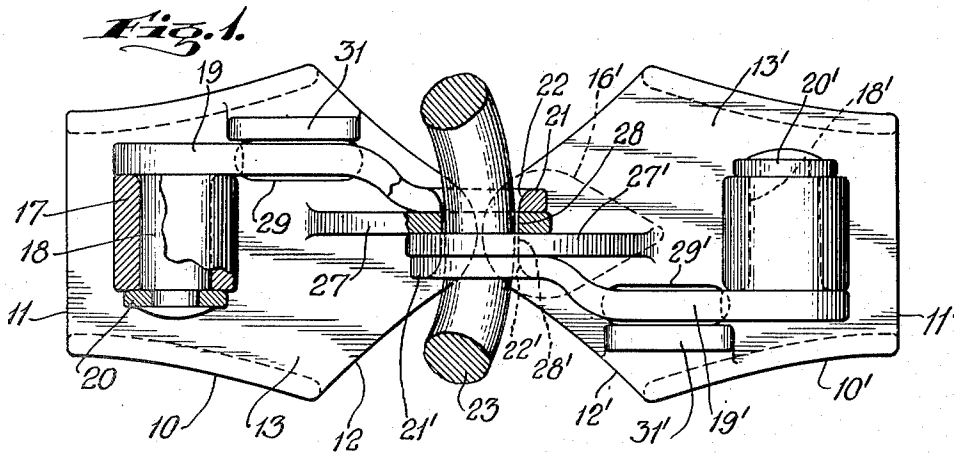
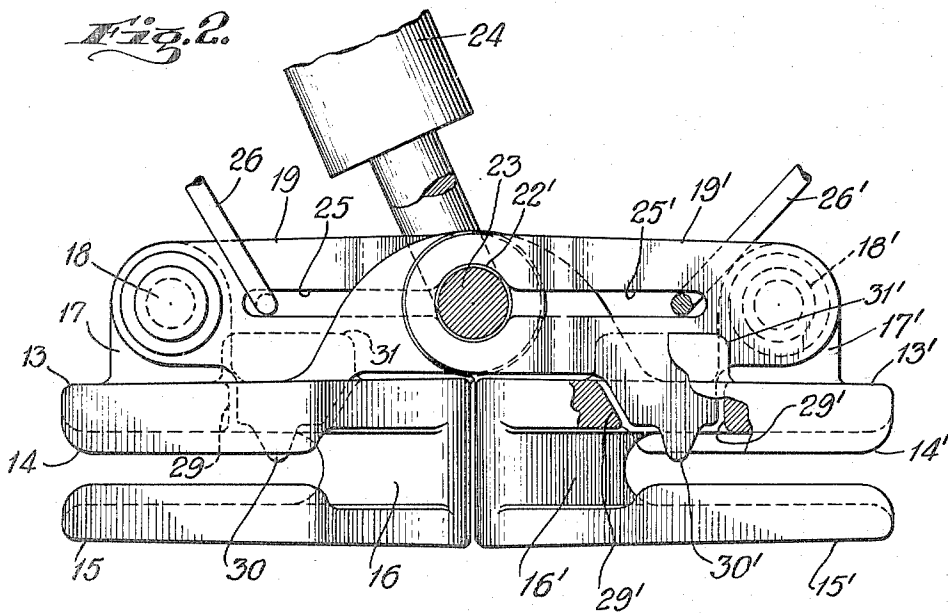


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INTERLOCK SLIDER
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INTERLOCK SLIDER

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This invention relates to sliders such as used on separable fastener stringers of the double action type, providing two way mounting and operation of sliders along the stringers. More particularly, the invention deals with means for coupling and permanently locking, through the medium of a padlock or similar means, two sliders against relative movement with respect to each other, so as to maintain a fastener closed, regardless of the position of the tandem or coupled sliders on the stringers. Still more particularly, the invention deals with a slider construction of the kind defined wherein each slider is of the same construction so that two similar sliders mounted in reverse directions on the stringers may be brought into intercoupled relationship for the reception of a padlock or similar means for positively uniting the sliders against separation. The novel features of the invention will be best understood from the following description when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed, and in which the separate parts are designated by suitable reference characters in each of the views; and in which:

Fig. 1 is a plan and sectional view of a pair of sliders made according to my invention, showing the same in coupled relationship and indicating part of the locking bolt of a padlock therein; and

Fig. 2 is a side view of the structure as seen in Fig. 1, with parts of the construction broken away and in section and indicating parts of pulls employed on each slider.

