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H. AXTHELM

2,223,347

INTERLOCKING FASTENER SLIDER

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Fig. 1.

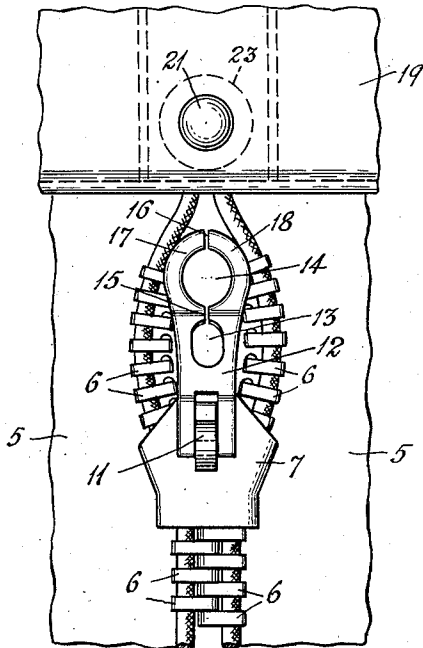


Fig. 2.

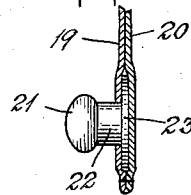
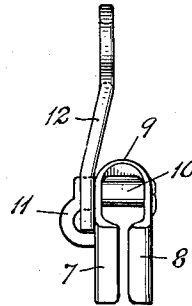


Fig. 3.

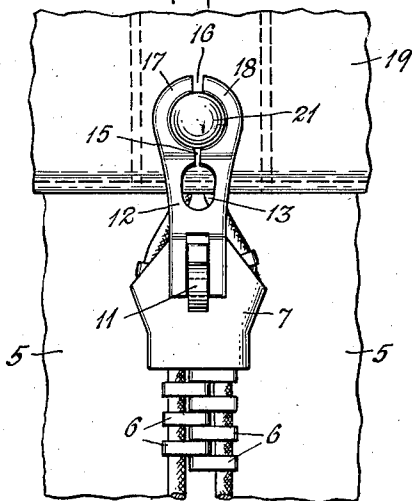
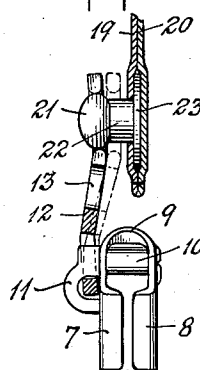


Fig. 4.



WITNESS

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INTERLOCKING FASTENER SLIDER

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1 Claim. (Cl. 24-205)

The invention relates to interlocking slide fasteners and particularly to the operating sliders therefor, in which the pull device or pull tab secured to the slider for effecting the interlocking of the fastener elements is so constructed as to constitute a means for locking the slider, after it has performed its function of interlocking the fastener elements in position by engagement thereof with the male member of a snap fastener structure, collar button, or similar element.

A particular object of the invention is to provide a pull tab for the slider of an interlocking slide fastener structure which will function as a spring and when sprung into position be capable of engaging the male element of a snap fastener structure positioned near the closure end of the slide fastener elements. A more particular object of the invention is to provide a pull tab for such slider formed of a single piece of material so constructed as to have the free end thereof act as a spring in assuming the locking position thereof in conjunction with a snap fastener element.

In its broadest aspect, a pull tab constructed in accordance with my invention is constituted of a single piece of metal punched from spring bronze or brass so as to form an aperture in the body of the pull tab and another aperture connected therewith by a line of cleavage, the end of the pull tab being formed by two claw-like extremities adapted to ride over the enlarged portion of the male member of a snap fastener by the springing apart of said claw-like extremities and to have such extremities spring back to their original position after passing over the enlarged head of the snap fastener element, and thereby secure the pull tab in its position effectively locking the slide fastener.

A particular embodiment of my invention is illustrated in the accompanying drawing, in which Fig. 1 is a plan view of a slide fastener structure applied to cooperative closure portions, for instance, of a bag, the slide fastener structure being secured, in well-known fashion, upon one of said cooperating portions, constituted of two meeting edges of fabric, and a male element of a snap fastener upon the other of said portions; Fig. 2 is a partially sectional detail showing the male member of the snap fastener and a side view of the slider provided with a pull tab constructed in accordance with my invention; Fig. 3 is a view similar to Fig. 1, but showing the pull tab in position, locking the slide fastener, with the pull tab sprung over and into engagement with the male member of the snap fastener on the co-

operating portion of the closure; and Fig. 4 is a side view, partly in section, of the pull tab and the two elements illustrated in Fig. 2, with the position of the pull tab shown in the course of its application to its locking position.

Referring more particularly to the drawing, in which similar reference characters identify similar parts in the several views, the tape stringers 5 have attached thereto, in the conventional manner, the interlocking elements 6. The slider controlling the engagement and disengagement of the fastener elements comprises top and bottom wings 7 and 8 respectively and the integral neck 9, with the cam 10 effecting spreading of the fastener elements. To the top wing 7 of the slider, by means of the protruding boss or lug 11, is attached the pull device or tab 12.

