Nov. 4, 1941. G. M. BECKWITH 2,261,131

SLIDER FOR SLIDE FASTENERS

Filed Dec. 6, 1938

Fig. 1.

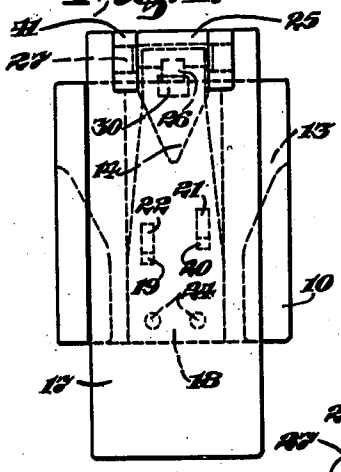


Fig. 2.

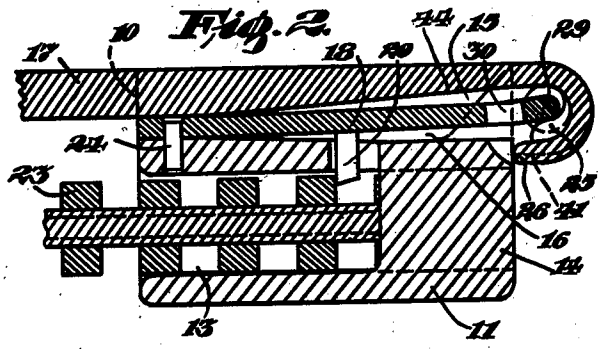


Fig. 3.

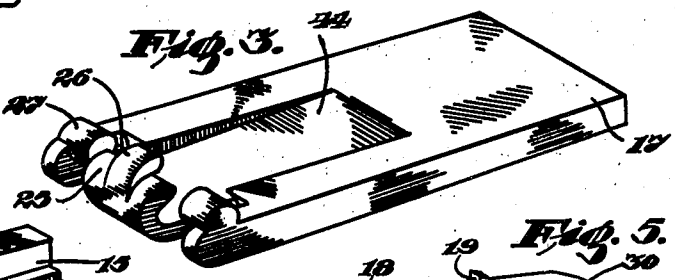


Fig. 4.

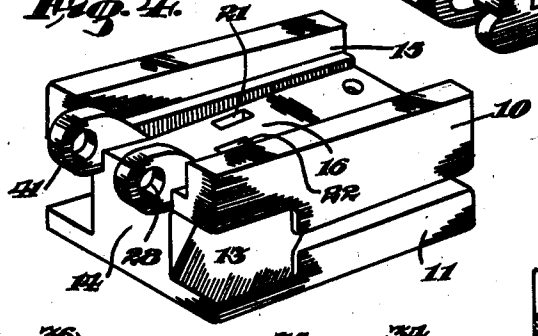
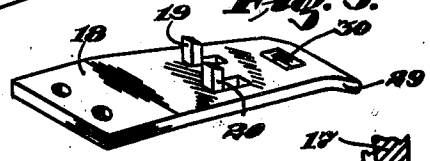


Fig. 5.



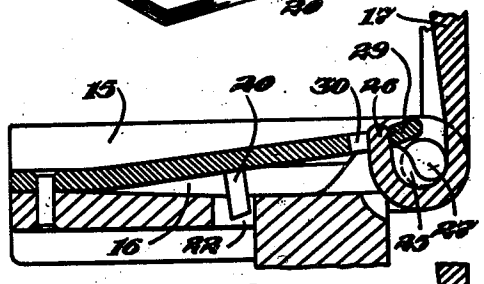


Fig. 6.

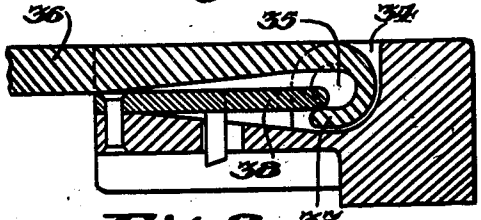


Fig. 8.

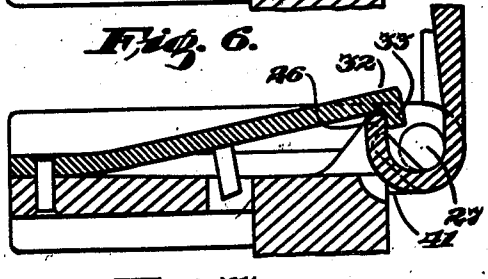


Fig. 7.

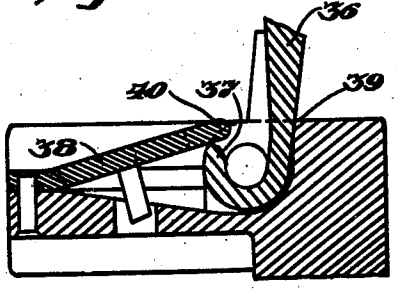


Fig. 9.

