This invention relates to slide fasteners and, in particular, to the provision of new and improved sliders therefor. It is an object of this invention to provide a new and improved automatic side lock slider for slide fasteners.

It is a further object of this invention to provide such a slider which incorporates new and improved locking means, which slider is of simple, durable and cheap construction, and wherein the lock or locking means may be manually operated, readily and conveniently. It is a further object of this invention to provide such a slider wherein the manually engageable lock operating parts are secured to the slider body in such manner as to eliminate from the slider unit all objectionable dangling and rattling parts.

These and other objects and advantages of the invention will appear from the following description taken in conjunction with the accompanying drawing which forms a part thereof, and will be pointed out in the appended claims.

In the drawing:

Fig. 1 is a fragmentary view, in perspective, of a conventional slide fastener embodying an improved automatic side lock slider according to this invention.

Fig. 2 is a transverse section taken substantially on the plane indicated by the line 2—2 in Fig. 1, with the slider parts in locking position;

Fig. 3 is a view similar to Fig. 2, but showing the parts in unlocked position;

Fig. 4 is a view similar to Fig. 2 of a modified slider construction according to this invention; and

Fig. 5 is a view similar to Fig. 4, but with the parts of the slider of Fig. 4 in unlocked position.

Sliders, according to this invention, are provided with locking members engaging the top and bottom surfaces of the interlocking fastener members of a slide fastener adjacent the leg portions of the interlocking fastener members. A slider having locking means engageable in such manner with the interlocking fastener members of a slide fastener is disclosed in United States Letters Patent No. 1,988,419, granted January 15, 1938, to William L. Gilmore.

In the above-designated patented slider, the locking means is normally automatically disengaged from interlocking fastener members of a slide fastener, but selectively manually engaged therewith for locking the slider by manipulation of a pull tab member pivotally secured to the slider body.

In slide fastener sliders constructed according to this invention, however, the locking member is normally, automatically engaged between adjacent top and bottom surfaces of adjacent spaced interlocking fastener members of a slide fastener, for automatic locking of the slider, and is manually withdrawn from locking engagement by manipulation of an associated finger piece to release the slider for movement longitudinally of the slide fastener.

Referring to the drawing in detail and with reference particularly to Fig. 1, the slide fastener shown therein for purpose of illustration comprises a pair of stringers 7 and 8, each of which stringers comprises a tape 9 having a reinforced edge 10, upon which reinforced edge is clamped or otherwise secured, in known manner, a row of predeterminedly spaced interlocking fastener members 12, the lower ends of the stringers 7 and 8 being connected, adjacent the lower end of the rows of interlocking fastener members 12 by a suitable bottom stop 11 of known form.

The interlocking fastener members 12 have head portions 14 and leg portions 15. The head portions 14 are provided with upwardly directed crowns or noses, extending from the upper surface of each member 12 adjacent the end of the head portion, and complementary concentric or aligned pockets extending inwardly from the lower surface of each interlocking fastener member.

Due to the spaced relationship of adjacent interlocking fastener members 12 on each reinforced edge 10, spaces are provided between the upper and lower surfaces of adjacent interlocking fastener members 12, into which spaces the locking members or sliders according to this invention, project, adjacent the leg portions 15 of the fastener members to perform the locking operation, as hereinafter most clearly explained.

The slider is generally designated 20 and comprises a back wing 21 and front wing 22 provided with marginal side flanges, which flanges cooperate with surfaces of the connecting neck or wedge member 23 which is integral or rigidly secured between the upper ends of the spaced wings 21 and 22 to form a substantially &Y-shaped upwardly diverging guide channel for the interlocking fastener members 12 of the slide fastener.

Extending forwardly from the front wing 22 is the longitudinally disposed pivot lug 24 which is preferably spaced slightly to one side of the longitudinal center line of the front wing 22 and the slider proper.

Adjacent its lower end, the outer surface of the front wing 22 of the slider illustrated in Figs. 1, 2 and 3, is provided with a locking member receiving recess 25 which extends transversely from the base of the pivot lug 24, and from the outer end of which extends an aperture or opening 26, leading into the fastener member guiding channel of the slider.

