April 14, 1936. R. C. LEGAT 2,037,473

BOTTOM STOP FOR FASTENERS

Filed July 16, 1935 2 Sheets-Sheet 1

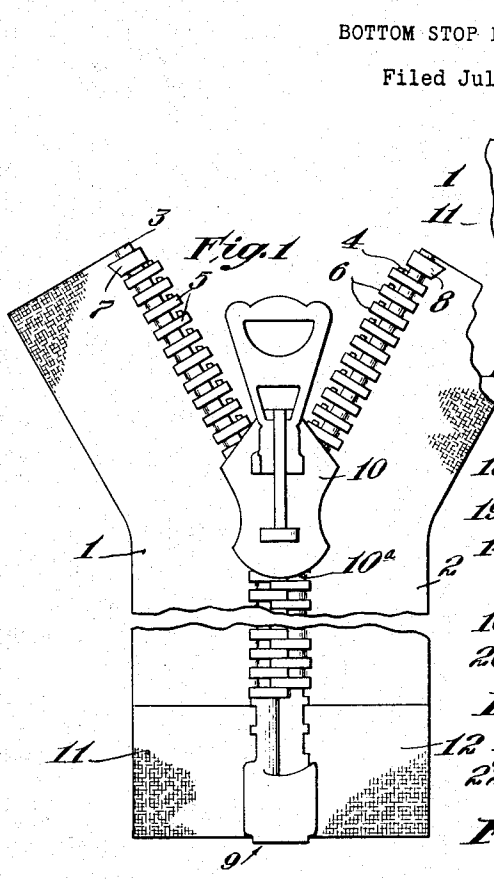


Fig. 1

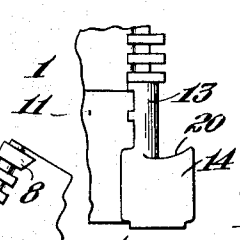


Fig. 3

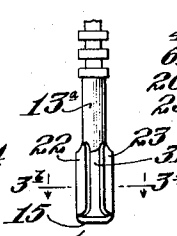


Fig. 3a

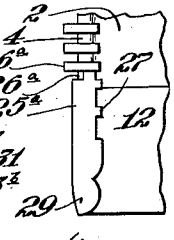


Fig. 4

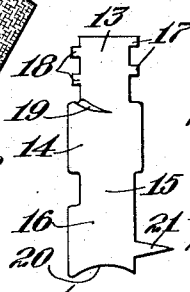


Fig. 5

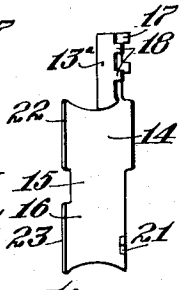


Fig. 6

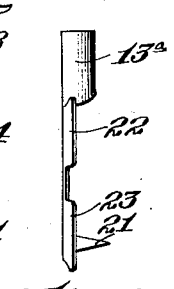


Fig. 7



Fig. 8

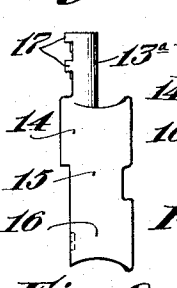


Fig. 9

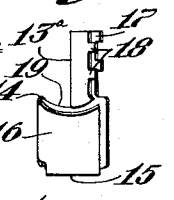


Fig. 10

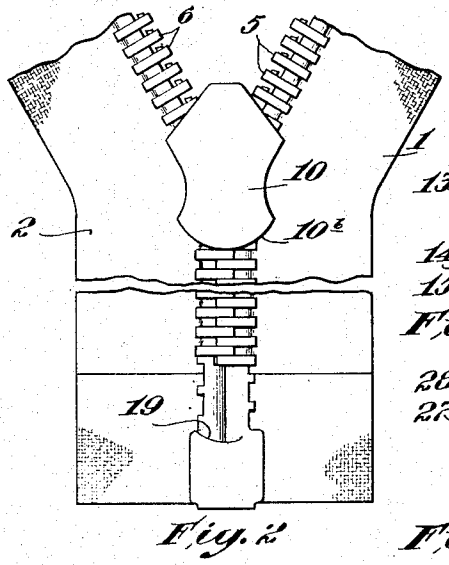


Fig. 2

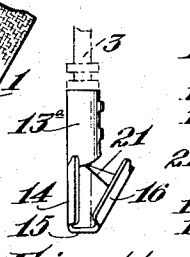


