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CLERK U.S. DISTRICT COURT
CENTRAL DIST. OF CALIF.
LOS ANGELES

BY

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Attorneys for Plaintiff
ACCURIDE INTERNATIONAL INC.

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

ACCURIDE INTERNATIONAL INC., Plaintiff, vs. COMPX PRECISION SLIDES INC. and COMPX INTERNATIONAL INC., Defendants.	Case No. CV09-2448 R **COMPLAINT FOR PATENT INFRINGEMENT** **DEMAND FOR JURY TRIAL**

Plaintiff Accuride International Inc. ("Accuride") by and through their attorneys, Pillsbury Winthrop Shaw Pittman LLP, demands a jury trial on all issues and alleges as follows:

INTRODUCTION

This Complaint is based upon Defendants CompX Precision Slides Inc.'s and CompX International Inc.'s unauthorized making, using, selling and offering to sell in the United States and abroad products that infringe United States Patent No. 6,733,097 B2 ("the '097 patent").

THE PARTIES

1. Accuride is a corporation organized and existing under the laws of the State of California with its principal place of business at 12311 Shoemaker Avenue, Santa Fe Springs, California.

2. Accuride is informed and believes, and based thereon alleges, that CompX Precision Slides Inc. is now, and at all times herein mentioned was, a corporation organized and existing under the laws of the State of Michigan with its principal place of business at 1250 84th St. SW, Byron Centre, Michigan.

3. Accuride is informed and believes, and based thereon alleges, that CompX International Inc. is now, and at all times herein mentioned was, a corporation organized and existing under the laws of the State of Delaware with its principal place of business at 5430 LBJ FWY STE 1700, Dallas, Texas. Accuride is informed and believes that CompX International Inc. is the parent company of the wholly owned subsidiary of CompX Precision Slides Inc. (hereinafter both CompX International Inc. and CompX Precision Slides Inc. will collectively be referred to as "CompX" or "Defendants").

JURISDICTION

4. This action for patent infringement arises under, among other things, the United States Patent Laws, 35 U.S.C. § 101, et seq. Subject matter jurisdiction is therefore based upon 28 U.S.C. §§ 1331 and 1338(a), providing for federal question jurisdiction of patent infringement actions and exclusive jurisdiction of patent infringement actions in the U.S. district courts. Subject matter jurisdiction is also proper pursuant to 28 U.S.C. § 1332 because Accuride and Defendants are citizens of different states and the amount in controversy exceeds $75,000.

5. Personal jurisdiction is proper over Defendants because Defendants have purposefully availed themselves of the laws of the State of

California by selling and causing to be sold throughout California and in this judicial district products that infringe the '097 patent.

VENUE

6. Accuride is informed and believes, and thereon alleges, that this Court is the appropriate venue for this matter pursuant to 28 U.S.C. §§ 1391(b)-(d) and 1400(b) because the acts of patent infringement alleged herein were engaged in within this judicial district.

FACTS

7. Accuride is a private company dedicated to the innovative design and manufacturing of premium-quality ball bearing slides. Accuride precision slides are designed for a wide range of applications, including fine furniture and appliances to enclosures, automotive, and industrial equipment. Accuride has been manufacturing and selling precision slides since 1966.

8. One of Accuride's precision slide products in particular, the "Self-closing Slide," is covered by the '097 patent. The Self-closing Slide is innovative in function, and as a result, Accuride applied for, and obtained, utility patents to protect this unique and useful product.

9. On May 11, 2004, the United States Patent and Trademark Office duly and lawfully issued United States Patent No. US 6,733,097 B2 (the '097 Patent), titled "Self-Closing Slide and Mechanism for a Self-closing Slide" for the novel and unobvious invention of Accuride's Self-Closing Slide. A true and correct copy of the '097 Patent is attached hereto as Exhibit "A".

10. Accuride is the current owner of all rights, title and interest in the '097 Patent.

11. Accuride's Self-Closing Slide has been promoted extensively at national and regional trade shows and through other advertising media at substantial expense to Accuride and has been met with great commercial success.

12. As a result of Accuride's extensive promotion and sales, the Self-Closing Slide has become known and is recognizable by a substantial segment of the precision slide trade, including distributors, architects, contractors and furniture manufacturers, among others, who select and purchase Self-Closing Slides for professional installation and who now associate Accuride's Self-Closing Slide with Accuride as a source of high quality and technologically superior slides.

13. Accuride is informed and believes, and based thereon alleges, that CompX Precision Slides Inc. designs, engineers and manufactures ball bearing drawer slides for appliances, home furniture, office equipment, tool storage, and server and telecommunication racks. Accuride is informed and believes, and based thereon alleges, that CompX International Inc. designs, engineers, and manufactures a variety of security, furniture, and marine boat related components, including ball bearing drawer slides.

14. Accuride has obtained and studied a self-closing slide marketed by Defendants. Photographs showing perspective views of the Defendants' slide and its self-closing mechanism are attached as Exhibit "B".

15. Accuride is informed and believes, and thereon alleges, that with knowledge of and in direct contravention of Accuride's rights to the '097 Patent, Defendants, either separately or in concert together, promoted, offered to sell, caused others to sell, and/or sold slides throughout the United States, including in the State of California and in this judicial district.

FIRST CAUSE OF ACTION

(Against All Defendants)

INFRINGEMENT OF U.S. PATENT NO. US 6,733,097 B2

(35 U.S.C. § 271)

16. Accuride repeats, realleges, and incorporates by reference, as though fully set forth herein, the allegations set forth in paragraphs 1 through 15.

17. Defendants have infringed the '097 Patent by manufacturing, using, selling, offering for sale, and/or causing others to sell within the United States, including in the State of California and in this judicial district, slides that fall within the scope of the '097 Patent (i.e., slides that incorporate each and every limitation of at least one claim of the '097 Patent). On information and belief, Defendants will continue to infringe the '097 Patent in this manner unless enjoined by this Court.

18. Accuride is informed and believes, and thereon alleges, that Defendants have infringed the '097 Patent willfully, with full knowledge of Accuride's rights to the '097 Patent, and has unjustly profited and continues to unjustly profit from its infringement in an amount yet to be determined.

19. Accuride is informed and believes, and thereon alleges, that Defendants have willfully contributed to the infringement of and willfully induced others to infringe the '097 Patent by, for example, causing others to use and sell slides that fall within the scope of the '097 Patent, and will continue to contribute to the infringement of and induce others to infringe the '097 Patent unless enjoined by this Court.

20. As a direct and proximate result of the infringing activities of DEFENDANTS, Accuride has been, is being and, unless the Court enjoins such activities, will continue to be, damaged. Consequently, Accuride is entitled to compensation for its damages from Defendants in an amount that

cannot be presently quantified but will be ascertained at trial, but is at least $1,000,000.

PRAYER FOR RELIEF

WHEREFORE, Accuride prays for relief and judgment from this Court:

(a) For an order declaring that the '097 Patent owned by Accuride were duly and legally issued and are valid and enforceable;

(b) For an order declaring that Defendants have directly infringed, contributorily infringed, and/or induced the infringement of one or more claims of the '097 Patent;

(c) For an order declaring that Defendants have willfully infringed one or more claims of the '097 Patent;

(d) For an order, pursuant to 35 U.S.C. § 283, enjoining Defendants, its officers, directors, employees, successors and assigns, agents, attorneys, subsidiaries, parent corporations, and all persons in active concert with Defendants, preliminarily and permanently, from making, using, selling, offering to sell, or exporting products that infringe the '097 Patent;

(e) That Defendants be required to prepare and deliver to the Court, or to such agents as the Court may designate, a complete list of entities to whom Defendants distributed or sold Defendants products that infringe the '097 Patent and that Defendants be required to serve a copy of such list on Accuride's attorneys;

(f) For damages, together with prejudgment interest, based on Defendants' infringement of the '097 Patent, such damages being trebled pursuant to 35 U.S.C. § 284 for the willful, wanton, and deliberate nature of such infringement, such damages to be at least $1,000,000;

(g) For costs and reasonable attorneys' fees pursuant to 35 U.S.C. § 285; and

(h) For such other and further relief as this Court deems proper and just.

DATED: April 8, 2009

Respectfully Submitted,

RICHARD H. ZAITLEN
STEPHEN D. BYERS
PILLSBURY WINTHROP SHAW PITTMAN LLP

By: _____
Richard H. Zaitlen
Attorneys for Plaintiff
ACCURIDE INTERNATIONAL INC.

DEMAND FOR JURY TRIAL

Pursuant to Federal Rule of Civil Procedure 38(b), Accuride hereby demands a jury trial of all claims against DEFENDANTS.

DATED: April 8, 2009

Respectfully Submitted,

RICHARD H. ZAITLEN
STEPHEN D. BYERS
PILLSBURY WINTHROP SHAW PITTMAN LLP

By: _____
Richard H. Zaitlen
Attorneys for Plaintiff
ACCURIDE INTERNATIONAL INC.

EXHIBIT A

US006733097B2

(12) **United States Patent**
Kim et al.

(10) **Patent No.: US 6,733,097 B2**
(45) **Date of Patent: May 11, 2004**

(54) **SELF-CLOSING SLIDE AND MECHANISM FOR A SELF-CLOSING SLIDE**

(75) Inventors: **Jae Kim**, Cerritos, CA (US); **Charles A. Milligan**, Seal Beach, CA (US); **Ricardo Leon**, Buena Park, CA (US)

(73) Assignee: **Accuride International, Inc.**, Santa Fe Springs, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/846,765**

(22) Filed: **Apr. 30, 2001**

(65) **Prior Publication Data**

US 2002/0011766 A1 Jan. 31, 2002

Related U.S. Application Data

(60) Provisional application No. 60/202,365, filed on May 1, 2000.

(51) **Int. Cl.**[7] **A47B 88/04**

(52) **U.S. Cl.** **312/333**; 312/319.1

(58) **Field of Search** 312/319.1, 330.1, 312/333, 334.1, 334.7, 334.8, 334.11, 334.16, 334.44, 350; 384/20, 21

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Primary Examiner—James O. Hansen
(74) *Attorney, Agent, or Firm*—Christie, Parker & Hale, LLP

(57) **ABSTRACT**

A mechanism is provided that couples to a slide member of at least a two member slide forming a self-closing slide. The mechanism comprises a housing having a slot guiding an actuator. The actuator is spring coupled to the housing. The actuator engages a second slide member of the slide when the second slide member approaches a closed position. The spring generates a force for moving the actuator and the engaged second slide along the slot to a slide closed position.

32 Claims, 17 Drawing Sheets

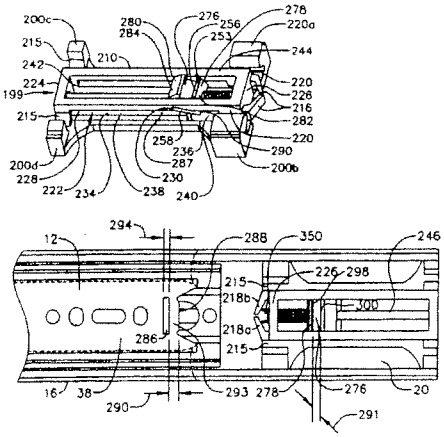


EXHIBIT A
PAGE 9

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EXHIBIT A
PAGE 10

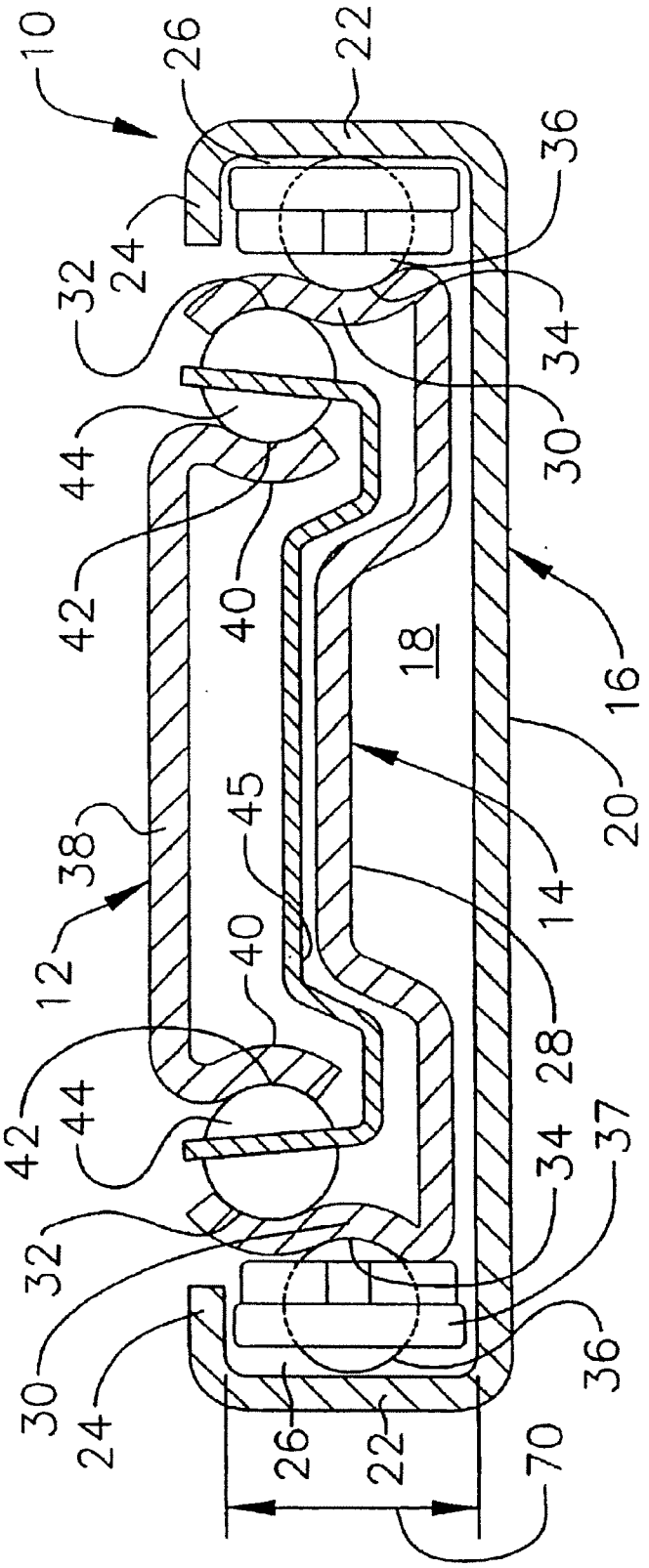


FIG. 1
(PRIOR ART)

