July 18, 1950 C. P. KRUPP 2,515,376

END STOP FOR SEALING CLOSURES

Filed Aug. 9, 1946

Fig-1

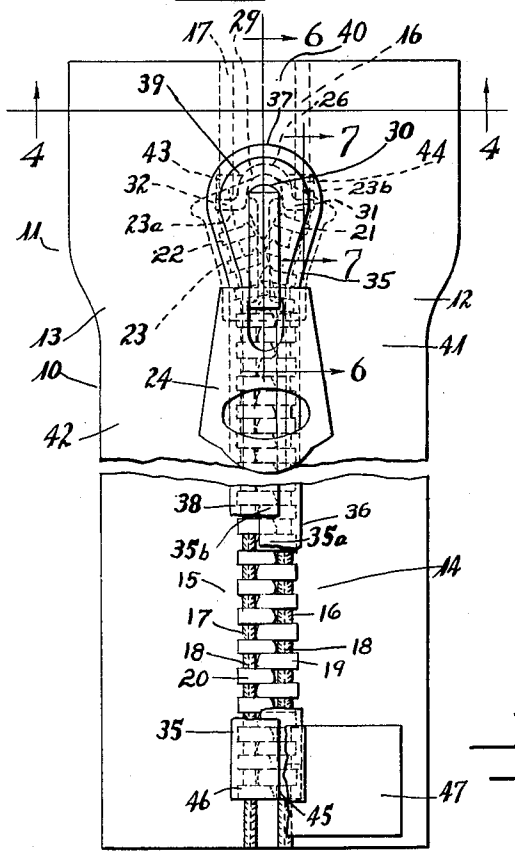


Fig-2

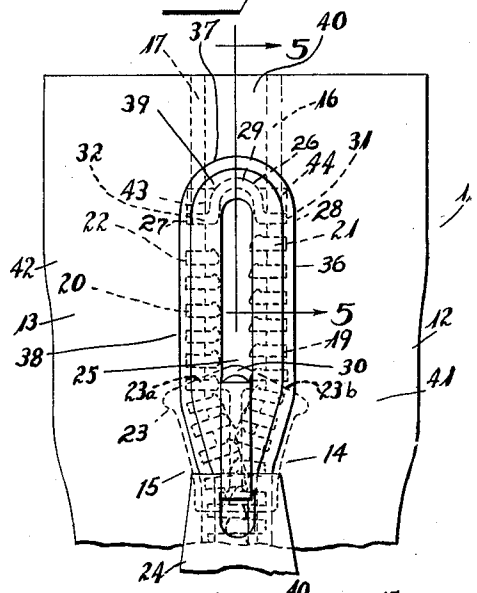


Fig-3

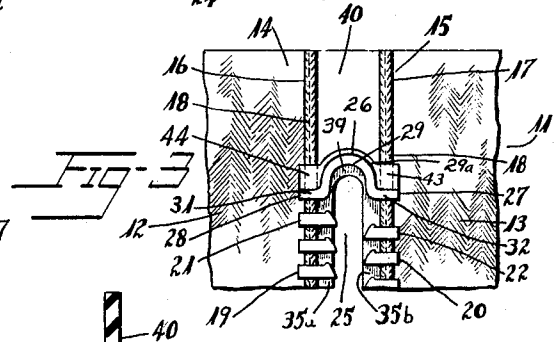


Fig-4

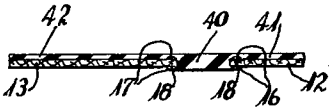


Fig-7

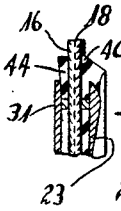


Fig-6

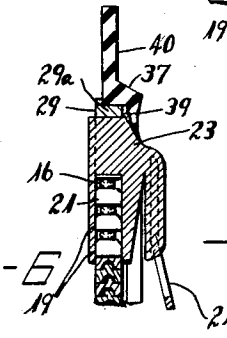


Fig-5

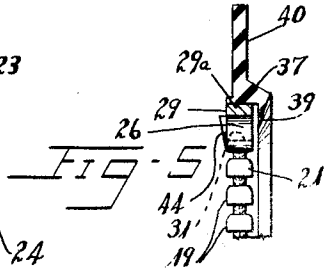
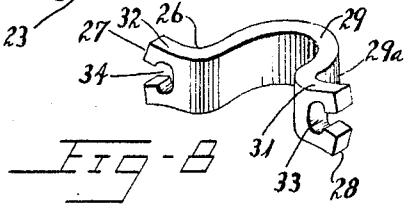


Fig-8



Inventor
Carroll P. Krupp
By
Atty.