Fig. 11

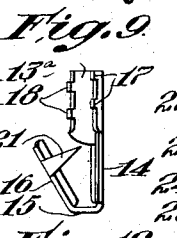


Fig. 12

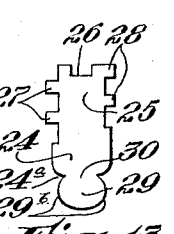


Fig. 13

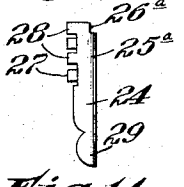


Fig. 14

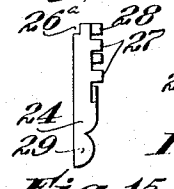


Fig. 15

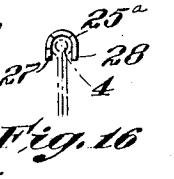


Fig. 16

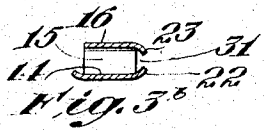


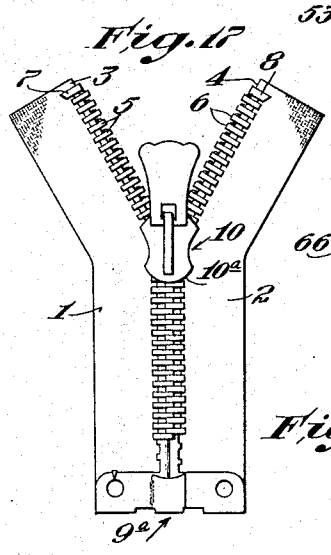
Fig. 3b

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Fig. 17

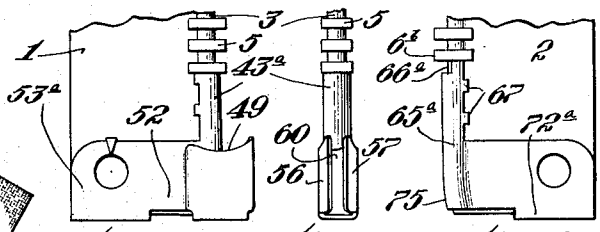
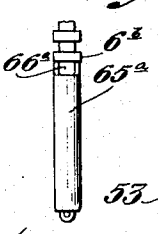

Fig. 19

Fig. 19a

Fig. 20


Fig. 20a

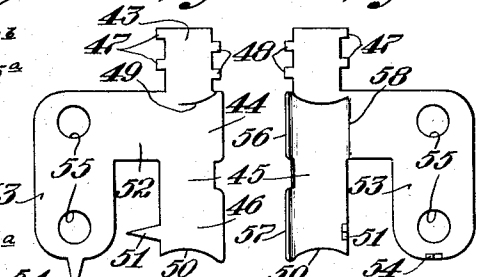
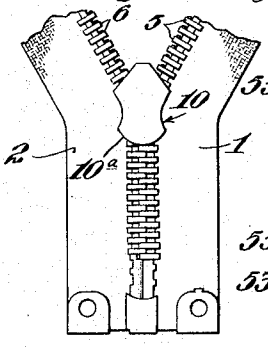