EXHIBIT A
PAGE 11

FIG. 2A

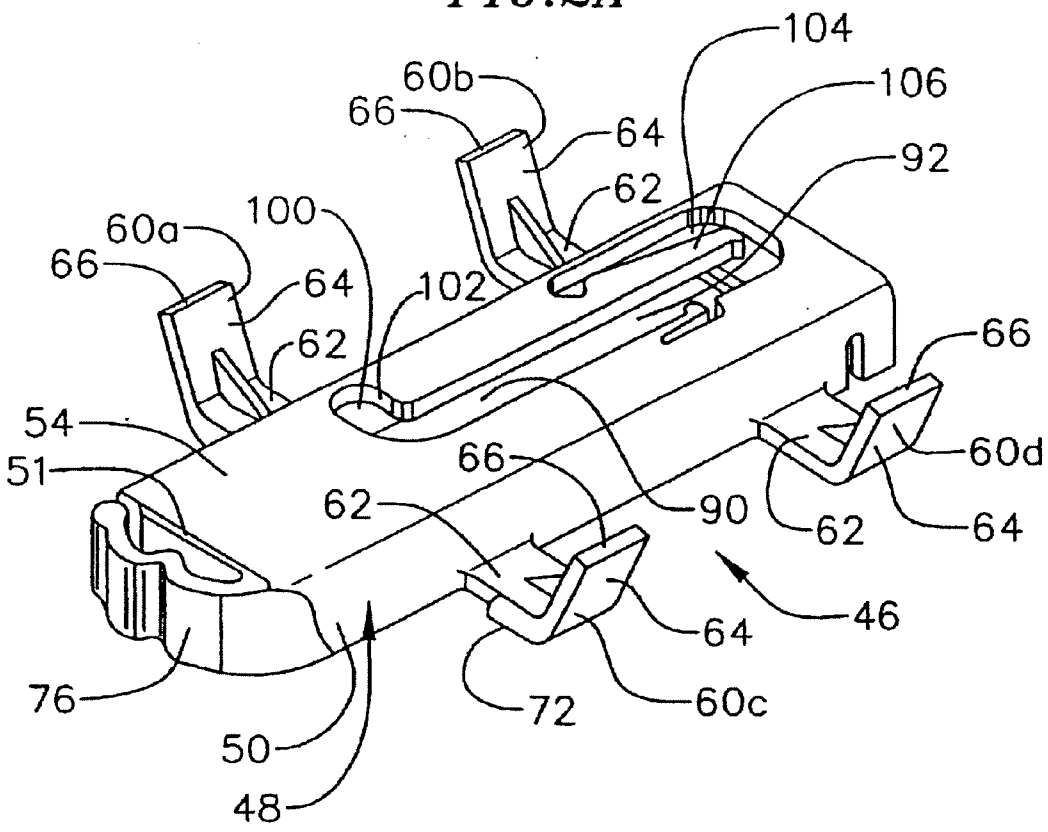


FIG. 2B

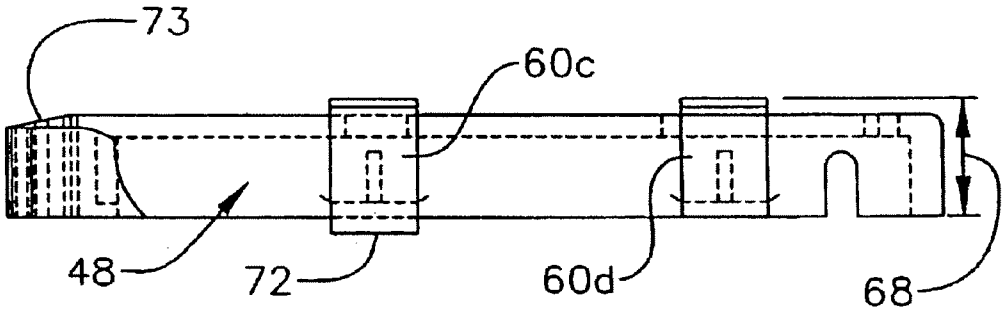


EXHIBIT A
PAGE 12

FIG. 3

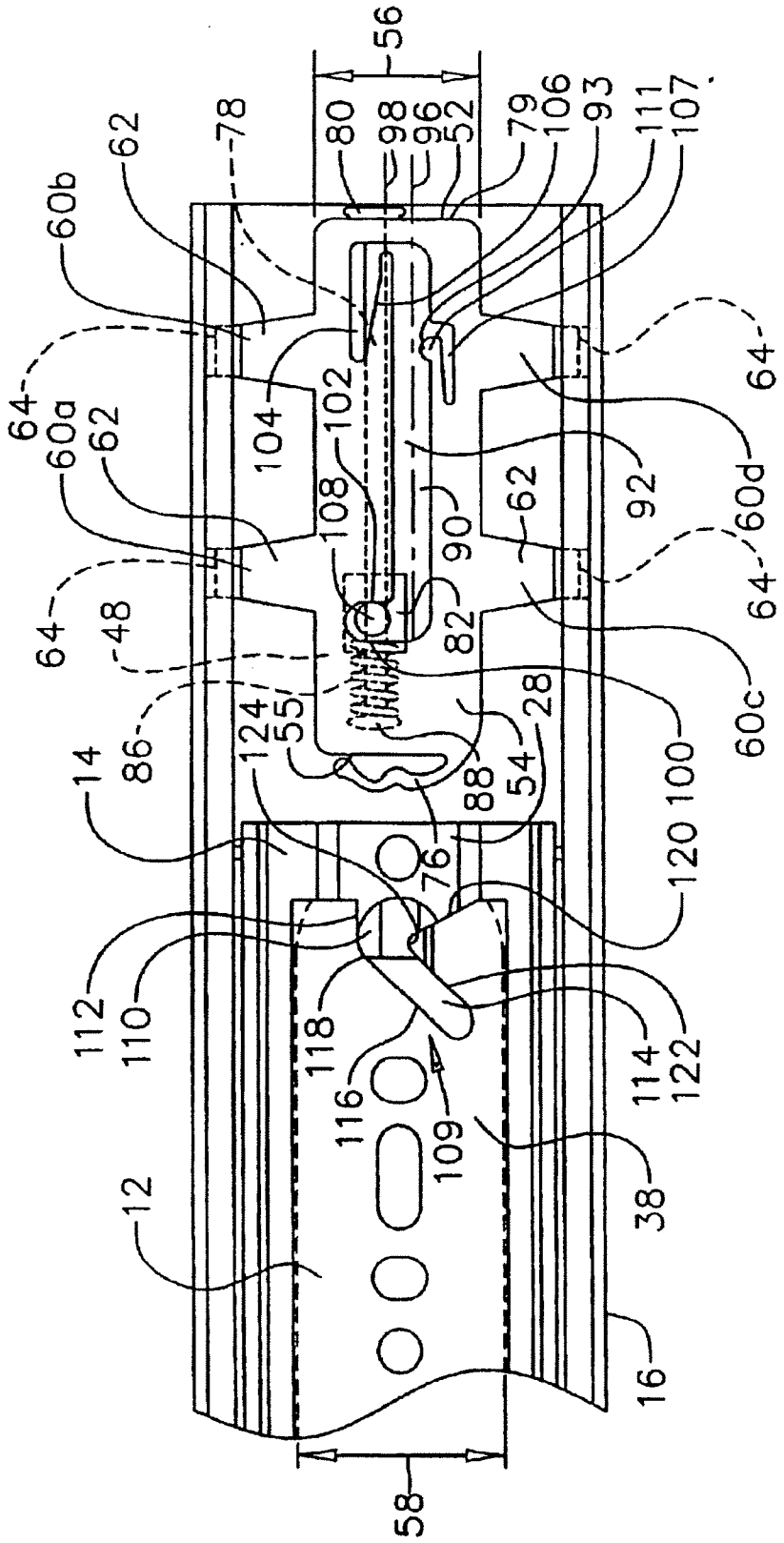


EXHIBIT A
PAGE 13

FIG. 4

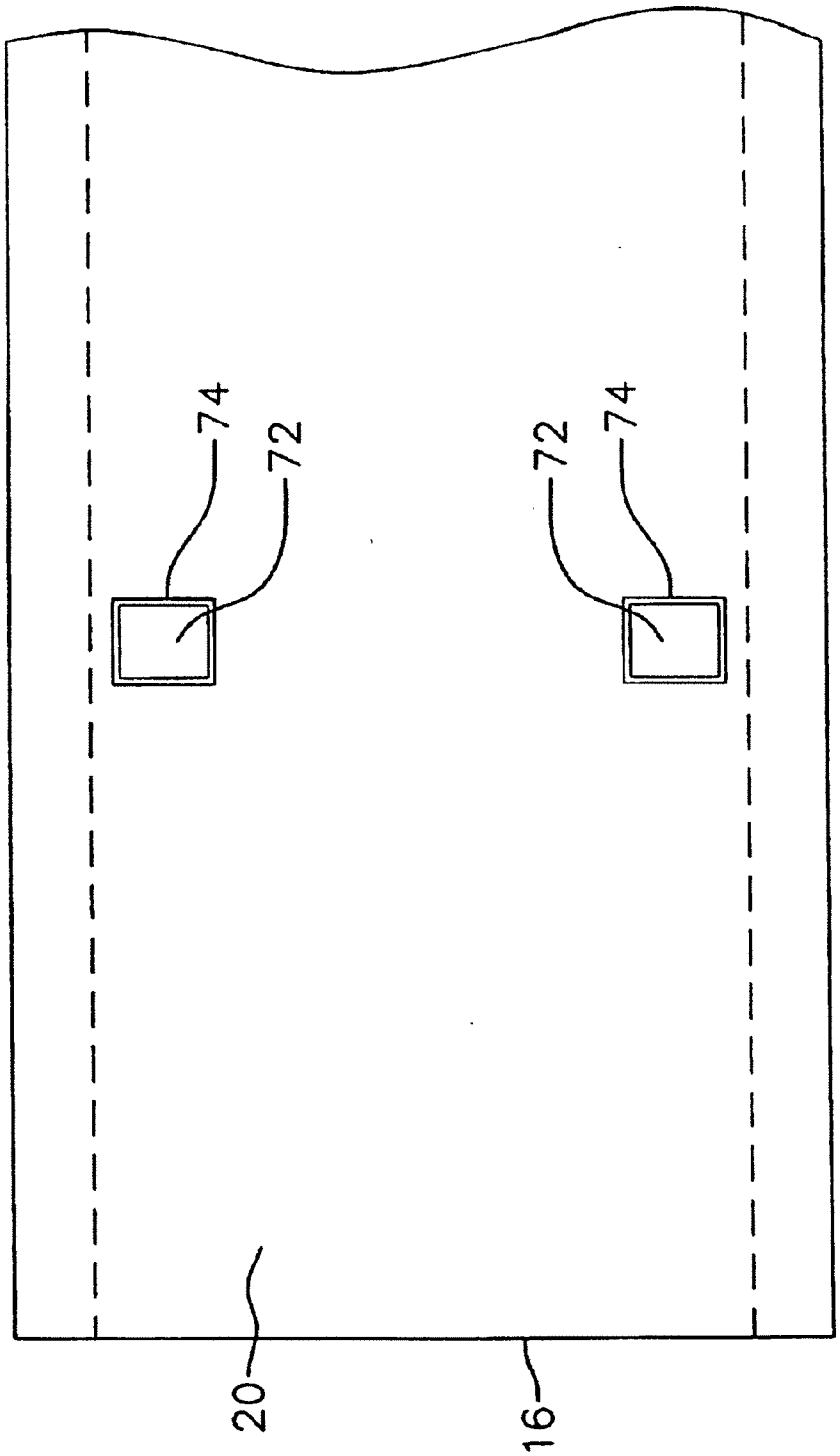


EXHIBIT A
PAGE 14

FIG. 5A

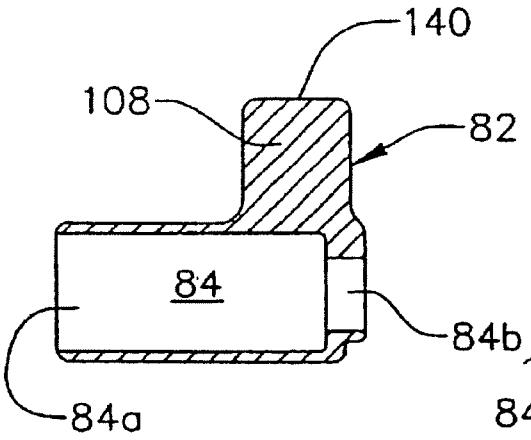


FIG. 5B

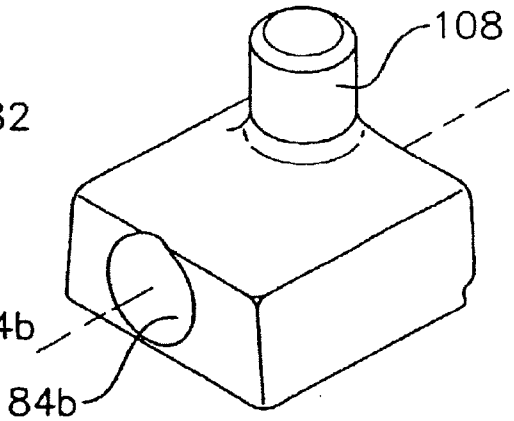


FIG. 6A

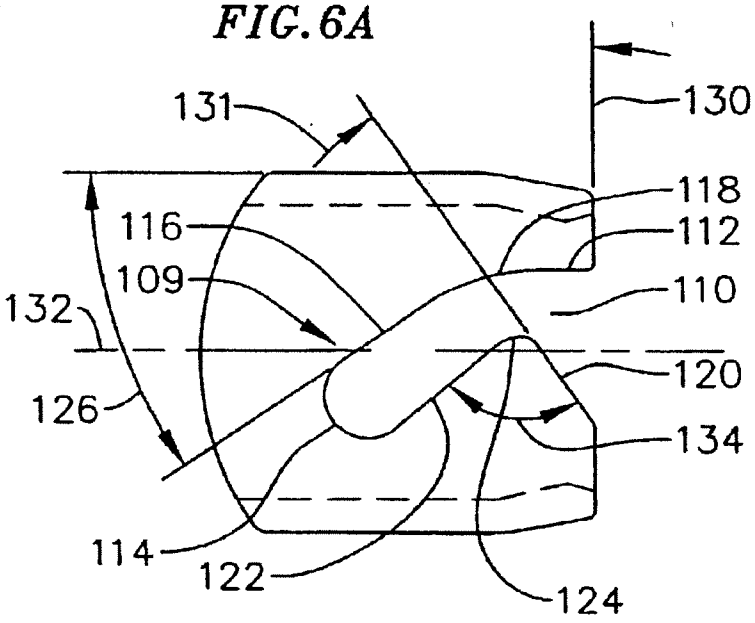


FIG. 6B

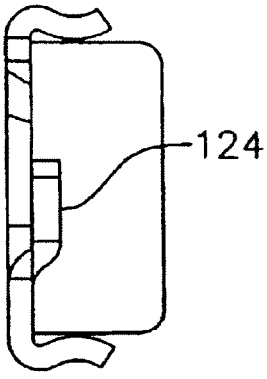


EXHIBIT A
PAGE 15

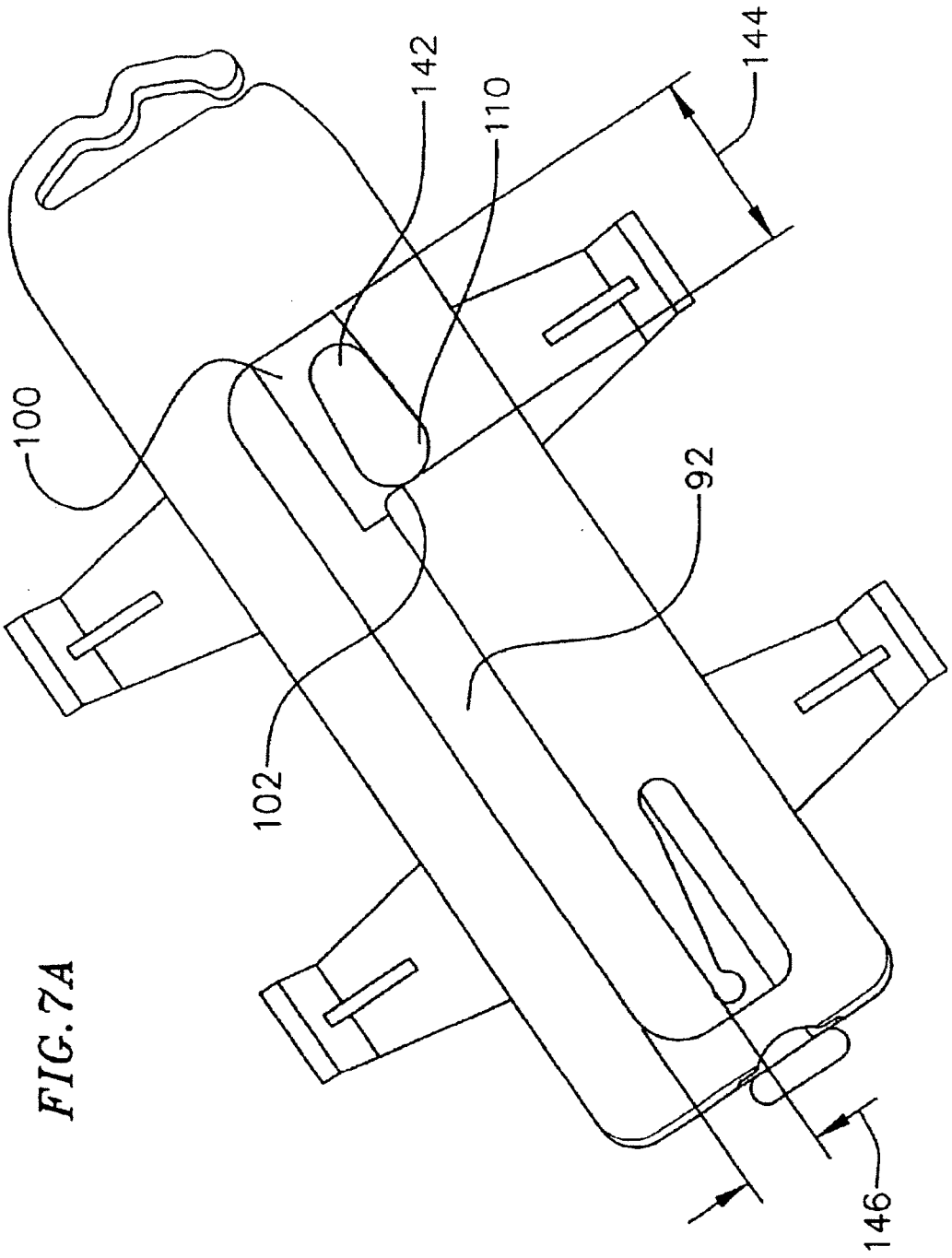


FIG. 7A

EXHIBIT A
PAGE 116

FIG. 7B

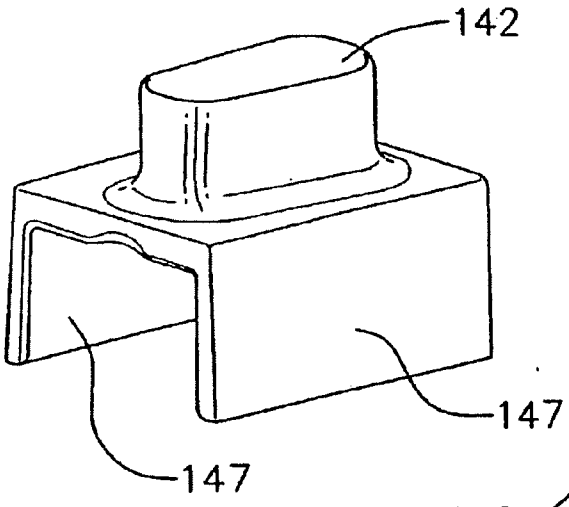


FIG. 7C

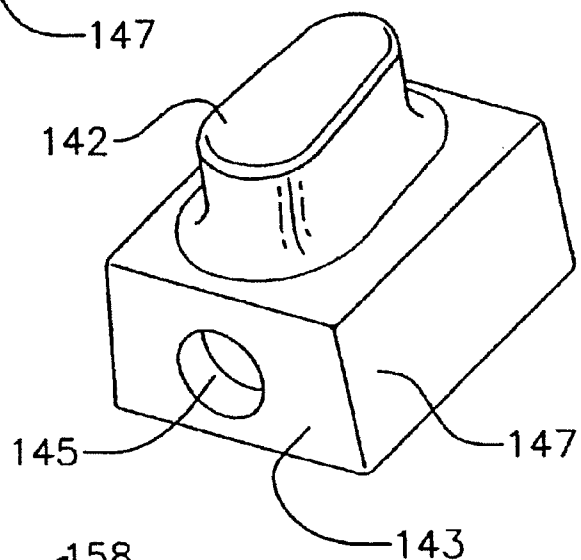


FIG. 7D

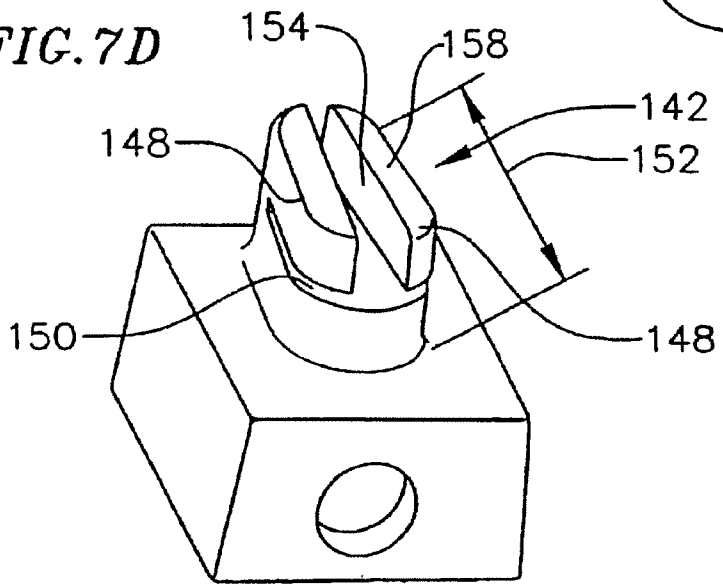


EXHIBIT A
PAGE 17

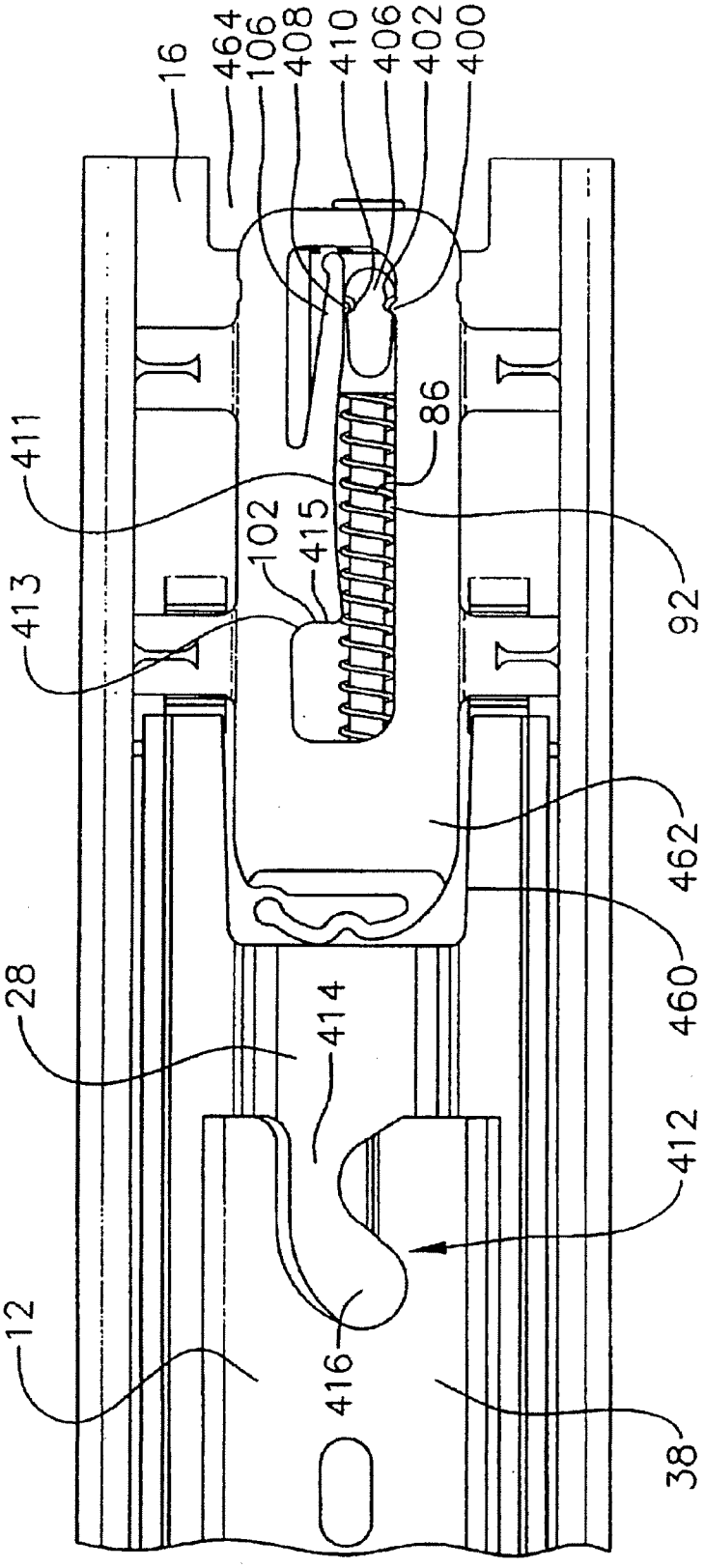


FIG. 8

EXHIBIT A
PAGE 18

FIG. 9A

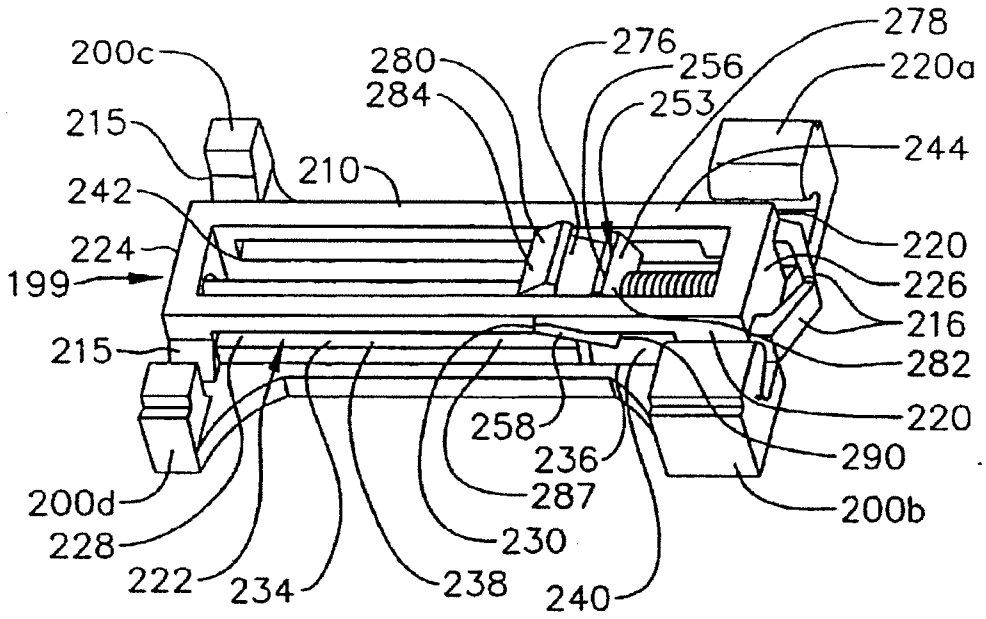


FIG. 9B

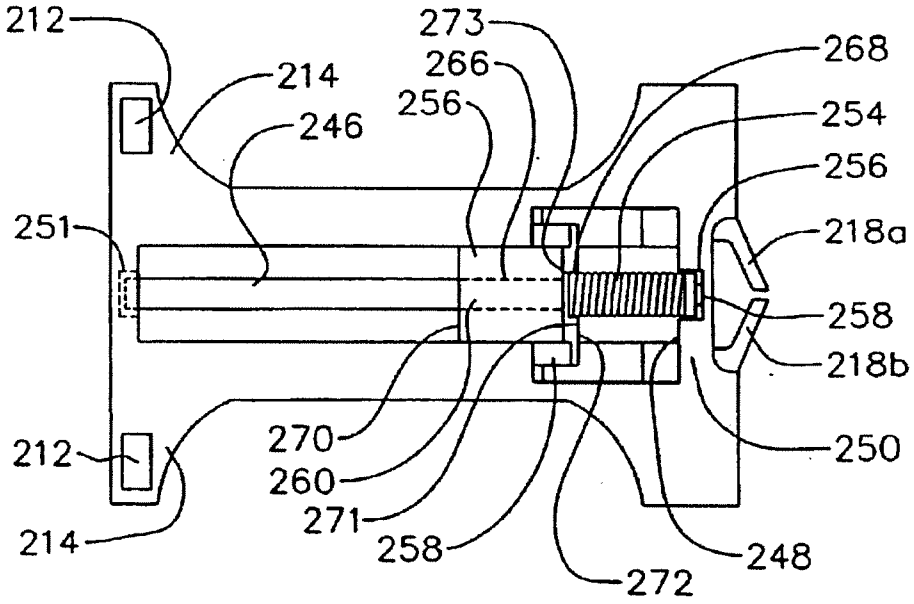


EXHIBIT A
PAGE 19

FIG. 9C

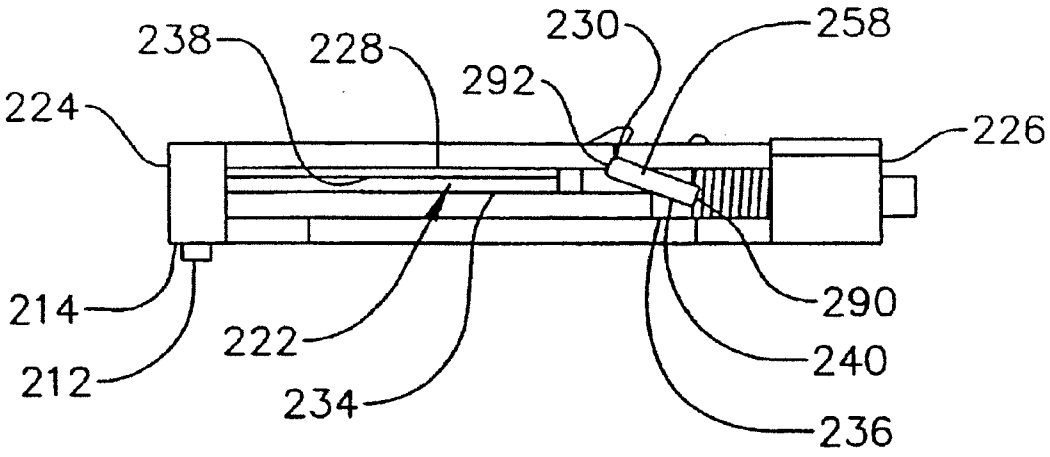


FIG. 9D

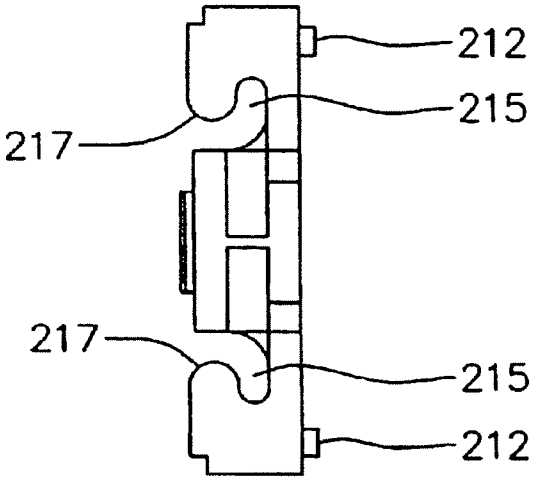


EXHIBIT A
PAGE 20

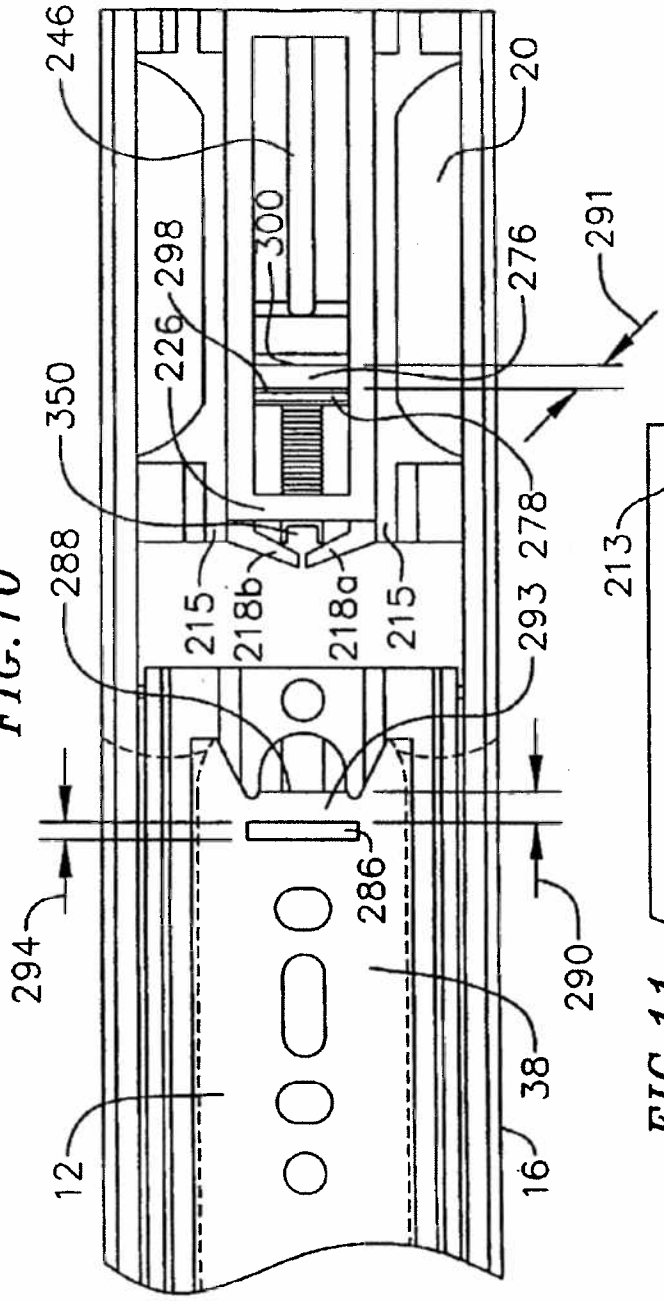


FIG. 10

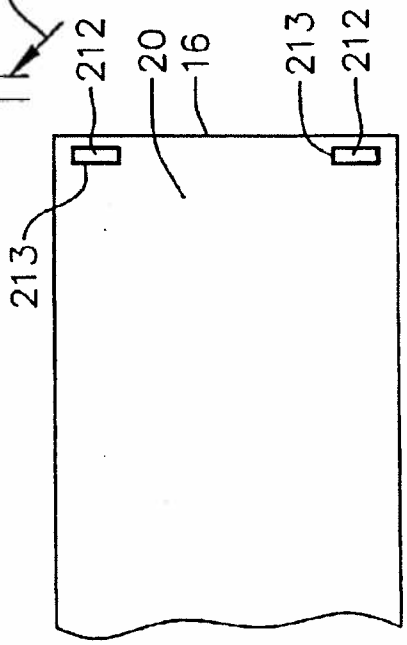


FIG. 11

EXHIBIT A
PAGE 21

FIG. 12A

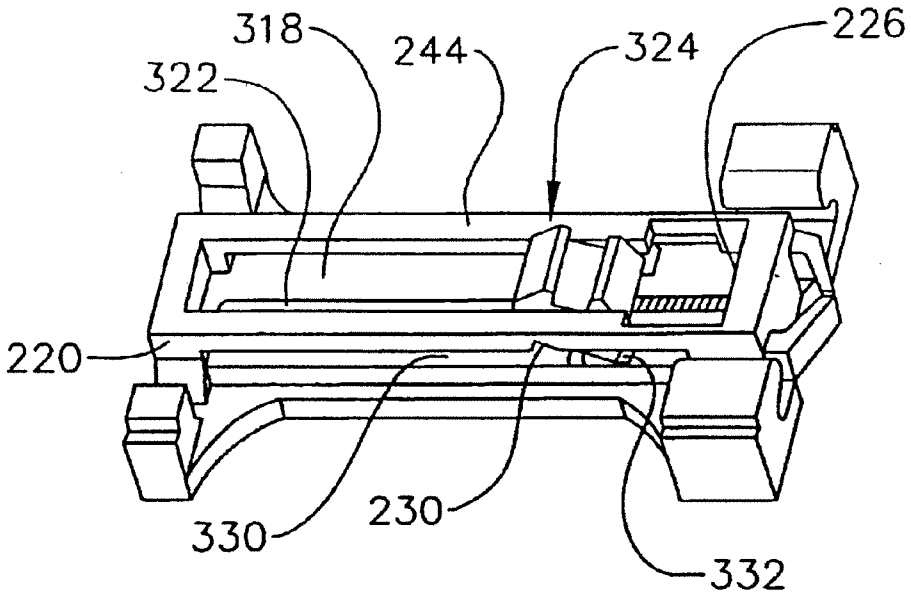


FIG. 12B

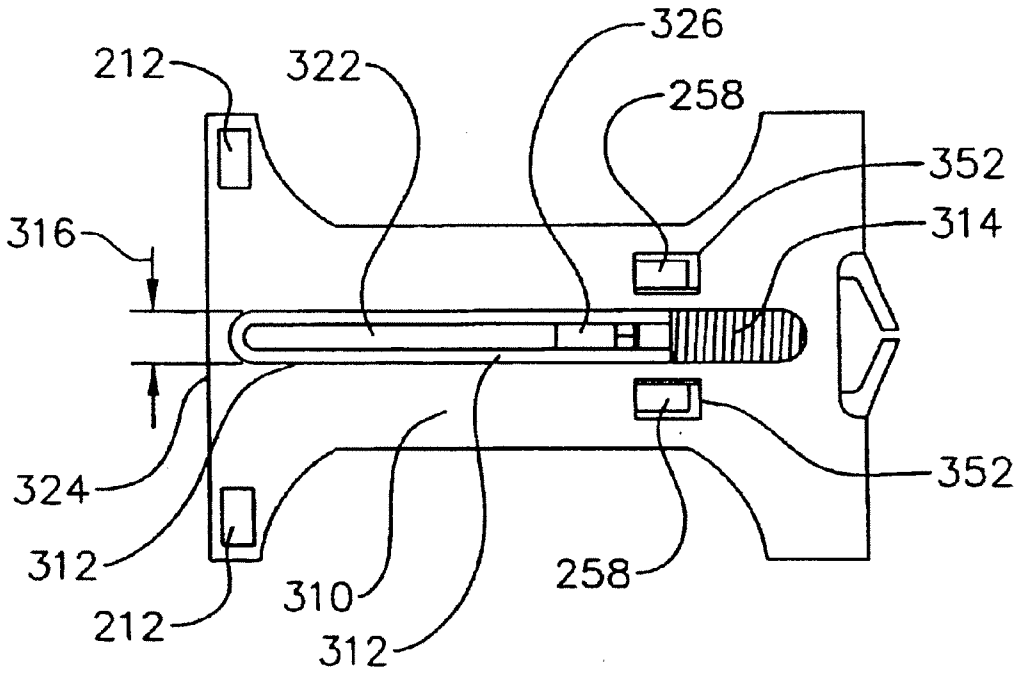


EXHIBIT A
PAGE 22

FIG. 12C

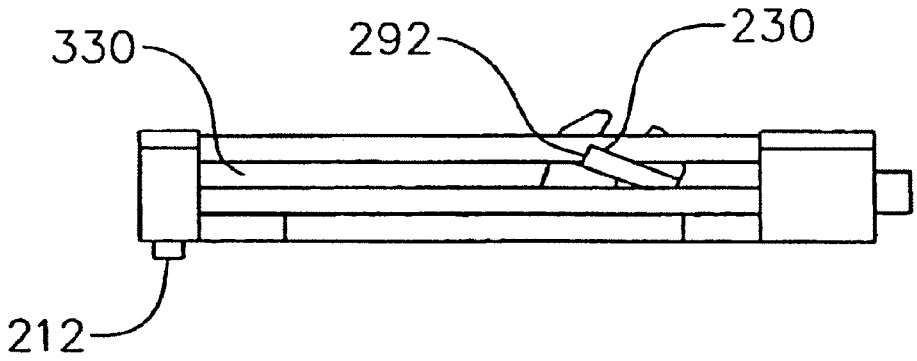


FIG. 12D

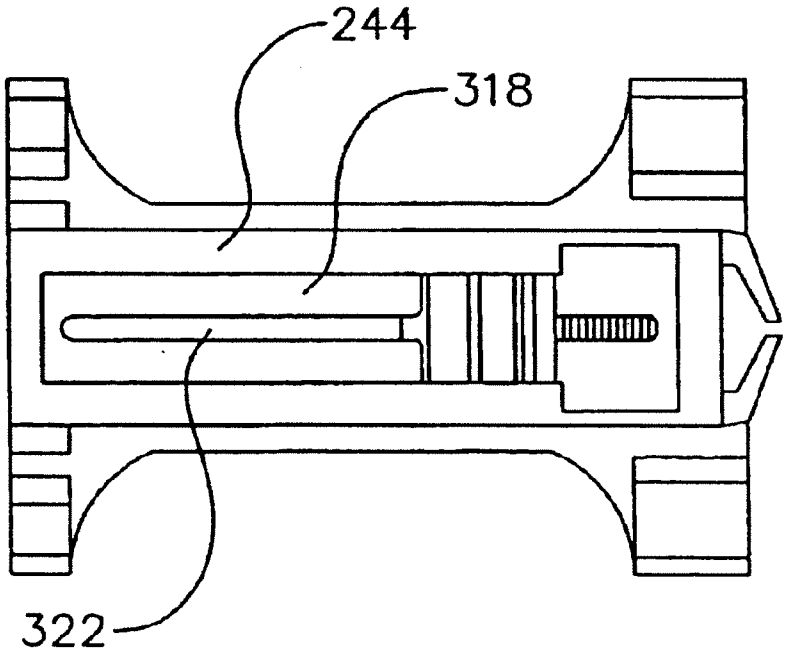


EXHIBIT A
PAGE 23

FIG. 13A