Patented July 18, 1950 2,515,376

UNITED STATES PATENT OFFICE

2,515,376

END STOP FOR SEALING CLOSURES

Carroll P. Krupp, Barberton, Ohio, assignor to The B. F. Goodrich Company, New York, N. Y., a corporation of New York

Application August 9, 1946, Serial No. 689,419

14 Claims. (Cl. 24—205.11)

1

The invention relates to closures having top-stops and especially to end sealing in conjunction with a top-stop.

Objects of the invention are to provide for stopping a slider or runner at a determinate location and for resisting relative tilting movement between the slider and the stop; to provide for retaining the slider at said location; to provide effectively for sealing adjacent margins of the closure including an end thereof; to provide for continuity of sealing around such end of the closure and for continuity of support of the sealing means around said end; to provide for sealing by lip-action at said end while preventing breakage of the seal under flexure of the margins of the closure; to provide for positioning and stopping the slider while supporting said sealing means around said end; and to provide for simplicity of construction, convenience of manufacture, and for effectiveness of operation.

These and other objects and advantages of the invention will be apparent from the following description.

In the accompanying drawings which form a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a plan view from above showing a sealing slide fastener structure including a closed end and a top-stop in the closed condition, and constructed in accordance with and embodying the invention, parts being broken away,

Fig. 2 is a view like Fig. 1 but showing only the closed end and top-stop in the partially opened condition, parts being broken away,

Fig. 3 is a plan view from below of the closed end and top-stop in the open condition, parts being broken away,

Fig. 4 is a sectional view taken along line 4—4 of Fig. 1,

Fig. 5 is a sectional view taken along line 5—5 of Fig. 2,

Fig. 6 is a sectional view taken along line 6—6 of Fig. 1,

Fig. 7 is a sectional view taken along line 7—7 of Fig. 1, and

Fig. 8 is a perspective view from above of a bridge-stop element before assembly with the sealing slide fastener structure.

In the embodiment of the invention illustrated in the drawings, a slide fastener structure 10 effecting sealing by lip-action and having a closed end 11, is adapted for closing in a separable manner the adjacent margins of apertures in walls of articles such, for example, as tobacco pouches,

2

wearing apparel, tents, footwear, fluid and bulk material containers, and other related articles of manufacture; and is adapted especially for assembly as a unitary structure with the articles for convenience of manufacture of the fastener as an independent item. The sealing slide fastener structure 10, which may be, if desired, of suitable colored materials to conform to the particular application, has a pair of flexible margins or stringers 12, 13, desirably of plastic material or of woven fabric material such, for example, as cotton, silk, rayon, glass and other fibrous material, terminating in the closed end. The stringers have adjacent beaded margins 14, 15 including flexible cords 16, 16 and 17, 17 of suitable fibrous material attached to the material of such margins as by stitching 18, 18, or a suitable adhesive such, for example, as rubber cement, or by both.

Cooperating fastener elements or teeth 19, 20 of stiff material such, for example, as zinc or aluminum alloy, brass, steel, Bakelite or other material of the desired strength and forming characteristics are disposed in series along the margins 14, 15 and are attached to the beaded margins by engagement with the cords 16, 16 and 17, 17 and the fabric material of the stringers 12, 13. Each series of teeth terminates at end teeth 21, 22, respectively, disposed short of the ends of the stringers at the closed end 11. A runner or slider 23 of brass or other suitable stiff material having a pull-tab 24 is slidably movable along the stringers for engaging and disengaging the teeth and joining the stringers throughout the extent of a slot 25 defined between the adjacent margins 14, 15, which slot terminates at the closed end 11.

