May 9, 1939. A. E. CARLILE 2,157,381

SEPARABLE FASTENER

Filed April 9, 1937

Fig. 1.

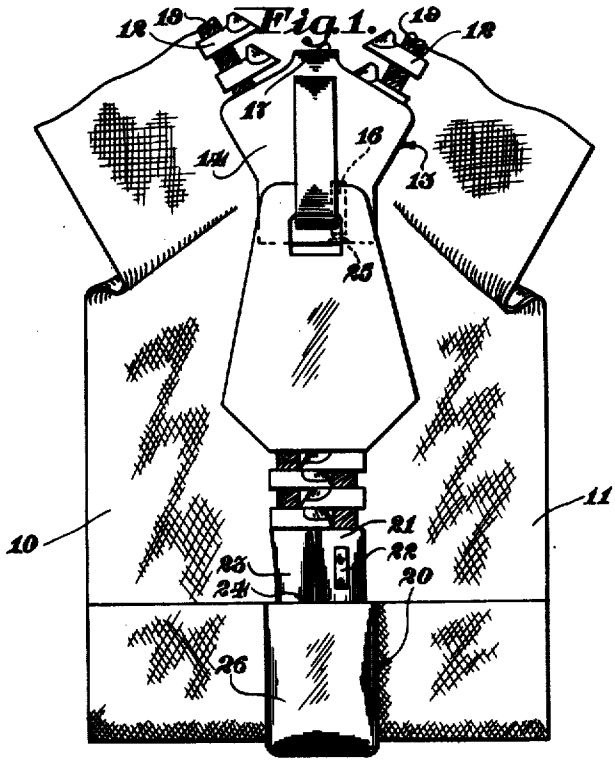

Fig. 2.

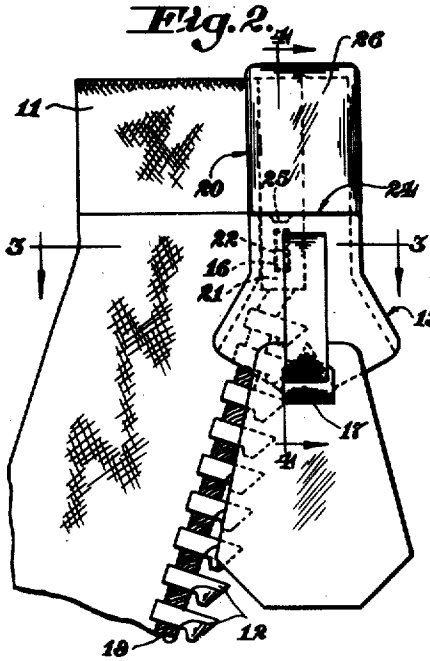

Fig. 4.

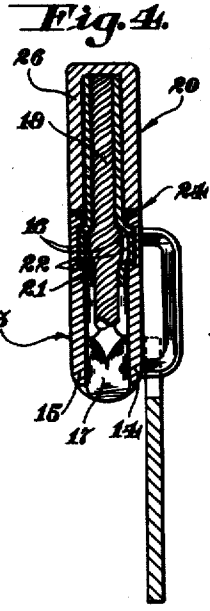

Fig. 3.

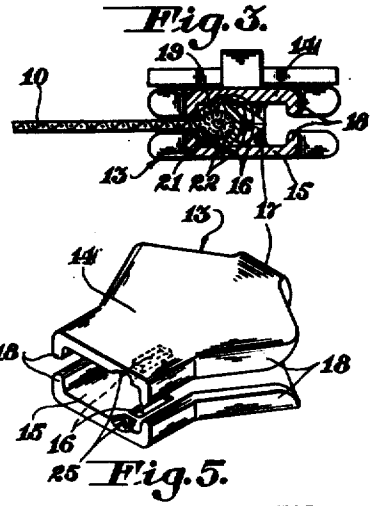

Fig. 5.

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UNITED STATES PATENT OFFICE

2,157,381

SEPARABLE FASTENER

Alfred E. Carlile, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania

Application April 9, 1937, Serial No. 135,986

2 Claims. (Cl. 24—205)

My invention relates to separable fasteners and particularly to separable end connections for such fasteners.

Slide fasteners with separable end connections are now in general use on various articles of clothing such as sweaters, coats, jackets and corsets. In most commercial forms of separable end connections, there are two connecting parts, one forming a socket or retainer on one stringer, and the other a pin, which is adapted to be threaded through the slider into engagement with the socket or retainer. In prior commercial constructions when the pin is disengaged from the retainer the slider is free to move along the stringer from one end to the other, although it is ordinarily prevented from coming completely off the stringer by suitable stops. While it has been heretofore suggested to provide a holding device for keeping the slider in position adjacent the socket member to my knowledge none of these devices have been satisfactory prior to my invention.

Accordingly, the object of my invention is to provide a satisfactory device for holding the slider at its terminal position adjacent the socket portion of the separable end connection when the pin is disengaged therefrom. In pursuance of this object, I aim to provide a device which is rugged, therefore not likely to get out of order, and which is of simple construction, very cheap to manufacture; and a device which will require no attention from the user, but which will function automatically when the slider is moved to its terminal position.

