

[54]	PREFABRICATED TROUSER FLY		
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[57] **ABSTRACT**
Improved fly for trousers of all types, obtained by pre-fabrication during a stage preceding the actual trouser making stage, the closing system of this fly being attached to at least one support consisting of any suitable material differing from the trouser material and having the form of a tape which, during the actual garment-making process, is secured for example by stitching to the trousers.

7 Claims, 3 Drawing Figures

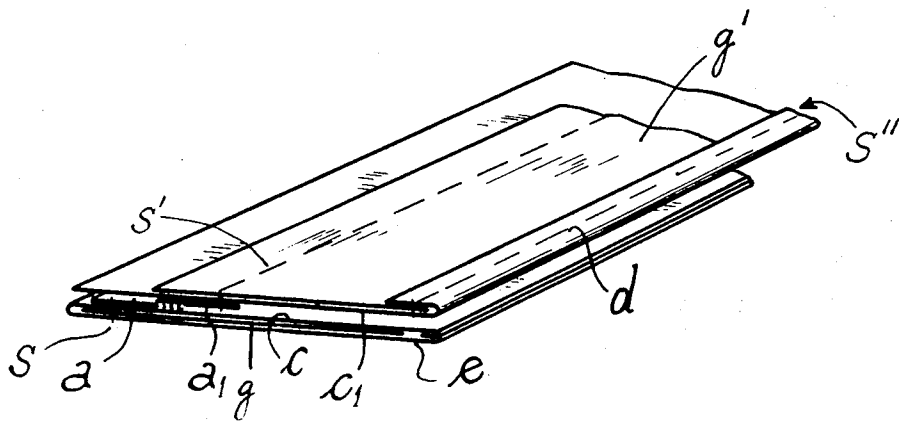


FIG. 2

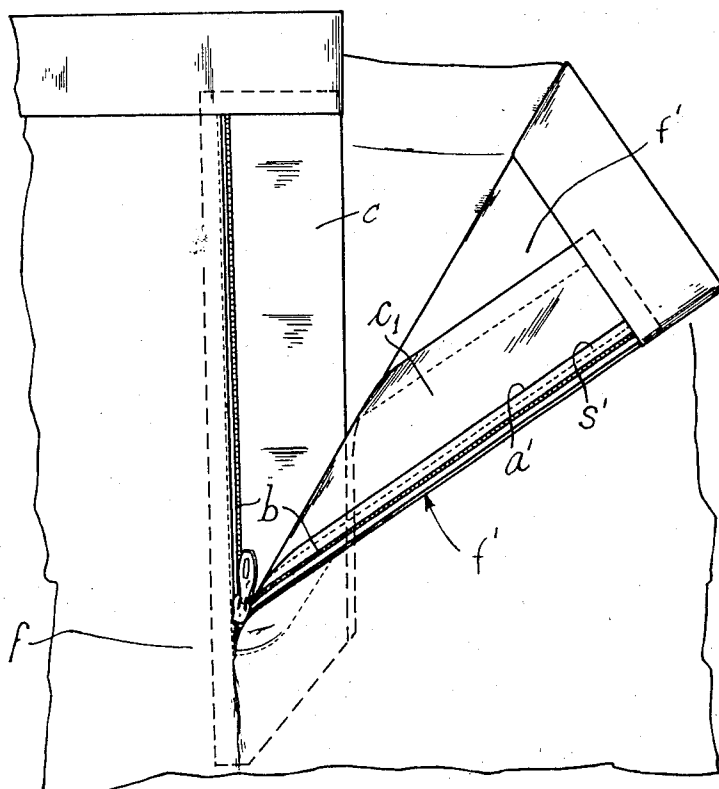


FIG. 3

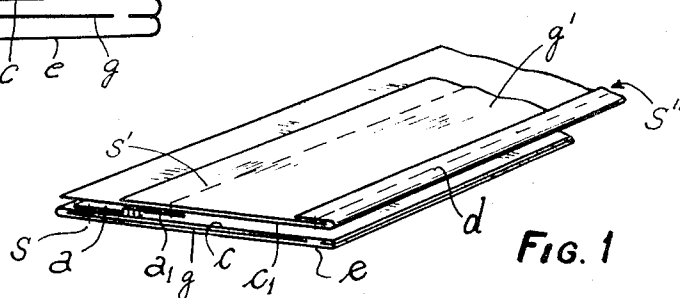
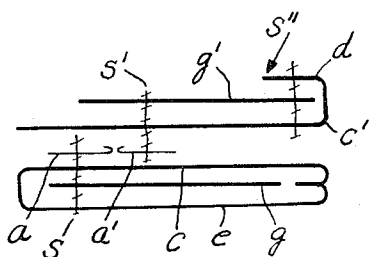


FIG. 1

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PREFABRICATED TROUSER FLY

The present invention relates to a novel industrial product consisting of a prefabricated trouser fly of which the closing system consists advantageously but not exclusively of a metallic or synthetic zip fastener.

