

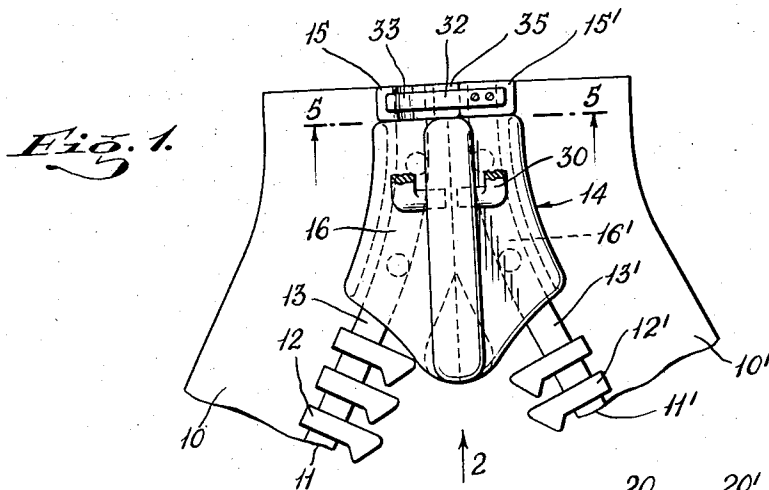
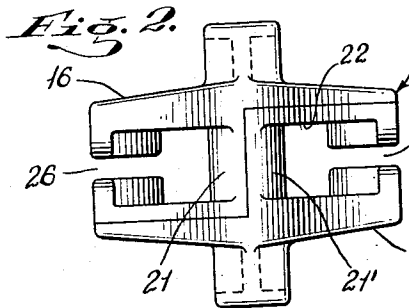
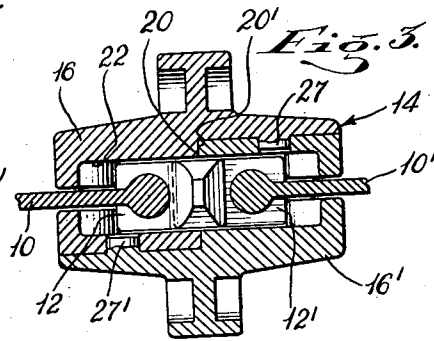
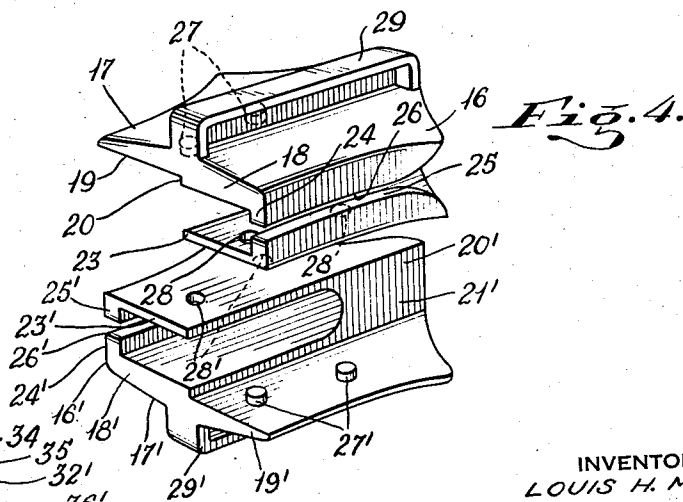
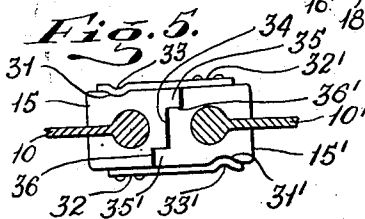
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SLIDER FOR SEPARABLE FASTENER STRINGERS

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SLIDER FOR SEPARABLE FASTENER
STRINGERS

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This invention relates to sliders used on separable fastener stringers to couple and uncouple the stringers. More particularly, the invention deals with devices of this type and kind where the slider body is composed of two similar parts or halves having means providing quick coupling and uncoupling of the halves, and said parts or halves being held in coupled relationship to each other by the links or scoops of the stringers whereby quick separation of the stringers is made possible. 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 view of one end portion of a pair of stringers showing one of my improved sliders thereon, with part of the construction broken away and in section.

Fig. 2 is an end elevation looking in the direction of the arrow 2 of Fig. 1, showing only the slider, and with the pull partially shown in Fig. 1, detached.

Fig. 3 is a sectional view through the slider showing coupled scoops arranged within the slider and illustrating the coupling of the slider parts by said scoops.

