April 28, 1953 H. VIZNER 2,636,239

ADJUSTABLE ATTACHING DEVICE

Filed Sept. 11, 1950

FIG.6

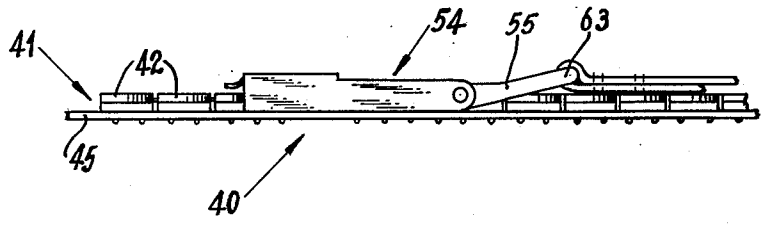


FIG.4

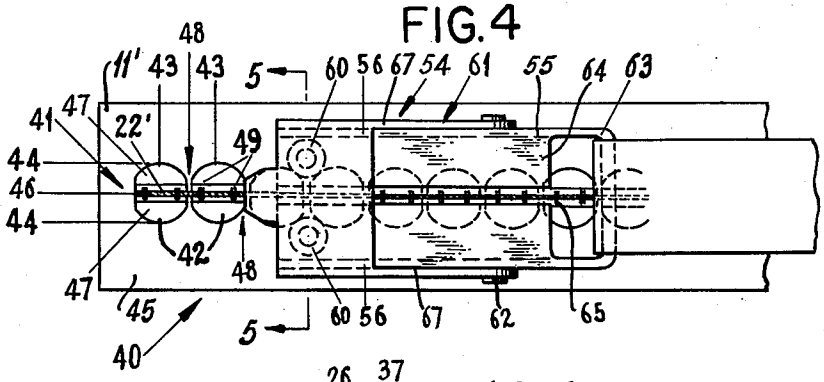
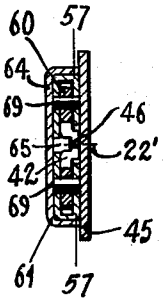


FIG.5



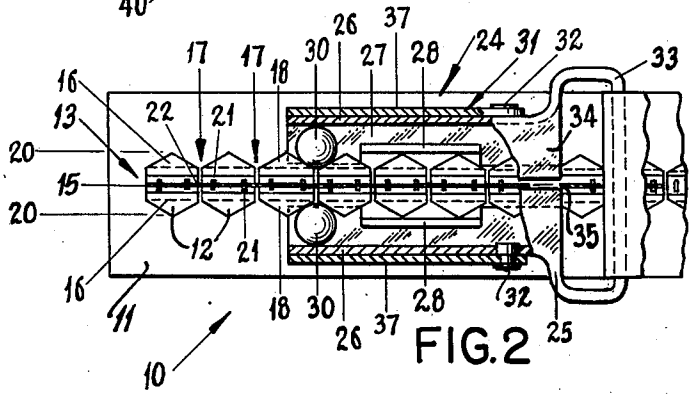


FIG.2

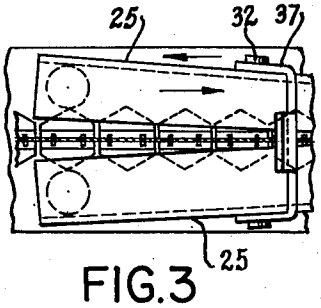


FIG.3

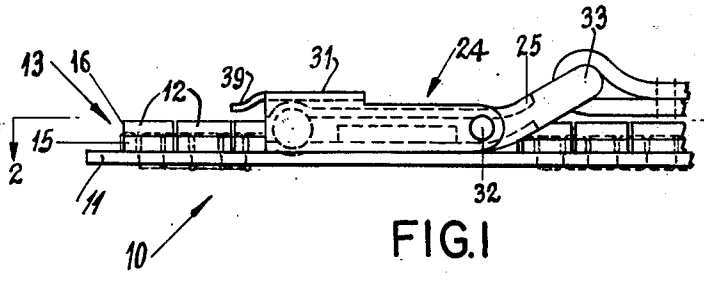


FIG.1

HERMAN VIZNER
INVENTOR

BY Joseph Blacker

ATTORNEY

Patented Apr. 28, 1953 2,636,239

UNITED STATES PATENT OFFICE

2,636,239

ADJUSTABLE ATTACHING DEVICE

Herman Vizner, Brooklyn, N. Y.

Application September 11, 1950, Serial No. 184,310

3 Claims. (Cl. 24—206)

1

This invention relates to improvements in adjustable fastening devices, including a track comprising a plurality of spaced stops, or the like, supported in a flexible manner, and a cooperating member slidable over the track and adapted to be selectively locked to the track in various lengthwise positions against movement on the track.

An object of this invention is to secure a row of hexagonallly shaped fastener elements in a linear row to a flexible fabric strip, and to mount a clasp in slidable relation on the strip, and the clasp having resiliently mounted rotatable detents for selectively interlocking with the sides of the hexagonal fastener elements.

Another object of this invention is to form parallel lateral walls inside the clasp for guiding the clasp in alinement with the row of fastener elements.