A rigid bridge-stop element 26 of suitable stiff material, preferably metal, may be die-cast, molded, machined or otherwise formed. The element 26 is attached securely to the stringers 12, 13 at the closed end 11 and bridges the space between the spaced-apart margins of the stringers, providing for the stopping and holding of the runner 23 in the desired closing position at the end of the slot 25 and for maintaining the stringers in determinately spaced-apart relation. The bridge-stop element 26 may be of substantially the same thickness and depth as that of each fastener element, and may be attached as by clamping at its apertured ends at 27, 28 to the beaded margins of the stringers, as shown especially in Figs. 1, 2 and 3.

The bridge-stop element 26 includes an indented portion 29 intermediate the spaced-apart margins 14, 15, which portion 29 may be generally

U-shape in plan and spans the space between the margins 14, 15 in a manner to receive in its indentation an end portion 30 of the runner 23. The construction also includes abutment or projecting portions 31, 32 for contacting the runner and extending laterally outward from the ends of and in continuation of the legs of the indented U-shape portion 29 with suitably shaped slotted recesses 33, 34 therein at the ends at 27, 28 for embracing the beaded margins 14, 15 and the cords 16, 16 and 17, 17 as by clamping the same, as shown especially in Figs. 3 and 6, thus preventing spreading-apart lateral movement of the stringers.

The bridge-stop element 26 may be disposed across the slot 25 adjacent the end teeth 21, 22 in a manner such that the spacing between the end tooth 21 and the projecting portion 31 of the element 26 is substantially equal to the spacing between adjacent teeth 19, 19 at one of the beaded margins for facilitating a snug fit and telescopic engagement of the bridge-stop element, especially the projecting portions 31, 32 thereof, with the runner, as shown especially in Figs. 1 and 6. Such construction and arrangement of the element 26 permits a desired overlapping and overlying relation thereof with overhanging portions 23*a*, 23*b* of upper and lower plate elements 23*c*, 23*d*, respectively, of the runner 23, whereby the bridge-stop element 26 cooperates with the runner in resisting relative tilting movement therebetween, and in facilitating the positioning of the runner in its closing position at the end of the slot 25. The bridge-stop element 26 also cooperates with the runner and a sealing element 35 of resilient rubber or other rubber-like material in effecting a sealed condition continuously about the closed end of the slot 25, as described more fully hereinafter.

For sealing along the stringers and closing the end of the slot at the bridge-stop element, the sealing element 35 at 36 extends along the beaded margin 14 of the stringer 12, and at 37 continuously about the closed end of the slot 25, and at 38 extends along the other beaded margin 15 of the other stringer 13. The sealing element is preferably generally L-shape in cross-section, and is bonded to and mounted at a face of the stringers desirably in part directly upon and bridging the teeth 19 and 20 and in part upon the margins 14 and 15. The sealing element 35 includes a portion at 35*a*, 35*b*, 39 projecting laterally of the slot and in spaced relation to the teeth at said face of the stringers for accommodating the upper plate of the runner 23 therebetween, which projecting portion tapers to an edge for sealing by lip-action of the edge of the portion at 35*b* in contact with the sealing surface of the other portion at 35*a* at the other margin.

The sealing element at 37 extending continuously about the closed end of the slot is desirably bonded to the outer surface 29*a* of the indented portion 29 of the bridge-stop element and includes the tapered portion at 39 projecting inwardly of the slot in spaced relation to the bridge-stop element 26 at said face of the stringers. The tapered portion at 39 is in continuation of the other tapered portions at 35*a*, 35*b* of the sealing element.

The construction and arrangement of the continuous end portion at 37 of the sealing element 35 and the bridge-stop element 26 provides the desired bracing relation between such elements 26 and 35 and facilitates the flexure of the resilient tapered portion at 39 and the sealing by lip-

action of the edge of such portion at 39 against the runner 23, especially at the end portion 30 of the runner, when the latter is positioned in its closing position, as shown especially in Fig. 1, thereby effecting sealing action continuously about such closed end.

