By this construction, the side 5 is effectively extended circumferentially by the addition of the wedge-shaped area 8 between lines 6 and 7. With this preferred construction, the waist portion 2 is correspondingly extended circumferentially by the addition of the area 9 between projected lines 6 and 7. This construction allows for greater expansion of the waist portion as hereinafter described.

Adjustability of the overlappable parts 10 and 11 of the waistband 2 is made possible by the provision of adjustable means, preferably a slide fastener comprising a track element 12 on part 10 and a slider 13 on part 11. This is a known form of slide fastener in which the slider may be locked in any position of adjustment. While the slide fastener is preferred, it could be replaced by any other adjustable means such as a series of snap fasteners or adjustable rings. Preferably, a tab 14 is provided on part 11 to cover the track element 12. Preferably also, the waistband 2 is provided with stiffening means so that the waistband simulates a belt, making it unnecessary to use the ordinary belt. Such means may take the form of ribs 15 which may be composed of a rubber-like material.

The fly portions 3 and 4 are provided with slide fastener elements 16 and 17, respectively, with which there is operatively associated a slider 18. The slide fastener element 16 is carried by a tape 19 which is sewn along the seam 6 in oblique fashion so that the effective free width of the tape increases upwardly from the bottom of the fly. In practice it has been found desirable to have the effective free width of the tape 19 about ⅛'' at the bottom and about ⅜'' at the top, although these dimensions may be varied at will. It will be noted that the slide fastener element 16 extends along the edge of tape 19 which is normally nearer to the free edge 20 of fly portion 3.

The slide fastener element 17 is carried by a tape 21 which is sewn along its edge 22 to the fly portion 4 at an angle to the free edge 23 of said fly portion. It will be noted that the tape 21 is further away from edge 23 at the top than at the bottom. It will be noted also that the slide fastener element 17 extends along the edge of tape

21 which is normally further away from edge 23, which arrangement is the reverse of the arrangement of element 16 and its supporting tape and is contrary to common practice.

In addition to the stitching along edge 22, the tape 21 is stitched to the fly portion 4 along an oblique line 24 which extends downward from a point 25 about midway of the length of said fly portion to a point close to the bottom of slide fastener element 17. Thus it will be seen that the effective free width of tape 21 increases upwardly from the bottom of the fly to point 25. In practice it has been found desirable to have the effective free width of the tape 21 vary from a minimum dimension at the bottom of about ⅛" to a maximum dimension at point 25 and above of about ½", although these dimensions may be varied at will.

By virtue of the construction above described, the fly is caused to remain flat for any adjustment of the waist portion, and fastener elements are caused to be concealed at all times. During adjustment of the waist portion, with the fly closed, a pivotal action of one or both fly portions takes place about the lowermost point of the fly as a pivot. By having the effective free width of the tapes 19 and 21 increase upwardly, the pivotal action is permitted and all unnecessary tape material is effectively eliminated, so that no bulging is produced by excess material at any point. By virtue of the arrangement of tape 21 and the provision of stitch line 24, the fly portion 4 is caused to cover the slide fastener elements at all times when the fly is closed. Also, by having the fastener element 17 and its tape 21 arranged as above mentioned, the relative movements of the fly portions are facilitated and said portions are better maintained flat, and furthermore a large range of adjustment is made possible.

Figs. 3 to 5 serve to show the action which takes place during adjustment and also serve to show the positions of the elements for different conditions of adjustment. Fig. 3 shows the condition of adjustment approximately midway between the two extreme conditions of adjustment. In this instance, the tape 21 is folded adjacent the fastener element 17. Fig. 4 shows the extreme condition of adjustment for the largest expanse of the waist portion. In this instance, the tape 21 is folded sharply adjacent the edge 22. Fig. 5 shows the other extreme condition of adjustment for maximum contraction of the waist portion. In this instance, the tape 21 is in its normal unfolded condition while tape 19 is folded and the slide fastener is turned over in relation to fly portion 3 and in contrast to its position in Figs. 3 and 4. It will be noted that in all conditions of adjustment, the fly is maintained flat and the slide fastener is well concealed.

It will be seen from the foregoing description that an important feature of the trouser construction resides in the fact that the securing tapes for the fly closure elements increase in effective free width upwardly from the bottom of the fly portions. In the specific illustration, this result is achieved by using ordinary rectangular tapes and stitching them in a certain manner. However, the same result could be achieved in other ways, for example, by using specially-cut tapered tapes stitched along their edges.

The trouser construction herein disclosed has been embodied in commercially sold trousers and has proved to be a very desirable improvement of the construction disclosed in my aforementioned application. The present construction constitutes a complete and practical solution of the problem of providing adjustable-waist trousers without resort to unsightly devices.

It will be understood, of course, that the invention is not limited to the specific structure shown and described, which represents only one embodiment of the invention. Various modifications and other embodiments will be apparent to those skilled in the art and are considered to be within the scope of the invention.

