April 2, 1935. W. C. McCOY 1,996,430

FASTENER

Filed Aug. 26, 1932

Fig.1.

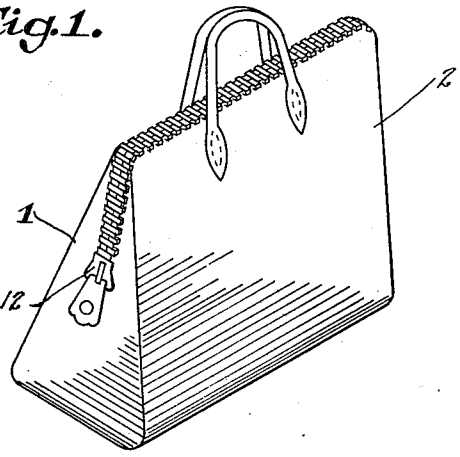


Fig.3.

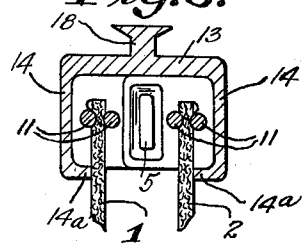


Fig.6.

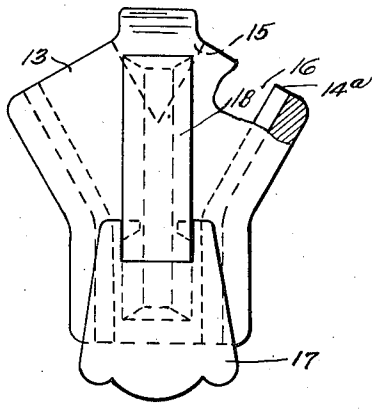


Fig.2.

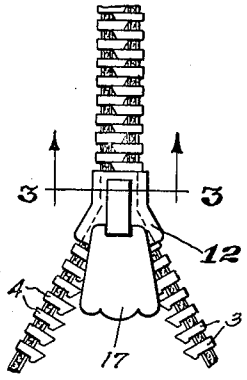


Fig.4.

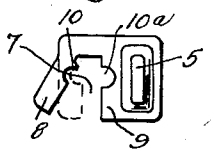


Fig.5.

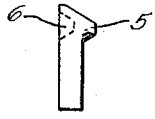


Fig.7.

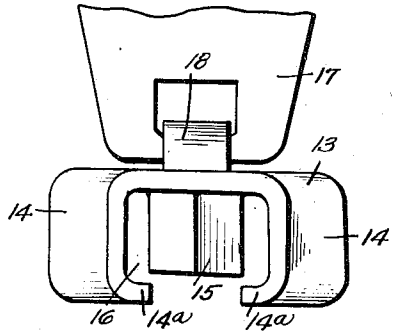
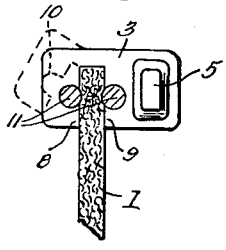


Fig.8.



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Patented Apr. 2, 1935 1,996,430

UNITED STATES PATENT OFFICE

1,996,430

FASTENER

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Application August 26, 1932, Serial No. 630,485

3 Claims. (Cl. 24—205)

This invention relates to separable fasteners and more particularly to slide operated fasteners embodying interlockable series of fastener elements and a cooperating slider of the type shown in the patent to Sundback, 1,219,881.

Heretofore it has been the usual practice to provide the interlocking elements with bifurcated or slotted base portions which serve to clamp the fastener elements in uniformly spaced relation to the beaded edges of flexible tape stringers and to sew or otherwise attach the tape stringers to the edges of the article to be fastened. In such constructions the slots of the clamping portions of the fastener elements extend longitudinally of the body portions thereof, thus making necessary the edgewise flexing of the stringer in its own plane during the operation of interlocking or disengaging the fastener elements.