The locking means is generally designated 30 and includes a finger piece portion formed by
a front wall 31 overlying the front or outer end of the pivot lug 24, end walls 32 disposed outside the ends of the pivot lug 24, and a side wall 33 which is disposed at one side of the pivot lug 24 and substantially parallel with the pivot lug 24 in the locking position. The end wall 32 are provided with suitable apertures for receiving pivot pin means 34 secured to the pivot lug 24 and extending through the apertures in the end walls 32 of the finger piece portion of the locking means 30 securing this portion pivotally to the pivot lug 24.

In order to facilitate manual operation of the locking means, the outer side wall of the pivot lug 24 and the side wall 33 of the finger piece portion of the locking member are recessed, as shown particularly in Fig. 3. Extending transversely from the side wall 33 at the lower end of the slider is a locking arm 35 which is provided with a locking projection 36 at its outer end.

The locking member thus comprises an upstanding finger piece with a rigidly attached locking arm having a locking projection at its end. The locking arm 35 is disposed in the above-described recess 25 in the locked position of the slider, as shown in Fig. 2, and in that position the locking projection 36 extends through the opening or aperture 26 into the fastener member guiding channel of the slider.

Included in the locking means, for making the locking means automatic by constantly biasing the locking projection 36 toward locking position, suitably resilient means such as the spring 37 is disposed between the inner adjacent surfaces of the pivot lug 24 and the side wall 33 of the finger piece portion of the locking means. This spring 37 constantly tilts the locking member in clockwise direction about the pivot pin means 34 as an axis. As shown, aligned sockets may be provided in the adjacent surfaces of the pivot lug 24 and locking member side walls 33 for retaining the resilient biasing means in position.

From the above description and from the drawing, it will clearly appear that I have produced a new and improved automatic slide fastener slider which is durable, is easy to operate and simple in construction, wherein the locking means is positive in operation and easy to release manually. It will furthermore appear that this slider construction all daging parts such as conventional slide fastener pulls or chains, heretofore necessary for manual operation of the locking means of conventional slide fasteners.

It is, of course, to be understood that the above description is merely illustrative and in nowise limiting and that I desire to comprehend within my invention all modifications included within the scope of the appended claims.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a tabless slider for slide fasteners, a slider body comprising a front wing member and a back wing member spacedly connected at their upper ends and forming a fastener member guiding channel therebetween, said front wing member having therein an opening extending into said channel, a locking member pivotally connected to said front wing member about a longitudinal axis of said front wing member and spaced transversely from said opening, said locking member extending from the point of connection with said wing member to said opening and terminating in a projection directed toward said opening and aligned therewith, yielding means normally rocking said locking member about said axis toward said projection for urging said projection through said opening into locking engagement with fastener member guiding channel, and an upstanding finger piece on said locking member rigid therewith and directly manually engageable for rocking said locking member in the opposite direction, against said yielding means, for withdrawing said projection, through said opening, from said channel, to unlock said slider.

2. In a tabless slider for slide fasteners, a slider body comprising a pair of wing members spacedly connected at their upper ends and forming a fastener member guiding channel therebetween, one of said wing members having therein an opening extending into said channel, an upstanding pivot lug on said last-named wing member spaced laterally from said opening, a lock-
ing member pivotally connected to said pivot lug about a longitudinal axis of said lug, said locking member having an upstanding finger piece and a transverse locking arm, said locking arm extending transversely to said opening and terminating in a locking projection directed toward said fastener member guiding channel and aligned with said opening, and yielding means acting between said pivot lug and said finger piece for normally spreading apart said pivot lug and said finger piece and biasing said locking member rocking about said longitudinal axis to urge said projection through said opening to locking engagement with fastener members in said channel.

3. In a tableless slider for slide fasteners, a slider body comprising a pair of wing members spacedly connected at their upper ends and forming a fastener member guiding channel therebetween, one of said wing members having therein an opening extending into said channel, an upstanding pivot lug on said last-named wing member spaced laterally from said opening, a locking member pivotally connected to said pivot lug about a longitudinal axis of said lug, said locking member having an upstanding finger piece and a transverse locking arm, said locking arm extending transversely to said opening and terminating in a locking projection directed toward said fastener member guiding channel and aligned with said opening, and a spring enclosed between the walls of said finger piece and said pivot lug and acting between said pivot lug and said finger piece for normally biasing said locking member rocking about said longitudinal axis of said lug to urge said projection through said opening into locking engagement with fastener members in said channel, said last-named wing member having a recess in its outer surface extending transversely from said pivot lug to said opening for receiving said locking arm and disposing its outer surface flush with the outer surface of said last-named wing member in the locking position of said locking member, and said pivot lug and said upstanding finger piece having thereofon grip portions manually engageable for squeezing said lug and finger piece together against the force of said spring for rocking said locking member in reverse direction about said longitudinal axis to unlock the slider by withdrawing said locking projection through said opening from engagement with fastener members in said fastener member guiding channel.