The bridge-stop element 26 of stiff material for the closed condition of the closure being in telescopic condition with the runner so that the overhanging portions 23*a*, 23*b* of the latter overlie the element 26 in bracing and tilt-resisting relation therewith and being united and bonded throughout its outer surface 29*a* with the continuous end portion 37 of the resilient sealing element, braces effectively the sealing element 35 at 37 against objectionable distortion even under relatively severe bending and twisting of the stringers. Such bracing action together with the aforesaid resistance to relative tilting movement between the runner and the bridge-stop element, prevents breakage of the end seal under flexure of the closure by separating movement between the portion 37 of the sealing element and the runner 23 in the outward direction relative to said face of the stringers or structure 10.

A filler body 40 of suitable rubber-like material may be disposed in the space between the beaded margins 14, 15 beyond the bridge-stop element 26 and may be integral with the sealing element at 37 for closing the space and joining the stringers at the closed end arrangement 11. The stringers 12, 13 may have thin layers 41, 42 of suitable rubber-like material adhered thereto at said face of the structure 10 and in continuation of the body 40 and the sealing element 35 for making the stringers impervious and resistant to leakage of fluid through the fabric material and for facilitating the independent adhesive attachment of the closure to the walls of the articles.

For facilitating retaining the runner in the closing position at the bridge-stop element 26, shoulder or block elements 43, 44 of suitable resilient rubber-like material may be mounted at the other face of the structure 10 at the beaded margins of the stringers and securely attached to the latter and to the bridge-stop element, as shown especially in Figs. 3 and 5. The block elements 43, 44 are desirably bonded to the outer surface 29*a* of the bridge-stop element 26 at the projecting portions 31, 32 and the indented portion 29, and project beyond the bridge-stop element in the outward direction relative to said other face of the structure 10, as shown especially in Fig. 5. The block elements are disposed to frictionally engage the lower plate of the runner, when the latter is in the closing position with the under faces of the overhanging portions 23*a*, 23*b* overlying the bridge-stop element 26, thus facilitating the retaining of the runner in its closing position thereby preventing accidental breakage of the seal at the closed end of the slot 25 under accidental sliding movement of the runner away from such end.

The stringers and the portions at 36, 38 of the sealing element 35 may be united at the other end of the slot 25 opposite the closed end 11 in any suitable manner for closing such opposite end of the closure. This may be accomplished by adhering together end portions 45, 46 of the sealing element 35 in overlapping relation to one another and adhering a sealing strip 47 of suitable impervious fabric material in superimposed and overlapping relation with the end portions 45, 46 and the stringers 12, 13, as shown especially in Fig. 1.

In the opening operation of the closure, the

runner 23 is moved slidingly along the stringers away from the closed end 11 and top-stop, which movement disengages the teeth 19, 20 and laterally separates the portions at 36, 38 of the sealing element 35 and permits the continuous end portion at 37 to resume its normal substantially non-flexed position as shown especially in Figs. 2 and 5. To close the slot 25 the runner is moved slidingly along the stringers toward the closed end 11 and top-stop until the runner engages and overlies the bridge-stop element 26, as shown especially in Fig. 1.

Such latter movement engages the teeth and draws together the portions at 36 and 38 of the sealing element in overlapping relation to one another with the overlying tapered portion 35b at one margin flexed and the edge thereof sealing by lip-action against the underlying tapered portion 35a at the other margin continuously along the slot 25 and also against a side of the upper plate of the runner 23, the edge of the other tapered portion 35a contacting the other side of the upper plate of the runner in sealing relation. The tapered portion 39 of the continuous end portion at 37 being braced and supported by the bridge-stop element 26 is flexed outwardly relative to the adjacent face of the stringers with its edge sealing by lip-action against the overhanging portions of the upper plate and the end portion 30 of the runner providing continuity of the sealing about the closed end of the slot and in continuation of the sealing along the stringers, thereby completing the closure of the slot 25.

The runner 23 in the closing position engages telescopically with the end teeth 21, 22 and the bridge-stop element 26 and has its end portion 30 positioned in the indentation of the indented portion 29, while the projecting portions 31, 32 of the bridge-stop element are disposed between the upper and lower plates of and in contact with the runner 33, all of which facilitates effecting the desired resistance to relative tilting movement between the runner and the bridge-stop element 26, thereby providing firm support to the continuous end portion 37 of the sealing element. The supporting and stiffening action effected by the coaction of the runner and bridge-stop element prevents objectionable flexure and undue distortion of the sealing element at such closed end 11 under bending and twisting of the stringers, and facilitates effective lip-sealing action continuously about the closed end. With the runner in its closing position, the shoulder or block elements 43, 44 press resiliently against the adjacent under face of the lower plate element of the runner and facilitate retaining the runner in such position and resisting accidental movement of the runner.