It is known that the present practice in fly making technique consists in tracing and cutting, in the trouser material, the fly forming pieces, i.e. the fly proper and the fly facing, on which are added by sewing the two elements of the fastener, notably, in the case of a zip fastener, the two sides of the fastener tape.

The making of a trouser fly of this character, in addition to the requirement of utilizing the trouser material, constitutes a long and delicate operation, requiring a sustained attention from the personnel entrusted with the different steps involved in the assembling of the fly elements.

These steps may be conducted in different manners. The most popular one, due mainly to its simplicity, is depicted hereinafter, in the case of the assembling of the component elements of a fly comprising a zip fastener. The steps involved are as follows:

Tracing and cutting in the cloth the fly facing and the fly proper,

Stitching with a sewing machine a piece of material cut from the trouser cloth, currently referred to as the fly, to one side of the zip fastener tape,

Stitching a piece of material cut from the trouser cloth and currently referred to as the fly facing, to the other side of the zip fastener tape,

Stitching the fly to one side of the trouser topside,

Overstitching the fly,

Stitching the fly facing to the other topside,

Stitching a piece of lining material to the fly facing,

Overstitching the fly facing to the trouser topside, so as to secure the lining jointly therewith,

Stitching the fly with a bordering to prevent it from fraying out,

Preparing a bar for securing the fly facing and the fly proper.

These various steps are complete with ironing operations to be performed with the maximum precision since a more or less wide seam might definitely compromise the quality of the finished trousers.

The present invention permits avoiding completely the inconveniences resulting both from the conventional design of trouser flies and from the difficulties by which the assembling thereof is usually attended.

The primary object of this invention is to provide for garment makers prefabricated flies complete with fasteners, all ready to be attached to the garment, and to avoid the piecemeal putting together of a multiplicity of individually cut and sewn parts.

The present invention consists essentially in joining — during a stage preceding the actual making-up stage and through any suitable means — the two elements of the fly closing system, for example each side of a zip fastener tape, on a support advantageously in the form of a continuous tape or strip, of any desired length, which, during the actual making-up stage, is cut to the proper length. The two portions of the support — act as the fly proper and as the fly facing respectively — and are joined in turn during the actual making-up stage, for example by stitching, to the piece concerned, i.e. the trouser topside.

Thus, according to this invention, a “prefabricated” fly is obtained which can be offered to garment makers in the form of rolls of any desired length (up to 100 or 200 feet) corresponding to hundreds of ready-made flies. Under these conditions, the garment maker is confronted only with the assembling of the two sides (consisting of the aforesaid supports) of the fly with the topsides of the trousers.

A typical form of embodiment, given by way of illustration only, of a fly according to this invention and comprising a zip fastener as a closing system will now be described, the zip fastener being of metallic or synthetic character.

However, this example is merely illustrative of the manner in which the invention may be carried out in actual practice and should not be construed as limiting the scope of the invention, since many changes may be brought to the proportions, relative arrangement of the elements involved, without departing from the basic principles of the invention. In the drawing:

FIG. 1 is a perspective view of a prefabricated fly according to this invention, ready to be assembled with the top-side of a pair of trousers, and

FIG. 2 is a view showing the same fly fitted to the trousers.

FIG. 3 is an enlarged sectional view through the fly assembly of FIG. 1 with the section taken transversely and looking upwardly as one views trousers in use.

According to this invention and considering the specific case of a fly adapted to be closed by means of a zip fastener, the following procedure is adhered to: during a stage preceding the actual making-up stage, each side a, a_1 of the conventional slide fastener b is attached, for example by machine stitching, to a support consisting of a pair of supporting tapes c, c_1 . These supporting tapes may be of any suitable nature. They may advantageously be cut from fabric consisting of natural, synthetic or artificial fibres. Preferably, this fabric matches the color of the waistband lining (inner belt of the trousers) and also the color of the pocket pouches (garment makers use only one or two colors for the waistband lining and the pocket lining, mostly black and raw). However, if desired, the fastener supporting tapes may consist of non-woven material.

Advantageously, during the manufacture, the tapes c, c_1 may be reinforced by incorporating one or a plurality of reinforcing structures such as by folding and stitching the tape on itself, to provide top and bottom plies d and e or by using any suitable complementary pieces of material g, g' attached for example by stitching s, s' . The supporting tapes c, c_1 act under these conditions as substitutes for the pieces constituting the fly facing and fly proper in a conventional fly assembly.