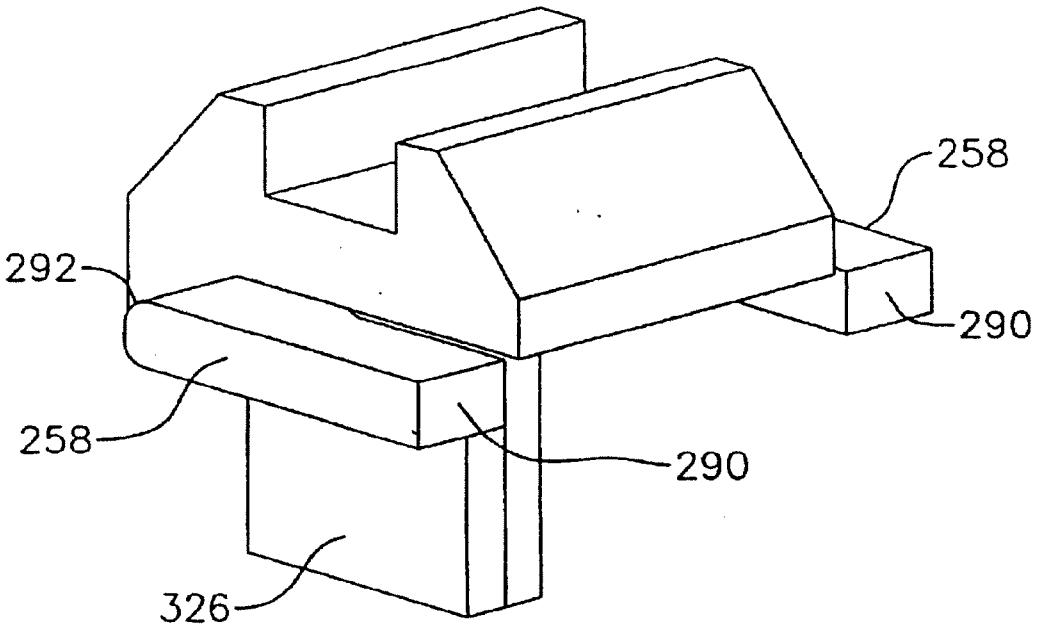


FIG. 13B

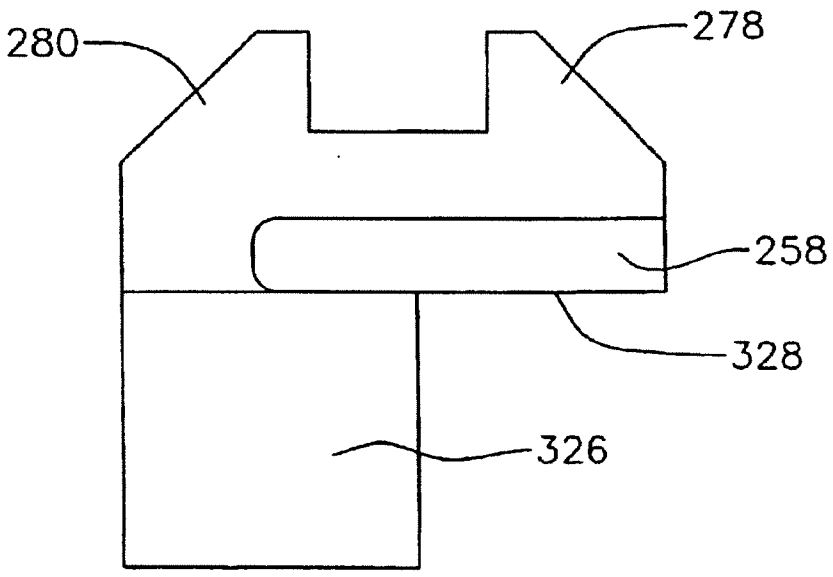


EXHIBIT A
PAGE 24

FIG. 14A

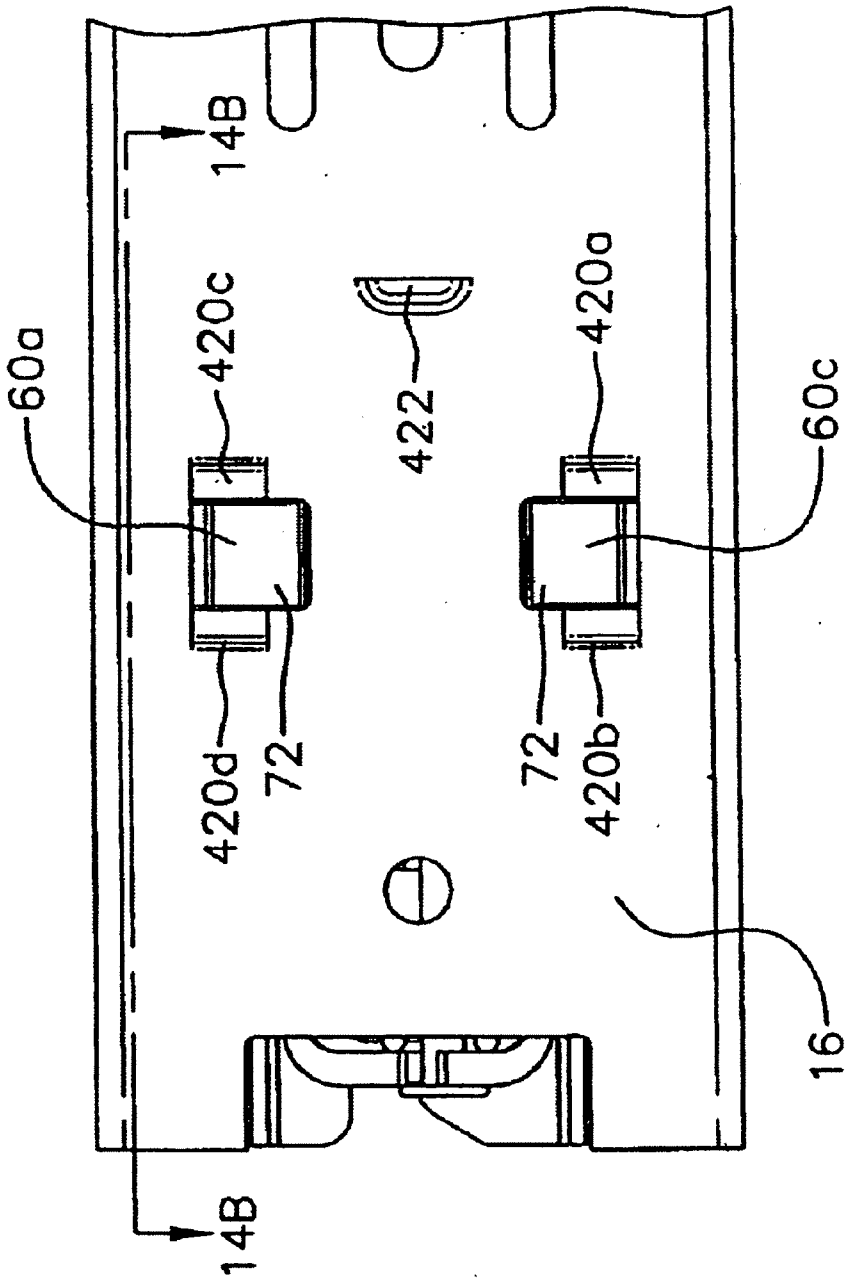


EXHIBIT A
PAGE 25

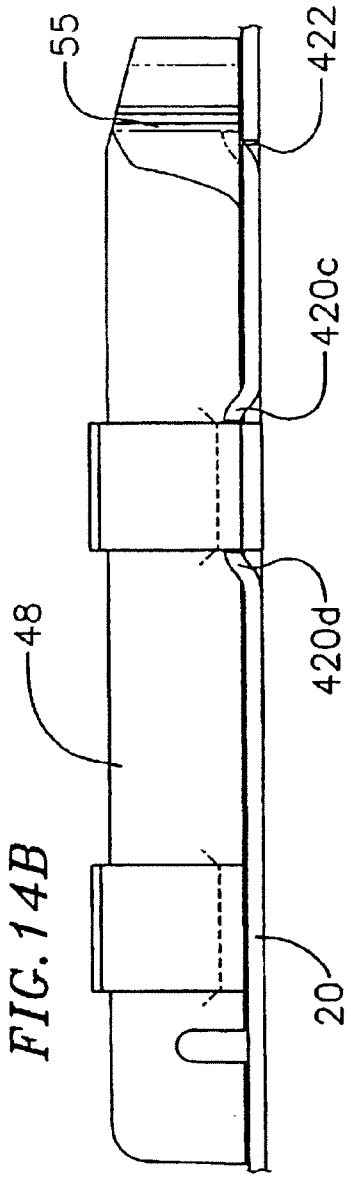


FIG. 14B

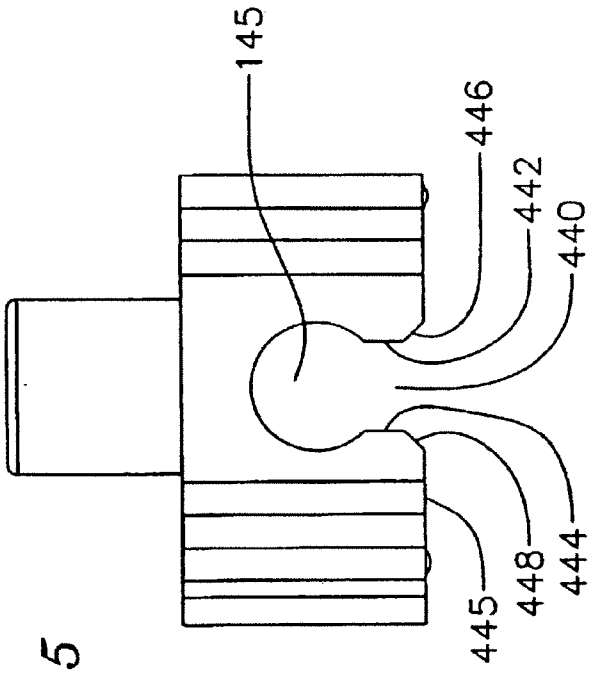


FIG. 15

EXHIBIT A
PAGE 26

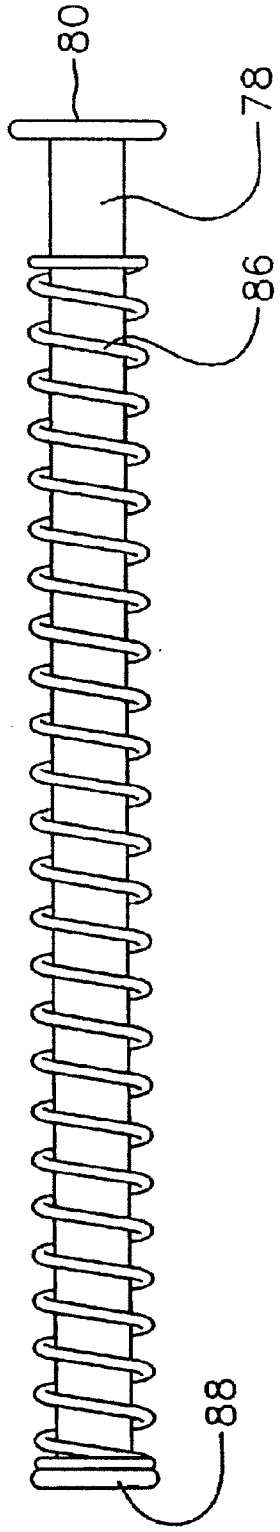


FIG. 16

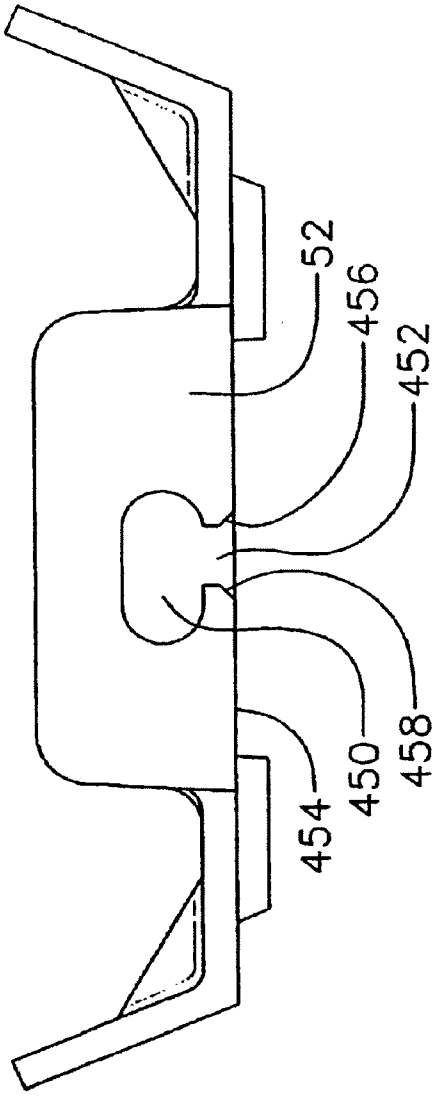


FIG. 17

EXHIBIT A
PAGE 27

SELF-CLOSING SLIDE AND MECHANISM FOR A SELF-CLOSING SLIDE

CROSS-REFERENCE RELATED APPLICATION

This application is based upon and claims priority on U.S. provisional application No. 60/202,365, filed May 1, 2000, the contents of which are fully incorporated herein by reference.

BACKGROUND OF THE INVENTION

The present invention is directed to a self-closing slide and mechanism for a self-closing slide.

Drawers are typically coupled to cabinets using slides. These slides are typically two-member slides or three-member slides. A two-member slide comprises an outer member and an inner member. The inner member is slidably coupled to the outer member and can telescope relative to the outer member. A three-member slide comprises three members, namely, an outer member, an intermediate member, and an inner member. The intermediate member is slidably coupled to the outer member and the inner member is slidably coupled to the intermediate member. Both the intermediate and inner member telescope relative to the outer member. Moreover, the inner member can telescope relative to the intermediate member. Typically the slide outer members are coupled to the cabinet and their inner members are coupled to either side of the drawer.

The problem with many drawers is that they tend to open after they are closed. Another problem with drawers is that when they are pushed to close, they sometimes do not close completely because they are not pushed with sufficient force or alternatively they are pushed with more force than necessary causing the drawers to slam against the cabinet and then re-open.

To overcome these problems some slides incorporate self-closing mechanisms that use an extension spring coupled to the outer member of the slide. The spring engages a tab or pin welded or otherwise fixed to the inner member of the slide to pull the inner member toward the outer member and close the slide. The problem with these mechanisms is that the spring is in an extended or stretched position until it is engaged by the tab or pin fixed to the inner member. As such, the spring remains stretched until the slide closes. Consequently, if the spring breaks while stretched - - - which a common failure mode for extension springs - - - it will have a tendency to eject from the mechanism creating a hazardous condition. Moreover, the tabs tend to break off from the inner member with usage due to fatigue causing early failure of the self-closing mechanism.