4. In a tableless slider for slide fasteners, a slider body comprising a pair of wing members spacedly connected at their upper ends and forming a fastener member guiding channel therebetween, one of said wing members having therein an opening extending into said channel, an upstanding pivot lug on said last-named wing member spaced laterally from said opening, a locking member pivotally connected to said pivot lug about a longitudinal axis of said lug, said locking member having an upstanding finger piece and a transverse locking arm, said locking arm extending transversely to said opening and terminating in a locking projection directed toward said fastener member guiding channel and aligned with said opening, and yielding means acting between said pivot lug and said finger piece for normally spreading apart said lug and said finger piece and biasing said locking member rocking about said longitudinal axis to urge said projection through said opening into locking engagement with fastener members in said channel, said last-named wing member having a recess in its outer surface extending transversely from said pivot lug to said opening for receiving said locking arm and disposing its outer surface flush with the outer surface of said last-named wing member in the locking position of said locking member, and said pivot lug and said upstanding finger piece having thereofon grip portions manually engageable for squeezing said lug and finger piece together against the force of said spring for rocking said locking member in reverse direction about said longitudinal axis to unlock the slider by withdrawing said locking projection through said opening from engagement with fastener members in said fastener member guiding channel.

5. In a tableless slider for slide fasteners, a slider body comprising a pair of wing members spacedly connected at their upper ends and forming a fastener member guiding channel therebetween, one of said wing members having therein an opening extending into said channel, an upstanding pivot lug on said last-named wing member spaced laterally from said opening, a locking member pivotally connected to said pivot lug about a longitudinal axis of said lug, said locking member having an upstanding finger piece and a transverse locking arm, said locking arm extending transversely to said opening and terminating in a locking projection directed toward said fastener member guiding channel and aligned with said opening, and a spring enclosed between the walls of said finger piece and said pivot lug and acting between said pivot lug and said finger piece for normally biasing said locking member rocking about said longitudinal axis of said lug to urge said projection through said opening into locking engagement with fastener members in said channel, said last-named wing member having a recess in its outer surface extending transversely from said pivot lug to said opening for receiving said locking arm and disposing its outer surface flush with the outer surface of said last-named wing member in the locking position of said locking member, and said pivot lug and said upstanding finger piece having thereofon grip portions manually engageable for squeezing said lug and finger piece together against the force of said spring for rocking said locking member in reverse direction about said longitudinal axis to unlock the slider by withdrawing said locking projection through said opening from engagement with fastener members in said fastener member guiding channel.

6. In a tableless slider for slide fasteners, a slider body comprising a pair of wing members spacedly connected at their upper ends and forming a fastener member guiding channel therebetween, one of said wing members having therein a slot adjacent its lower end extending through one side flange into one side of said channel, an upstanding pivot lug on said last-named wing member spaced laterally from said opening, a locking member pivotally connected to said pivot lug on a longitudinal axis of said lug, said locking member having an upstanding finger piece and a transverse locking arm, said locking arm extending transversely to said opening and terminating in a locking projection directed inwardly of said fastener member guiding channel and aligned with said slot, a terminal extension on said locking projection substantially perpendicular thereto, and yielding means acting between said pivot lug and said finger piece for normally biasing said locking member rocking about said longitudinal axis to urge said locking projection into alignment with flange portions at each side of said slot while urging the terminal extension of said locking projection into locking position between facing top and bottom surfaces of adjacent fastener members in said channel, said side and end walls overlying adjacent portions of said pivot lug whereby said finger piece telescopically encloses said pivot lug and said yielding means.
CERTIFICATE OF CORRECTION.


NOEL J. POUX.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 3, first column, line 73, claim 4, before "walls" insert --end--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 10th day of November, A. D. 1942.

Henry Van Arsdale,
(Seal)
Acting Commissioner of Patents.