Fig. 21

Fig. 22


Fig. 18

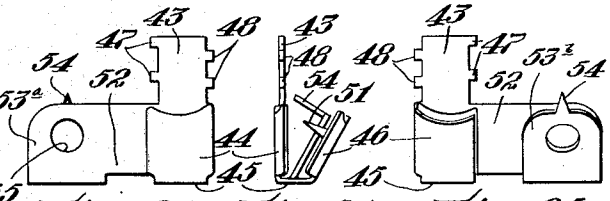

Fig. 23

Fig. 24

Fig. 25

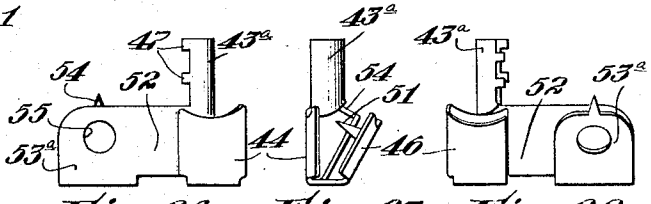
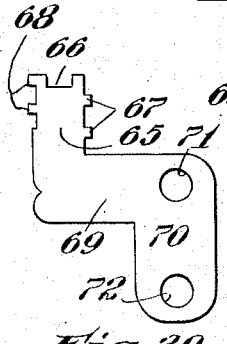
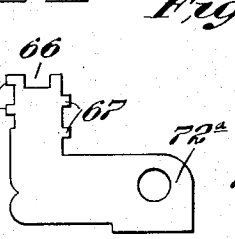
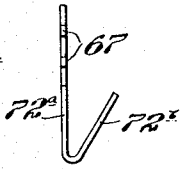

Fig. 26

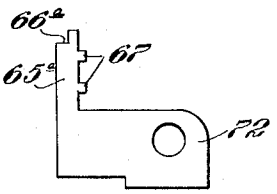
Fig. 27

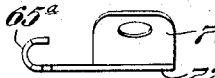
Fig. 28


Fig. 29


Fig. 30


Fig. 31


Fig. 32


Fig. 33

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Patented Apr. 14, 1936 2,037,473

UNITED STATES PATENT OFFICE

2,037,473

BOTTOM STOP FOR FASTENERS

Robert C. Legat, New Britain, Conn., assignor to G. E. Prentice Manufacturing Company, New Britain, Conn., a corporation of Connecticut

Application July 16, 1935, Serial No. 31,550

17 Claims. (Cl. 24—205)

This invention pertains to separable slide actuated fasteners and relates more particularly to a separable bottom stop for such a fastener. The purpose and utility of such a separable bottom stop has been pointed out at length in my Patent No. 1,893,823, dated January 10, 1933, which discloses one desirable and useful form of separable bottom stop. The object of the present invention is to provide a separable bottom stop constituting an improvement over that of my aforesaid patent both in mechanical construction and in appearance, and an improved method of making such a separable bottom stop.

In the accompanying drawings wherein certain desirable embodiments of the invention are illustrated by way of example

Fig. 1 is a fragmentary front elevation of a fastener of the class described embodying a preferred form of the present invention;

Fig. 2 is a fragmentary rear elevation illustrating the same arrangement as that of Fig. 1;

Fig. 3 is a fragmentary front elevation showing the lower end of one of the stringers with the socket member of the separable bottom stop attached thereto;

Fig. 3*a* is an edge elevation of the parts shown in Fig. 3;

Fig. 3*b* is a transverse section, to larger scale, in the horizontal plane of line 3*b*—3*b* of Fig. 3*a*;

Fig. 4 is a view similar to Fig. 3 but showing the lower end of the other stringer with the pin member of the improved bottom stop attached thereto;

Fig. 5 is a plan view of a blank useful in forming the socket member shown in Fig. 3;

Fig. 6 is a front view showing the blank of Fig. 5 at the completion of the first stage in the operation of forming the socket member;

Fig. 7 is an elevation of the device of Fig. 6, viewed from the left-hand side of the latter;

Fig. 8 is a plan view of the device of Fig. 6;

Fig. 9 is a rear view of the device shown in Fig. 6;

Fig. 10 is a front elevation illustrating the socket member at the end of a further step in the operation;

Fig. 11 is a view of the device shown in Fig. 10, looking from the left-hand side of the latter, showing the edge of the stringer (in broken lines) as embraced by the gripping member of the socket;

Fig. 12 is an elevation looking from the right-hand side of Fig. 10;

Fig. 13 is a plan view of a blank useful in making the pin member of the bottom stop;

Fig. 14 is a front elevation showing the blank of Fig. 13 after it has been partially formed but before attachment to the stringer;

Fig. 15 is a view similar to Fig. 14, but from the opposite side;

Fig. 16 is a plan view of the device of Fig. 15 showing (in broken lines) the edge of a stringer disposed in position to have the pin member clamped about it;

Fig. 17 is a view similar to Fig. 1 but illustrating a modified form of bottom stop;