The fabric and rubber-like parts of the closure are preferably united by vulcanization under heat and pressure. The hereinabove described construction advantageously provides for conveniently closing and sealing the closure throughout the extent of the slot including the ends of the latter, and for stopping and holding the runner in the desired closing position for cooperating with the sealing element to effect sealing at the closed end 11, while resisting relative tilting movement between the runner and the bridge-stop element in addition to resisting objectionable distortion of the sealing element where the latter extends continuously about the closed end of the slot 25.

Variations may be made without departing from the scope of the invention as it is defined in the following claims.

I claim:

1. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner slidable along said margins for engaging and disengaging said fastener elements and including an overhanging plate portion and an end portion disposable at the termination of said fastener elements in the closing position of the runner, and means including a bridge-stop element of substantially inflexible construction attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins for maintaining the latter in laterally fixed spaced-apart substantially parallel relation at and beyond said bridge-stop element in the direction toward an end of the closure and to stop said runner at said closing position, said bridge-stop element including an indented portion intermediate the spaced-apart margins for receiving said end portion of the runner, and said overhanging plate portion of the runner being constructed and arranged to overlie a substantial extent of said bridge-stop element in bracing relation therewith in said closing position of the runner to resist relative tilting movement between said runner and said bridge-stop element, and a resilient element mounted on said bridge-stop element and having a projecting portion terminating in an edge extending over said bridge-stop element in spaced-apart relation thereto providing a recess therebetween to receive therein said overhanging plate portion of said runner with said edge of said projecting portion in contact with said overhanging plate portion in said closing position.

2. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner slidable along said margins for engaging and disengaging said fastener elements, a bridge-stop element of substantially inflexible construction attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in laterally fixed spaced-apart relation and to stop said runner at the closing position of the latter, said runner including an overhanging portion at a face of said margins for overlying said bridge-stop element in bracing relation therewith in said closing position of the runner to resist relative tilting movement between said runner and said bridge-stop element, and resilient means including a surface of resilient rubber-like material at said margins adjacent said bridge-stop element for yieldably contacting and frictionally retaining said runner at said closing position in the overlying relation with said bridge-stop element.

3. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner slidable along said margins for engaging and disengaging said fastener elements, a bridge-stop element attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in determinately spaced-apart relation and to stop said runner at the closing position of the latter, said runner including an overhanging portion at a face of the closure for overlying said bridge-stop element in bracing relation therewith in said closing position of the runner to resist relative tilting movement between said runner and said bridge-stop element, and a block

element of resilient rubber-like material positioned adjacent said bridge-stop element to press against the under face of said overhanging portion of the runner in said closing position for frictionally retaining said runner at said closing position.

4. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner including an end portion slidable along said margins for engaging and disengaging said fastener elements and having a plate element overlying said fastener elements at a face of the closure, a bridge-stop element attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in determinately spaced-apart relation and to stop said runner in the closing position of the latter, said bridge-stop element including an indented portion intermediate the spaced-apart margins for receiving said end portion of the runner, and said plate element of the runner having a portion thereof disposed in overlying and bracing relation with said bridge-stop element in said closing position of said runner to resist relative tilting movement therebetween, and block elements of resilient rubber-like material at said face of the closure and positioned at said margins adjacent said bridge-stop element to press against the under face of said plate element of the runner in said closing position for frictionally retaining said runner at said closing position.

5. A sealing closure for adjacent margins having a slot between them terminating in a closed end, said closure comprising cooperating fastener elements at said margins for separably uniting the same and terminating at said closed end, a runner slidable along said margins for engaging and disengaging said fastener elements, a bridge-stop element attached to said margins at said closed end and disposed between said margins to maintain the margins in determinately spaced-apart relation and to stop said runner at the closing position of the latter, said runner including an overhanging portion for overlying said bridge-stop element at a face of the closure in said closing position of the runner, and a sealing element extending along said margins at the other face of the closure and extending continuously about said closed end for sealing against said runner in said closed position, the continuous end portion of the sealing element being supported by said bridge-stop element in bracing relation to resist separating movement between said runner and said continuous end portion under flexure of said margins.