Furthermore, in many types of articles, such as tobacco pouches, hand bags, manuscript and brief cases and other articles of this type, the sides of the article which are to be fastened at their adjacent edges extend parallel or at a small angle to each other. Obviously such sides cannot be bent edgewise, and this necessitates the use of very flexible stringers extending substantially at right angles to the sides. These stringers can then be bent edgewise to permit the fastener elements to be interlocked with and disengaged from each other. Movement of the sliders rapidly wears stringers in this type of construction.

One of the objects of the present invention is to provide an improved fastener construction in which the conventional tape stringers may be eliminated and in which the individual fastener elements may be secured directly to the edges of the article to be fastened.

Another object is to provide an improved fastener construction wherein the interlocking portions of the fastener elements are so placed that the articles to be fastened can bend normally or transversely instead of edgewise, in opening and closing the fastener.

Another object is to provide a separable fastener construction in which the appearance of the article incorporating the fastener may be greatly enhanced by the elimination of fabric tape stringers.

A further object is to provide a novel form of slider which is particularly adapted for use with the improved fastener construction of the present invention.

With the above and other objects in view which will be apparent from the detailed description to follow, the present invention consists in certain features of construction and combinations of parts which will be readily understood by those skilled in the art to which the invention appertains.

In the drawing, which illustrates a suitable embodiment of the invention,

Fig. 1 is an isometric view of a bag with my improved fastener attached.

Fig. 2 is a plan of the assembled fastener.

Fig. 3 is an enlarged section taken approximately on the line 3—3 of Fig. 2;

Fig. 4 is a side elevation of one of the fastener elements prior to assembly to the edge of an article to be fastened;

Fig. 5 is a plan view of the fastener element illustrated in Fig. 4;

Fig. 6 is a plan view of the slider;

Fig. 7 is an end elevation of the slider illustrated in Fig. 6.

Fig. 8 is a view corresponding to Fig. 4, showing the fastener element applied to the article to be fastened.

Referring to the accompanying drawing, in which like numerals refer to like parts throughout the several views, it will be seen that the separable fastener construction of the present invention is particularly useful for various articles having parallel or angular portions, the edges of which are to be separably fastened together, such as hand bags, brief cases, manuscript cases, purses, tobacco pouches and the like.

The improved fastener construction of the present invention is shown for the purpose of illustration, assembled to the edges of side portions 1 and 2 of an article, such as a purse or hand bag, which side portions are substantially parallel adjacent the edges to be secured together by the cooperating series of fastener elements 3 and 4, respectively.

Each fastener element 3 or 4 as the case may be, and as shown in Figs. 3, 4 and 5, is in the form of a flat rectangular block and is provided at one side with an elongated tapered locking projection 5 arranged transversely of the block and substantially parallel to the plane of the side portion on which it is to be secured. The opposite side of the block is formed with a correspondingly shaped recess 6 in the same relative position as the projection 5 to receive the locking projection 5 of the adjacent fastener element of the other series.

The body of the block of each fastener element is slotted transversely at 7 substantially parallel to the projection 5 to provide clamping jaws 8 and 9, the jaw 9 carrying the projection 5. The

jaw 8 is bent outwardly from the jaw 9 and is preferably provided with a recess 10 in its clamping face to receive a clamping element 11 in the form of a flexible wire extending continuously along the edge of the article portion to which the fastener elements are to be attached. The jaw 9 has a corresponding recess 10a.

The fastener elements 3 are disposed on the edge of the article portion 1 in uniformly spaced relation, with the edge of the portion 1 disposed in the slots 7. The clamping jaws 8 are bent toward the jaws 9 with considerable force to securely clamp the article portion therebetween with the wire clamping elements 11 disposed in the recesses 10 and 10a and partially embedded due to the clamping force in the outer side of the side portion 1. The fastener elements 4 are disposed on the edge of and secured to the side portion 2 in the same manner that the fastener elements 3 are secured to the side portion 1.