Fig. 4 is a perspective view showing the slider parts in detached relationship to each other; and

Fig. 5 is a partial section on the line 5-5 of Fig. 1.

One specific use for fasteners of the kind below described, is in the assemblage of tent halves for military and other purposes. For this and similar purposes there is an everpresent hazard of mis-matching if quantities of tent halves are made of different construction, that is, if one type of section is provided with a fastener stringer only and another type section has a stringer plus slider. Obviously, the sections cannot be assembled except when one of the type with the slider is matched with another of the type having the fastener stringer only.

According to the present invention the tent halves or other articles to be separably united can be equipped with identical fastening components, each article carrying a stringer plus a half slider capable of assembly with the half slider carried by any other article of the series.

In the accompanying drawing, I have shown in Fig. 1, two similar parts 10-10' which may represent, for example, the like tent parts men-

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tioned above. These parts have zipper or stringer edges which are defined by the beads 11-11' upon which are arranged scoops 12-12' of any desired type or kind. The beaded edges at one end of the parts 10-10' which may also be termed stringer tapes, have blank bead portions 13-13' onto which the slider body generally identified by the reference character 14 is adapted to pass in the complete detachment or separation of the parts 10-10'. At the ends of the blank bead portions 13-13' are stops 15-15' which, when interlocked, unite the ends of the stringers and serve as a stop to prevent endwise withdrawal of the slider 14, which is composed of half sections 16, 16'.

The slider halves 16-16' are of identical construction. In other words, only one form slider half is required to be made, as by die-casting. The halves are so arranged as to be capable of assembly into a complete and substantially conventional channelled slider body. In describing each part, the same reference characters will be used and the references of one part will be primed to distinguish from the other part as follows.

Each part 16-16' comprises a wall 17-17' generally defining the contour of the slider as viewed in plan, and having a full thickness side 18-18' and a half thickness side 19-19', these sides being divided centrally and longitudinally by the split surfaces 20-20'. These split surfaces extend through rear web portions 21-21', note Fig. 2, which divide the channel generally identified by the reference character 22 at the wide end of the slider body as in other standard types of slider constructions.

The web 21-21' of each part unites an opposing thin wall portion 23-23' with the walls 17-17' at the side of each slider part opposed to the thick walls 18-18', as will clearly appear from a consideration of Fig. 4 of the drawing. The thick walls 18-18' have inturned flanges 24-24' as do also the thin walls 23-23', as seen at 25-25'. Both of said flanges of each part define the channel 22 and provide the longitudinal slits or openings 26-26' at the sides of the slider body 14 for the reception of the stringer tapes or other supports 10-10' while preventing the bead 13-13' as well as the scoops 12-12' from displacement through said slits. The thin walls 19-19' have on their inner surfaces, projecting pins 27-27' spaced longitudinally thereof. The thin walls 23-23' have correspondingly spaced apertures 28-28' for reception of the pins 27-27' respectively, to locate the parts 16-16' and interlock them against relative

movement. While the slider halves are separable in the direction of the axis of the pins 27—27', the latter can have a sufficiently snug fit that slight pressure and a slight pull are necessary to assemble and disassemble the parts.

Located centrally and extending longitudinally of the walls 17—17' are outwardly projecting pull supporting members 29—29' which are T-shaped in cross section, a part of one pull being shown at 30 in Fig. 1 of the drawing. It will here be understood that in the application of the fastener to tents, it is desirable to have a pull on each wall of the slider so that a tent flap may be opened and closed from the interior as well as from the exterior of the tent.

In certain uses of the invention, it will be desirable to retain the stringers or parts 10—10' against accidental or pull apart separation, and to accomplish this, I provide the stops 15—15' with grooves 31—31'. These stops also have spring catch devices 32—32' having offset portions 33—33' adapted to enter the grooves 31—31' respectively, to couple the parts 10—10' against pull apart separation.

The stops 15—15' are united much the same as the slider halves. In other words, they are divided by a common center line, as at 34, and each part has a tongue or flange portion 35—35' arranged in a recessed or cutout portion of the companion part. For example, 35 fits in a recess 36' of the part 15', whereas 35' fits in a recess 36 of the part 15, all as clearly seen in Fig. 5 of the drawing.

In the position of the parts shown in Fig. 1, the end stops have been interlocked, the slider halves assembled and the coupling of the stringers is effected in the usual manner by endwise movement of the slider (downward in this instance) by means of pull 30.

It will be recognized that as soon as the slider has been moved downwardly to a point where the free ends of the scoops cross the longitudinal center line of the slider, preparatory to intermeshing, they begin to block the slider halves against separation, that is, in the direction of the axes of pins 27—27'; and when the scoops are actually intermeshed, locking themselves against transverse as well as pull apart separation in the usual manner, they provide a positive lock against the separation of the slider halves, and the slider functions just as if it were of the usual unitary construction.

