

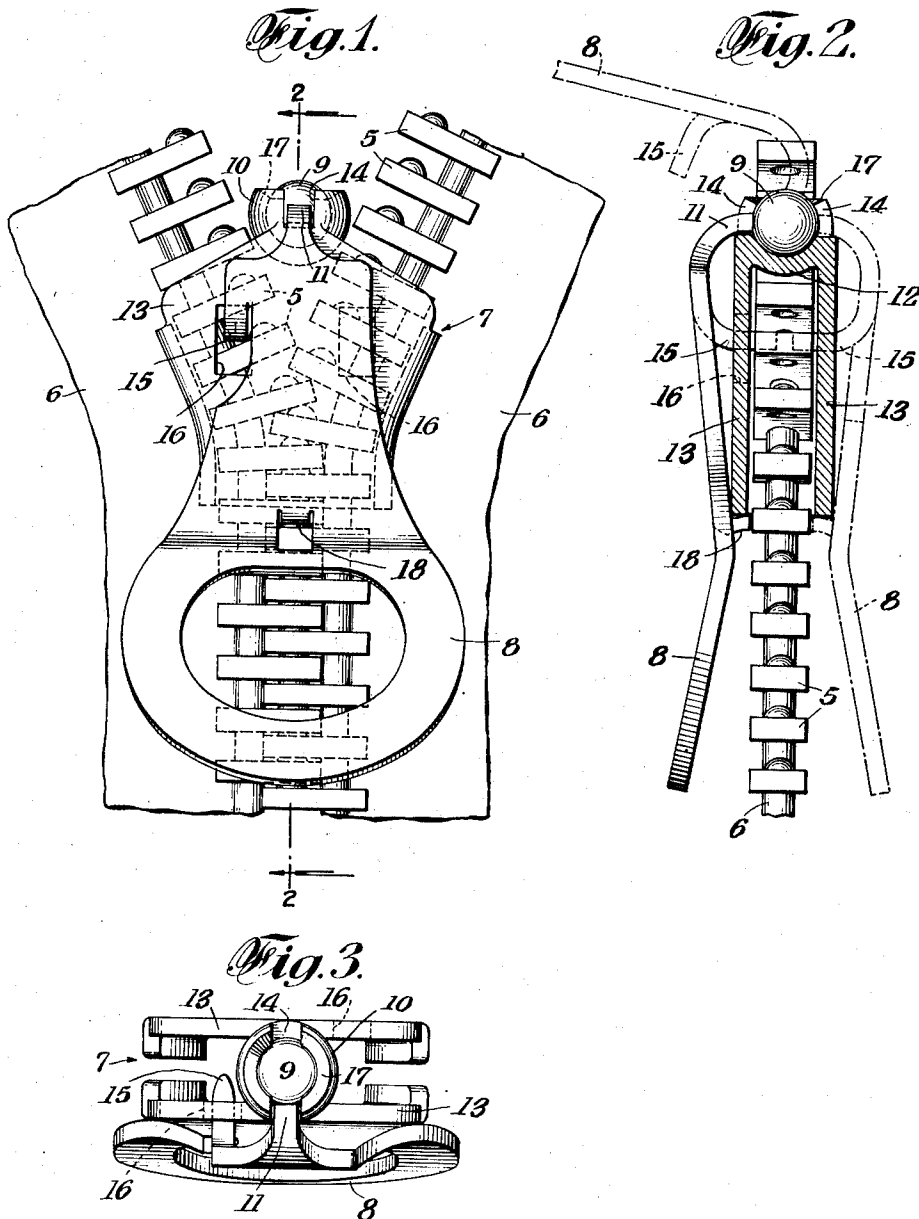
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1,955,288

SLIDE FASTENER

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1,955,288

SLIDE FASTENER

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12 Claims. (Cl. 24-205)

This invention relates to slide fasteners of the type covered by Patent 1,903,415 of April 4, 1933, in which the slide may be locked in adjusted position at either side of the fastener.

Special objects of the present invention are to simplify and improve the locking mechanism and the mounting of the same on the slide; also to facilitate the operation of the locking means and to enable its ready and convenient use as a means for shifting the slide.