It will be noted from the drawing that the fastener elements are disposed at right angles to the article side portions 1 and 2 and with the locking projections 5 parallel with the planes of the side portions so that during the operation of the slider 12 in interlocking or disengaging the fastener elements 3 and 4, the side portions 1 and 2 will flex transversely and not edgewise. This is easily obtained, even though the elements are attached directly to the edges of article side portions and even though the side portions may be of leather.

Furthermore, the appearance is improved by securing the fastener elements directly to the edges eliminating conventional tape stringers which in many instances detract from the neat appearance of articles provided with separable fasteners.

The clamping elements 11 of flexible wire or other material distribute over a relatively wide area adjacent the edge of the article the forces on the interlocking elements. These clamping elements 11 serve as retainers between one of the clamping jaws and the edge portion of the article and at the same time serve as a resilient stiffener for such edge.

The element 11 may be omitted and a bead or raised rib formed at the one or both faces of the side portion adjacent the edge to serve as an additional retaining means for the fastener elements.

The slider 12 comprises channel-shaped members embracing the three adjacent outside surfaces of the fastener elements, including a top portion 13 to overlie the upper surfaces of the fastener elements 3 and 4, spaced side portions 14 to extend across the ends of the fastener elements, and in-turned flanges 14a engaging the under surfaces of the fastener elements 3 and 4 and thereby hold the slider in position on the fastener elements.

The slider 12 is wider at the upper end than at the lower end and has a wedge portion 15 carried by the upper end thus providing a Y-shaped channel 16 for guiding the fastener elements during operation.

For convenience in actuating the slider along the fastener elements 3 and 4, a suitable pull tab 17 is attached to the slider through a track lug 18 or any suitable means.

The fastener construction of the present invention embodies many advantageous features which are not present in fasteners heretofore known, and is particularly useful for articles having parallel or nearly parallel side portions, the edges of which are to be separably secured together.

Furtherfore, it is to be understood that the particular form of fasteners shown and described, and the particular procedure set forth, are presented for purposes of explanation and illustration and that various modifications of said fasteners and procedure can be made without departing from my invention as defined in the appended claims.

What I claim is:

1. In a device to be fastened, a pair of substantially flat flexible members disposed substantially parallel to each other, a row of spaced elongated interlocking elements each having transversely extending anchor portions embracing the edge of one of the members so that said elements project substantially perpendicularly from the flat surfaces of the member toward the flat surfaces of the other member, a row of similar interlocking elements similarly secured to the other member and disposed opposite the spaces between the elements on the first-mentioned member, said elements being adapted to be successively interlocked or disengaged by movement in a plane transverse to the surfaces of the members, and a slider mounted on the rows for interlocking or disengaging the elements.

2. In a device to be fastened, a pair of substantially flat flexible members disposed substantially parallel to each other, a row of spaced, elongated, substantially rectangular interlocking elements each having transversely extending anchor portions embracing the edge of one of the members so that said elements project substantially perpendicularly from the flat surfaces of the member toward the flat surfaces of the other member, a row of similar interlocking elements similarly secured to the other member and disposed opposite the spaces between the elements on the first-mentioned member, said elements being adapted to be successively interlocked or disengaged by movement in a plane transverse to the surfaces of the member, and a slider for interlocking or disengaging the elements, the slider having channel-shaped members engaging the three adjacent outside surfaces of the interlocking elements.

3. In a device to be fastened, a pair of substantially flat flexible members disposed parallel to each other, a row of interlocking elements each having anchor portions extending parallel and embracing the edge of each of said members so that said interlocking elements project perpendicularly from the flat surfaces of the member toward the flat surfaces of the other member said elements adapted to be successively interlocked or disengaged by flexing in a plane transverse to the surfaces of the members, and stiffening means cooperating with said flexible members for partially stiffening said members so that the action of said interlocking elements during interlocking may be more regular, and a slider mounted on the rows for interlocking or disengaging the elements.

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