Fig. 18 is a rear elevation of the stop device shown in Fig. 17;

Fig. 19 is a fragmentary elevation of the lower end of one stringer having attached thereto the socket member of the bottom stop illustrated in Fig. 17;

Fig. 19*a* is an edge elevation of the socket member shown in Fig. 18;

Fig. 20 is a fragmentary elevation showing the lower end of the other stringer having attached thereto the pin member of the bottom stop illustrated in Fig. 17;

Fig. 20*a* is an edge elevation of the parts shown in Fig. 20;

Fig. 21 is a plan view of a blank useful in making the socket member illustrated in Fig. 19;

Fig. 22 is an elevation showing the device of Fig. 21 at the completion of the first forming step;

Fig. 23 is a front elevation illustrating the device of Fig. 21 at the completion of the next forming step;

Fig. 24 is an edge elevation of the device of Fig. 23;

Fig. 25 is a rear elevation of the device of Fig. 23;

Fig. 26 is a front elevation of the same device at the completion of the next forming operation;

Fig. 27 is an edge view of the device of Fig. 26;

Fig. 28 is a rear elevation of the device of Fig. 26;

Fig. 29 is a plan view of a blank useful in forming the pin member illustrated in Fig. 20;

Fig. 30 is a front elevation of the same device at the end of the first forming step;

Fig. 31 is an edge view of the device of Fig. 30;

Fig. 32 is an elevation illustrating the pin member at the completion of the next forming step; and

Fig. 33 is an edge elevation of the device shown in Fig. 32.

Referring to the drawings, the numerals 1 and 2 designate flexible stringers or supports preferably having beaded edges 3 and 4 respectively which carry the series 5 and 6 respectively of

fastener units, such units being of any suitable type. Stop members 7 and 8 are preferably arranged at the upper ends of the series 5 and 6 of units, and a separable bottom stop 9, forming the immediate subject matter of the present invention, is arranged at the lower ends of the stringers. The fastener is actuated by means of a slider 10 which may be of any appropriate construction but which is preferably of the double acting type disclosed in the patent to Legat No. 1,969,270, dated August 7, 1934, such double acting slider being usually provided with downwardly directed guide aprons which terminate in downwardly convex edges 10^a and 10^b.

The improved bottom stop comprises a socket member attached to one stringer and a cooperating pin member attached to the other stringer. Preferably, in order to reinforce the lower portions of the stringers so as to prevent tearing and also slightly to stiffen the lower ends of the stringers to facilitate the manipulation of the bottom stop, the stringers are furnished with strips 11 and 12, respectively, of tape or the like each suitably united to its stringer by adhesive, stitching, staples or the like.

The improved bottom stop, as stated, comprises a socket member which, in accordance with the present invention, is preferably made from a unitary blank of sheet material, for example sheet metal, shaped substantially as illustrated in Fig. 5. This blank preferably comprises the portion 13, (designed to form the stringer-gripping device) integrally united at its lower end to the front member 14, which in turn is connected by the somewhat narrower portion 15, to the rear member 16. The part 13 is furnished at its opposite edges with the projecting tooth members 17 and 18 respectively, the members 17 preferably being disposed in staggered relation to the members 18. The upper end of the front member 14 is preferably defined by a curved incision 19 preferably extending substantially three-fourths of the way across the width of the member 13. The lower edge of the rear member 16 is preferably concavely curved at 20, the curvatures at 19 and 20 being substantially alike. At its right-hand edge, as viewed in Fig. 5, the member 16 is furnished with a projecting prong 21.