To effect complete detachment of the member 10—10' it is merely necessary to return the slider to the Fig. 1 position where the slider halves and the end stops can be separated. Since the end stops are secured to their respective members 10—10' and the slider halves 16—16' are likewise respectively coupled to such members by the encirclement of the beads 13—13' by the flanges 24—25 and 24'—25', there are no loose parts such as are apt to get lost.

As illustrated in Fig. 1 the last scoop of each stringer is shown completely outside of the slider channel but this is not essential. It will be recognized that, regardless of whether an interlocking type of end stop is used, it is only necessary that the slider be movable to such a position relative to the scoops that none of them crosses the center line of the slider to such an extent as to lock the slider halves against separation. In other words, one or two or possibly more scoops could be added to the illustrated stringers without interfering with the separation or assembly of the slider halves in the manner described.

For purposes of description, each slider part may be said to comprise a channelled side and a thin walled side. A channelled side being defined, for example, by the walls 18—23, including the flanges of said walls, and the thin walled side by the wall 17.

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

1. In separable fasteners of the class described comprising a pair of similar stringers, each stringer comprising a beaded edge tape with scoops spaced longitudinally of the beaded edge of the tape, said scoops terminating short of the tape ends at one end of the stringers to form blank bead portions, the combination therewith of a slider for coupling and uncoupling the scoops of said stringers, said slider comprising a slider part slidably engaging the scoops and bead of each stringer, a stop at each said tape end for retaining the slider parts against displacement from said end of the stringers, the slider parts of both stringers being identical and interengageable, and the coupled scoops embraced by the slider serving to prevent separation of the slider parts.
2. In separable fasteners of the class described comprising a pair of similar stringers, each stringer comprising a beaded edge tape with scoops spaced longitudinally of the beaded edge of the tape, said scoops terminating short of the tape ends at one end of the stringers to form blank bead portions, the combination therewith of a slider for coupling and uncoupling the scoops of said stringers, said slider comprising a slider part slidably engaging the scoops and bead of each stringer, a stop at each said tape end for retaining the slider parts against displacement from said end of the stringers, slider parts of both stringers being identical and interengageable, the coupled scoops embraced by the slider serving to prevent separation of the slider parts, and means for coupling the stops of said stringers to retain said stringers against accidental separation.
3. In separable fasteners of the class described comprising a pair of similar stringers, each stringer comprising a beaded edge tape with scoops spaced longitudinally of the beaded edge of the tape, said scoops terminating short of the tape ends at one end of the stringers to form blank bead portions, the combination therewith of a slider for coupling and uncoupling the scoops of said stringers, said slider comprising a slider part slidably engaging the scoops and bead of each stringer, a stop at each said tape end for retaining the slider parts against displacement from said end of the stringers, slider parts of both stringers being identical and interengageable, the coupled scoops embraced by the slider serving to prevent separation of the slider parts, means for coupling the stops of said stringers to retain said stringers against accidental separation, and the stop of one stringer being identical with the stop of the companion stringer.
4. In separable fasteners of the class described, a pair of similar stringers, each stringer having a slider part movable along the stringer, means for retaining said part against displacement from the stringer, the slider part on one stringer being identical to the slider part of the companion stringer, each slider part having means thereon for coupling the same to the other part to resist separation in the direction of pull apart separation of said stringers, the stringers having scoops

5 coupled and uncoupled by the slider parts when the latter are in coupled engagement with each other, and coupled scoops when arranged in the coupled slider parts serving to retain the slider parts against separation in a direction angularly to the first mentioned direction.

5. In separable fasteners of the class described, a pair of similar stringers, each stringer having a slider part movable along the stringer, means for retaining said part against displacement from the stringer, the slider part on one stringer being identical to the slider part of the companion stringer, each slider part having means thereon for coupling the same to the other part to resist separation in the direction of pull apart separation of said stringers, the stringers having scoops coupled and uncoupled by the slider parts when the latter are in coupled engagement with each other, coupled scoops when arranged in the coupled slider parts serving to retain the slider parts against separation in a direction angularly to the first mentioned direction, and means at one end of the stringers and beyond the scoops thereof for enabling the slider parts to be separated in the last mentioned direction.