Another object of this invention is to provide a cover having an inverted U-shaped body portion co-extensive internally with the width of the clasp when in closed position, and being pivotally mounted on the clasp body to retain the resilient side walls of the clasp body in closed position and the detents in interlocking relation with the track and with the clasp.

With the above and other objects in view, the invention will be hereinafter more particularly described, and the combination and arrangement of parts will be shown in the accompanying drawings and pointed out in the claims which form part of this specification.

Reference will now be had to the drawings, wherein like numerals of reference designate corresponding parts throughout the several views, in which:

Figure 1 is a side elevation of a fragmentary portion of an adjustable fastener embodying one form of the invention.

Figure 2 is a top plan view of the adjustable fastener shown in Figure 1, and showing a clasp partly broken away to show ball-shaped detents in operative engagement.

Figure 3 is a top plan view of the clasp, with the cover in open position, and the detents just sliding over the fasteners.

Figure 4 is a top plan view of a modified adjustable fastener element in entirety.

Figure 5 is a cross-sectional view taken on line 5—5 in Figure 4.

Figure 6 is a side elevation of a fragmentary portion of the modified adjustable fastener shown in Figures 4 and 5.

In the illustrated embodiment of the invention shown in Figures 1 and 2, the numeral 10 indicates an adjustable fastener comprising an elongated strip of flexible fabric 11 and a linear row of fastener elements 12 forming a track 13.

2

Each fastener element 12 is preferably made of metal of generally hexagonal form in plan view, and having a low linear central portion 15 contacting the strip 11, and two side portions 16 raised to an elevation slightly above the strip 11. Each fastener element 12 has two sides 17 in right-angular relation with the track 13 and in adjacent relation with the following fastener element.

Two side walls of each of the fastener elements 12 form obtuse-angular lateral extensions 18 and this causes the formation of parallel zig-zag lines 20 on each side of the track 13.

Each fastener element 12 has two slots 21 therethrough which lie parallel to the flat adjacent sides 17. Stitching 22 passes through the slots 21 and through the fabric strip 11 and secures the fastener elements 12 to the strip 11.

A clasp 24 having a body 25 of generally rectangular cross-section and having two resilient side walls 26, 26, is slidably mounted on the strip 11. The clasp 24 has a base 27, at the central portion of which are two parallel linear transverse walls 28 for guiding the clasp in alinement with the row of fastener elements 12.

Two balls 30 serving as detents are mounted inside the clasp 24, between the resilient side walls 26, 26, and two adjoining inclined walls of adjacent fastener elements 12. The balls cause an interlock between the clasp 24 and the track 13.

A cover 31 is pivotally mounted on the clasp body 25 on pins 32. As best shown in Figure 2, the cover 31 terminates at one end in a loop 33. It is to be noted that the upper wall 34 and the base 27 of the clasp body 25 have linear openings 35 therethrough and that during manufacture, the loop 33 is formed so as to normally urge the side walls toward each other. The cover engages the clasp body in frictional relation.

The cover 31 is of generally channel-shaped cross-section and has two arms 37 pivotally mounted on the pins 32. When the cover is swung into covering relation with the clasp body 25, it retains the side walls 26, 26 in close contacting relation with the detents 30, that is, when the detents are respectively in contacting relation with two adjoining angular sides of the fastener elements 12.

In operation, the user grips a projection 39 at the free end of the cover 31 and exerts an upward pull on the cover and brings the cover to the position shown in Figure 3. In this posi-

tion, the user grips the cover 31 and pulls the clasp 24 in a direction lengthwise of the strip 11, permitting the detents to ride up or rotate to the vertices of the obtuse-angular lateral extensions on the fastener elements 12. The detents cause the free end portions of the opposite halves of the clasp body 25 to spread apart, to permit the movement of the detents.

It is to be noted that upon closing the cover 31, the detents are forced into interlocking engagement between the side walls 26 and two angular sides of the fastener elements.

It is to be noted that the detents 30 rotate during their movements in the clasp 24 and this rotation reduces friction. The track 13 is generally flat and of very little height. The loop portion 33 of the clasp body 25 is made resilient to permit the free end portion of the clasp to move to and fro, laterally to open up when passing the high points on the track.

Figures 1 to 3 inclusive show an adjustable fastener 10 having a track 13 with two zig-zag sides or lines 20 made by forming opposite sides of the fastener elements 12 with obtuse-angular projections 18.

Figures 4 to 6 inclusive show a modified adjustable fastener 40 having a track 41 wherein the fastener elements 42 have projections 43 which are convexly rounded or made semi-circular. This form of track 41 provides two substantially zig-zag sides 44 and a zig-zag operating effect. The fastener elements 42 are mounted on a flexible strip 45.

Each fastener element 42 is preferably made of metal, and has a low linear central portion 46 contacting the strip 45, and two sides 47 raised to an elevation slightly above the strip 45. Each fastener element 42 has two sides 48 in right-angular relation with the track 41 and in adjacent relation with the following fastener element.

Two opposed side walls of each fastener element 42 have the convex lateral extensions 43 and this causes the formation of the parallel substantially zig-zag sides 44 on each side of the track 41.