Consequently, a mechanism is desired for use in slides that will keep the slides in a closed position when the slides are fully closed, that will also help the slide self-close as they reach close to the end of their rearward travel and which are not subject to the early failures and hazardous conditions created by currently available slide self-closing mechanisms.

SUMMARY OF THE INVENTION

A mechanism is provided that couples to a first slide member of at least a two member slide. The mechanism comprises a housing having a slot guiding an actuator. The actuator is spring coupled to the housing. The actuator can slide along the slot between a first position and a second position. The actuator can remain engaged in the first position with the spring armed. When a second member of the slide approaches a closed position, it is engaged by the actuator. As the second member continues to move toward a closed position it causes the actuator to disengage from the first position whereby the armed spring causes the actuator and the engaged second slide member to slide along the slot to the second position where the slide is closed.

When the second slide member is extended relative to the first slide member, it causes the actuator to move from the second position toward the first position. When in the first position, the spring rearms and the actuator gets engaged in the first position, while the second slide member disengages from the actuator.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a cross-sectional view of a three-member slide.

FIGS. **2**A and **2**B are a perspective and side view, respectively, of the housing of an exemplary embodiment self-closing mechanism of the present invention.

FIG. **3** is a partial top view of an exemplary embodiment three-member self-closing slide incorporating an exemplary embodiment self-closing mechanism of the present invention.

FIG. **4** is a partial bottom view of the self-closing slide shown in FIG. **3**.

FIGS. **5**A and **5**B are a cross-sectional and a perspective view, respectively, of an actuator used in the self-closing mechanism shown in FIG. **2**A.

FIGS. **6**A and **6**B are an enlarged section top view and an end view, respectively, of the inner slide member of the self-closing slide shown in FIG. **3**.

FIG. **7**A is a top view of a self-closing mechanism incorporating a different exemplary embodiment actuator.

FIGS. **7**B and **7**C are a front and rear perspective views, respectively, of the actuator embodiment shown in FIG. **7**A.

FIG. **7**D is a perspective view of an alternate exemplary embodiment actuator.

FIG. **8** is a partial top view of another exemplary embodiment three-member self-closing slide incorporating another exemplary embodiment self-closing mechanism of the present invention shown with its actuator in an unarmed state.

FIGS. **9**A, **9**B, **9**C and **9**D are a perspective view of a different exemplary embodiment self-closing mechanism of the present invention, a bottom view of such mechanism, a side view of such mechanism and end view of such mechanism.

FIG. **10** is a partial top view of another exemplary embodiment three-member self-closing slide incorporating the self-closing mechanism depicted in FIG. **9**A.

FIG. **11** is a partial bottom view of the self-closing slide shown in FIG. **10**.

FIGS. **12**A, **12**B, **12**C and **12**D are a perspective view of a further alternate exemplary embodiment self-closing mechanism of the present invention, a bottom view of such mechanism, a side view of such mechanism, and a top view of such mechanism.

FIGS. **13**A and **13**B are a perspective and a side view, respectively, of an alternate exemplary embodiment actuator for use with the self-closing mechanism shown in FIG. **12**A.

FIG. **14**A is a partial bottom view of an exemplary embodiment self-closing slide incorporating an exemplary embodiment self-closing mechanism of the present invention.

FIG. **14**B is a partial side view taken along arrows **14**B—**14**B of the self-closing slide shown in FIG. **14**A.

EXHIBIT #
PAGE 28

FIG. **15** is an end view of an alternate exemplary embodiment actuator of the present invention.

FIG. **16** is a top view of a spring surrounding a capped guide pin.

FIG. **17** is an end view of an exemplary housing for a self-closing mechanism of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Self-closing mechanisms are provided that attach to slide members of slides at or proximate the members' rearmost ends. Consequently, slides incorporating such mechanisms become self-closing slides. For convenience, the mechanisms are described herein in relation to a three-member slide. However, the mechanisms can be incorporated into two member slides or other slides using multiple sliding members.

A typical three member slide **10** comprises an inner member **12** slidably coupled to an intermediate member **14** which is slidably coupled to an outer member **16** (FIG. **1**). The outer member is channel shaped in cross section, i.e., it defines a channel **18**, having web **20** and two legs **22** extending preferably perpendicularly from opposite ends of the web. A lip **24** extends preferably perpendicularly from each leg such that the two lips extend toward each other. A bearing raceway **26** is defined by each lip, its corresponding leg and the web. The intermediate slide member **14**, also generally channel shaped in cross-section, is slidably coupled within the outer member **16**.

In cross-section, the intermediate member also comprises a web **28** and two legs **30** extending from opposite ends of the web. Each of the legs has a double curvature such that each leg defines an inner raceway **32** and an outer raceway **34**. The intermediate member is slidably coupled within the outer member with their "channels" facing in the same direction. Ball bearings **36** are sandwiched between the inner bearing raceways **26** of the outer member and the outer bearing raceways **34** of the intermediate member. The ball bearing are typically coupled to an outer ball bearing retainer **37**.

The inner member is also channel shaped in cross-section comprising a web **38** having two legs **40** extending from opposite ends of the web. A concavity is formed on the outer surface of each leg defining an outer bearing raceway **42**. The inner member is slidably coupled to the intermediate member with the channel of the inner member facing opposite the channel of the intermediate member. In other words, the legs of the inner member extend from the web **38** of the inner member toward the web **28** of the intermediate member. Ball bearings **44** are sandwiched between the outer bearing raceways **42** of the inner member and the inner bearing raceways **32** of the intermediate member. The ball bearing are typically coupled to an inner ball bearing retainer **45**. Each slide member is typically formed from a single piece of material.

An exemplary embodiment self closing mechanism **46** of an embodiment of the present invention comprises an elongated housing or body **48** having opposing side walls **50**, an rear wall **52** and top wall **54** (FIGS. **2**A and **3**). The housing may also have a front wall **55**. The width **56** of the top wall, i.e., the spacing between the side walls, is smaller than the width **58** of the slide inner member web **38**. In this regard, the inner member can slide over the housing. The housing may also have a base or bottom wall (not shown). The terms, "upper," "lower," "top," bottom," "base," "upward," "downward," "forward," "rear," "front" and "back" are used as relative terms and are not meant to denote the exact location of a member operated by such term.

Two, but preferably four legs **60***a*, **60***b*, **60***c*, **60***d* extend transversely from the base portion of the housing sides **50** In a preferred embodiment two legs extend from either side of the housing from proximate the base of the sides. Each leg comprises a first portion **62** extending laterally from a side wall **50** of the housing. Each of the legs also comprise a second portion **64** extending from the first portion inclined at an angle relative to the first portion such that the free-end **66** of the second portion is higher than the first portion. The second portions have a height **68** as measured perpendicularly to the first portion that is preferably slightly smaller than an inner height **70** of the inner bearing raceway of the outer member (FIGS. **1** and **2**B). The housing and legs are preferably integrally formed and are preferably made of plastic. In this regard, the legs are flexible allowing for the housing to be "snapped-in" place on the slide outer member.

The housing with legs is mounted within the outer slide channel at the rearmost end portion as shown in FIG. **3**. Specifically, the housing with legs is slid or "snapped-in" within the channel defined by the outer slide such that the free ends **66** of the leg second portions engage the inner surfaces of lip portions **24** of the outer slide. Consequently, the leg second portions which occupy the height **70** of almost the entire inner bearing raceway fit tightly within the inner bearing raceways **26** of the outer member. In an exemplary embodiment, a protrusion **72** is formed extending from the bottom surface of the first portion of at least one leg but preferably extending from the bottom surfaces of at least two oppositely extending legs, as for example legs **60***a* and **60***c* (FIGS. **2**A and **2**B). Complementary slots **74** are formed through the web **20** of the outer slide member **16** such that when the legs are urged toward the web **20**, the protrusions **72** enter their complementary slots **74** thereby providing a more secure engagement between the housing and the slide outer member (FIG. **4**).

When the housing is attached to the outer slide member, it is in the sliding path of the slide intermediate member **14**, as for example shown in FIG. **3**. To accommodate for the length of the outer member occupied by the housing, the intermediate member preferably has a length shorter than outer member **16** so that when it is in the fully retracted position relative to the outer member, the intermediate member does not extend beyond the outer member.

When the mechanism is incorporated in a three-member slide, a stop member may extend from the front portion of the housing for stopping the travel of the intermediate member and silence an impact of the intermediate member on the housing. The stop member may be resilient material mounted on the front portion of the housing. In a preferred exemplary embodiment, the stop member is a flexing arm **76** integrally formed with the housing **48** and extending from one side of the housing transversely to proximate the other side of the housing. When the web **28** of the intermediate member strikes the flexing arm **76**, the arm flexes toward the housing to soften and silence the impact while providing a stop to the rearward travel of the intermediate member. Preferably the stop member is shorter in height than the housing and the upper surface **73** of the front portion of the housing is tapered so as to increase in height in a direction toward the rear of the housing as for example shown in FIG. **2**B. In this regard, if the inner slide member were to contact the tapered upper surface **73** as it slides toward a closed position, it would ramp up and over the housing.

A guide rod also referred to herein for convenience as a "guide pin" or "pin" **78** is coupled to the rear wall **52** of the

EXHIBIT A
PAGE 29

housing and extends within the housing as shown in FIG. **3**. The guide pin in the exemplary embodiment shown in FIG. **3** and described herein is cylindrical, i.e., it has a circular cross-sectional shape. However, the pin may have other cross-sectional shapes.

The pin is coupled to the rear wall of the housing slightly nearer one of the side walls **50** and is capable of pivoting relative to the rear wall. Pivoting can be accomplished by providing an opening through the rear wall **52** having a diameter much larger than the guide pin **78** diameter. An end of the pin protrudes through the rear wall opening and is capped forming a rear cap **80** having a larger diameter than the opening. In this regard, the capped end is prevented from re-entering the housing and the pin is able to move sideways within the opening and thereby allowing the guide pin to pivot relative to the rear wall. In an alternate embodiment, the guide pin is allowed to exit the housing through a rear wall opening and is then bent such that the bent portion of the pin engages the outer surface **79** of the rear wall **52** preventing the pin from retracting back into the housing.

An actuator **82** is slidably coupled to the guide pin **78** such that it can slide along the guide pin length (FIGS. **3** and **5**A). Typically, the actuator comprises an opening **84** that is penetrated by the pin, thus, allowing the actuator to slide along the pin. Preferably the opening **84** is a sectioned opening having a first larger diameter section **84***a* and a second smaller diameter section **84***b*. A spring **86** is placed over the pin for urging the actuator toward the rear wall **52** of the housing. The spring has an outer surface diameter larger than the diameter of the actuator opening smaller diameter section **84***b* and smaller than the diameter of the actuator opening larger diameter section **84***a*. The pin is capped at its front end forming a front cap **88** or is bent so as to retain the spring over the guide pin. The guide pin **78**, spring **86** and actuator **82** are all housed within the housing **46** and can all pivot with the pin relative to the rear wall of the housing.

A slot **90** is formed through the top wall of the housing. The slot has a major longitudinal portion **92** having a central longitudinal axis **96** which is preferably offset in parallel from a central longitudinal axis **98** of the housing. The slot longitudinal portion extends from preferably proximate the rear wall of the housing toward the front wall **55**. A transverse portion **100** of the slot extends transversely from the forward end of the slot longitudinal portion in a direction crossing the central longitudinal axis **98** of the housing. The rear most edge of the transverse portion of the slot defines a transverse edge **102**.

A longitudinal slit **104** is formed on the top wall proximate the rear wall and offset form the slot longitudinal portion **92**. The slit is shorter than the slot and it is in communication with the slot at its rearmost end. Consequently, a flexible tine **106** is defined between the slot and the slit.

In a preferred exemplary embodiment, a second slit **107** is formed on the edge of the slot longitudinal portion **92** opposite the tine **106** and proximate the rear end of the slot longitudinal portion. The second slit defines a flexible detent **111** which extends into the path of the slot longitudinal portion **92**. The detent may have a protrusion **93** extending into the slot longitudinal portion.

A guide member **108** extends from an upper surface of the actuator and is fitted within the slot **90** (FIGS. **3** and **5**A). In one exemplary embodiment, shown in FIGS. **3** and **5**A, the guide member is in the form of a pin **140**. The guide member and actuator are preferably integrally formed. The slot **90** serves to guide the guide member and thereby the actuator travel along the housing. As the actuator travels along the housing, the guide pin **78** pivots relative to the housing rear wall **52** to accommodate the actuator travel. When in the rear end of the slot, the pin and thus the actuator can move laterally against the tine **106**, flexing the tine.

As the actuator is moved forward along the slot **90**, it compresses the spring **86** against the guide pin front cap **88**. When at the front end of the slot, the actuator guide follows the curved portion of the slot and into the transverse portion **100** of the slot as the guide pin **78** is pivoted about the rear wall. When at that position, the spring is compressed providing a force attempting to urge the actuator in a direction toward the rear wall. The force causes the actuator guide member to engage the transverse edge **102** defined by the transverse slot portion on the housing top wall and thereby maintain the actuator within the transverse slot portion in an "armed" state. The transverse edge **102** is of sufficient length to support the actuator guide member **108**. When the guide member is moved transversely toward the longitudinal portion of the slot, the spring force causes the actuator to move along the slot to rear end of the slot.

A web slot **109** is formed on the rear end of the web **38** of the inner slide member **12**. The slot has a short first portion **110** longitudinally extending from the rear end of the inner member web **38** (FIGS. **3** and **6**A). The first portion of the web slot is aligned to straddle the guide member of the actuator as the inner member is slid over the housing. The web slot first portion has a first longitudinal edge **112** positioned furthest from the longitudinal slot on the housing top wall. The web slot than curves in a direction toward the longitudinal slot of the top wall and forms a second inclined slot portion **114**. The second slot portion has a first edge **116** inclined to the first edge **112** of the slot first longitudinal portion at an angle preferably less than 90°. A curved edge **118** forms the transition between the first edges of the first and second slot portions.

The second edge **120** of the first slot portion **110** opposite the first longitudinal edge **112** extends away from the first longitudinal edge to the rear end of the inner member web. The second edge **120** of the first web slot portion extends transversely to at least a location axially aligned with the longitudinal portion **92** of the slot formed on the housing top wall. Preferably, the second edge **120** spans a distance sufficient for engaging the actuator guide member when the actuator guide member is located within the longitudinal portion **92** of the slot formed on the housing top wall. More preferably, the second edge **120** spans transversely to a distance covering the entire width of the longitudinal portion **92** of the housing top wall slot.

A second edge **122** of the web second slot portion **114** opposite the inclined first edge **116** is inclined at an angle to the second edge **120** of the first slot portion and extends in a direction similar to the first edge **116** of the second web slot portion. The point of intersection between second edge of the first slot portion and the second edge of the second slot portion is preferably rounded forming a tip **124**.

As the inner member of the slide is retracted rearward toward a closed position, the guide member of the actuator enters the first portion **110** of the web slot **109**. As the inner member continues to move rearward, the actuator guide member **108** makes contact with the curved edge **118** of the web slot and then the first edge **116** of the second slot portion. When that occurs and as the inner member further retracts, the actuator guide member is guided transversely by the first edge **116** of the web slot second portion along the

EXHIBIT A
PAGE 30

web slot second portion **114**. This causes the actuator guide member and thus the actuator to move transversely along the transverse portion **100** of the slot on the housing top wall and to the longitudinal portion **92** of the top wall slot. When that occurs, the spring "unarms" and the spring force causes the actuator to travel rearwards along the guide pin and the actuator guide member to travel rearward along the longitudinal portion **92** of the slot formed on the housing top wall. As the actuator guide member is moved rearwardly by the spring force, it engages and applies a force on the second edge **122** of the second slot portion **114** of the web slot causing the inner member to slide rearwardly with the guide member and the slide to self close.

As the slide inner member is extended after being closed, the second edge **122** of the web slot second portion **114** applies a force on the actuator guide member causing the guide member to move forward along the longitudinal portion **92** of the slot on the housing top wall and against the spring force compressing the spring **86**. When the actuator guide member reaches the front end of the longitudinal portion **92** of the top wall slot its longitudinal motion is stopped as the inner slide member continues to extend. Consequently, the actuator guide member begins to move rearwardly relative to the web slot **109** and along the second edge **122** of the second portion of the web slot **109**. Thus, the actuator guide member is moved transversely relative to the housing and along the transverse portion **100** of the top wall slot where it engages the transverse edge **102** on the housing top wall as a result of the applied spring force. As the inner member is further extended the guide member exits the web slot **109** and remains "armed" against the transverse edge **102**.

When the actuator is in the rearmost position, e.g. when the slide is in a closed position, the spring **86**, which is in the exemplary embodiment is a compression spring, is in its normal extended position offering minimal or no force. In the exemplary embodiment shown in FIG. **3**, the detent **111** controls any bouncing of the slide and actuator that may occur. If the slide with actuator attempt to re-extend, i.e., "bounce", from the closed position, the detent **111** which extends into the path of the slot longitudinal portion **92** formed on the housing top wall will engage the actuator guide member and stop the re-extending travel i.e., the bounce.

If the actuator guide member inadvertently disengages from the transverse edge **102** of the slot formed on the housing top wall and moves to the rear end of the housing by the spring force, the self closing mechanism can be re-engaged by the inner slide member. This is accomplished by retracting the inner slide member. As the inner slide member is retracted, the second edge **120** of the inner member web slot first portion engages the actuator guide member **108**. As the inner member is further retracted, the actuator guide member is caused to move transversely along the second edge **120** causing the guide member to engage and flex the tine **106** on the housing and move it transversely. When flexed, the tine provides a force against the actuator guide member **108** tending to push the guide member toward the longitudinal slot portion. As the inner slide member continues to retract, the actuator guide member reaches and passes the tip **124** of the web slot at which point the force generated by the tine causes the actuator guide member to move into the second slot portion **114** of the web slot **109**. Once within the second slot portion **114**, the actuator guide member is engaged by the inner slide member and extension of the slide member will cause the actuator guide member and the actuator to move into an "armed" position as discussed above.