6. In separable fasteners of the class described, a pair of similar stringers, each stringer having a slider part movable along the stringer, means for retaining said part against displacement from the stringer, the slider part on one stringer being identical to the slider part of the companion stringer, each slider part having means thereon for coupling the same to the other part to resist separation in the direction of pull apart separation of said stringers, the stringers having scoops coupled and uncoupled by the slider parts when the latter are in coupled engagement with each other, coupled scoops when arranged in the coupled slider parts serving to retain the slider parts against separation in a direction angularly to the first mentioned direction, means at one end of the stringers and beyond the scoops thereof for enabling the slider parts to be separated in the last mentioned direction, and means for detachably coupling the stringers at the last mentioned end thereof.

7. A slider for separable fastener stringers of the character described, said slider comprising two similar slider parts, each slider part having a channelled side and a thin walled side adapted for reception of the channel side of the companion slider part, and interengaging means between the thin wall side and the channel side of the slider parts for coupling said parts together in one direction while permitting attachment and detachment in a direction at right angles to the first named direction.

8. A slider for separable fastener stringers of the character described, said slider comprising two similar slider parts, each slider part having a channelled side and a thin walled side adapted for reception of the channel side of the companion slider part, interengaging means between the thin wall side and the channel side of the slider parts for coupling said parts together in one direction while permitting attachment and detachment in a direction at right angles to the first named direction, and each slider part having a pull mounting member extending centrally and longitudinally thereof.

9. As an article of manufacture, a slider part, said slider part comprising a wide outer wall portion, a half wall portion conforming generally to the contour of one-half of the wide wall portion and spaced therefrom by a connecting web, the web integrally uniting said wall portions, the

narrow wall portion and the corresponding side of the wide wall portion having inturned flanges defining in one side of the slider part a channel opening through both ends of the slider and outwardly between adjacent surfaces of said inturned flanges.

10. As an article of manufacture, a slider part, said slider part comprising a wide outer wall portion, a half wall portion conforming generally to the contour of one-half of the wide wall portion and spaced therefrom by a connecting web, the web integrally uniting said wall portions, the narrow wall portion and the corresponding side of the wide wall portion having inturned flanges defining in one side of the slider part a channel opening through both ends of the slider and outwardly between adjacent surfaces of said inturned flanges, and the narrow wall portion and the other side of the wide wall portion having correspondingly spaced and aligned male and female keying means.

11. As an article of manufacture, a slider part, said slider part comprising a wide outer wall portion, a half wall portion conforming generally to the contour of one-half of the wide wall portion and spaced therefrom by a connecting web, the web integrally uniting said wall portions, the narrow wall portion and the corresponding side of the wide wall portion having inturned flanges defining in one side of the slider part a channel opening through both ends of the slider and outwardly between adjacent surfaces of said inturned flanges, the narrow wall portion and the other side of the wide wall portion having correspondingly spaced and aligned male and female keying means, and means on the wide wall portion for coupling a pull therewith.

12. A slider for separable fastener stringers having scoops spaced longitudinally of the stringer edges adapted to be coupled and uncoupled by said slider, said slider comprising two similar slider parts, each part having a channelled side slidably engaging and retained against displacement from a stringer, common male and female couplings on each slider part for retaining the slider parts against pull apart separation, the channels of slider parts intersecting for reception of coupled scoops of said stringers, and coupled scoops of the stringers forming the sole means for retaining the slider parts against separation in a direction angularly to said pull apart separation.

13. A slider for separable fastener stringers having scoops spaced longitudinally of the stringer edges adapted to be coupled and uncoupled by said slider, said slider comprising two similar slider parts, each part having a channelled side slidably engaging and retained against displacement from a stringer, coupling means on each slider part for retaining the slider parts against pull apart separation, the channels of coupled slider parts intersecting for reception of coupled scoops of said stringers, coupled scoops of the stringers forming the sole means for retaining the slider parts against separation in a direction angularly to said pull apart separation, and the stringers having means at one end portion thereof for freeing the scoops of the stringers from intersecting portions of the channels of said slider parts in order to provide free separation of said slider parts in the last named direction.

14. A slider for separable fastener stringers comprising a pair of identical and interengageable slider halves, each half comprising a pair of spaced walls connected at one end thereof by

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a web, one of the walls of each half extending transversely of said half for the entire width of the slider and having a pull-supporting member on the outer side thereof, and the other of said walls of each half extending transversely of the half for substantially one-half the width of the slider.

15. A slider for separable fastener stringers comprising a pair of identical and interengageable slider halves, each half comprising a pair of spaced walls connected at one end thereof by a web, one of the walls of each half extending transversely of said half for the entire width of the slider and having a pull-supporting member on the outer side thereof, and the other of said walls of each half extending transversely of the

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half for substantially one-half the width of the slider, said halves being engageable with each other along their longitudinal dimension with the web of one mating with the web of the other.

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