After having prepared the blank illustrated in Fig. 5, the first operation preferably consists in bending or curling the gripper member 13 to a more or less tubular or U-shape, as illustrated at 13^a, Figs. 6 and 8. At the same time the parts 14 and 16 are preferably so bent as to form the marginal flanges 22 and 23, and at the same time the prong 21 is struck upwardly so as to stand substantially at a right angle to the plane of the part 16. Following this first shaping operation, the blank is doubled or folded transversely at the portion 15 so as to bring the parts 14 and 16 substantially to the relative position illustrated in Fig. 11 and the socket member is now ready for attachment to the edge of the stringer. The beaded edge of the stringer is disposed within the tubular gripper member 13^a whereupon the latter is closed down by pressure or otherwise so as to cause the teeth 17 and 18 to penetrate the material of the stringer and snugly and firmly to grip the beaded edge of the stringer. Simultaneously with this operation, or following it, the member 16 is brought into substantially parallel relation to the member 14 to form front and rear walls for the socket, thereby causing the prong 21 to penetrate the material of the stringer and preferably to be clenched over against the inner surface of the other wall. In thus bending the part 16 into parallel relation with the part 14, the edges of the marginal flanges 22 and 23 are brought into substantially parallel relation, as illustrated in Fig. 3*a*,—the space between the parts 14 and 16 constituting the socket member and being adapted to receive the pin which is attached to the other stringer. The curved edges at 20 and 19 are adapted to receive the curved lower edges 10^a and 10^b of the slider, so that the latter may be brought down snugly into contact with the bottom stop, the engagement of these curved surfaces indicating to the operator that the slider is in proper position for manipulation of the bottom stop members. Preferably, the bending of the blank is so performed as to cause the part 15 to be slightly convex downwardly, and to merge smoothly with the front and rear walls.

The pin member is preferably made from a blank such as illustrated in Fig. 13, this blank having the body portion 24 integral with the gripper portion 25, the latter preferably having a notch 26 at its upper end and being furnished with teeth 27 and 28 at its opposite edges, such teeth preferably being staggered relatively to each other. At its lower end the body portion 24 is notched at each side at 24^a, thus forming a relatively narrow part 30 below which is a toe portion 29 preferably having a curved contour. Having prepared this blank, it is then formed or bent to more or less tubular or U-shape as shown at 25^a (Figs. 14, 15, 16). To impart the contour illustrated in Fig. 4, the toe member 29 is preferably swedged so as to provide a curved outer surface at the lower edge of the pin. This swedging may be performed either before or after the pin has been attached to the stringer. The beaded edge of the stringer is inserted in the partially formed tube 25^a and this tube is then compressed about the stringer so as to cause the teeth 27 and 28 to penetrate the material of the stringer at points close to the bead, and at the same time to cause the curved lobes 29^b of the toe portion 29 to press firmly into the stringer, thus firmly anchoring the pin member in position. The notch 26 at the upper end of this pin member constitutes a recess 26^a, after the forming operation, which is adapted to receive the projecting end of the lowermost fastener unit of the series carried by the opposite stringer, as illustrated in Fig. 1, for example.

When the parts have been assembled with the stringers, the general appearance of the separable stop device is as illustrated in Figs. 1 and 2, wherein the pin is received between the parts 14 and 16 of the socket member, the flanges 22 and 23 projecting inwardly so as to prevent the pin member from being pulled out laterally, although the edges of the flanges 22 and 23 are spaced apart sufficiently to accommodate the stringer tape. It may be noted that the socket member is secured to the stringer principally by the gripper device 13^a which occupies but little space laterally of the fastener and which thus does not greatly add to the bulk of the fastener, nor unduly stiffen it at points beyond the immediate vicinity of the series of fastener units. The device thus provided is of small dimensions and does not seriously detract from the appearance of any garment to which the fastener may be secured, but although very small and dainty in appearance, it still provides all the necessary resistance to separation of the stringers requisite in devices of this character.

Referring to the construction illustrated in

Figs. 17 to 33 inclusive, the numerals 1 and 2 designate stringers or supports having beaded edges 3 and 4 to which are secured the series 5 and 6 of fastener units. Top stops 7 and 8 respectively are arranged at the upper ends of the series of fastener elements, and the novel separable bottom stop 9a is arranged at the lower ends of the stringers. The fastener is opened and closed by means of a slider 10 of any suitable type, preferably a double-acting slider such as above referred to, having the lower ends of its front and rear wings provided with downwardly convex edges 10a and 10b, respectively.