Applicants have discovered that an incline angle **126** (FIG. 6A) of 34° between the first edge **116** of the web slot second portion and the first longitudinal edge **112** of the first longitudinal portion of the web slot to be optimum for the operation of the mechanism when the guide member **108** is cylindrical. A shallower angle may provide for smoother operation of the mechanism, but with such angle a longer second slot portion is required for moving the actuator guide member a sufficient transverse distance for disengaging from the transverse edge **102** of the transverse portion **100** of the slot formed on the housing top wall.

Applicants have also discovered that for optimum operation, the second edge **120** of the first web slot portion **110** should extend at angle **131** preferably of about **350** from an axis **130** perpendicular to the inner member web longitudinal axis **132** located at the rear end of the web. In addition, applicants have discovered that the second edge **122** of the second web slot portion should be inclined at an angle **134** of about 95° to the second edge **120** of the first slot portion. Furthermore, applicants have discovered that the tip **124** between second edge of the first slot portion and the second edge of the second slot portion should be rounded to allow for smooth re-engagement of the actuator guide member if it inadvertently disengages from the slide inner member. An exemplary radius for the tip is about 0.08 inch. Moreover, applicants have discovered that a spring **86** with a spring rate 1.2 lbs. per inch or capable of providing a force of 3 lbs. provides sufficient force for self-closing of a slide coupled to a typical kitchen drawer and cabinet.

In a preferred embodiment, the tip **124** formed on the web slot is joggled so as to engage the actuator guide member **108** along a lower location closer to the upper surface of the housing top wall as shown for example in FIG. **6B**. In this regard, the force applied by the tip **124** to the actuator guide member is reacted more in shear, and less in moment, tending to move the actuator guide member and actuator. By applying a smaller moment to the actuator guide member, more of the force applied to the actuator guide member is used to move the actuator. Consequently, a lesser force is needed to move the actuator and the motion of the actuator is smoother.

In the exemplary embodiment shown in FIG. **3**, the housing has a length of about 2.465 inches; the longitudinal slot extends to a length of about 1.6 inches along the housing top wall; the inner slide member web has a width of about 0.76 inch at the rear end of the inner member; the second slot portion extends a distance of about 0.694 inch into the inner slide member web as measured from the rear end of the web; the first edge of the first inner slide member web slot portion is located at about 0.698 inch from the outer surface of the furthest leg of the inner slide member; and the rounded tip is located at about 0.519 inch from the outer surface of the furthest leg of the inner slide member.

In another exemplary embodiment, the actuator guide member is an elongated protrusion **142** (FIGS. 7A, 7B and 7C). With this embodiment, the width **144** of the transverse portion **110** of the slot formed on the top wall of the housing should be wider than the width **146** of the longitudinal portion **92** of the slot to accommodate the increased length in the guide member. The longitudinal portion of the slot only has to accommodate the narrower width of the guide member. The increased length of the guide member protrusion provides more surface for engagement by the web slot of the inner member thereby reducing the force required to disengage the actuator guide member from the transverse edge **102** of the transverse slot **100** formed on the housing top wall. The increased length of the guide member also

EXHIBIT A
PAGE 31

causes a reduction in the noise as the guide member moves across the web slot. This is due to the fact that the guide member, because of its increased length, will travel a smaller distance from one edge of the web slot before striking an opposite edge of the web slot. A front and rear perspective view of the guide member incorporated in the exemplary embodiment mechanism shown in FIG. **7**A is shown in FIGS. **7**B and **7**C, respectively. This exemplary embodiment actuator comprises a rear wall **143** having an opening **145** for penetration by the guide pin **78**. The opening **145** has a diameter greater than the diameter of the guide pin **78** but smaller than the diameter of the spring **86**. The actuator also comprises two side walls **147** and no front wall. By coupling the guide pin to the actuator only via the rear wall, the actuator is allowed to pivot laterally relative to the guide pin such that central longitudinal axis of the opening **145** is offset relative to the central longitudinal axis of the guide pin. This allows the actuator to have more freedom of movement relative to the guide pin making the movement of the actuator and thus of the mechanism easier. In an alternate embodiment, not shown, the actuator may have a front wall with an opening for the guide pin and no rear wall.

In a further exemplary embodiment mechanism, an alternate embodiment actuator as shown in FIG. **7**D is used. This embodiment guide member comprises an elongated protrusion **144** is made more flexible by having two flexible longitudinally extending members **148**. These members may be formed by forming a slot **150** along a plane parallel to the upper surface of the protrusion that spans a portion of the length **152** of the protrusion and then forming a second slot **154** perpendicular to the first slot **150** extending to the upper surface **158** of the protrusion. The members which can flex reduce the impact noise when the actuator guide member is engaged by the web slot **109** of the slide inner member. In another exemplary embodiment, impact noise may be reduced by covering the actuator guide member, or at least the guide member protrusion, with a softer material, e.g., a rubbery material, cap.

When an elongated protrusion forms the guide member, as for example the guide member **406** shown in FIG. **8** (or the guide member **142** shown in FIGS. **7**C and **7**D), a web slot **412** is formed on the web of the inner slide member having a first portion **414** extending from the rear end of the inner member web **38**, and a second generally wider inclined slot portion **416** extending from the first portion. The second inclined portion is wider than the first portion to accommodate the elongated guide member.

In an alternate exemplary embodiment, as for example shown in FIG. **8**, a bump or protrusion **400** is used in lieu of the detent **111**. The bump **400** is formed on the edge of the longitudinal portion **92** of the slot **90** at a location opposite the tine **106** and extends within the slot portion **92**. A complementary depression **402** is formed on the actuator guide member **406**. When moving toward a closed position, i.e., rearward, the actuator guide member **406** is pushed sideways by the bump and in turns bends the tine **106**. If the slide member with actuator guide member attempt to "bounce," i.e., to re-extend after closing, the bump **400** would engage the complementary depression **402** and suppress or stop the bounce, i.e., prevent slide extension. In yet a further alternate exemplary embodiment, a second bump **408** is formed on the tine **106** opposite the first bump **400**. The second bump also extends into the longitudinal slot portion **92**. A second depression **410** complementary to the second bump is formed on the actuator guide member **406** to accommodate the second bump.

In yet another exemplary embodiment, a ramp **415** may be formed on the transverse edge **102** of transverse portion **100** of the slot **90**, as for example shown in FIG. **8**, for aiding in the retention of the guide member in an "armed" state. The ramp may be defined by a bump **413** extending from the transverse edge **102**. Moreover, in another exemplary embodiment, an edge **411** of the longitudinal portion **92** of the slot **90** may be slightly curved forming a concavity, as for example shown in FIG. **8**, to avoid squeaking as the actuator guide member moves along the longitudinal slot portion. Squeaking typically occurs when a plastic member slides against another plastic member.

In a further alternate exemplary embodiment, instead of being coupled to the rear wall **52** of the housing, the guide pin **78** is coupled to the front wall **55** of the housing and is capable of pivoting relative to the front wall.

In an alternate exemplary embodiment self-closing mechanism shown in FIG. **9**A, the housing or body **199** has four legs **200***a*, **200***b*, **200***c*, **200***d*, two extending from either side wall of the housing **210**. With this embodiment, the legs have an outer surface complementary to the inner bearing raceways **26** of the slide outer member for snugly interfacing with the inner bearing raceways of the inner slide member. Preferably, at least two opposite legs have protrusions **212** extending from their lower surface **214** (FIG. **9**B). These protrusions engage corresponding slots **213** formed on the web **20** of the outer member **16** for securing the housing to the outer member (FIG. **11**).

The legs are preferably integrally formed with the housing. A groove **215** is formed through each leg to accommodate the legs **40** of the inner slide member **12** as shown in FIG. **9**D. In this regard, the inner slide member can slide over the housing. Preferably the groove defines surfaces **217** on the legs to interface with the outer bearing raceways **42** of the inner slide member. In this regard, the grooves **215** serve as a guide for guiding the inner slide member over the housing.

When the self-closing mechanism is incorporated in a three-member slide, as for example shown in FIG. **10**, a stop **216** may extend from the front end of the mechanism housing. The stop may be in the form of a resilient member attached to the front end of the housing or may be in the form of two arms **218***a*, **218***b* as for example shown in FIGS. **9**A and **9**B, each arm extending from a side **220** of the housing toward the center of the housing which can flex as it is contacted by the intermediate member web **28**, to absorb some of the energy due to impact, silence the impact and stop the movement of the intermediate member. Alternatively, the housing may be formed with a single arm as discussed above extending from the front end of the housing.

A guide slot **222** is formed in each of the two sidewalls **220** of the housing as shown in FIG. **9**C. Each sidewall guide slot is a longitudinal slot extending from proximate the rear wall **224** of the housing to proximate to front end **226** of the housing. Each slot comprises an upper edge **228**. The upper edge extends from proximate the rear wall of the housing to proximate the front wall of the housing. A notch **230** is formed on the upper edge nearer the front wall of the housing. A first lower edge **234** extends from proximate the rear wall of the housing to a location beyond the notch **230** where it is stepped down to a second lower edge **236**. In other words, the second lower edge is lower than the first lower edge. Consequently, each slot has a narrow portion **238** which extends into a wider portion **240**.

A longitudinal rectangular slot **242** is formed on the top wall **244** of the housing. A guide pin **246** extends from the inner surface **248** of the front wall **250** to the inner surface

EXHIBIT A
PAGE 32

252 of the rear wall 224 of the housing (FIG. 9B). A spring 254 surrounds the pin. In other words, the pin penetrates a spring. A groove 256 is formed on the inner surface 248 of the front wall 250 of the housing extending to the bottom of the front wall. The groove preferably has a flat base 258 and a width which is greater than the outer diameter of the spring. A groove 251 is formed on the inner surface of the rear wall 249. The groove extends from the top toward the bottom of the inner surface of the rear wall 224. Preferably, the groove is confined to an area within the middle of the wall and does not extend to the top or bottom ends of the rear wall. The groove 251 has a width slightly greater than the diameter of the guide pin 246.

The self-closing mechanism also comprises an actuator 253. The actuator comprises a body 256 having a tab 258 extending from either side of the body (FIG. 9B). The tabs have a thickness that is slightly smaller than the width of side wall slots narrower sections. An opening 260 is formed longitudinally through the body 256. The opening 260 is elongated in cross-section having a width 262 that is narrower than its height 264.

In one exemplary embodiment, the width 262 of the opening 260 is slightly larger than the diameter of the guide pin 246 but smaller than the outer surface diameter of the spring 254. In the exemplary embodiment shown in FIGS. 9B and 9C the opening is stepped from a first smaller width section 266 to a second larger width section 268 along the actuator body length. The first section 266 has a width greater than the diameter of the guide pin 246 but smaller than the outer surface diameter of the of the spring. The second section 268 has a width greater than the outer surface diameter of the spring. With this embodiment, the first section 266 extends from the rear end 270 of the body to a location 271 near the front end 272 of the actuator body 256. From there the second section 268 extends to the front end 272 of the actuator body. Consequently, an annular shoulder 273 is defined between the two sections.

A channel 276 bounded by a front lip 278 and a rear lip 280 is formed transversely across the upper surface of the actuator body 256. The front surface 282 of the front lip is tapered toward the channel. The rear surface 284 of the rear lip is preferably also tapered toward the channel.

To assemble the self-closing mechanism, the spring 254 is inserted over the guide pin 246, and the actuator 254 is placed over the guide pin from the rear end of the guide pin such that the guide pin penetrates the actuator opening 260. In the exemplary embodiment shown in FIGS. 9A and 9B where opening at the actuator front end 272 is wider than the outer surface diameter of the spring 254, the spring penetrates a portion of the actuator until it abuts the annular shoulder 273 in the actuator body. The guide pin rear end is fitted within the groove 251 formed on the inner surface of the rear wall and the guide pin forward end is fitted within the groove 256 formed on the inner surface of the front wall. The tabs 258 extending from the sides of the actuator are slidably fitted within the guide slots 222 on the side walls of the housing. While the housing may have a bottom wall, in the exemplary embodiment shown in FIGS. 9A and 9B, the housing does not have a bottom wall. The entire self closing mechanism is then mounted on the rear most end of the slide inner member such that the foot protrusions 212 protrude through corresponding slots 213 on the web 20 of the slide outer member as shown in FIG. 11.

When the pin is mounted within the housing, the rear end of the pin is elevated in comparison to the front end of the pin. This is caused by the relative positioning of the grooves 256 and 251 formed on the inner surfaces of the front and rear walls of the housing.

When the guide pin, spring and actuator are mounted within the housing, the spring urges the actuator toward the rear end of the housing. To move the actuator toward the forward end of the housing, a force must be applied on the actuator to move it against the spring force longitudinally forward. Because the pin and spring are inclined, i.e., the rear end of the pin is situated higher than the front end of the guide pin, as the tabs progress beyond the first lower edges 234 of the guide slots 222 and into the second lower edges 236 of the guide slots which are lower than the first lower edges, the actuator is caused to rotate in a forward direction such that forward ends 290 of the tabs rotate downward toward the second lower edges 236 of the guide slots while the rear end 292 of the tab engages the notch 230 formed on the upper edge of each of the guide slots 222. When in that position, the spring is in a compressed state and it attempting to urge the actuator toward the rear. However, the notch 230 formed in each of the guide slot upper edges provides a stop to such movement. Moreover, when in the rotated position, the front lip 278 of the actuator is in a lower position relative to the housing top wall while the actuator rear lip 280 is positioned higher relative to the housing top wall when compared to their positions prior to rotation.

The actuator is able to rotate partially relative to the guide pin 246 because of the actuator elongated opening 260 penetrated by the guide pin. Moreover, some actuator rotation is allowed by the relative available movement of the front and rear ends of the guide pin.

To interface with a self-closing mechanism, a web slot 286 is formed proximate the rear end 288 of the web 38 of the inner slide member 12 and is spaced apart from the rear end 288 of the web at a distance 290 that is shorter than the width 291 of the channel formed on the upper surface of the actuator (FIG. 10). Consequently, the strip 293 defined between the web slot and the end of the web has a width 290 that is shorter than the width of the channel 276 formed on the upper surface of the actuator. Furthermore, the web slot 286 has a width 294 which is slightly greater than the width of the front lip 278 of the actuator. In this regard, the slide inner member 12 can engage the actuator by having the strip 293 positioned within the channel such that the front lip 278 of the actuator penetrates the slot 286. Once the slide inner member has engaged the actuator, extension of the inner member applies a force against an inner surface 298 of the front lip of the actuator causing the actuator to travel forward against the spring force until the front ends 290 of the tabs 258 of the actuator moves past the first lower edges 234 of the guide slots 222, at which point the actuator rotates causing the front lip 278 to withdraw from the web slot 286 and release the inner slide member from the actuator. When that occurs, the actuator tab rear ends 292 remain engaged against the notch 230 formed on each upper edge 228 of the guide slots 222.

When the inner slide member is retracted moving rearward relative to the outer slide member, the rear end 288 of the web of the inner slide moves to engage an inner surface 300 of the rear lip 280 of the actuator such that the web strip 293 is positioned over the actuator channel 276. As the inner member continues to move rearward, it pushes against the inner surface 300 of the rear lip of the actuator, causing the actuator to rotate upward such that the actuator front lip 278 penetrates the web slot 286, while simultaneously causing the rear end 292 of each tab 258 to move downward and disengage from notch 230 causing the strip 293 to be straddled within the channel 276 between the front and rear

EXHIBIT A
PAGE 33

lips of the actuator. When that occurs, the spring force urges the actuator backwards. Because the web strip **293** is straddled within the actuator channel, the actuator moves the slide rearward to self-close. The rear ends **292** of the tabs may be rounded to allow for easier disengagement from the notches **230**, thereby requiring less force to disengage the tabs from the notches **230**.

If the actuator were to inadvertently disengage from the slide inner member web **38**, the mechanism provides for re-engagement of the actuator by the inner slide member web. In such case, as the inner member is retracted, i.e., moves backward relative to the slide outer member, the end **288** of the slide inner member web engages the front tapered surface **282** of the actuator front lip **278**. The front lip front tapered surface **282** guides the rear end **288** of the web over the front lip **278** until the web strip **293** is positioned over the actuator channel at which time the actuator front lip **278** penetrates the web slot **286** and the web strip **293** is straddled within the actuator channel between the front and rear lips, thereby re-engaging with the inner slide member.

In another exemplary embodiment, ramp surfaces **287** may be formed extending from the first lower edges **234** of the side wall guide slots **222** inward, as for example shown in FIG. **9**A. These ramp surfaces are co-extensive with the first lower edges. In other words, the ramp surfaces do not extend longitudinally beyond the first lower edges **234** of the side wall guide slots **222**. The ramp surfaces provide support to for the actuator tabs **258**. With this embodiment, the actuator tabs do not have to extend transversely to the first lower edges of the sidewall guide slots. They only have to extend to the ramps such that they are sandwiched between the ramp surfaces and the housing top wall. When the front ends **290** of the actuator move forward past the front end of the guide slot first lower edges, they move past the ramp surfaces **287** and are able to rotate forward as discussed above.

In an alternate exemplary embodiment shown in FIG. **12**A, the guide pin is eliminated. With this embodiment, the housing is provided a bottom wall **310** (FIG. **12**B). A central longitudinal slot **312** is formed along the bottom wall. A spring **314** is fitted within the central longitudinal slot. The slot has a width **316** slightly greater than the outer surface diameter of the spring. An intermediate wall **318** parallel to the bottom wall **310** is formed between the top wall **244** and bottom wall **310** of the housing. A central longitudinal guide slot **322** is formed along the intermediate wall. The guide slot **322** is parallel and axially aligned with the bottom wall slot **312**. The actuator **324** is provided with a bottom tab **326** extending from a bottom surface **328** of the actuator proximate the rear of the actuator body (FIGS. **13**A, **13**B). The actuator also includes a pair of side tabs **258** extending from opposite sides of the actuator.

