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L. W. SCHAAFF

2,316,133

SLIDE FASTENER

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Fig. 1.

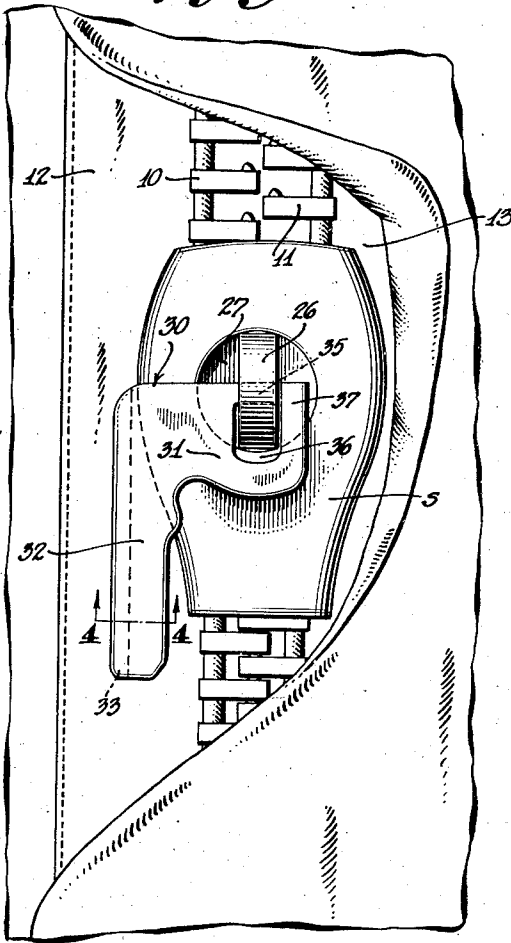


Fig. 3.

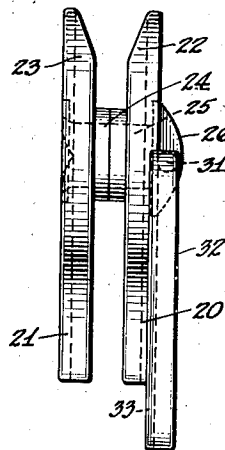


Fig. 4.

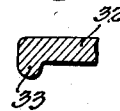


Fig. 2.

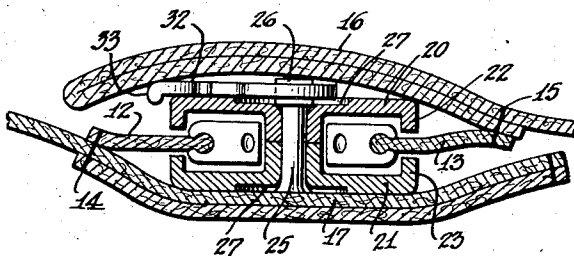
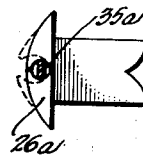


Fig. 5.



Inventor

LOUIS W. SCHAAFF

Reair Kilcoyne
Attorney

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UNITED STATES PATENT OFFICE

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SLIDE FASTENER

Louis W. Schaafl, Jackson Heights, N. Y., assign-
or to Waldes Koh-I-Noor, Inc., Long Island
City, N. Y., a corporation of New York

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4 Claims. (Cl. 24—205)

This invention relates to improvements in slide fasteners, particularly of the concealed type as employed with fly front garments, and to an improved construction and arrangement of pull tab for the slider therefor.

Slide fasteners for fly front garments, such as men's trousers, universally employ the conventional pull tab having a grip portion which is symmetrically disposed along the longitudinal center line of the fastener slider. As is well known, slide fasteners of the stated character are concealed by a flap which extends in covering relation over the fastener, its slider and the pull tab. To operate the slider, it is of course necessary to raise the flap and thereupon insert the fingers into the fly pocket formed by the fastener stringers and the fly for the purpose of gripping the pull tab. Due to the symmetrical disposition of the pull tab with reference to the slider as aforesaid, and also by reason of the fact that the longitudinal center line of the slider is generally disposed closer to the pocket base than to the free edge of the fly, some difficulty is experienced in obtaining a proper grip on the pull tab, and the slider is accordingly not easily operated.