Such pull tab may be punched from spring bronze or brass, being provided with an aperture 13 to reduce the cross-sectional area of the tab and to obtain the spring action hereinafter more particularly referred to. The pull tab is likewise provided with an aperture 14, the body of the tab being sheared along its central line, producing the cleavage space 15 between the apertures 13 and 14 and also the opening 16, between the two jaw-like elements 17 and 18 forming the aperture 14.

In line with the central line of the fastener structure just described, and interposed between the plies 19 and 20 of the cooperating portion of the closure, is a male member of a snap fastener having an enlarged head 21, a neck 22 and a base plate 23.

The aperture 14 of the pull tab is, as shown in Fig. 1, ovate, the horizontal diameter thereof, before the application of the tab to the snap fastener, being less than the diameter of the head 21 of the snap fastener. The spring action of the pull tab, made possible by its structure including the aperture 13 and the claw-like extremities 17 and 18 constituting the walls enclosing the aperture 14, permit the separated parts of the pull tab to be further separated upon the positioning thereof with the aperture 14 over and above the head 21 of the snap fastener, so that upon pressure thereof, when overlying such enlarged head, the claw-like extremities 17 and 18 are spread apart, the head 21 passing through the aperture 14. During this operation, such aperture assumes its open position until it is round and of substantially the same diameter as the diameter of the head 21 of the snap fastener element. Upon passage of such extremities of the pull tab beyond the widest diameter of the head 21, the claw-like

extremities will again come toward each other so as to impart to the aperture 14 its original configuration, namely the ovate form, and thereby securely locking the pull tab to the male element of the snap fastener. Due to the ovate form of the aperture 14 a minimum of strain will be exerted on the spring fingers 17 and 18 in connecting and disconnecting the pull tab with relation to the head 21 of the fastener element, whereby such fingers will retain their resilient qualities and will not become tired or inelastic through long usage.

In this closed position of the pull tab, it effectively locks the interlocking elements of the fastener structure together. The operation of the slider, as above described, will thus be seen to be a very simple one, it being brought to its closed position with the pull tab having its aperture 14 over the head of the snap fastener element and by pressure upon the pull tab in proximity to the aperture 13, can be snapped easily in place with the same effect and security of closure as of a snap fastener. Due to the fact that the outer free end portion of the pull tab is offset with relation to the intermediate portion thereof and is positioned closer to the longitudinal center line of the slider than the base or root portion which is connected to the lug 11 when the pull tab is interengaged with the head 21 of the fastener element, grasping of the pull tab for manual operation of the slider is greatly facilitated and a firm grip is assured during such manual operation of the slider. Furthermore when the pull tab is interlocked with the fastener element this construction of the pull tab assures that there will be no outward forces exerted thereby on the undersurfaces of the enlarged head 21 of the fastener, whereby any feeling of rigidity in connection with the assembled parts is prevented and such parts lie flat and in repose without strain upon them or the adjacent portions of the garments to which they are attached.

A particular application of my novel structure may be found in effecting the closure of interlocking slide fasteners which are provided upon an article of apparel, such as a shirt, the male element of the snap fastener being in such case replaced with a collar button, the aperture 14 of the pull tab being of such size and configuration as to effect the closure of the slide fastener structure by cooperation of the pull tab and the lock-

ing thereof by passage over the ball or head of a collar button in the same manner as has been described hereinabove with respect to the locking of the pull tab upon the male element of a snap fastener structure.

While I have described a particular embodiment of my invention, it is obvious that various changes therein, particularly in the configuration and arrangement of the parts thereof, may be made without departing from my invention.

Thus, for instance, the pull tab of the slider, while shown and described as formed of sheet metal, may be formed of spring wire.

I claim:

The combination with a slider for a slide fastener, of a pull tab adapted to be grasped for manual manipulation of the slider and adapted to interengage with a fastener element having a neck and an enlarged head to lock the slider in a predetermined position with relation to the slide fastener, said pull tab being constituted of a single piece of spring metal and comprising a root portion slotted to provide transverse means adapted to pivotally engage with a portion of the slider, an intermediate portion and an outer portion each provided with an aperture and being separated along the longitudinal center line of the pull tab from the free end of the tab to the aperture in said intermediate portion to provide two spring fingers having claw-like extremities adapted to engage with the fastener element, the element receiving aperture in said outer portion being of ovate shape and having a minor axis less than the outside diameter of the enlarged head of the fastener element in the normal position of the spring fingers, the major axis of such aperture extending longitudinally of the pull tab and being as great as the outside diameter of the head of the fastener element, and said outer portion of the pull tab being offset with relation to said intermediate portion and being positioned closer to the longitudinal center line of the slider than said root portion when said pull tab is interengaged with the fastener element, whereby, in such condition of the pull tab, no outward force is exerted by the same on the under surfaces of the enlarged head of the fastener element and grasping of the pull tab for manual operation of the slider is facilitated.

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