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SLIDER FOR SLIDE FASTENERS

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Application December 6, 1938, Serial No. 244,221

16 Claims. (Cl. 24—205.5)

My invention relates to sliders for slide fasteners. Sliders for operating slide fasteners can be generally classed as locking or non-locking. In either type the pull tab for operating the slider is either mounted on a track or lug which projects above the slider body. This track or lug forming such projection on the slider body is objectionable not only from the standpoint of appearance, but also because such projections interfere with the pressing operation of garments and cause undue bulging in the region of the slider.

Most conventional sliders have no means provided whereby the pull tab on the slider is automatically returned to its initial position when the pull is released. For this reason the pull is free to turn up or be accidentally moved out of its downward position and cause difficulty in pressing a garment.

The principal object therefore of my invention is to combine the advantages of a flat faced slider and automatic pull tab return with an effective slider locking device. In the preferred embodiment the locking means co-acts with the pull tab to return it to its initial position. The pull tab is hinged to the slider body and has means to lift the locking member out of engagement automatically when the pull is lifted for operating the slider.

In the accompanying drawing I have shown for purposes of illustration three embodiments which my invention may assume in practice and several modifications thereof.

In the drawing:

Fig. 1 is a plan view of a slider embodying my invention;

Fig. 2 is a longitudinal cross-section through the same;

Fig. 3 is a detail perspective view showing the pull tab;

Fig. 4 is a perspective view of the slider body with the pull tab and locking means removed.

Fig. 5 is a perspective view of one form of locking member;

Fig. 6 is a longitudinal section similar to Fig. 2 and showing the locking means in unlocked position;

Fig. 7 is a view similar to Fig. 6 and shows a modified construction;

Fig. 8 is a longitudinal section showing another embodiment with the pull in closed position; and

Fig. 9 is a longitudinal section of the slider shown in Fig. 8 with the pull in operative position.

The slider illustrated comprises a body with upper and lower wings 10 and 11, a Y-shaped channel 13 through which the fastener elements pass, and an integral neck portion 14 joining the wings. The upper wing 10 has a recess 15 and within it a second recess 16. The pull tab 17 is of rectangular shape and adapted to fit flush with the top face of the slider body within the channel 15. The locking member 18 which is in the form of a cantilever spring fits within the second recess 16 and has projections 19 and 20 which extend through holes 21 and 22 in the slider body and engage the legs of the fastener elements 23. The locking member is secured to the slider body by any suitable means such as the pins or rivets 24. The pull tab has a complementary recess 44 formed on its inner side and its central portion is reduced in thickness and terminates in a turned under cam forming portion 25. This turned under portion has a projecting lug 26 and suitable trunnions 27 are positioned to engage the holes 28 in lugs 41 formed near the neck end of the slider body.

As shown in Fig. 2 when the pull tab is in closed position it is flush with the upper surface of the slider body. The locking member has an end portion 29 pressing against the turned under portion 25 of the pull tab. The spring in this position urges the pull tab to its downward position and insures the pull tab resting in the recess 15 at all times when the slider is not being operated. As shown in Fig. 6 when it is desired to move the slider the pull tab 17 is raised and pivoting in the lugs 41, the cams or cam forming portions 25 lift the locking prong 20 free from engagement with the fastener elements 23. At its uppermost position which is approximately 90° with respect to the slider, the lug 26 on the turned under portion of the pull tab engages a slot 30 formed in the end of the locking spring and in this manner limits the amount of rotation of the pull tab.

Fig. 7 shows a similar structure but a modified form of locking spring. In this form the end portion 32 of the locking spring is bent to form a shoulder 33, which hooks over the projection 26 on the pull tab and limits the amount of rotation of the pull tab about its axis in the lugs 41. When the pull tab is released the end portion 32 of the spring acting against the projection 26 of the pull tab will return the pull to its locked position within the slider channel.

Fig. 8 shows a further modification wherein the bearing lugs 34 are positioned intermediate the ends of the slider body and receive the trunnions 35 of the pull tab 36. The pull tab has a turned under portion 37 which acts against the

end of the locking spring 38. As shown in Fig. 9 in this modification the travel of the pull is limited by the slider body as at 39, and in this position the locking member 38 is raised upwardly and away from engaging the fastener elements. When the pull is released in this position the end of the locking spring 40 contacts the turned under portion 37 and returns the pull to its initial locked position within the recessed portion of the slider body.

While the first two described embodiments are satisfactory in several applications of slide fasteners, such as pants, jackets, etc., it is desirable in some instances to have a pull tab which is more centrally located on the slider body to provide easier manipulation of the slider by a pull connection in contrast with the push operation of the type of slider where the pull is hinged at the neck end. For that reason, the embodiment shown in Figs. 8 and 9 will extend the field of usefulness of my invention without sacrificing to any extent the advantages of a flat top surface.