The invention is described more fully in detail in the following specification and accompanying drawing. In the drawing:

Fig. 1 is a plan view of the bottom end of a slide fastener equipped with my improved separable end connection;

Fig. 2 is a plan view of the stringer carrying the slider and the socket member of the separable end connection in an inverted position;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is a cross-sectional view taken on line 4—4 of Fig. 2;

Fig. 5 is an isometric view of the slider with which my invention is used.

The fastener illustrated may be in accordance with any of the commercial fasteners of this type, commonly known as "zippers" and has an end connecting device of my improved construction. The fastener comprises a pair of flexible tape stringers 10, 11 having a series of cooperating fastener elements 12 attached to their adjacent longitudinal edges, and a slider 13 for engaging and disengaging the elements. The slider comprises upper and lower wing portions 14, 15 respectively, having opposed notches as at 16 on their inner surfaces, the function of which will be described later in the specification, and connected at one end by a narrow neck portion 17, the wings having inturned flanges 18 at their outer edges to define a Y-shaped interior channel. It should be noted that each of the tape stringers has a corded or beaded edge 19, to provide a more secure holding means for the fastener elements, and for the parts of the separable end connecting device.

The separable end connection at the lower end of the fastener comprises a retaining or socket portion 20 on one of the stringers and the pin member 23 on the beaded edge of the other stringer, which is adapted to be threaded through the slider into and out of engagement with the socket member. The retaining portion consists of a tubular member attached directly to the beaded edge of the stringer, and a pin receiving portion 26 which fits over the tubular member and is attached thereto. The tubular member has a portion 21 which extends beyond the pin receiving member and which is adapted to enter the slider channel to guide the slider to its terminal position. This extending portion has opposite projecting or raised portions 22, one on each side thereof which are adapted to cooperate with the notches 16 of the slider.

According to the invention the raised or projecting portions 22 on the extension 21 of the socket member cooperate with corresponding notches 16 on the inner surfaces of the wings in the slider channel when the slider is moved to its endmost or terminal position, to retain the slider in said position against the shoulder 24 of the socket member to permit disengagement of the pin member from the socket member, as shown in Fig. 2. In this position the channel of the slider and the pin receiving portion of the socket member are in alignment with each other and the slider is held in this position by the cooperating projections and notches until the pin member is again inserted through the slider into proper engagement with the socket member, and the slider moved to close the fastener.

The slider wings are slightly resilient relative to each other and the cooperating projecting portions on the socket member tend to more or less spread the wings apart or wedge between them to snap into place in the notches of the slider

wings when the slider is moved to position, thereby informing the operator that the slider has reached the end of its travel and is in position to allow disengagement of the members of the connecting device. Also the lower edges on the inner surfaces of the slider wings at the entrance to the channel may be beveled as at 25 to facilitate in guiding the projecting portions into the slider channel and into the notches.

It will be noted that when the pin member is completely disengaged from the socket member the slider is always held in position adjacent the socket member, even if held in an inverted position, such as shown in Fig. 2, ready for connecting the device, thus not permitting the slider to ramble along the fastener elements. This eliminates any fumbling there might be for the slider and the parts by the operator and insures accurate engagement of the parts of the connecting device and in turn, the engagement of the fastener elements in their proper sequence.

While I have shown and described in this application one embodiment which my invention may assume in practice, it will be understood that this embodiment is merely for the purposes of illustration and description, and that various other forms may be devised within the scope of my invention, as set forth in the appended claims.

What I claim as my invention is:

1. In a separable fastener of the class described, a pair of fastener stringers, cooperating series of fastener elements on the edges of said stringers, and a slider movable over the elements for opening and closing the fastener, and a separable end connection for said stringers adjacent the end of said series of elements, said connection comprising a socket member on one stringer and a pin member on the other stringer, said pin member being insertable through the slider into engagement with said socket when the slider is in its limiting position against said socket, and means for retaining said slider in said limiting position which comprises a member of sheet material surrounding said stringer adjacent said socket and which is received in the slider channel when the slider is moved against said socket, said member having embossed projections thereon, and the interior of said slider having recesses into which said projections scoop to maintain the slider in its limited position for easy reinsertion of the pin member.

2. In a separable fastener having a pair of fastener stringers with a series of cooperating fastener elements along their adjacent edges and a slider for engaging and disengaging said elements, said slider consisting of two spaced parallel wings connected by a narrow neck at one end to define an interior channel, a separable end connection comprising a socket member on one of the stringers and a pin member on the other stringer, an extension on the socket member which is adapted to enter the slider channel, said extension having projecting portions one on each side thereof which are adapted to snap into engagement with corresponding notches on the inner surfaces of the wings in the slider channel to retain the slider in aligning position adjacent the socket member.

ALFRED E. CARLILE.

CERTIFICATE OF CORRECTION.

Patent No. 2,157,381. May 9, 1939.

ALFRED E. CARLILE.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 14, claim 1, for the word "scoop" read snap; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 25th day of July, A. D. 1939.

Henry Van Arsdale,
Acting Commissioner of Patents.

(Seal)

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