The sliders herein shown and described are adaptable for use on stringers of the type and kind disclosed, for example, in my prior application, issued as Patent Number 2,331,618 granted October 12, 1943, which adapts sliders for movement along the stringers with the sliders in any position thereon, thus permitting an arrangement of two similar sliders 10-10' on stringers with their narrow ends 11-11' disposed in opposite directions to each other and their flared diverging channelled ends 12-12' disposed adjacent each other. The sliders have top walls 13-13' having turned flanges 14-14' at their outer edges. The sliders also include the similar bottom walls 15-15' joined with the top walls by connecting webs or frogs 16-16', these frogs forming the usual diverging channels well known to devices of this kind.

Arranged on the top walls 13-13', adjacent the ends 11-11' are upstanding bearings 17-17' in which are mounted pin portions 18-18' of lock levers 19-19'. The pins 18-18' have reduced

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and riveted over ends engaging washers 20-20' to support the levers 19-19' firmly in the bearings.

The levers 19-19' have inwardly offset end portions 21-21' which extend beyond the limits of the ends 12-12' and are adapted to overlap in the manner clearly illustrated in Fig. 1 of the drawing. These ends have large apertures 22-22' therein adapted to receive the U-bolt or element 23 of a padlock 24, as clearly illustrated in Fig. 2 of the drawing, part of the bolt being shown also in Fig. 1.

The apertures 22-22' extend into elongated apertures 25-25' arranged along the levers 19-19' to a point adjacent the pin ends thereof and in these apertures, suitable pulls or fingerpieces 26-26' are adapted to be arranged for independent operation of each of the sliders when uncoupled.

The top walls of the sliders also have upwardly and outwardly extending plates or walls 27-27' so offset that their adjacent surfaces are brought into close proximity to each other, as clearly seen in Fig. 1, and these plates have apertures 28-28' therein registering with the apertures 22-22' also to receive the bolt 23. This construction keeps the arms 19-19' down upon the upper wall portions 13-13', as will be apparent.

The upper walls 13-13' have elongated openings 29-29' formed therein to receive downwardly extending lock elements or fingers 30-30' on the levers 19-19'. These elements extend into the channels of the slider to engage the scoops on the stringers and will serve to permanently lock the sliders in any desired position on the stringers. It will be understood, however, that in some forms of construction, these lock pins are not absolutely essential, as the mere locking together of the two sliders retains the fastener against opening. These lock elements are only desirable when it is important to retain the lock elements in a definite position on the stringers, otherwise, the coupled sliders could be moved anywhere along the stringers.

Adjacent the apertures 29-29', the upper walls 13-13' are provided with upstanding lugs 31-31' which are arranged adjacent the levers 19-19' and serve to reinforce and strengthen the coupling engagement of the sliders and to maintain the levers within and between the wall portions defined by the members 27-31 and 27'-31'.

Upon removal of the padlock or other locking member employed to retain the sliders in locked engagement, the levers 19-19' may be swung on the pivots 18-18' to disengage the lock pins

30—30' from the stringers and permit free independent movement of the sliders along the stringers, as with other devices of this kind. Where the question of strength and maintenance of the sliders in close proximity to each other is not of too great importance, the walls or plates 27—27' can be disposed with, and the bolt 23 of the padlock simply passed through the apertures 22—22' of the levers. It will be apparent that the coupling engagement of these levers will limit relative swinging movement thereof outwardly with respect to the upper walls of the slider.

By using sliders of identical construction, no lefts and rights are required. In other words, a single slider is produced. In this manner, all problems from a standpoint of manufacture are dispensed with and this is also true with respect to the levers employed on each of the sliders.

It will be apparent that the sliders when brought into coupled relationship, have the apertures of the plates and levers in registering alinement with the axis of said apertures on abutting or adjacent ends of the sliders. In other words, the axis of the apertures in the plates 27—27' is disposed at, or slightly beyond the end of the slider or the web or frog portions 16—16' thereof.