To overcome the disadvantages as aforesaid, the present invention contemplates and provides a slider, particularly adapted for slide fasteners of the concealed type, provided with a pull tab which, while concealed by the garment fly in conventional manner, is nevertheless more easily and readily gripped than the pull tabs of sliders of known construction and disposition. More particularly, the present invention provides a pull tab having a gripping end which is offset laterally from the longitudinal center line of the slider in the direction of the free edge of the fly. By this offset the gripping end of the tab is more readily accessible, and the operation of the slider does not require full insertion of the fingers into the fly pocket or full opening of the pocket as by bending the fly back approximately 90° from its normal plane. Moreover, a slider having an offset pull tab in accordance with the present invention may be operated by exerting a lateral component of pull on the pull tab and in the direction away from the pocket base, which is of obvious advantage when the fastener is applied to fly front garments.

A further feature of the invention resides in providing the offset gripping end of the tab with a flange-like rib extending along its relatively outer or operating edge, for the purpose of enabling the operator to obtain a firmer grip on the tab and preventing slipping of the fingers there-

from, thereby making for easier and surer operation of the slider.

Other objects will be in part obvious and in part hereinafter pointed out in connection with the following analysis of this invention wherein is illustrated an embodiment of this invention in detail.

In the drawing—

Fig. 1 is a plan view of a portion of a slide fastener of the concealed type, the concealing fly being raised to expose the slider, and the latter being provided with the improved pull tab of the present invention;

Fig. 2 is a transverse section through a slide fastener of the concealed type employing the improved slider and pull tab assembly of the present invention, the concealing fly being shown in its concealing relation with reference to the slider and fastener;

Fig. 3 is a side elevation of the slider and its improved pull tab;

Fig. 4 is a section taken on the line 4—4 of Fig. 1;

Fig. 5 is a detail view illustrating a modified form of securing the pull tab to the slider.

Referring to the drawing, wherein like reference characters designate like parts throughout the several views, reference characters 10, 11 designate conventional fastener elements arranged in row formation along the edges of opposed stringers 12, 13, of which stringer 12 is secured as by stitching 14 to the garment fabric along one side of an opening therein, with stringer 13 being secured as by stitching 15 to the garment fabric at the other side of the opening. From the stitching 15, the garment fabric extends for a length as to cover the stitching 14 and thereby forms a fly 16 which conceals the stringers, the fastener elements, as well as the slider generally designated S associated with the fastener elements. As shown, the garment edge to which the stringer 12 is stitched is extended to provide an under flap 17 which extends beneath the fastener to a point well inside the stitching 15. As is well known, the fastener elements 10, 11 are adapted to be interlocked and disengaged by the slider S which embraces the elements and which operates, when moved in one direction, generally upwardly, to progressively force the elements into interlocking engagement and when moved in the opposite direction, generally downwardly, to progressively disengage the fastener elements.

It is to be understood that the invention is not limited to the particular form of fly concealed fastener and opening illustrated, or to

the particular form of fastener elements shown. On the other hand, such are to be regarded as typical of slide fasteners of the concealed type and of conventional fastener elements, respectively, both of which may take other forms than those illustrated.

The slider S is shown to have the general form and mode of operation of the slider disclosed in my copending application Serial No. 395,479, filed May 27, 1941, Patent No. 2,312,284 granted Feb. 23, 1942, insofar as its interlocking features and ability to dispose the rows of disengaged fastener elements parallel are concerned. However, it is to be clearly understood that the present invention is not limited to sliders of the form disclosed in my prior application aforesaid but, on the other hand, is also applicable to sliders of the so-called standard design which are provided with a V-shaped race for the fastener elements and which in operation dispose the disengaged fastener elements fanwise upon their exit from the slider.

As illustrated, the slider body S is constituted by front and rear plates 20, 21 having marginal side flanges 22, 23, and an elliptically shaped separator or divider generally designated 24, which functions also as a spacer for the plates 20, 21, being disposed well within the slider body and at or near the geometrical center thereof. The slider body is provided with a top or head opening for the entry and exit of disengaged elements and with a bottom or tail opening for the entry or exit of the engaged fastener elements. In the illustrated slider, the front and rear plates and their side flanges in conjunction with the more or less centrally disposed divider 24 cooperate to provide an open-ended race for the fastener elements having upper and lower straightway race portions disposed in longitudinal alignment, and connecting branch portions which diverge outwardly from one straightway portion and thence inwardly into the other straightway portion.