Other objects and the novel features of construction, combinations and relations of parts by which the objects are attained will appear as the specification proceeds.

The drawing accompanying and forming part of the specification illustrates a simple and at present preferred embodiment of the invention, it being understood that the exact structure may be modified and changed all within the true intent and broad scope of the invention.

Fig. 1 in the drawing is a broken front or face view of the fastener; Fig. 2 is a broken central sectional view as on substantially the plane of line 2-2 of Fig. 1; Fig. 3 is a plan view of the fastener slide and attached handle and locking mechanism.

The inter-engaging securing elements of the fastener are indicated at 5, carried by tapes 6, and adapted to be separated and brought together by the slide member 7.

A tab or pull 8, is provided for shifting the slide and a special feature of this device is that it is swivelly connected with the top or yoked end of the slide by a ball and socket joint, comprising in the illustration, a ball member 9, on the end of the pull confined in a socket 10, on the slide. The ball member is shown as carried by an angularly extended reduced neck portion 11, at the end of the pull and the socket is shown as formed in and as constituting in fact, the transverse yoke 12, connecting the opposite sides 13 of the slide.

The ball socket is shown as notched or slotted at 14, at the opposite sides of the slide to receive and guide the reduced neck portion 11, of the pull. In addition to the guiding function, these slots have a retaining effect for holding the pull in position overlying the face of the slide, at either side of the same.

The locking of the slide at either side of the fastener is effected in the illustration, by a single lug or prong 15, shown as bent inward at one edge of the pull in position to pass through guiding and receiving openings 16, in the opposite sides of the slide into holding engagement

with the stringers, that is, in the illustration, between adjoining fastener elements 5.

The broken lines at the left in Fig. 2, show how the pull 8 may be lifted to unlock the slide and the pull then be used as a handle to raise or lower the slide, the swivel connection at such time permitting any rocking and turning movements of the pull as may be more convenient in operating the slide. The dotted lines at the right in this view indicate how the pull, after being unlocked at one side may be swung around over the top of the slide from one side to the other and then be turned down over such other side to lock the slide at such other side of the fastener. The ball socket is shown as having a relatively wide open beveled mouth 17, at the top, to provide ample clearance for the neck portion 11, of the pull in these reversing movements of the pull from one side to the opposite side of the fastener.

The passage of the locking lug through openings 16, and engagement of the neck portion 11, in notches 14, are sufficient ordinarily for proper retention of the pull at the opposite sides of the slide, but to more definitely hold the pull overlying the opposite sides of the slide, a releasable detent may be provided, such as the spring tongue shown at 18, struck inward from the pull in position to engage beneath the lower edges of the slide at the opposite sides of the same. This single detent, like the single locking lug, serves for use at both sides of the fastener and as both the detent and the locking lug extend inwardly from the face of the pull which is innermost at both sides of the fastener, this leaves the pull with a smooth outer face in position at both sides of the fastener.

The swivel connection with the yoke portion of the slide centers the application of force to the slide, irrespective of the angle at which the pull is held and prevents any angling or binding action of the slide on the fastener elements. There are no projecting parts and the structure is particularly neat, compact and small. The ball and socket elements may be reversed, that is, the socket be located on the pull and the ball element be on the yoke of the slide. Other changes in structure may be made within the true intent of the claims. The angled neck by which the ball element is attached to the pull, in effect "offsets" the pull from the ball and socket joint, so that it can lie relatively flat against the slide at either side of the same. The socket element is closed over the ball sufficient to securely hold the ball without restricting too much the swivelling action of the pull.