While I have shown and described in this application three embodiments which my invention may assume in practice it will be understood that these embodiments are for the purposes of illustration 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. A slider for slide fasteners of the class described comprising a slider body having a recess in its top face, a locking member arranged in the recess, a cantilever spring within said recess and secured to the slider body near its bottom end, and a lock operating member in said recess secured to the slider body adjacent its other end and flush with the top face of said slider body in its seated position.

2. In a slider for slide fasteners of the class described, a slider body having a recess in its top face, a locking member arranged in the recess, a slider operating pull tab within said recess hinged to the slider body and flush with the top face of said slider body in the locked position of said slider, said pull tab having means engageable with said locking member to lift it out of locking engagement automatically when the pull is lifted for operating the slider.

3. The slider structure defined in claim 2 embodying resilient means for moving the locking member to locked position when the pull is swung downwardly.

4. The slider structure defined in claim 2 having cooperative means on the locking member and a pull tab for limiting the swing of the pull tab when lifted.

5. The slider structure defined in claim 2 embodying means on the locking member engageable with the pull tab to swing the pull tab down against the slider when the locking member is spring-pushed to locking position.

6. In a slider for slide fasteners of the class described, a slider body having a recess in its front face, a spring locking member mounted in the bottom of the recess, and a slider operating pull tab fitting snugly within said recess pivotally connected with the slider body and overlying said spring locking member, said pull tab cooperating with said recess in one position fully to enclose said spring locking member.

7. The slider structure defined in claim 6 in which the recess is sufficiently deep to accommodate the pull tab as well as the locking member whereby the pull closes flush with the top surface of the slider.

8. In a slider for slide fasteners of the class described, a slider body with a top face having a recess therein, a pull tab disposed in said recess and hinged to the slider body, a spring locking member anchored to the slider body at one end, the pull tab adjacent its pivot being recessed, and the free end of the locking member extending into the recess.

9. In a slider for slide fasteners of the class described, a slider body, a pull tab pivotally secured to the slider body, a spring locking member anchored to the slider body at one end and having its other end extending to a position adjacent the pivot, the pivoted end of the pull tab having a reversely bent portion with which the free end of the locking member engages and limiting upward movement of said pull tab with respect to said slider body while normally yieldingly urging said pull tab toward flat position with respect to said slider body.

10. In a slider for slide fasteners of the class described, a slider body, a pull tab hinged to the slider body, and a spring locking member secured to the slider body having a portion engageable with the pull tab, the locking member having a hole and the pull tab having a lug engaging in said hole to limit the movement of the pull tab to an angle of about ninety degrees with the top face of the slider.

11. In a slider for slide fasteners of the class described, a slider body having a Y-shaped channel, a pull tab hinged to the slider body with its pivot axis arranged beyond the wide end of the channel, and a spring member anchored to the other end of the slider and having a portion engaging the pull member and yieldingly swingably urging it downwardly against the slider.

12. In a slider for slide fasteners of the class described, a slider body having a Y-shaped channel, a pull tab hinged to the slider body with its pivot axis arranged intermediate the ends of said slider, a spring locking member anchored to the slider body at one end and having its other end extending to a position adjacent the pivot and a reversely bent portion on the pivoted end of said pull tab engaging the free end of said spring locking member for constantly yieldingly urging said pull tab toward a position flat against said slider body.

13. In a slider for slide fasteners, a slider body, a pull tab pivotally connected to said slider body, and a spring operatively connected to said slider body and engaging said pull tab and constantly urging said pull tab toward a position flat against said slider body.

14. In a slider for slide fasteners, a slider body having therein a fastener member guide channel and an aperture leading from one side of said body into said channel, a locking projection projectible through said aperture into said channel for locking said slider, a pull tab pivoted to said slider body and withdrawing said projection from said channel upon pivotal swinging movement of said pull tab outwardly of said slider body, and spring means constantly biasing said pull tab flat against said slider body and urging said locking projection toward locking position.

15. In a slider for slide fasteners of the class described, a slider body having a recess in its top face extending to one end of said top face, and a pull tab member pivotally connected to said slider body, the thickness of said pull tab being substantially equal to the depth of said recess and

said pull tab lying flat in said recess in one position and extending beyond one end of said slider with its outer surface substantially flush with the surfaces of the top face of said slider adjacent said recess.

16. In a slider for slide fasteners of the class described, a slider body having a longitudinal recess in its top face extending to one end of said top face, a pull tab member pivotally connected to said slider body, the thickness of said pull tab being substantially equal to the depth of said recess and said pull tab lying flat in said recess in one position and extending beyond one end of said slider with its outer surface substantially flush with the surfaces of the top face of said slider adjacent said recess, and means constantly yieldingly urging said pull tab member toward said last named position, the extension of said pull tab member beyond said slider body providing a manually accessible portion facilitating operation of said slider by said pull tab.

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