In accordance with this arrangement the socket member of the bottom stop 9a is formed from a unitary blank of sheet material, for example, sheet metal, shaped substantially as illustrated in Fig. 21 and comprising the gripper-forming part 43, preferably provided with lateral teeth 47 and 48 at its opposite lateral margins, the teeth 47 being staggered with relation to the teeth 48. This blank from which the socket member is made also comprises a part 44 designed to form the front wall of the socket, the part 44 being united by a portion 45, preferably slightly narrower, to a part 46 designed to form the rear wall of the socket. The parts 43 and 44 are partially separated from each other by an incision 49 which extends inwardly from the right-hand margin of the part 44, as viewed in Fig. 21, preferably to a distance substantially three-quarters of the width of the part 43. Preferably this incision is curved with a downwardly convex curvature and the lower edge of the part 46 has a similar but upwardly concave curvature, indicated at 50. Near its lower end the part 46 is provided with a projecting prong 51.

The part 44 has a laterally projecting lug 52 whose outer end is designed to constitute an attaching wing. This lug 52 is of more or less L-shape, and the downwardly directed part 53 of the lug is designed to constitute a second attaching wing and preferably has a prong or spur 54 projecting from its lower end. Preferably, apertures 55 are provided in the portions of the lug which are to constitute the attaching wings, although such apertures are not necessary.

Having prepared the blank as above described, the first operation in forming it preferably comprises the steps of turning up flanges 56 and 57 (Fig. 22) at one edge of the members 44 and 46 and at the same time turning the prongs 51 and 54 substantially at right angles to the plane of the original blank. The blank may also be slightly embossed so as to form a shoulder at the point 58.

The next step in the operation, as illustrated in Figs. 23, 24, and 25, consists in bending the blank so as to bring the wing-forming portions of the lug into more or less parallel relation, while at the same time bending the blank at the region of the part 45 so as to bring the members 44 and 46 into position approaching parallelism, as illustrated in Fig. 24. The part 43 is now subjected to forming pressure whereby to cause it to approach a split tubular shape, as shown at 43a in Figs. 26, 27, and 28, the member 43a at this time being of U or horseshoe shape in transverse section.

Having brought the blank to the shape illustrated in Figs. 26 to 28 inclusive, the lower end of the stringer is disposed between the front and rear attaching wings, with the beaded edge of the stringer disposed in the gripper device 43a, and with the lower corner of the stringer interposed between the front and rear wall members 44 and 46. The socket member is now subjected to further pressure, such as to force the teeth 47 and 48 of the gripper device inwardly toward each other preferably so as to penetrate the material of the stringer closely adjacent to the bead and at the same time to bring the front and rear walls 44 and 46 into parallel relation. This latter operation also causes the prongs 51 and 54 to penetrate the stringer material, and these prongs, if of sufficient length, as is preferred, become clenched at their ends against the inner surfaces of the member 44 and the front attaching wing respectively. The socket member is thus very securely united to the lower part of the stringer.

It may be noted that in the final bending operation the edges of the flanges 56 and 57 are brought into substantially parallel but spaced relation, leaving a slot 60 (Fig. 19a) of sufficient width to accommodate the stringer material of the opposite stringer. If desired, for further securing the socket member to the stringer, a rivet or other attaching means may be passed through the openings 55 of the front and rear attaching wings.

The pin member of the separable bottom stop 9a is conveniently formed from a blank such as shown in Fig. 29 comprising the part 65 adapted to constitute a gripper, such part having a notch 66 in the upper end and having teeth 67 and 68 projecting from its lateral edges, such teeth preferably being staggered relatively to each other. At its lower part, the member 65 is furnished with a laterally extending lug 69 preferably of L-shape, the upper outer part of the lug being designed to constitute a front attaching wing, while the lower part 70 of this lug is designed to constitute a rear attaching wing. Preferably openings 71 and 72 are provided in this lug.

Having prepared this blank, the first operation in forming it preferably consists in so bending it as to provide the front and rear attaching wings 72a and 72b (Fig. 31), and thereupon the part 65 is so shaped as to cause it to assume a split tubular form, that is to say, U-shaped or horseshoe shape in transverse section, as illustrated at 65a. After thus bending the part 65, the notch 66 provides a recess 66a at the upper end of the gripper device 65a adapted to receive the free end of the lowermost fastener unit of the series carried by the other stringer. Having brought the blank to this shape, the lower end of the stringer 2 is disposed between the members 72a and 72b, with the beaded edge disposed within the tubular gripper 65a. The parts are then further bent so as to cause the teeth 67 and 68 to penetrate the stringer material and at the same time to bring the wing members 72a and 72b into substantially parallel relation. If desired, a rivet or other type of fastener may be passed through the openings 71 and 72.