A guide slot **330** is formed on each sidewall **220** of the housing (FIGS. **12**A, **12**C). A notch **230** is also formed along the upper edge of each guide slot **330**. Immediately forward of the notches a cutout **332** is formed across the intermediate wall.

Prior to mounting on the slide outer member **16**, the actuator is fitted within the housing such that the side tabs **258** are slidably fitted within the sidewall guide slots **330** and the bottom tab is slidably fitted within the intermediate wall slot **312**. The tab is moved toward the rear wall of the housing and the spring **314** is fitted within the bottom wall slot **322** between the front wall **226** and the actuator bottom tab **326**. The thickness of the bottom wall is chosen to be sufficient for providing lateral support to the spring for preventing the spring from moving transversely across the housing. When the housing is mounted on the slide outer member **16**, the outer member web **20** will retain the spring within the bottom wall slot **312**.

When mounted on the slide outer member, the spring urges the bottom tab and thus the actuator toward the housing rear wall **224**. When the slide inner member is engaged to the actuator and is extended relative to the outer member, the actuator is slid forward until it reaches the cutout **332** on the intermediate wall. When the actuator reaches the cutout, the off-center force which is applied by the spring to the actuator bottom tab causes the actuator to rotate forward and the rear ends **292** of the side tabs **258** to engage their corresponding notches **230** on the sidewall guide slots **330**. Forward rotation of the actuator is aided by having the bottom tab **326** extending from proximate the rear portion of the actuator body.

When forward rotation of the actuator occurs, the inner slide member releases from the actuator and the force applied by the spring on the actuator bottom tab retains the actuator tabs and thus the actuator engaged to the notches **230** until it is re-engaged by the inner slide member and released from the notches. The rear ends **292** of the tabs may be rounded to allow for easier disengagement from the notches **230**, thereby requiring less force to disengage the tabs from the notches **230**.

The bottom wall of the housing **310** may be provided with a pair of actuator slots **352**, one on either side of the bottom wall slot **312** for accommodating the side tabs **258** of the actuator when the actuator is in a rotated "armed" position (FIG. **12**B).

With any of the embodiments of the present invention, the self-closing mechanism housing also provides lateral support to the slide inner member as it slides over the housing. Furthermore, any of the aforementioned housing may incorporate any of the legs described herein for mounting on the slide outer member. Moreover, a tab **350** may be cut from the web **20** of the slide outer member **16** for engaging the front wall **226** of the housing for further securing the housing to the slide outer member as shown for example in FIG. **10**.

With any of the aforementioned embodiments, the web portion of the slide web surrounding the legs of the housing may be lanced upwards. For example, as shown in FIGS. **14**A and **14**B, a portion of the slide web **20** immediately behind the housing legs **60***a* and **60***c* are raised i.e., lanced forming lances **420***d* and **420***b*, respectively. These lances provide further support to the housing and prevent the housing from sliding backward along the web **20** as the slide and actuator close. In yet a further alternate exemplary embodiment, the web **20** is lanced at a location for creating a lance **422** immediately behind the housing front wall **55**. The lance **422** also provides support for preventing the housing from sliding backwards along the web **20** as the slide is closed. In another exemplary embodiment, the portions of the web in front of the legs are also lanced. For example, as shown in FIGS. **14**A and **14**B, lances **420***a* and **420***c* are formed in front of the housing legs **60***c* and **60***a*, respectively and opposite lances **420***b* and **420***d* respectively. Consequently a depression is defined between each pair of opposite lances, e.g., **420***a*, **420***b* and **420***c*, **420***d* for accommodating a leg of the housing. These depressions provide a predefined location for the legs to couple to the housing.

Moreover in any of the aforementioned exemplary embodiments incorporating a guide pin and an actuator, as for example the embodiments shown in FIGS. **3**, **7**A, **8**, and

EXHIBIT A
PAGE 34

10, the actuator opening accommodating the guide pin, as for example the opening **145** formed on the wall **143** of the actuator as shown in FIG. **15**, is extended to the free end **445** of the wall **143**. In the exemplary embodiment shown in FIG. **15**, the opening extends to the free end **445** of the wall via a slot **440** having a width that is smaller than the diameter of the opening. The width of the slot **440** should also be slightly smaller than the diameter of the guide pin. This allows for the actuator to "snap" on to the guide pin as for example guide pin **78**. In other words, the guide pin "snaps" through the slot **440** into the opening **145**. The slot **440** is defined between two edges **442**, **444**. These edges taper outward forming tapering edges **446**, **448**, respectively, at their intersection with the free end **445** of the wall increasing the width of the slot at the free end **445** of the wall. The tapering edges **446**, **448** serve to guide the guide pin to the slot when the actuator is being "snapped" over the guide pin.

Further with any of the aforementioned embodiments incorporating a guide pin, as for example the embodiments shown in FIGS. **3**, **7A**, **8**, and **10**, the spring as for example spring **86** is fitted over the guide pin, as for example guide pin **78**, and the guide pin is capped at both ends, e.g., a cap is formed at each end, as for example caps **80** and **88** shown in FIG. **16**. One end of the guide pin may be capped prior to fitting the spring. If an actuator, as for example the actuator shown in FIG. **15** is used, the actuator may then be "snapped" on the guide pin. Alternatively, the pin may be fitted within the actuator prior to capping. The guide pin with spring and actuator may then be "snapped" onto a wall of the housing, as for example the housing rear wall. To allow for snapping of the pin onto the housing rear wall, the rear wall of the housing, as for example wall **52** shown in FIG. **17**, is formed with an opening **450** which extends to the lower end **454** of the rear wall **52** via a slot **452** having a width that is smaller than the diameter of the opening **450**. In the exemplary embodiment shown in FIG. **17**, the opening **450** is has an elliptical shape whose minor diameter is greater than the guide pin diameter. The elliptical shape allows for the pin slide across the opening as well as pivot about the opening. The slot **450** width is slightly smaller than the diameter of the guide pin so as to allow the pin to "snap" through the slot and into the opening **450**. Portion of the edges of the slot **452** extending to the lower end **454** taper outwards forming tapering edges **456**, **458**, increasing the width of the slot **452** to a dimension greater than the diameter of the guide pin. This increase in slot width provides a guide for guiding the guide pin to the slot **452** for being "snapped" in place.

In addition, when the mechanisms of the present invention are used with a three member slide, a longer intermediate slide member may be used by cutting out a portion of the web **28**, forming a cut-out **460** to accommodate a front portion **462** of the self-closing mechanism as for example shown in FIG. **8**. This would also allow use of longer ball bearing retainers and allow the slide to hold more weight.

Any of the self-closing mechanisms of the present invention may be mounted on a slide member such as the outer slide member **16** having a cut-out **464** as for example shown in FIG. **8** to allow the slide member to couple to a rear bracket (not shown).

With any of the aforementioned embodiments, the spring is preferably compressed when armed. In this regard, failure of the spring when armed would likely not cause the spring to eject from the mechanism as would occur if the spring were stretched during when armed as occurs with self-closing mechanisms using springs. Another advantage of the self-closing mechanism of the present invention is that they modular and can be easily incorporated into existing slides by slightly modifying the slide as for example, by forming a slot on the slide inner member web and by shortening the slide intermediate member if an intermediate member is used. Moreover, the mechanisms of the present invention do not require external tabs or other members to be connected to the slide to interface with the mechanism, which would be subject to early fatigue failures.

What is claimed is:

1. A self closing slide comprising:

first slide member;

a second slide member slidably coupled to the first slide member, the second slide member having a first end and a second end, wherein the first slide member can extend beyond the first end of the second slide member; and

a self closing mechanism coupled to the second slide member, the self closing mechanism comprising,

an elongated housing coupled to the second slide member proximate the second slide member second end, the housing having a first wall surrounded by at least a side wall, wherein the housing has a first end and a second end, wherein the housing second end is closer to the second slide member second end than the housing first end;

a spring located within the housing first and second ends,

a longitudinal first slot formed on the housing first wall, and

an actuator coupled to the spring and engageable by the first slide member, said actuator being slidable along the first slot between a first and a second position, and wherein first slide member slides over the housing first end.

2. A self closing slide as recited in claim **1** wherein the actuator comprises a channel extending from one end of the actuator to an opposite end of the actuator, wherein the said channel is oriented in a direction transverse to the first slot, and wherein said channel is bounded by an actuator first portion on one side and an actuator second portion on an opposite side.

3. A self closing slide as recited in claim **2** further comprising an opening formed on a web portion of the first slide member proximate an end of the first slide member, wherein a strip is defined between the opening and said end of the first slide member, wherein the first portion of the actuator penetrates the first slide member opening and wherein the strip is accommodated within the channel.

4. A self closing slide as recited in claim **3** wherein the actuator comprises a side tab extending from a side of the actuator, and wherein a side slot is formed on the side wall of the housing for accommodating the side tab, wherein the side tab slides along the side slot as the actuator moves along the housing, wherein the side slot comprises a first edge closer to the housing first wall and a second edge further from the housing first wall, the side slot having a width defined between the side slot first and second edges and wherein the width of the side slot increases proximate the housing first end and in a direction away from the housing first wall.

5. A self closing slide as recited in claim **4** further comprising a notch formed on the side slot first edge, wherein the side tab has a first end opposite a second end, wherein when in the first position, the side tab is at least partially within the increased width portion of the side slot, wherein the side tab and the actuator rotate to a position placing the side tab first end closer the to the side slot second edge, wherein the side tab second end engages the notch, and

EXHIBIT A
PAGE 35

wherein the actuator first portion withdraws from the opening formed on the first slide member web portion.

6. A self closing slide as recited in claim 5 wherein the spring is in a compressed stated when the actuator is in the first position.

7. A self closing slide as recited in claim 4 wherein the actuator comprises a second side tab extending from a side of the actuator opposite the first side tab, and wherein a second side slot is formed on a second side wall of the housing for accommodating the second side tab, wherein the second side tab slides along the second side slot as the actuator moves along the housing, wherein the second side slot comprises a first edge closer to the housing first wall and a second edge further from the housing first wall, the second side slot having a width defined between the second side slot first and second edges and wherein the width of the second side slot increases proximate the housing first end and in a direction away from the housing first wall.

8. A self closing slide as recited in claim 4 further comprising a pin coupled to the housing and penetrating the spring and actuator, wherein the spring is sandwiched between the housing first end and the actuator.

9. A self closing slide as recited in claim 8 wherein the actuator comprises:

an actuator opening for accommodating the pin; and

an actuator slot extending from the actuator opening to a free end of the actuator, wherein the pin has a diameter, wherein the actuator slot has a width smaller than the diameter, and wherein the pin is pushed into the actuator opening through the actuator slot.

10. A self closing slide as recited in claim 8, said housing wall comprising:

a wall opening for accommodating the pin; and

a wall slot extending from the wall opening to a free end of the housing wall, wherein the pin has a diameter, wherein the wall slot has a width smaller than the diameter of the pin, and wherein the pin is pushed into the wall opening through the wall slot.

11. A self closing slide as recited in claim 8, said housing wall comprising:

a wall opening for accommodating the pin; and

a wall slot extending from the wall opening to a free end of the housing wall, wherein the pin has a diameter, wherein the wall slot has a width smaller than the diameter of the pin, and wherein the pin is pushed into the wall opening through the wall slot.

12. A self closing slide as recited in claim 4 wherein the housing comprises a second side wall defining the first end of the housing and a third side wall defining the second end of the housing, and wherein a second end of the pin is fitted in a depression formed on the third side wall and wherein a first end of the pin is fitted within a groove formed on the second side wall, wherein the groove formed on the second side wall extends away from the first wall, wherein the pin can pivot about the third side wall such that the first end of the pin can move along the groove.

13. A self closing slide as recited in claim 4 further comprising:

a second wall spaced apart from the first wall;

a third wall between the first and second walls and spaced apart from the second and third walls;

a longitudinal slot formed through the third wall;

a longitudinal slot formed on the second wall to accommodate the spring; and

a guide tab extending from the actuator and fitted within the third wall longitudinal slot.

14. A self-closing slide as recited in claim 13 wherein the second wall longitudinal slot penetrates the entire thickness of the second wall.

15. A self-closing slide as recited in claim 11 wherein the second wall slot has a width wider than the width of the spring.

16. A self-closing slide as recited in claim 13 wherein the spring is sandwiched between the guide tab and the first end of the housing.

17. A self closing slide as recited in claim 13 further comprising a notch formed on the side slot first edge, wherein the side tab has a first end opposite a second end, wherein when in the first position, the side tab is at least partially within the increased width portion of the side slot, wherein the side tab and thereby the actuator rotate placing the side tab first end closer the to the side slot second edge, wherein the side tab second end engages the notch, and wherein the actuator first portion withdraws from the first slide member opening.

18. A self closing slide as recited in claim 17 wherein the spring is in a compressed stated when the actuator is in the first position.

19. A self closing slide as recited in claim 13 wherein the actuator comprises a second side tab extending from a side of the actuator opposite the first side tab, and wherein a second side slot is formed on a second side wall of the housing for accommodating the second side tab, wherein the second side tab slides along the second side slot as the actuator moves along the body, wherein the second side slot comprises a first edge closer to the housing first wall and a second edge further from the housing first wall, the second side slot has a width defined between the second side slot first and second edges and wherein the width of the second side slot increases proximate the housing first end and in a direction away from the housing first wall.

20. A self closing slide as recited in claim 4 wherein the housing comprises a second side wall defining the first end of the of the housing and a third side wall defining the second end of the housing, and wherein a second end of the pin is fitted in a depression formed on the third side wall and wherein a first end of the pin is fitted within a groove formed on the second side wall, wherein the groove formed on the second side wall extends away from the first wall, wherein the pin can pivot about the third side wall such that the first end of the pin can move along the groove.

21. A self closing slide comprising:

a first slide member;

a second slide member slidably coupled to the first slide member;

a self closing mechanism coupled to the second slide member comprising a housing having an opening defined in the housing, a spring within the housing opening, and an actuator moveable in response to a force generated by the spring;

a slot formed on the first slide member; and

a strip spanning across the slot formed on the first slide member, wherein at least a portion of said actuator is received within the slot, wherein the end of the first slide member is transverse to a longitudinal axis of the first slide member.

22. A self closing slide as recited in claim 21 wherein the actuator releasably engages the strip.

23. A self closing mechanism as recited in claim 21 wherein the strip is releasably straddled by the actuator.

24. A self closing slide comprising:

first slide member;

a second slide member slidably coupled to the first slide member, the second slide member having a first end and a second end, wherein the first slide member can extend beyond the first end of the second slide member; and

EXHIBIT A
PAGE 36

a self closing mechanism coupled to the second slide member, the self closing mechanism comprising,

an elongated housing coupled to the second slide member proximate the second slide member second end, the housing having a first wall surrounded by at least a side wall, wherein the housing has a first end and a second end, wherein the housing second end is closer to the second slide member second end than the housing first end;

a spring within the housing,

a longitudinal first slot formed on the housing first wall, and

an actuator coupled to the spring and engageable by the first slide member, said actuator being slidable along the first slot between a first and a second position and comprising a channel extending from one end of the actuator to an opposite end of the actuator, wherein the channel is oriented in a direction transverse to the first slot, and wherein said channel is bounded by an actuator first portion on one side and an actuator second portion on an opposite side.

25. A self closing slide as recited in claim **24** further comprising an opening formed on a web portion of the first slide member proximate an end of the first slide member, wherein a strip is defined between the opening and said end of the first slide member, wherein the first portion of the actuator penetrates the first slide member opening and wherein the strip is accommodated within the channel.

26. A self closing slide comprising:

first slide member;

a second slide member slidably coupled to the first slide member, the second slide member having a first end and a second end, wherein the first slide member can extend beyond the first end of the second slide member;

a self closing mechanism coupled to the second slide member, the self closing mechanism comprising,

an elongated housing coupled to the second slide member proximate the second slide member second end, the housing having a first wall surrounded by at least a side wall, wherein the housing has a first end and a second end, wherein the housing second end is closer to the second slide member second end than the housing first end;

a spring within the housing,

a longitudinal first slot formed on the housing first wall, and

an actuator coupled to the spring and engageable by the first slide member, said actuator being slidable along the first slot between a first and a second position, wherein the actuator comprises a channel extending from one end of the actuator to an opposite end of the actuator, wherein the said channel is oriented in a direction transverse to the first slot, and wherein said channel is bounded by an actuator first portion on one side and an actuator second portion on an opposite side, and wherein the actuator comprises a side tab extending from a side of the actuator, and wherein a side slot is formed on the side wall of the housing for accommodating the side tab, wherein the side tab slides along the side slot as the actuator moves along the housing, wherein the side slot comprises a first edge closer to the housing first wall and a second edge further from the housing first wall, the side slot having a width defined between the side slot first and second edges and wherein the width of the side slot increases proximate the housing first end and in a direction away from the housing first wall; and

an opening formed on a web portion of the first slide member proximate an end of the first slide member, wherein a strip is defined between the opening and said end of the first slide member, wherein the first portion of the actuator penetrates the first slide member opening and wherein the strip is accommodated within the channel.

27. A self closing slide as recited in claim **26** further comprising a notch formed on the side slot first edge, the side tab has a first end opposite a second end, wherein when in the first position, the side tab is at least partially within the increased width portion of the side slot, wherein the side tab and the actuator rotate to a position placing the side tab first end closer the to the side slot second edge, wherein the side tab second end engages the notch, and wherein the actuator first portion withdraws from the opening formed on the first slide member web portion.

28. A self closing slide as recited in claim **27** wherein the spring is in a compressed stated when the actuator is in the first position.

29. A self closing slide as recited in claim **26** wherein the actuator comprises a second side tab extending from a side of the actuator opposite the first side tab, and wherein a second side slot is formed on a second side wall of the housing for accommodating the second side tab, wherein the second side tab slides along the second side slot as the actuator moves along the housing, wherein the second side slot comprises a first edge closer to the housing first wall and a second edge further from the housing first wall, the second side slot having a width defined between the second side slot first and second edges and wherein the width of the second side slot increases proximate the housing first end and in a direction away from the housing first wall.