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

1. An interlock slider construction for separable fastener stringers comprising a pair of identical sliders adapted for arrangement with diverging channel ends in opposed relationship to each other, each slider having a lever pivoted to one wall of the slider, the free end portion of the lever having a large aperture, said end of each slider having an outwardly projecting apertured plate, the aperture of the lever being adapted to be brought into registering alinement with the aperture of said plate, and the lever and plate of each slider projecting beyond said end thereof to bring the apertures of the plate and lever of both sliders in registering alinement at adjacent ends of said sliders, and a common lock element disposable through all of said apertures to positively retain the sliders against separation.

2. An interlock slider construction for separable fastener stringers comprising a pair of similar sliders adapted for arrangement with diverging channel ends in opposed relationship to each other, each slider having a lever pivoted to one wall of the slider, the free end portion of the lever having a large aperture, said end of the slider having an outwardly projecting apertured plate, the aperture of the lever being adapted to be brought into registering alinement with the aperture of said plate, the lever and plate of each slider projecting beyond said end thereof to bring the apertures of the plate and lever of both sliders in registering alinement at adjacent ends of said sliders to receive a common lock element passed through all of said apertures in positively retaining the sliders against separation, each slider having an aperture in the wall thereof opening into the channels of the slider, and the lever having a pin-like projection adapted to extend into the slider channel when the lever is in locked position.

3. In tandem sliders adapted to be locked one with the other, each slider comprising a channelled body defined by upper and lower walls spaced at one diverging end in a connecting web, a lever, means on the top wall of the slider for pivoting the lever thereto, the free end portion

of the lever having a large aperture, the length of said lever with respect to its pivot being adapted to expose the apertured end of the lever at and slightly beyond the diverging end of said slider body, said wall of the slider body having an upstanding plate projecting beyond the diverging end thereof, and said plate having an aperture adapted to register with the aperture of said lever.

4. In tandem sliders adapted to be locked one with the other, each slider comprising a channelled body defined by upper and lower walls spaced at one diverging end in a connecting web, a lever, means on the top wall of the slider for pivoting the lever thereto, the free end portion of the lever having a large aperture, the length of said lever with respect to its pivot being adapted to expose the apertured end of the lever at and slightly beyond the diverging end of said slider body, said wall of the slider body having an upstanding plate projecting beyond the diverging end thereof, said plate having an aperture adapted to register with the aperture of said lever, and a lock element on said lever adapted to extend into the channel of the slider.

5. In tandem sliders adapted to be locked one with the other, each slider comprising a channelled body defined by upper and lower walls spaced at one diverging end in a connecting web, a lever, means on the top wall of the slider for pivoting the lever thereto, the free end portion of the lever having a large aperture, the length of said lever with respect to its pivot being adapted to expose the apertured end of the lever at and slightly beyond the diverging end of said slider body, said wall of the slider body having an upstanding plate projecting beyond the diverging end thereof, said plate having an aperture adapted to register with the aperture of said lever, a lock element on said lever adapted to extend into the channel of the slider, means on the top wall of the slider for reinforcing the lever when the aperture thereof is in registering alinement with the aperture of said plate, the pivot means of said lever comprising a cylindrical bearing, and the lever having an integral pin arranged in said bearing.

6. In tandem sliders adapted to be locked one with the other, each slider comprising a channelled body defined by upper and lower walls spaced at one diverging end in a connecting web, a lever, means on the top wall of the slider for pivoting the lever thereto, the free end portion of the lever having a large aperture, the length of said lever with respect to its pivot being adapted to expose the apertured end of the lever at and slightly beyond the diverging end of said slider body, said wall of the slider body having an upstanding plate projecting beyond the diverging end thereof, said plate having an aperture adapted to register with the aperture of said lever, a lock element on said lever adapted to extend into the channel of the slider, means on the top wall of the slider for reinforcing the lever when the aperture thereof is in registering alinement with the aperture of said plate, the pivot means of said lever comprising a cylindrical bearing, the lever having an integral pin arranged in said bearing, said plate having one surface thereof in alinement with the longitudinal center of said slider, said lever engaging the other surface of said plate, and the pivot end portion of the lever being offset with respect to said plate.

7. A slider of the class described comprising

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a channelled slider body having a wide end and a narrow end, one wall of said body having outwardly projecting spaced members, one of said members extending beyond the wide end of the slider and having an aperture therein, a lever pivoted to said wall of the slider, said lever being adapted to be disposed between said members in one position of the lever on the slider, and said lever having an aperture common to and registering with the aperture of said apertured member.