What is claimed is:

1. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull, a ball and socket connection between said pull and one end of the slide for enabling rotation of said pull on said end from one side over to the opposite side of the slide and a single locking lug carried by and projecting from one face of said pull in position to engage and interlock with fastener elements at either side of the slide.
2. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, said slide having side portions connected by a yoke, a ball socket in said yoke, a pull having a ball element seated in said ball socket and a single locking lug carried by said pull for locking service at either side of the slide.
3. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull, ball and socket elements located at one end of said slide and carried by said pull and slide respectively, whereby the two are swivelly connected, the socket element having notches in the sides of the same faced towards opposite sides of the slide and the ball element having a neck portion of a size to enter either of said notches to thereby definitely locate the pull in predetermined positions at either side of the slide.
4. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull, ball and socket elements located at one end of said slide and carried by said pull and slide respectively, whereby the two are swivelly connected, the socket element being notched in opposite sides thereof at opposite sides of the slide and the ball element having a neck portion associated therewith for entry in said notches and locking means on the pull positioned to interlock with the fastener elements at either side of the slide when said pull is positioned by engagement of the neck portion of the ball element in the notches in the opposite sides of the socket aforesaid.
5. A slide fastener comprising, cooperating fastener elements, a slide for engaging and disengaging the same, a pull for actuating said slide, locking means projecting from one face of the pull for engagement with the fastener elements at either side of the slide; and a swivel connection between the pull and one end of said slide positioned at said end to permit the pull to be swung over from one side to the opposite side of the slide and to be rotated to face said locking means toward the fastener elements at the side where the pull is then placed into position for cooperation with the then opposite fastener elements.
6. A slide fastener comprising, cooperating fastener elements, a slide for engaging and disengaging the same, a pull for actuating said slide, locking means projecting from one face of the pull for engagement with the fastener elements at either side of the slide; and a swivel connection between the pull and one end of said slide positioned at said end to permit the pull to be swung over from one side to the opposite side of the slide and to be rotated to face said locking means toward the fastener elements at the side where the pull is then placed into position for cooperation with the then opposite fastener elements, said swivel connection including ball and socket elements having interfitting portions operating to definitely position the locking means to face either side of the slide.
7. A slide fastener, comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull for actuating said slide, locking means projecting from one face of the pull for engagement with the fastener elements at either side of the slide; and a swivel connection between the pull and one end of said slide positioned at said end to permit the pull to be swung over from one side to the opposite side of the slide and to be rotated to face said locking means toward the fastener elements at the side where the pull is then placed into position for cooperation with the then opposite fastener elements, said swivel connection including ball and socket elements having interfitting portions operating to definitely position the locking means to face either side of the slide and detent means for releasably retaining said pull thus positioned at either side of the slide.
8. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull for actuating said slide, locking means projecting from one face of the pull for engagement with the fastener elements at either side of the slide; and a swivel connection between the pull and one end of said slide positioned at said end to permit the pull to be swung over from one side to the opposite side of the slide and to be rotated to face said locking means toward the fastener elements at the side where the pull is then placed into position for cooperation with the then opposite fastener elements and a detent on the pull cooperable with the slide at either side of the same.
9. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull for actuating said slide, cooperating ball and socket elements on the pull and slide respectively and swivelly connecting the same, the element on the slide being located on one end of the same and the cooperating element on the pull being connected with the pull by an angled neck portion permitting the pull to overlie the face of the slide at either side of the same.
10. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull for actuating said slide, cooperating ball and socket elements on the pull and slide respectively and swivelly connecting the same, the element on the slide being located on one end of the same and the cooperating element on the pull being connected with the pull by an angled neck portion permitting the pull to overlie the face of the slide at either side of the same and the element of the ball and socket joint which is on the slide having notches receiving said angled neck portion for assisting in thus locating the pull at either side of the slide.
11. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, said slide having side portions connected at one end by a yoke, an element of a ball and socket joint on said connecting yoke, a pull having the companion element of a ball and socket joint cooperatively engaged with said yoke carried element and a single locking lug carried by said pull for locking service at either side of said slide.
12. A slide fastener comprising cooperating fastener elements, a slide for engaging and disengaging the same, a pull for operating said slide, said slide having side portions connected at one

end by a yoke and a universal joint swivel connection between said pull and said connecting yoke enabling said slide to be actuated from said pull by a straight line push or pull applied thereto through said universal joint connection with the end yoke of the slide, said pull having an angled neck portion at said universal joint connection offsetting the body of the pull from the universal joint sufficiently to enable the same to overlie the face of the slide at either side of the slide and a locking lug projecting from one face of the pull in the same direction as the angled neck and thereby positioned to engage the fastener elements in the position of the pull overlying either face of the slide. 80

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