30. A self closing slide as recited in claim **26** further comprising a pin coupled to the housing and penetrating the spring and actuator, wherein the spring is sandwiched between the housing first end and the actuator.

31. A self closing slide as recited in claim **30** wherein the actuator comprises:

an actuator opening for accommodating the pin; and

an actuator slot extending from the actuator opening to a free end of the actuator, wherein the pin has a diameter, wherein the actuator slot has a width smaller than the diameter, and wherein the pin is pushed into the actuator opening through the actuator slot.

32. A self closing slide comprising:

a first slide member;

a second slide member slidably coupled to the first slide member;

a self closing mechanism coupled to the second slide member comprising a housing, a spring within the housing and an actuator moveable in response to a force generated by the spring;

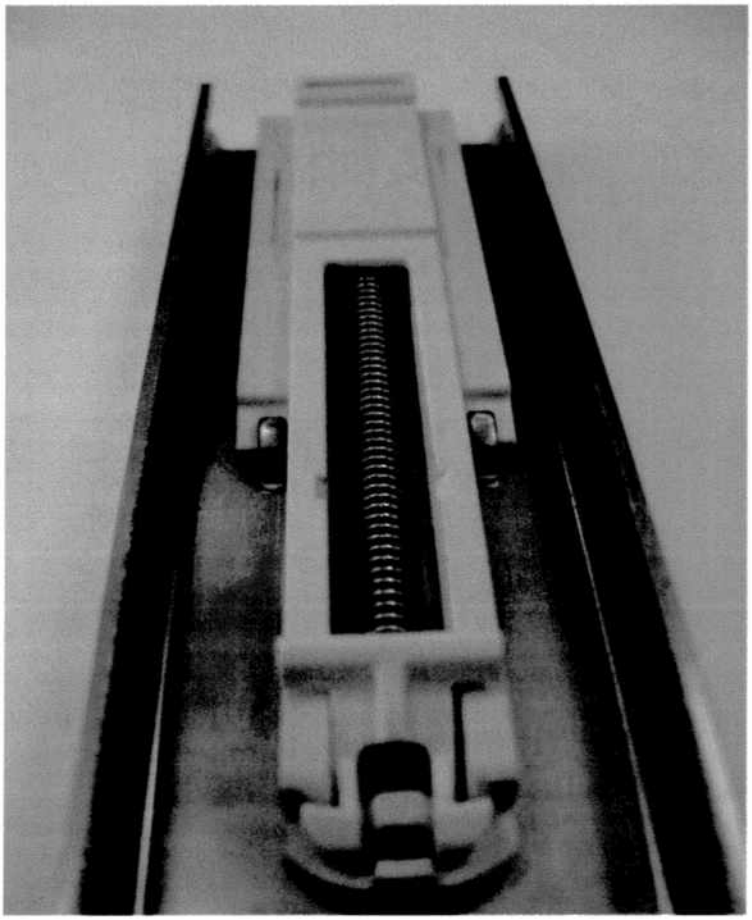
a slot formed on the first slide member and extending to an end of the first slide member; and

a strip spanning across the slot formed on the first slide member, wherein at least a portion of said actuator is received within the slot, wherein the end of the first slide member is transverse to a longitudinal axis of the first slide member, and wherein the strip is releasably straddled by the actuator.

* * * * *

EXHIBIT A
PAGE 37

EXHIBIT B



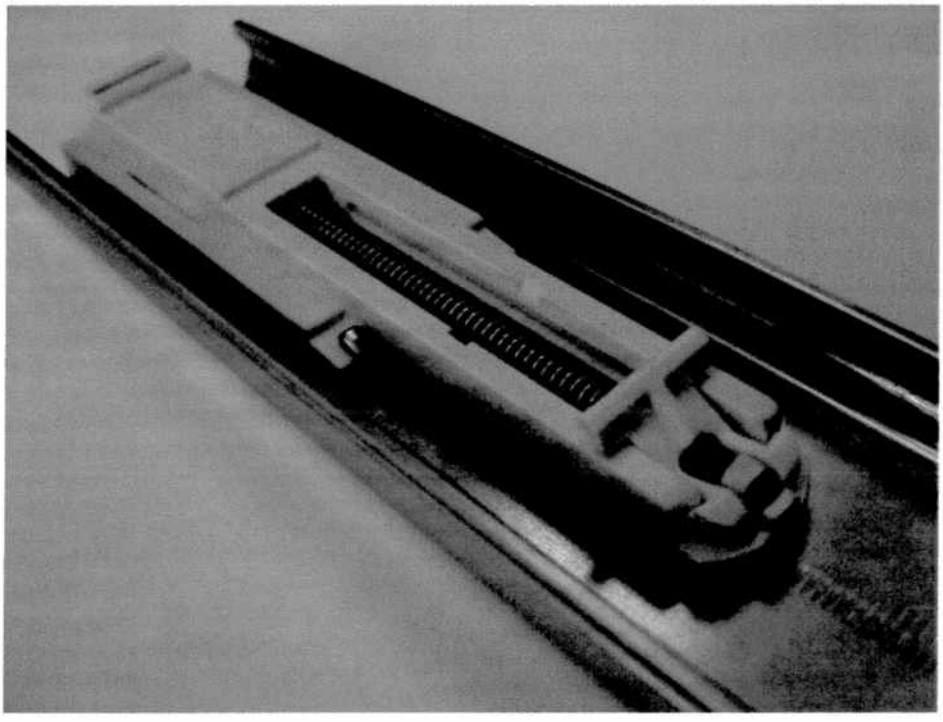


EXHIBIT B
PAGE 38

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

NOTICE OF ASSIGNMENT TO UNITED STATES MAGISTRATE JUDGE FOR DISCOVERY

This case has been assigned to District Judge Manuel Real and the assigned discovery Magistrate Judge is Paul L. Abrams.

The case number on all documents filed with the Court should read as follows:

CV09- 2448 R (PLAx)

Pursuant to General Order 05-07 of the United States District Court for the Central District of California, the Magistrate Judge has been designated to hear discovery related motions.

Unless otherwise ordered, the United States District Judge assigned to this case will hear and determine all discovery related motions.

NOTICE TO COUNSEL

A copy of this notice must be served with the summons and complaint on all defendants (if a removal action is filed, a copy of this notice must be served on all plaintiffs).

Subsequent documents must be filed at the following location:

[X]	**Western Division** **312 N. Spring St., Rm. G-8** **Los Angeles, CA 90012**	[ ]	**Southern Division** **411 West Fourth St., Rm. 1-053** **Santa Ana, CA 92701-4516**	[ ]	**Eastern Division** **3470 Twelfth St., Rm. 134** **Riverside, CA 92501**

Failure to file at the proper location will result in your documents being returned to you.

RICHARD H. ZAITLEN #63283
STEPHEN D. BYERS #223330
PILLSBURY WINTHROP SHAW PITTMAN LLP
725 S. Figueroa Street, Suite 2800
Los Angeles, CA 90017-5406
Telephone: (213) 488-7100
Facsimile: (213) 629-1033
Attorneys for Plaintiff Accuride International Inc.

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

ACCURIDE INTERNATIONAL INC., PLAINTIFF(S) v. COMPX PRECISION SLIDES INC. and COMPX INTERNATIONAL INC., DEFENDANT(S).	CASE NUMBER CV09-2448 R PLA
	SUMMONS

TO:DEFENDANT(S): COMPX PRECISION SLIDES INC. and COMPX INTERNATIONAL INC.

A lawsuit has been filed against you.

Within 20 days after service of this summons on you (not counting the day you received it), you must serve on the plaintiff an answer to the attached ☒ complaint ☐ _____ amended complaint ☐ counterclaim ☐ cross-claim or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff's attorney, Richard H. Zaitlen/Stephen D. Byers, whose address is Pillsbury Winthrop Shaw Pittman LLP, 725 S. Figueroa St., Suite 2800, Los Angeles, CA 90017-5406. If you fail to do so, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

Clerk, U.S. District Court

Dated: APR - 8 2009

By: NATALIE LONGORIA
Deputy Clerk

(Seal of the Court)

1198

[Use 60 days if the defendant is the United States or a United States agency, or is an officer or employee of the United States. Allowed 60 days by Rule 12(a)(3)].

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UNITED STATES DISTRICT COURT, CENTRAL DISTRICT OF CALIFORNIA

CIVIL COVER SHEET

I (a) PLAINTIFFS (Check box if you are representing yourself ☐)
ACCURIDE INTERNATIONAL INC.,

DEFENDANTS
COMPX PRECISION SLIDES INC. and COMPX INTERNATIONAL INC.,

(b) Attorneys (Firm Name, Address and Telephone Number. If you are representing yourself, provide same.)
RICHARD H. ZAITLEN #63283 Tel: (213) 488-7100
STEPHEN D. BYERS #223330
PILLSBURY WINTHROP SHAW PITTMAN LLP
725 S. Figueroa Street, Suite 2800
Los Angeles, CA 90017-5406

Attorneys (If Known)

II. BASIS OF JURISDICTION (Place an X in one box only.)

☐ 1 U.S. Government Plaintiff
☒ 3 Federal Question (U.S. Government Not a Party
☐ 2 U.S. Government Defendant
☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES - For Diversity Cases Only
(Place an X in one box for plaintiff and one for defendant.)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated or Principal Place of Business in this State	☒ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated and Principal Place of Business in Another State	☐ 5	☒ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. ORIGIN (Place an X in one box only.)

☒ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from another district (specify): ☐ 6 Multi-District Litigation ☐ 7 Appeal to District Judge from Magistrate Judge

V. REQUESTED IN COMPLAINT: JURY DEMAND: ☒ Yes ☐ No (Check 'Yes' only if demanded in complaint.)

CLASS ACTION under F.R.C.P. 23: ☐ Yes ☒ No ☒ **MONEY DEMANDED IN COMPLAINT: $** 1,000,000.00

VI. CAUSE OF ACTION (Cite the U. S. Civil Statute under which you are filing and write a brief statement of cause. Do not cite jurisdictional statutes unless diversity.)
35 U.S. Section 271 Patent Infringement

VII. NATURE OF SUIT (Place an X in one box only.)

OTHER STATUTES
☐ 400 State Reapportionment
☐ 410 Antitrust
☐ 430 Banks and Banking
☐ 450 Commerce/ICC Rates/etc.
☐ 460 Deportation
☐ 470 Racketeer Influenced and Corrupt Organizations
☐ 480 Consumer Credit
☐ 490 Cable/Sat TV
☐ 810 Selective Service
☐ 850 Securities/Commodities/ Exchange
☐ 875 Customer Challenge 12 USC 3410
☐ 890 Other Statutory Actions
☐ 891 Agricultural Act
☐ 892 Economic Stabilization Act
☐ 893 Environmental Matters
☐ 894 Energy Allocation Act
☐ 895 Freedom of Info. Act
☐ 900 Appeal of Fee Determination Under Equal Access to Justice
☐ 950 Constitutionality of State Statutes

CONTRACT
☐ 110 Insurance
☐ 120 Marine
☐ 130 Miller Act
☐ 140 Negotiable Instrument
☐ 150 Recovery of Overpayment & Enforcement of Judgment
☐ 151 Medicare Act
☐ 152 Recovery of Defaulted Student Loan (Excl. Veterans)
☐ 153 Recovery of Overpayment of Veteran's Benefits
☐ 160 Stockholders' Suits
☐ 190 Other Contract
☐ 195 Contract Product Liability
☐ 196 Franchise

REAL PROPERTY
☐ 210 Land Condemnation
☐ 220 Foreclosure
☐ 230 Rent Lease & Ejectment
☐ 240 Torts to Land
☐ 245 Tort Product Liability
☐ 290 All Other Real Property

TORTS PERSONAL INJURY
☐ 310 Airplane
☐ 315 Airplane Product Liability
☐ 320 Assault, Libel & Slander
☐ 330 Fed. Employers' Liability
☐ 340 Marine
☐ 345 Marine Product Liability
☐ 350 Motor Vehicle
☐ 355 Motor Vehicle Product Liability
☐ 360 Other Personal Injury
☐ 362 Personal Injury-Med Malpractice
☐ 365 Personal Injury-Product Liability
☐ 368 Asbestos Personal Injury Product Liability

IMMIGRATION
☐ 462 Naturalization Application
☐ 463 Habeas Corpus-Alien Detainee
☐ 465 Other Immigration Actions

TORTS PERSONAL ROPERTY
☐ 370 Other Fraud
☐ 371 Truth in Lending
☐ 380 Other Personal Property Damage
☐ 385 Property Damage Product Liability

BANKRUPTCY
☐ 22 Appeal 28 USC 158
☐ 423 Withdrawal 28 USC 157

CIVIL RIGHTS
☐ 441 Voting
☐ 442 Employment
☐ 443 Housing/Accommodations
☐ 444 Welfare
☐ 445 American with Disabilities – Employment
☐ 446 American with Disabilities – Other
☐ 440 Other Civil Rights

PRISONER ETITIONS
☐ 510 Motions to Vacate Sentence Habeas Corpus
☐ 530 General
☐ 535 Death Penalty
☐ 540 Mandamus/ Other
☐ 550 Civil Rights
☐ 555 Prison Condition

FORFEITURE / PENALTY
☐ 610 Agriculture
☐ 620 Other Food & Drug
☐ 625 Drug Related Seizure of Property 21 USC 881
☐ 630 Liquor Laws
☐ 640 R.R.& Truck
☐ 650 Airline Regs
☐ 660 Occupational Safety /Health
☐ 690 Other

LABOR
☐ 710 Fair Labor Standards Act
☐ 720 Labor/Mgmt. Relations
☐ 730 Labor/Mgmt. Reporting & Disclosure Act
☐ 740 Railway Labor Act
☐ 790 Other Labor Litigation
☐ 791 Empl. Ret. Inc. Security Act

PROPERTY RIGHTS
☐ 820 Copyrights
☒ 830 Patent
☐ 840 Trademark

SOCIAL SECURITY
☐ 61 HIA(1395ff)
☐ 862 Black Lung (923)
☐ 863 DIWC/DIWW 405(g))
☐ 864 SSID Title XVI
☐ 865 RSI (405(g))

FEDERAL TAX SUITS
☐ 870 Taxes (U.S. Plaintiff or Defendant)
☐ 871 IRS-Third Party 26 USC 7609

FOR OFFICE USE ONLY: Case Number: CV09-2448

AFTER COMPLETING THE FRONT SIDE OF FORM CV-71, COMPLETE THE INFORMATION REQUESTED BELOW.

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UNITED STATES DISTRICT COURT, CENTRAL DISTRICT OF CALIFORNIA
CIVIL COVER SHEET

VIII(a). IDENTICAL CASES: Has this action been previously filed in this court and dismissed, remanded or closed? ☒ No ☐ Yes
If yes, list case number(s): _____

VIII(b). RELATED CASES: Have any cases been previously filed in this court that are related to the present case? ☒ No ☐ Yes
If yes, list case number(s): _____

Civil cases are deemed related if a previously filed case and the present case:

(Check all boxes that apply)
☐ A. Arise from the same or closely related transactions, happenings, or events; or
☐ B. Call for determination of the same or substantially related or similar questions of law and fact; or
☐ C. For other reasons would entail substantial duplication of labor if heard by different judges; or
☐ D. Involve the same patent, trademark or copyright, and one of the factors identified above in a, b or c also is present.

IX. VENUE: (When completing the following information, use an additional sheet if necessary.)

(a) List the County in this District; California County outside of this District; State if other than California; or Foreign Country, in which **EACH** named plaintiff resides.
☐ Check here if the government, its agencies or employees is a named plaintiff. If this box is checked, go to item (b).

County in this District:*	California County outside of this District; State, if other than California; or Foreign Country
Los Angeles	

(b) List the County in this District; California County outside of this District; State if other than California; or Foreign Country, in which **EACH** named defendant resides.
☐ Check here if the government, its agencies or employees is a named defendant. If this box is checked, go to item (c).

County in this District:*	California County outside of this District; State, if other than California; or Foreign Country
	Michigan - CompX Precision Slides Inc. Texas - CompX International Inc.

(c) List the County in this District; California County outside of this District; State if other than California; or Foreign Country, in which **EACH** claim arose.
Note: In land condemnation cases, use the location of the tract of land involved.

County in this District:*	California County outside of this District; State, if other than California; or Foreign Country
Los Angeles	

*** Los Angeles, Orange, San Bernardino, Riverside, Ventura, Santa Barbara, or San Luis Obispo Counties**
Note: In land condemnation cases, use the location of the tract of land involved

X. SIGNATURE OF ATTORNEY (OR PRO PER): _____ **Date** April 8, 2009

Notice to Counsel/Parties: The CV-71 (JS-44) Civil Cover Sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law. This form, approved by the Judicial Conference of the United States in September 1974, is required pursuant to Local Rule 3 -1 is not filed but is used by the Clerk of the Court for the purpose of statistics, venue and initiating the civil docket sheet. (For more detailed instructions, see separate instructions sheet.)

Key to Statistical codes relating to Social Security Cases:

Nature of Suit Code	Abbreviation	Substantive Statement of Cause of Action
861	HIA	All claims for health insurance benefits (Medicare) under Title 18, Part A, of the Social Security Act, as amended. Also, include claims by hospitals, skilled nursing facilities, etc., for certification as providers of services under the program. (42 U.S.C. 1935FF(b))
862	BL	All claims for "Black Lung" benefits under Title 4, Part B, of the Federal Coal Mine Health and Safety Act of 1969. (30 U.S.C. 923)
863	DIWC	All claims filed by insured workers for disability insurance benefits under Title 2 of the Social Security Act, as amended; plus all claims filed for child's insurance benefits based on disability. (42 U.S.C. 405(g))
863	DIWW	All claims filed for widows or widowers insurance benefits based on disability under Title 2 of the Social Security Act, as amended. (42 U.S.C. 405(g))
864	SSID	All claims for supplemental security income payments based upon disability filed under Title 16 of the Social Security Act, as amended.
865	RSI	All claims for retirement (old age) and survivors benefits under Title 2 of the Social Security Act, as amended. (42 U.S.C. (g))

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