July 10, 1951 R. C. LEGAT 2,559,883

ADJUSTABLE FASTENING DEVICE

Filed March 19, 1949

Fig. 1.

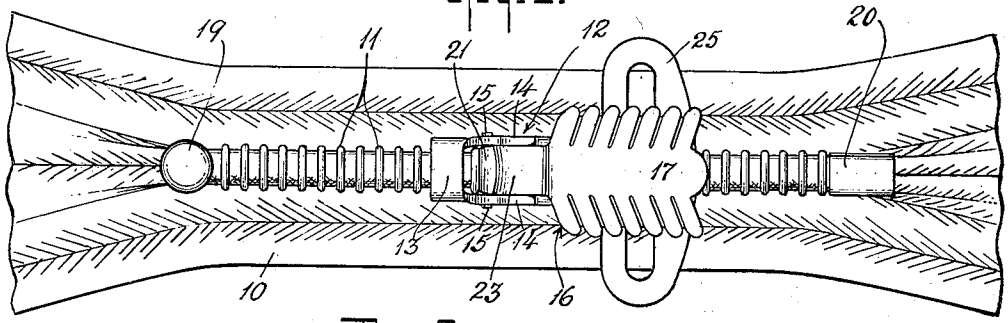


Fig. 2.

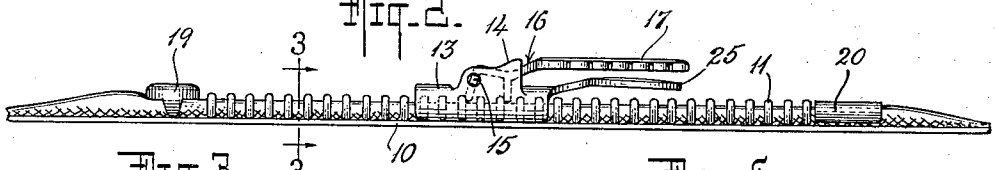


Fig. 3.

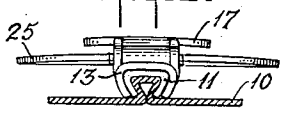


Fig. 4.

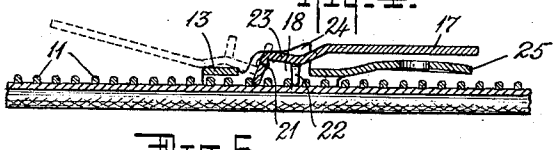


Fig. 5.

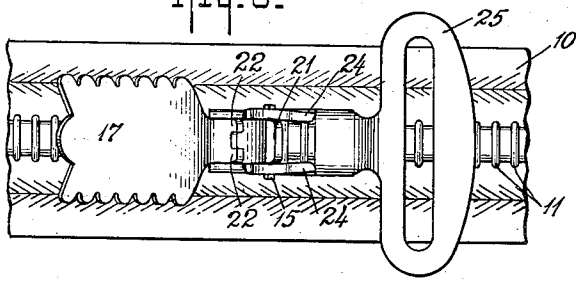


Fig. 6.

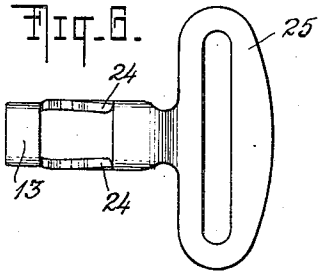


Fig. 7.

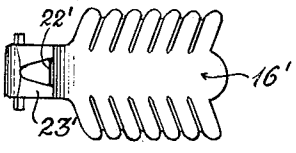
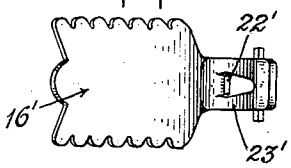


Fig. 8.



WITNESS

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ADJUSTABLE FASTENING DEVICE

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4 Claims. (Cl. 24—206)

1

This invention relates to devices for adjustably fastening two articles together, or two pieces of the same article, and more particularly, to an adjustable fastening device of the type disclosed in Patent No. 1,838,463, issued to N. Statham, December 29, 1931. In the indicated type of fastener, a slider attached to one part to be fastened is movable along a flexible track which is attached to the second part to be fastened, and such slider is secured at any desired point on the track by means of a releasable clamping or locking member.

The principal object of the present invention is to provide in a fastening device of the indicated type, an improved slider which can be more firmly and positively secured in position on the track and which will not inadvertently slip from such position when subjected to high stresses tending to cause slipping of the slider, such as are encountered in the use of the device on men's belts and women's slacks.