The front and rear plates 20, 21 of the slider and its divider element, which latter may be comprised by divider half sections each integral with a plate, or by a separate divider element extending between the plates, are shown to be secured by a securing rivet 25 extending through the slider and which has a rivet head 26 seating in a circular countersunk recess 27 as formed in the outer faces of both front and rear plates.

Referring now to the construction and disposition of the slider pull tab which forms the subject-matter of the present invention, the improved pull tab generally designated 30 is of angled or L-shaped construction, having a laterally extending connector leg 31 and a vertically extending gripping end or leg 32. Due to the lateral disposition of the connector leg, the gripping end 32 which is integral therewith is offset laterally from the longitudinal center line of the fastener body. As shown, the gripping end of the tab is of length to extend below the bottom edge of the slider and being of appreciable width thereby provides a substantial gripping area. While in the illustrated construction, the gripping end is offset to the left of the slider center line for use with a "right handed" concealed fastener in which the fly opens to the right, the gripping end may be offset to the right of the slider center line for use with "left handed" concealed fasteners which open to the left.

Along the free or outer edge of the gripping end 32 and preferably extending from the under face thereof is a longitudinally extending rib 33

which interrupts the smooth under surface of the gripping end. Thus, the latter may be firmly gripped, with the rib providing assurance that the fingers of the operator will not slip in operating the slider. As will be further evident from Figs. 1 and 3, the edge rib of the gripping end of the tab extends slightly to the side of the slider body whereby its disposition as aforesaid does not increase the overall depth of the slider and pull tab assembly.

The preferred form of securing the pull tab is illustrated in Fig. 1, wherein the rivet head 26, which is of solid construction, is pierced to provide a transverse opening for the reception of a tongue 35 adapted to form the pull tab pintle and which is blanked or cut out of the stock providing the connector leg of the tab during the formation of the latter. The tongue 35 is disposed above an opening 36 in the connector leg of the tab, which is of a size and shape to accommodate the lower half of the rivet head 26. To the side of opening 36 and at right angles to the tongue 35 is disposed a second tongue 37 which, prior to the assembly of the slider and pull tab, may be bent relatively forwardly from the plane of the pull tab proper. In assembly, the tongue or pintle 35 is inserted into the rivet head opening, whereupon tongue 37 is bent back into its normal plane, thus to effect the closing of opening 36 and permanent securement of the pull tab to the rivet head.

According to a modified form of securing the pull tab to the rivet as illustrated in Fig. 5, the rivet head 26a is split and spread outwardly, as indicated in dotted lines, relatively above its head opening provided therein for the reception of the pull tab pintle. The tab pintle 35a may be formed solid above an opening corresponding to opening 36, with which the pull tab is provided. Upon insertion of the pintle into the rivet head opening provided therefor, the split head is deformed or closed, thereby to close the head opening and securely fasten the pull tab to the rivet head.

Without further analysis it will be seen that the invention provides an improved pull tab construction and one that is especially adapted for use with sliders of slide fasteners of the concealed type. By reason of the lateral disposition of the gripping end of the pull tab and its edge rib formation, the tab may be readily gripped without inserting the fingers deeply into the base of the fly pocket, or without the requirement for excessively raising the fly. Moreover, pull tabs constructed in accordance with the invention permit the operation of sliders with which they are associated by the exertion of a lateral component of pull and are thus more readily operable than sliders requiring a straight line pull exerted through the slider body.

As many changes could be made in carrying out the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description, or shown in the accompanying drawing, shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A slider for slide fasteners provided with an overlying fly for concealing the fastener, comprising front and rear plates disposed in spaced, parallel relation, a rivet extending through said plates, and a pull tab having a laterally extending portion pivotally connected to the rivet head and a longitudinally extending grip portion off-

set from the center line of the slider in the direction of the free edge of the concealing fly.

2. A slider as set forth in claim 1 wherein the outer edge of the grip portion is provided with a rib to facilitate the gripping operation.

3. A slider as set forth in claim 1 wherein the outer edge of the grip portion is provided with a rearwardly directed gripping portion.

4. A slider for slide fasteners provided with an overlying fly concealing the fastener, com- 10

prising front and rear plates disposed in spaced parallel relation, a rivet extending through said plates, and an L-shaped pull tab, the laterally extending leg of which is pivotally connected to the rivet head and the longitudinally extending leg of which is offset from the center line of the slider in the direction of the free edge of the concealing fly and is formed as a grip portion.

LOUIS W. SCHAAFF.