6. A sealing closure for adjacent margins having a slot between them terminating in a closed end, said closure comprising cooperating fastener elements at said margins for separably uniting the same and terminating at said closed end, a runner slidable along said margins for engaging and disengaging said fastener elements, a bridge-stop element attached to said margins at said closed end and disposed between said margins to maintain the margins in determinately spaced-apart relation and to stop said runner at the closing position of the latter, said runner including an overhanging portion for overlying said bridge-stop element at a face of the closure in said closing position of the runner, and a sealing element extending along one of said margins and continuously about said closed end and along the other margin, said sealing element including a portion at the first said margin projecting laterally toward the sealing element at said other margin and tapering to an edge for sealing by lip-action of said edge against said sealing element at said other margin, the tapered portion of said sealing element extending continuously about said closed end for sealing by lip-action of the edge thereof against said runner in said closing position and being mounted on said bridge-stop element in bracing relation therewith for resisting separating movement between said tapered portion and said runner under flexure of said margins.

7. A sealing closure for adjacent margins having a slot between them terminating in a closed end, said closure comprising cooperating fastener elements at said margins for separably uniting the same and terminating at said closed end, a runner slidable along said margins for engaging and disengaging said fastener elements and including an overhanging portion and an end portion disposable at said closed end in the closing position of said runner, a bridge-stop element attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the latter in determinately spaced-apart relation and to stop said runner at said closing position, said bridge-stop element including an indented portion intermediate the spaced-apart margins for receiving said end portion of the runner, said overhanging portion of the runner being positioned in overlying and bracing relation with said bridge-stop element in said closing position of the runner to resist relative tilting movement therebetween, and a sealing element extending along one of said margins and continuously about said closed end and along the other margin, said sealing element including a portion at the first said margin projecting laterally toward the sealing element at said other margin and tapering to an edge for sealing by lip-action of said edge against said sealing element at said other margin, the tapered portion of said sealing element extending continously about said closed end for sealing by lip-action of the edge thereof against said runner in said closing position and being attached to said bridge-stop element at an outer surface of said indented portion in bracing relation therewith for resisting separating movement between said tapered portion and said runner under flexure of said margins.

8. A sealing closure for adjacent margins having a slot between them terminating in a closed end, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner including an end portion slidable along said margins for engaging and disengaging said fastener elements and having a plate element overlying said fastener elements at a face of the closure, a bridge-stop element attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in determinately spaced-apart relation and to stop said runner in the closing position of the latter, said bridge-stop element including an indented portion intermediate the spaced-apart margins for receiving said end portion of the runner, said plate element of the runner having a portion thereof disposed in overlying and bracing relation with said bridge-stop element in said closing position of the runner to resist relative tilting movement therebetween, block elements of resilient rubber-like material

on said margins at said face of the closure and positioned adjacent said bridge-stop element to press against the under face of said plate element in said closing position for frictionally retaining said runner at said closing position, and a sealing element extending along one of said margins at the other face of the closure and continuously about said closed end and along the other margin, said sealing element including a portion at the first said margin projecting laterally toward the sealing element at said other margin and tapering to an edge for sealing by lip-action of said edge against said sealing element at said other margin, the tapered portion of said sealing element extending continuously about said closed end for sealing by lip-action of the edge thereof against said runner and being attached to said bridge-stop element at an outer surface of said indented portion in bracing relation for resisting separating movement between said tapered portion and said runner under flexure of said margins.

9. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner slidable along said margins for engaging and disengaging said fastener elements, and a bridge-stop element of substantially inflexible construction attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in laterally fixed spaced-apart relation and to stop said runner at the closing position of the latter, said bridge-stop element presenting a surface facing in a direction normal to a face of said margins, said runner including an overhanging portion presenting a surface facing in the opposite direction for overlying said surface of said bridge-stop element in face-to-face adjacent conforming relation therewith in said closing position of the runner to resist relative tilting movement in said normal direction between said runner and said bridge-stop element, and a resilient element supported by said bridge-stop element and extending over said surface thereof in spaced-apart relation thereto providing a retaining recess therebetween for said overhanging portion of said runner in said closing position.

10. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner slidable along said margins for engaging and disengaging said fastener elements and including an overhanging portion presenting a substantially flat surface facing in the direction normal to and toward a face of said margins and said runner including an end portion disposable at the termination of said fastener elements in the closing position of the runner, and a bridge-stop element of substantially inflexible construction attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in laterally fixed spaced-apart relation and to stop said runner at said closing position, said bridge-stop element including an indented portion intermediate the spaced-apart margins for receiving said end portion of the runner and including a substantially flat surface facing in the opposite direction for overlying said surface of said overhanging portion of the runner in face-to-face adjacent substantially parallel relation therewith in said closing position of the runner to resist relative tilting movement in said normal direction between said runner and said bridge-stop element, and a sealing element of resilient rubber having a portion tapering to an edge and mounted to extend over said flat surface of said bridge-stop element in spaced-apart relation thereto providing a recess therebetween to receive therein said overhanging portion of said runner with said edge of the tapered portion in contact with said overhanging portion in said closing position.

11. A closure for adjacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner slidable along said margins for engaging and disengaging said fastener elements, and a bridge-stop element attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins laterally spaced-apart and to stop said runner at the closing position of the latter, said bridge-stop element presenting an outwardly facing surface at a face of said margins, said runner including an overhanging portion presenting a surface for disposition in overlying and contacting relation with said surface of said bridge-stop element in said closing position of the runner, one of said surfaces being of relatively non-frictional material and the other surface being of elastic friction material for yieldable frictional engagement with the relatively non-frictional surface to yieldably and frictionally retain said runner at said closing position.

12. A closure for adacent margins, said closure comprising cooperating fastener elements at said margins for separably uniting the same, a runner including a plate element slidable along said margins for engaging and disengaging said fastener elements, and a bridge-stop element attached to said margins adjacent the termination of said fastener elements and disposed laterally between said margins to maintain the margins in laterally spaced-apart relation and to stop said runner at the closing positon of the latter, said bridge-stop element presenting a surface of resilient rubber-like material facing in the direction outwardly away from a face of said margins, said plate element of the runner including an overhanging portion presenting a surface of relatively non-frictional material facing in the direction toward said face of said margins for disposition in overlying and contacting relation with the resilient surface of said bridge-stop element and for yieldable frictional engagement therewith in the closing position of said runner so as to yieldably and frictionally retain said runner at said closing position.

13. A bridge-stop element for a slide fastener closure including adjacent margins, cooperating fastener elements at said margins for separably uniting the same, and a runner for engaging and disengaging said fastener elements, said bridge-stop element comprising a body of substantially inflexible construction having an indentation extending longitudinally therein from a face thereof for receiving an end portion of said runner in the closing position thereof and having a portion at each opposite side of said indentation extending laterally thereof for attachment to said margins at adjacent edges thereof to maintain said margins in laterally fixed spaced-apart relation, and said bridge-stop element including a surface of elastic friction material integrally united with said body at a face thereof for yieldably engaging and frictionally retaining said runner in its clos-

ing position with said end portion of the runner in said indentation of said body.

14. A bridge-stop element for a slide fastener closure including adjacent margins, cooperating fastener elements at said margins for separably uniting the same, and a runner for engaging and disengaging said fastener elements, said bridge-stop element comprising an elongated continuous strip of flat stiff material having a generally U-shaped form in plan providing space between the legs of the U-shaped strip for receiving an end portion of said runner in the closing position thereof and having attaching portions at the free ends of the legs of the U-shaped strip extending laterally thereof for attachment to said margins to maintain the latter in laterally fixed spaced-apart relation, and said bridge-stop element including a block element of resilient rubber-like material in bonded union with said strip at one of said attaching portions and presenting a face of said rubber-like material adapted to press against a surface of said runner for yieldably and frictionally retaining said runner in said closing position with said end portion thereof in said space of the U-shaped strip.

CARROLL P. KRUPP.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,166,885	Wiseman	July 18, 1939
2,281,000	Carlile	Apr. 28, 1942
2,335,147	Heimann	Nov. 23, 1943