Another object of the invention is to provide in a slider of the indicated type, a simple and rugged locking means which will make the slider especially suitable for use in men's belts and women's slacks.

Other objects of the invention as well as the advantages thereof will be ascertained from the following detailed description when read in connection with the accompanying drawings, in which Fig. 1 is an enlarged plan view of the improved slider showing it in secured position on the fastener track; Fig. 2 is a side elevational view of the parts shown in Fig. 1; Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2; Fig. 4 is a longitudinal sectional view of a portion of Fig. 2 and illustrates the construction of a preferred form of the slider; Fig. 5 is a top plan view of the parts shown in Fig. 4 with the clamp shown in released position; Fig. 6 is a top plan view of the body of the slider; Fig. 7 is a top plan view of a modified form of clamp for the slider and Fig. 8 is a rear plan view of the clamping member shown in Fig. 7.

In the drawings, the reference numeral 10 designates a portion of fabric which may form a part of the belt of a woman's slacks. Provided on the fabric 10 is a series of elements 11 forming a track for the slider 12 and adapted to be engaged by the locking means in the slider to secure the latter in a definite position on such track. As will be noted in Figs. 1, 2 and 3 of the drawings, the elements 11 which are arranged in spaced relation on the fabric, are each constituted of a short piece of wire having a central straight portion and end portions which are bent under a longitudinally extending, raised portion of the fabric to connect the element to such fabric portion. As will be seen more clearly in Fig. 3 of the drawings, the end portions of each element 11 incline upwardly and outwardly to enable the slider 12 to be slidably secured to the track formed by such elements 11. The straight central portion of the clips or elements 11 cooperate with the locking means of the slider 12 to secure the slider in a predetermined position on the track formed by such elements 11, as will hereinafter be explained.

2

The slider 12 comprises a body portion 13 which is generally C-shaped in cross section to enable its longitudinal side edges to engage beneath the outer central portions of the elements 11 and against the inclined end portions of such elements and thereby be secured in sliding relation to the track. The body portion 13 has upstanding ears 14, 14 which are provided with aligned bearing apertures to pivotally support the trunnions 15, 15 provided on the clamp or locking element designated generally by the numeral 16. The clamp 16 comprises a finger or tab portion 17 which is manually manipulatable to move the slider 12 along the track and to secure the slider in a predetermined position on the track when such clamp is moved to the position shown in Figs. 1 and 2 of the drawings. The material of the body portion 13 forming the ears 14, 14 is taken from the central portion thereof, thereby leaving an elongated aperture 18 in the top of such body portion to enable the clamp 16 to be moved to such locking position. The body portion terminates in a longitudinally projecting loop 25, to which is adapted to be attached, the portion of material to be adjustably connected to the fabric 10, as for example, one end of a belt portion.

It will be understood from the foregoing, that in the operation of this fastening device, the finger piece 17 of the clamp 16 is actuated by the user to cause the slider 12 to move longitudinally along the track of elements 11 to adjust the pieces of material connected to the track and slider relative to each other, as for example, in the opening or closing of a belt; the longitudinal movements of the slider being limited by means of end stops 19, 20. When, as in the closing of a belt, the slider 12 is moved to a position with relation to the track that gives a proper fit of the belt to the user, the clamping member 16 is moved downwardly to the position shown in Figs. 1 and 2 of the drawings. The clamping member 16 is provided at its pivoted end with a locking lug 21 and in the embodiment

shown in Figs. 1 to 5 of the drawings, with a pair of aligned locking lugs 22, 22 spaced back from lug 21 and connected to the shank portion 23 of the clamp member. It will be noted from Fig. 4 of the drawings, that the lugs 22, 22 are spaced from the lug 21 a distance equal to approximately twice the width of the spaces intermediate the track elements 11, so that when clamp member 16 is moved to locking position, there will be contained two track elements 11 between such lugs, and the latter will enter into the spaces adjacently bordering such two elements. The shank portion 23 intermediate the lugs 21 and 22, 22 is substantially parallel to the finger piece 17 of the clamp member, so that when such member is moved to locking position, the lugs 21 and 22, 22 will substantially simultaneously move to locking position between the track elements 11. It will also be noted from Fig. 4 of the drawings, that lugs 22, 22 are substantially perpendicular to the shank portion 23 of the clamp member, while lug 21 is disposed with respect to such shank portion, at an angle greater than ninety degree and carries the trunnions 15, 15. Thus, the lug 21 extends outwardly from the axis of rotation of trunnions 15, 15 at an angle greater than the angle between the shank portion 23 and a plane passed through the pivotal axis of the clamp member at right angles to the shank portion 23. Thus, when the lug 21 is in locked position, the clamp member 16 will be maintained locked in horizontal position until positively moved from such position preparatory to moving the slider 12 to a new position on the track of elements 11. This maintaining of the clamping member 16 in locking position, is doubly assured by turning in the upper corners 24, 24 of the ears 14, 14 in the region of the locking lugs 22, 22, so that as the shank 23 thereof moves past such corners 24, 24 when moving the clamping member to closed position, such corners will yieldingly give and then return to lock the shank 23 over the lugs 22, 22 between the ears 14, 14.