I claim:

1. A trouser construction having a fly-cut body, a waist portion, and a pair of fly portions one of which is adapted to overlie the other, adjustable fastener means on the overlappable parts of the waist portion, slide fastener elements and securing tapes therefor on said fly portions, said tapes increasing in effective free width upwardly from the bottom of the fly portions, the slide fastener element and securing tape on the overlying fly portion being mounted thereon with the fastener element further from the edge of the fly portion than the secured portion of the tape, the slide fastener and securing tape on the underlying fly portion being mounted thereon with the fastener element closer to the edge of the fly portion than the secured portion of the tape.

2. A trouser construction having a fly-cut body, a waist portion, and a pair of fly portions one of which is adapted to overlie the other, adjustable slide fastener means on the overlappable parts of the waist portion, slide fastener elements and securing tapes therefor on said fly portions, said tapes increasing in effective free width upwardly from the bottom of the fly portions, the slide fastener element and securing tape on the overlying fly portion being obliquely mounted thereon with the fastener element further from the edge of the fly portion than the secured portion of the tape, the slide fastener and securing tape on the underlying fly portion being mounted thereon with the fastener element closer to the edge of the fly portion than the secured portion of the tape, the obliquely mounted tape on the overlying fly portion being further from the free edge of the fly portion at the top than at the bottom.

3. A trouser construction according to claim 2, wherein the tape on the overlying fly portion is stitched along one edge, and said tape is also stitched along an oblique line which extends from a point approximately midway of the stitched edge to a point at the bottom of said fly portion close to the associated slide fastener element.

4. A trouser construction having a fly-cut body, a waist portion, and a pair of fly portions one of which is adapted to overlie the other, the upper part of the body adjacent the underlying fly portion, and the adjoining part of the waist portion, including additional material circumferentially to permit wide expansion of the waist portion, adjustable slide fastener means on the overlappable parts of the waist portion, slide fastener elements and securing tapes therefor on said fly portions, said tapes increasing in effective free width upwardly from the bottom of the fly portions, the slide fastener element and securing tape on the overlying fly portion being mounted thereon with the fastener element further from the edge of the fly portion than the secured portion of the tape, the slide fastener and securing tape on the underlying fly portion being mounted

thereon with the fastener element closer to the edge of the fly portion than the secured portion of the tape.

5. A trouser construction having a fly-cut body, a waist portion, and a pair of fly portions one of which is adapted to overlie the other, the upper part of the body adjacent the underlying fly portion, and the adjoining part of the waist portion, including additional material circumferentially to permit wide expansion of the waist portion, adjustable slide fastener means on the overlappable parts of the waist portion, slide fastener elements and securing tapes therefor on said fly portions, said tapes increasing in effective free width upwardly from the bottom of the fly portions, the slide fastener element and securing tape on the overlying fly portion being obliquely mounted thereon with the fastener element further from the edge of the fly portion than the secured portion of the tape, the slide fastener and securing tape on the underlying fly portion being mounted thereon with the fastener element closer to the edge of the fly portion than the secured portion of the tape, the obliquely mounted tape on the overlying fly portion being further from the free edge of the fly portion at the top than at the bottom.

6. A trouser construction according to claim 5, wherein the tape on the overlying fly portion is stitched along one edge, and said tape is also stitched along an oblique line which extends from a point approximately midway of the stitched edge to a point at the bottom of said fly portion close to the associated slide fastener element.

7. A trouser construction having a fly-cut body, a waist portion, a pair of fly portions of equal depth one of which is adapted to overlap the other, adjustable fastening means on the overlappable parts of the waist portion to enable expansion and contraction of the waist portion, and closure means on said fly portions adapted to preserve the normal front appearance while enabling the adjustment of the waist portion with the fly portions remaining closed, said closure means comprising flexible tapes secured to the respective fly portions and slide fastener means including interengageable elements secured to said tapes, the tapes increasing in effective free width upwardly from the bottom of the fly portions, the upwardly widening free portions of the tapes enabling relative movement between each fastener element and the associated fly portion, and thus enabling relative movement between the fly portions during the adjustment of the waist portion.

8. A trouser construction having a fly-cut body, a waist portion, a pair of fly portions of equal depth one of which is adapted to overlap the other, the upper part of the body adjacent the underlying fly portion, and the adjoining part of the waist portion, being cut along an oblique line at a predetermined acute angle to the vertical so as to provide additional material of downwardly tapering wedge form to permit expansion and contraction of the waist portion, adjustable fastening means on the overlappable parts of the waist portion to enable the expansion and contraction of the waist portion, and closure means on said fly portions adapted to preserve the normal front appearance while enabling the adjustment of the waist portion with the fly portions remaining closed, said closure means comprising flexible tapes secured to the respective fly portions and slide fastener means including interengageable elements secured to said tapes, the tapes increasing in effective free width upwardly from the bottom of the fly portions, the upwardly widening free portions of the tapes enabling relative movement between each fastener element and the associated fly portion, and thus enabling relative movement between the fly portions during the adjustment of the waist portion.

GORDON W. ROSENBERG.

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