This bottom stop, illustrated in Figs. 17 to 33, very greatly reinforces the stringers at their lower ends so as to oppose powerful separating stresses such as might tear the stringer, and for certain purposes may be preferable to that illustrated in the preceding figures. On the other hand, the laterally extending metallic members 52 and 69 impart considerable rigidity to the lower end of the fastener which, under some circumstances, may be objectionable, and in such cases the arrangement illustrated in Figs. 1 to 16 is to be preferred.

In the above description and in the appended

claims, reference has been made to the "top" and "bottom" of the slider and of the fastener device, but it is to be understood that these terms are employed for convenience of description and with particular reference to the parts as illustrated in the drawings, but without any intent to limit the position of use of the device. Likewise for convenience of description reference has been made to the "inner" and "outer" edges of the socket and pin members. The term "inner" as thus used is intended to designate that edge of the stringer or associated part which is adjacent to the opposite stringer, the "outer" edge being that edge which is most remote from the meeting line of the stringers. Likewise when the term "lateral" is employed, it is intended as indicating a generally horizontal direction as referred to the drawings, that is to say, a direction more or less at right angles to the path of movement of the slider.

While certain desirable embodiments of the invention have been illustrated by way of example, it is to be understood that the invention is not to be limited to the precise dimensions or materials suggested and that any equivalent arrangement may be substituted for the details herein disclosed without departing from the spirit of the invention as defined in the appended claims.

I claim:

1. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, and a bottom member integrally uniting the lower edges of the front and rear walls, said inwardly directed flanges being spaced to define a narrow slot which extends from the top of the socket member down to the upper surface of the bottom member.

2. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, and a bottom member integrally uniting the lower edges of the front and rear walls, said bottom member extending across substantially the entire lateral width of the socket and constituting a stop to limit downward movement of the pin member in the socket, said inwardly directed flanges being spaced to define a narrow slot which extends from the top of the socket member down to the upper surface of the bottom member.

3. A separable bottom stop for slide actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, and a bottom member integrally uniting the lower edges of the front and rear walls, said bottom member being downwardly convex and merging by smooth curves with the front and rear wall members, said inwardly directed flanges being spaced to define a narrow slot which extends from the top of the socket member down to the upper surface of the bottom member.

4. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, and a bottom member integrally uniting the lower edges of the front and rear walls, each of the front and rear walls having a downwardly concave upper edge to accommodate an actuating slider having downwardly convex surfaces at its lower end, said inwardly directed flanges being spaced to define a narrow slot which extends from the top of the socket member down to the upper surface of the bottom member.

5. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls at their lower ends, said inwardly directed flanges having opposed edges spaced to define a narrow slot extending from the top of the socket member down to the upper surface of the bottom member, and independent anchoring means carried by the front and rear walls respectively, said anchoring means being operative to grip the beaded edge of a stringer thereby to unite the socket member to the stringer.

6. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls at their lower ends, and a tubular gripper member integrally joined at its lower end to the upper edge of one only of said walls adjacent to the outer lateral edge of the latter, said gripper member being operative to embrace and grip the beaded edge of a stringer.

7. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls, a tubular gripper member projecting upwardly from the upper edge of one of the walls and operative to embrace and grip the beaded edge of a stringer, and a prong projecting from the outer lateral edge of one of the walls, said prong being operative to penetrate the beaded edge portion of the stringer and to be clenched against the inner face of the other wall member.

8. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls, and anchoring means comprising a gripper device carried by one of the walls, said gripper device being operative to em-

brace and grip the beaded edge of a stringer at a point above the upper edges of the front and rear walls, and a stringer-penetrating member projecting from one of the walls at a point below the upper edge of said wall and operative to penetrate the stringer and to be clenched against the inner surface of the other wall.

9. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls, and an attaching tab extending from the outer lateral edge of one of said walls, said tab comprising spaced substantially parallel wings united by a fold.

10. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls, said bottom member extending across substantially the entire lateral width of the socket and constituting a stop to limit downward movement of the pin member in the socket, and an attaching tab extending laterally from the outer edge of one of said walls, said tab being disposed substantially in the plane of said wall and comprising a wing also disposed in said plane, the tab also comprising a second wing parallel to and spaced from the first wing and united to the latter by a fold of the sheet material, said wings being designed to engage opposite faces of the stringer with the fold underlying the lower end of the stringer.

11. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin member, the socket member consisting of a unitary piece of sheet material shaped to provide spaced substantially parallel front and rear walls having inwardly directed flanges at their inner lateral edges, a bottom member integrally uniting the lower edges of the front and rear walls, anchoring means carried by the front and rear wings respectively, said anchoring means being operative to grip the beaded edge of a stringer thereby to unite the socket member to the stringer and to hold the front and rear walls of the socket in parallel relation, and an attaching tab extending laterally from the outer edge of one of said walls, said tab comprising two spaced parallel wings united by an integral fold of the sheet material, one of said wings having a stringer-penetrating prong designed to penetrate the stringer and to be clenched against the inner face of the other wing.

12. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin, the pin consisting of a unitary piece of sheet material shaped to provide a tubular member operative to embrace the beaded edge of a stringer, said tubular member having stringer-penetrating teeth at its upper portion and having notches said narrow section spaced from its lower end, that portion of the tubular member which is disposed below said narrow portion being deflected laterally to facilitate passage of the pin through the slider channel.

13. A separable bottom stop for slide-actuated fasteners, said stop including a socket member and a complemental pin, the pin consisting of a unitary piece of sheet material shaped to provide a body portion and an upwardly extending gripper portion the latter being tubular in section and having stringer-penetrating teeth, the upper end of the gripper portion having a recess for the accommodation of the lowermost fastener element of the series carried by the opposite stringer, the lower end of the pin being united to the body portion by a narrow section and being deflected laterally and outwardly.

14. A blank for use in making the socket member of a separable bottom stop for slider-actuated fasteners, said blank consisting of a single piece of sheet metal comprising parts designed to form a front wall member, a rear wall member, a bottom member integrally joining said front and rear wall members, a gripping member integrally joined to the free end of one of said wall members but being partially severed from the latter by an incision extending inwardly from one lateral edge of said gripping member, said gripping member having teeth at its lateral edges, and a prong projecting from one lateral edge of one of the wall members.

15. A blank for use in making the socket member of a separable bottom stop for slider-actuated fasteners, said blank consisting of a single piece of sheet metal comprising parts designed to form a front wall member, a rear wall member, a bottom member integrally joining said front and rear wall members, a gripping member integrally joined to the free end of one of said wall members but being partially severed from the latter by an incision extending inwardly from one lateral edge of said gripping member, said gripping member having teeth at its lateral edges, a prong projecting from one lateral edge of one of the wall members, and a tab projecting laterally from one of said wall members, said tab having a wing-forming portion and a prong extending from the free extremity of said wing portion.

16. A blank for use in making the pin of a separable bottom stop for a slider-actuated fastener, said blank consisting of a single piece of sheet metal and comprising parts designed to form a body portion, a gripper portion integrally united to one end of the body portion and having teeth projecting from its opposite edges and a notch in its upper end, and a lower member of curved peripheral contour joined to the lower end of said body portion by a narrow section.

17. A blank for use in making the pin of a separable bottom stop for a slider-actuated fastener, said blank consisting of a single piece of sheet metal and comprising parts designed to form a body portion, a gripper portion integrally united to one end of the body portion and having teeth projecting from its opposite edges and a notch in its upper end, and a lower member of curved peripheral contour joined to the lower end of said body portion by a narrow section, and a tab integrally joined to one edge of the body portion, said tab having a wing-forming portion extending downwardly from the outer part of the tab.

ROBERT C. LEGAT.

CERTIFICATE OF CORRECTION.

Patent No. 2,037,473. April 14, 1936

ROBERT C. LEGAT.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 5, first column, line 71, claim 12, strike out the word "said" and insert instead defining a; and second column, line 2, same claim, for the word "portion" read section; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 19th day of May, A. D. 1936.

(Seal)

Leslie Frazer
Acting Commissioner of Patents.