The construction of the clamping member 16' illustrated in Figs. 7 and 8 is similar to that of clamp 16, except that instead of having two locking lugs 22, 22, it is provided with a single locking lug 22' formed by stamping out the material of the shank portion 23' of such member. The clamping member 16' however, functions in a manner similar to clamping member 16.

While I have illustrated and described preferred embodiments of my invention, it will be evident to those skilled in the art that changes and modifications may be made therein without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. In an adjustable fastening device for securement to two parts and having a track provided with a plurality of spaced stop elements secured directly to one of such parts and a slider secured to the other of such parts and slidably mounted on said track for adjustably securing the two parts together, a clamp pivotally connected at one end to the slider and having an outer finger portion and a shank portion intermediate said pivoted end and said finger portion, a locking lug on the pivoted end of said clamp adapted to engage said track and a second locking lug on said shank portion adjacent to said finger portion and spaced from said first mentioned locking lug so as to engage said track at a point longitudinally spaced from the point of engagement of said first mentioned lug with the track, said locking lugs and the intermediate parts of said shank portion spanning a portion of said track greater in length than the combined width of two stop elements and the space therebetween.

2. In an adjustable fastening device for securement to two parts and having a track provided with a plurality of spaced stop elements secured directly to one of such parts and a slider secured to the other of such parts and slidably mounted on said track for adjustably securing the two parts together, a U-shaped locking member pivotally mounted on said slider so that both legs thereof engage with said track to lock the slider in position on the latter the space between said lugs being wider than the combined width of two stop elements and the space therebetween, means pivotally supporting said locking member for movement about a fixed axis, one of the legs of said locking member extending radially from such fixed axis and the other of said legs being spaced longitudinally from such fixed axis, and a finger piece fixedly connected to said locking member and manually operable to move said member into and out of locking engagement with said track, said other leg of said locking member being located on the finger piece side of said fixed axis.

3. In an adjustable fastening device for securement to two parts and having a track provided with a plurality of spaced stop elements secured directly to one of such parts and a slider secured to the other of such parts and slidably mounted on said track for adjustably securing the two parts together, an actuating member connected at one end to the slider and having a shank portion and an outer finger portion, a locking lug on the connected end of said member adapted to engage said track, a second locking lug on said shank portion adjacent to said finger portion and spaced from said first mentioned locking lug so as to engage said track at a point longitudinally spaced from the point of engagement of said first mentioned lug with the track, said locking lugs and the intermediate part of said shank portion spanning a portion of said track greater in length than the combined width of two stop elements and the space therebetween, a pair of bearing supports provided on said slider, and a pair of trunnions provided on said first mentioned locking lug and rotatably mounted on said bearing supports, said second locking lug being located on the finger piece side of the pivotal axis of said trunnions.

4. In an adjustable fastening device for securement to two parts and having a track provided with a plurality of spaced stop elements secured directly to one of such parts and a slider secured to the other of such parts and slidably mounted on said track for adjustably securing the two parts together, an actuating member connected at one end to the slider and having a shank portion and an outer finger portion, a locking lug on the connected end of said member adapted to engage said track, a second locking lug on said shank portion spaced from said first mentioned locking lug and adapted to engage said track at a point longitudinally spaced from the point of engagement of said first mentioned lug with the track, said locking lugs and the intermediate parts of said shank portion spanning a portion of said track greater in length than the combined width of two stop elements and the space therebetween, a pair of upstanding longitudinally extending ears provided on said slider and adapted to receive said shank portion therebetween when the actuating member is moved to locking position, a pair of trunnions provided on said actu-

ating member and rotatably mounted on the forward ends of said ears, said second locking lug being located on the finger piece side of the pivotal axis of said trunnions, and latch resilient members on the other ends of said ears adapted to yieldingly engage with opposite sides of said shank portion in the region of said second mentioned locking lug to maintain the latter in locked position until positively removed therefrom.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,838,463	Statham	Dec. 29, 1931
1,887,825	Statham	Nov. 15, 1932
1,887,826	Statham	Nov. 15, 1932
2,437,765	Statham	Mar. 16, 1948