8. A slider of the class described comprising a channelled slider body having a wide end and a narrow end, one wall of said body having outwardly projecting spaced members, one of said members extending beyond the wide end of the slider and having an aperture therein, a lever pivoted to said wall of the slider, said lever being adapted to be disposed between said members in one position of the lever on the slider, said lever having an aperture common to and registering with the aperture of one of said members, said wall of the slider having an aperture opening into the channel thereof, and the lever having a lock element adapted to extend through said aperture into the channel of the slider in said one position of the lever.

9. In a slider having upper and lower wings united by a web at the head end of the slider, the improvement which comprises a lug upstanding from the upper wing of the slider adjacent and projecting beyond the head end of the slider, the lug having a transverse aperture, a lever pivoted on a transverse axis on the said upper wing at a point remote from the lug aperture and also remote from the said head end of the slider, said upper wing having an opening therethrough, a locking pin on the lever located to penetrate said opening when the lever is swung toward the head end of the slider into a position substantially parallel with the upper wing, said lever having a transverse aperture adapted to register with the lug aperture when the lever is swung into said position, and an upstanding guide lug adjacent one side of the lever and remote from said first-mentioned lug.

10. In a slider having upper and lower wings united by a web at the head end of the slider, the improvement which comprises a lug upstanding from the upper wing of the slider adjacent and projecting beyond the head end of the slider, the lug having a transverse aperture, a lever pivoted on a transverse axis on the said upper wing at a point remote from the lug aperture and also remote from the said head end of the slider, said lever being offset from the longitudinal axis of the slider, said upper wing having an opening therethrough, and a locking pin on the lever located to penetrate said opening when the lever is swung toward the head end of the slider into a position substantially parallel with the upper wing, said lever having a free end portion offset from the remaining portion thereof, and said free end portion having a transverse aperture adapted to register with the lug aperture when the lever is swung into said position.

11. In a slider having upper and lower wings united by a web at the head end of the slider, the improvement which comprises a lug upstanding from the upper wing of the slider adjacent and projecting beyond the head end thereof and laterally offset from the longitudinal axis of the slider, the lug having a transverse aperture, a lever pivoted on a transverse axis on the said

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upper wing at a point remote from the lug aperture and also remote from the said head end of the slider, said upper wing having an opening therethrough, and a locking pin on the lever located to penetrate said opening when the lever is swung toward the head end of the slider into a position substantially parallel with the upper wing, said lever having a transverse aperture adapted to register with the lug aperture when the lever is swung into said position.

12. In a slider having upper and lower wings united by a web at the head end of the slider, the improvement which comprises a lug upstanding from the upper wing of the slider adjacent and projecting beyond the head end of the slider, the lug having a transverse aperture, a lever pivoted on a transverse axis on the said upper wing at a point remote from the lug aperture and also remote from the said head end of the slider, said upper wing having an opening therethrough, and a locking pin on the lever located to penetrate said opening when the lever is swung toward the head end of the slider into a position substantially parallel with the upper wing, said lever having a transverse aperture adapted to register with the lug aperture when the lever is swung into said position.

13. In a slider having upper and lower wings united by a web at the head end of the slider, the improvement which comprises a lug upstanding from the upper wing of the slider adjacent the head end of the slider, the lug having a transverse aperture, a lever pivoted on a transverse axis on the said upper wing at a point remote from the lug aperture and also remote from the said head end of the slider, said upper wing having an opening therethrough, and a locking pin on the lever located to penetrate said opening when the lever is swung toward the head end of the slider into a position substantially parallel with the upper wing, said lever having a transverse aperture adapted to register with the lug aperture when the lever is swung into said position.

14. In a slider having upper and lower wings united by a web at the head end of the slider, the improvement which comprises a lug upstanding from the upper wing of the slider, the lug having a transverse aperture, a lever pivoted on a transverse axis on the said upper wing at a point remote from the lug aperture, said upper wing having an opening therethrough, and a locking pin on the lever located to penetrate said opening when the lever is swung into a position substantially parallel with the upper wing, said lever having a transverse aperture adapted to register with the lug aperture when the lever is swung into said position.

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