Each fastener element 42 has two slots 49 therethrough which lie parallel to the flat adjacent sides 48. Stitching 22' passes through the slots 49 and through the fabric strip 45 and secures the fastener elements 42 to the strip 45.

A clasp 54 having a body 55 of generally rectangular cross-section and having two resilient side walls 56, 56, is slidably mounted on the strip 45. The clasp 54 has a base 57.

Two disks 60 serving as detents are mounted inside the clasp 54, between the resilient side walls 56, 56, and two adjoining convex walls of adjacent fastener elements 42. The disks 60 cause an interlock between the clasp 54 and the track 41.

A cover 61 is pivotally mounted on the clasp body 55 on pins 62. As best shown in Figure 4, the cover 61 terminates at one end in a loop 63. It is to be noted that the upper wall 64 and the base 57 of the clasp body 55 have linear openings 65 therethrough and that during manufacture, the loop 63 is formed so as to normally urge the side walls toward each other. The cover engages the clasp body in frictional relation.

The cover 61 is of generally channel-shaped cross-section and has two arms 67 pivotally mounted on the pins 62. When the cover is swung into covering relation with the clasp body 55, it causes the side walls 56, 56 to be in close contacting relation with the disk detents 60, when the detents are respectively in contacting relation with two adjoining convex sides of the fastener elements 42.

It is to be noted that the raised horizontal sides of each fastener element permit the base portions of the clasp body to ride thereunder and prevent disengagement of the clasp body from the fastener elements.

It is also to be noted that the parallel upright sides of each fastener element retain the clasp body against any wobbly motions.

It is also to be noted that each disk-type detent 60 has a pin 60 freely passing therethrough and centrally thereof. The upper and lower ends of the pin 69 are suitably secured in apertures in the upper wall 64 and in the base 57 of the clasp body 55.

In accordance with the patent statutes I have described and illustrated the preferred embodiment of my invention, but it will be understood that various changes and modifications can be made therein without departing from the spirit of the invention as defined by the appended claims.

I claim:

1. In an adjustable fastener, an elongated strip of flexible fabric, a plurality of hexagonal fastener elements secured to said strip by stitching and arranged in a linear row on said strip and forming a track, said fastener elements having sides in right-angular relation with said strip and in adjacent relation with each other to maintain linear alinement of said elements, two side walls of each of said fastener elements being in angular relation with each other, both sides of said line of fastener elements on said strip forming parallel zig-zag lines, each of said fastener elements having two slots therethrough, said slots lying parallel to said adjacent sides of said fastener elements and serving for stitching said fastener elements to said flexible strip, a clasp slidably mounted on said strip and having resilient side walls, two circular and rotatable detents respectively positioned between said resilient side walls and the adjoining inclined walls of adjacent fastener elements, whereby upon movement of said clasp lengthwise of said track, each of said detents on opposite sides of said fastener elements being in resilient engagement with the side walls of two fastener elements, lock said clasp in selected position on said strip with a double interlock.

2. In an adjustable fastener, an elongated strip of flexible fabric, a plurality of fastener elements secured to said strip by stitching and arranged in a linear row on said strip and forming a track, said fastener elements having sides in right-angular relation with said strip and in adjacent relation with each other to maintain linear alinement of said elements, two side walls on each side of each of said fastener elements being in angular relation with each other whereby both sides of said row of fastener elements form parallel substantially zig-zag lines, each of said fastener elements having slots therethrough for securing said fastener elements to said flexible strip, a clasp slidably mounted on said strip and having resilient side walls and having a cap pivotally mounted thereon to lock said clasp body, said clasp body having parallel transverse walls guiding said clasp in alinement with said row of fastener elements, two circular and rotatable detents respectively positioned between said resilient side walls and the adjoining inclined walls of adjacent fastener elements, said detents being pressed by

said cap against the sides of said fastener elements and in resilient engagement with said side walls and hold said clasp in selected position on said strip with a double interlock.

3. In an adjustable fastener, an elongated strip of flexible fabric, a plurality of fastener elements secured to said strip by stitching and arranged in a linear row on said strip and forming a track, said fastener elements having sides in right-angular relation with said strip and in adjacent relation with each other to maintain linear alinement as said elements, two side walls on each side of each of said fastener elements forming convex extensions whereby both sides of said row of fastener elements form parallel substantially zig-zag lines, each of said fastener elements having slots therethrough for securing said fastener elements to said flexible strip, a clasp slidably mounted on said strip and having resilient side walls and having a cap pivotally mounted thereon to close

said clasp body, said clasp body having parallel transverse walls guiding said clasp in alinement with said row of fastener elements, two circular and rotatable detents respectively positioned between said resilient side walls and the adjoining inclined walls of adjacent fastener elements, said detents being pressed by said cap against the sides of said fastener elements and in resilient engagement with said side walls and lock said clasp in selected position on said strip with a double interlock.

HERMAN VIZNER.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
783,850	Koozian	of 1935
1,910,891	Freysinger	May 23, 1933
2,437,765	Statham	Mar. 16, 1948