The thus prefabricated fly according to this invention is supplied to trousers makers whose only task consists then of cutting the supporting tapes c, c_1 to proper length and in assembling and stitching them to the inner faces of the to be joined edges f, f' of the trousers cloth.

The advantages resulting from the use of the present invention will readily occur to those conversant with the art. In fact, the use of a prefabricated fly according to the present invention permits of dispensing with the following operations:

Tracing and cutting the fly facing and the cloth fly,
Stitching the zip fastener to the fly,
Stitching the zip fastener to the fly facing,

Overstitching the fly,
 Stitching the fly facing lining,
 Stitching the fly bordering hitherto necessary for attaching the fly facing and the fly,
 Forming the bar of the fly facing and fly.

The time thus spared is considerable. It may be as high as 3 minutes for each pair of conventional men's trousers, representing, in an average workshop producing 1,000 pairs of trousers per day, a daily gain of 50 hours.

Moreover, the quality of the fly is improved. It is more flexible and better adapted to all fabrics, including the lightest ones. In any case the inconvenience resulting from the necessity of utilizing, for making a conventional fly, the same cloth as that used for making the trousers, is eliminated, thus affording a far from negligible saving. The external appearance of the fly and the internal appearance of the trousers are exactly the same as those obtaining with a conventional fly. When the zip fastener is opened (or any other closing means) the tape lying under the fly consists of lining or other material, instead of consisting of the same cloth as the trousers, as in the case of a conventional fly assembly.

The prefabricated fly according to this invention, with a metallic or synthetic zip fastener, may be obtained in different forms, of which a few ones are suggested hereinafter:

in rolls comprising fasteners complete with the pull slide, these fasteners being disposed end to end, or with continuous tape,

in rolls comprising continuous chain zip-fasteners, without slides, these slides being slipped on each fastener after the assembling thereof with the fly, with the assistance of a mounting plate,

in rolls comprising continuous chain zip-fasteners carrying their slides at spaced intervals,

in rolls comprising zip fasteners without slides, with tape gaps without chain-fasteners to permit the easy insertion of the slides when each zip-fastener has been assembled with the fly,

by the unit, the roll being pre-cut to include a given number of flies. If desired, the zip fastener may be finished (with or without slide).

In certain types of trousers the prefabricated fly according to this invention may comprise only one support corresponding to the fly facing, the zip-fastener tape being stitched directly to the topside of the trousers, on the fly side.

The fly according to this invention is applicable to all trousers, drawers, and the like, whether for men, women and children, and also to the so-called "Blue Jean" trousers, etc.

The nature of the material for making the supports of the zip fasteners or like closing systems is immaterial. Thus, non-woven material, lock-stitch material, fabric, 55

lining, etc. may be used.

The shape and dimensions of the fly may vary as a function of the type of trousers manufactured.

The fastener may be secured to the lining according to different techniques such as machine stitching, melting, gluing, supersonic welding, etc.

This invention should not be construed as being strictly limited to trousers wherein the closing system consists of a zip fastener. It is also applicable, for instance, with the same advantages, to flies utilizing buttons and buttonholes as a closing system. In this case the fly consists — according to the present invention — of a pair of supports adaptable and connected to each other by tacking, stapling sewing by means of a few small stitches, etc. or simply disposed in adjacent relationship on two tapes wound on a common spool or one two different spools.

One support of this prefabricated fly with buttons carries the buttonholes formed at spaced intervals. The other support carries the buttons stitched at the same spacing, so that the garment maker has just to assemble the button side and the buttonhole side with the corresponding topsides of the trousers, respectively.

Finally, this invention is also applicable to flies comprising any other closing systems such as dome-fasteners, lugs and hooks, "VELCRO" tapes, etc.

What is claimed is:

1. A unitary prefabricated fly assembly comprised of two-part interlocked fastening means, an inner flexible supporting tape having an outwardly facing surface secured to an inwardly facing surface of one part of said two-part fastening means, and an outer supporting tape having an inwardly facing surface secured to an outwardly facing surface of the other part of said two-part fastening means, said outer supporting tape overlying said inner supporting tape with said fastening means between them.

2. A unitary prefabricated fly assembly as claimed in claim 1 in which the interlocking connection of said two-part fastening means lies intermediate the edges of said inner and outer supporting tapes.

3. A unitary prefabricated fly assembly as claimed in claim 1 having a reinforcing strip lying against the surface of at least one of the supporting tapes on the side opposite to the fastening means.

4. A prefabricated fly as claimed in claim 1 in which at least one of the supporting tapes is folded reversely over upon itself to reinforce the tape.

5. A prefabricated fly as claimed in claim 1 in which the fastening means is a slide fastener.

6. A prefabricated fly as claimed in claim 4 in which the fastening means is a slide fastener.

7. A prefabricated fly as claimed in claim 1 in which the fastening means are buttons.

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