March 3, 1953 F. ULRICH ET AL 2,629,912

AUTOMATIC LOCK SLIDER FOR SLIDE FASTENERS

Filed April 27, 1949 4 Sheets-Sheet 1

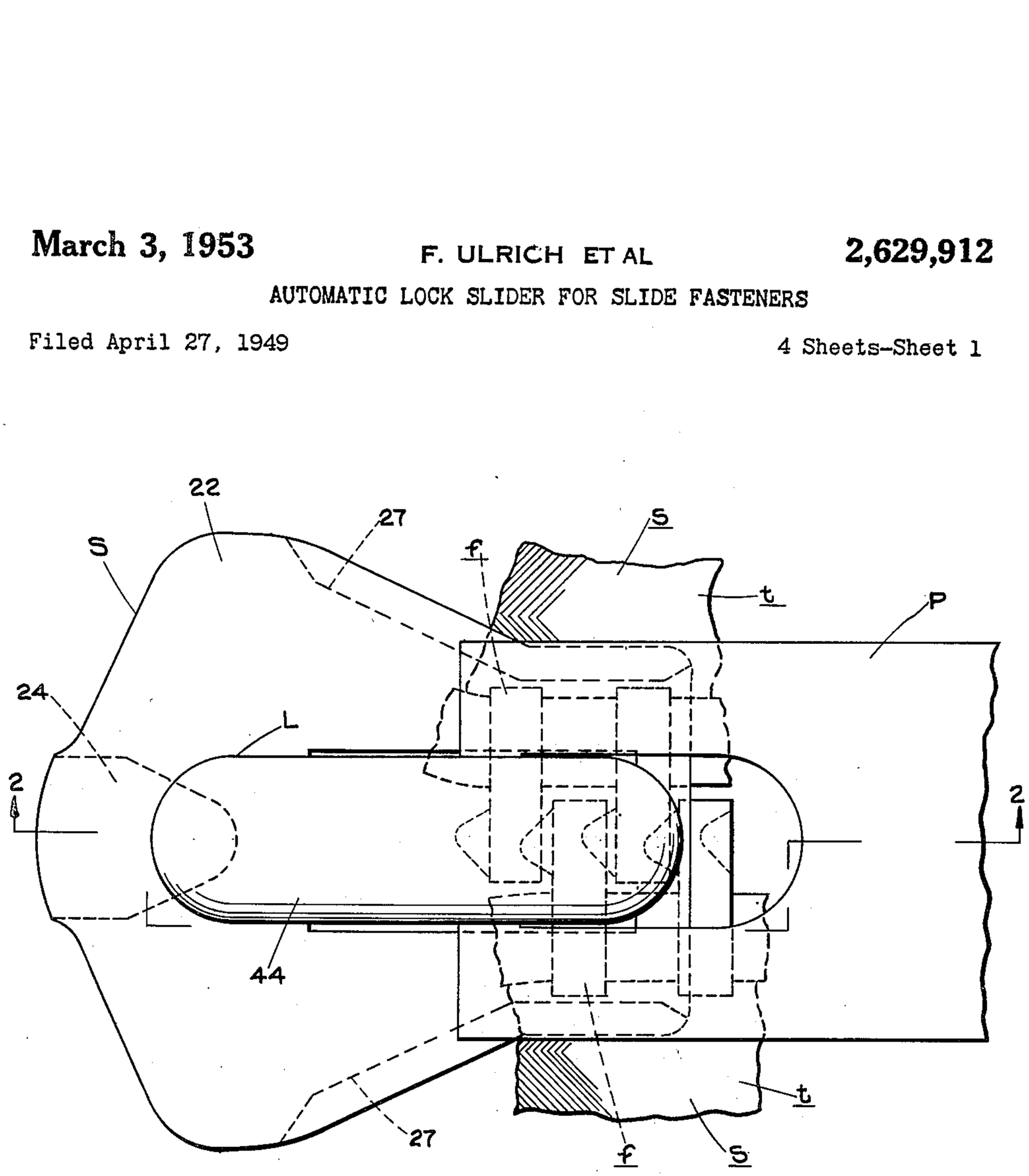

FIG. 1

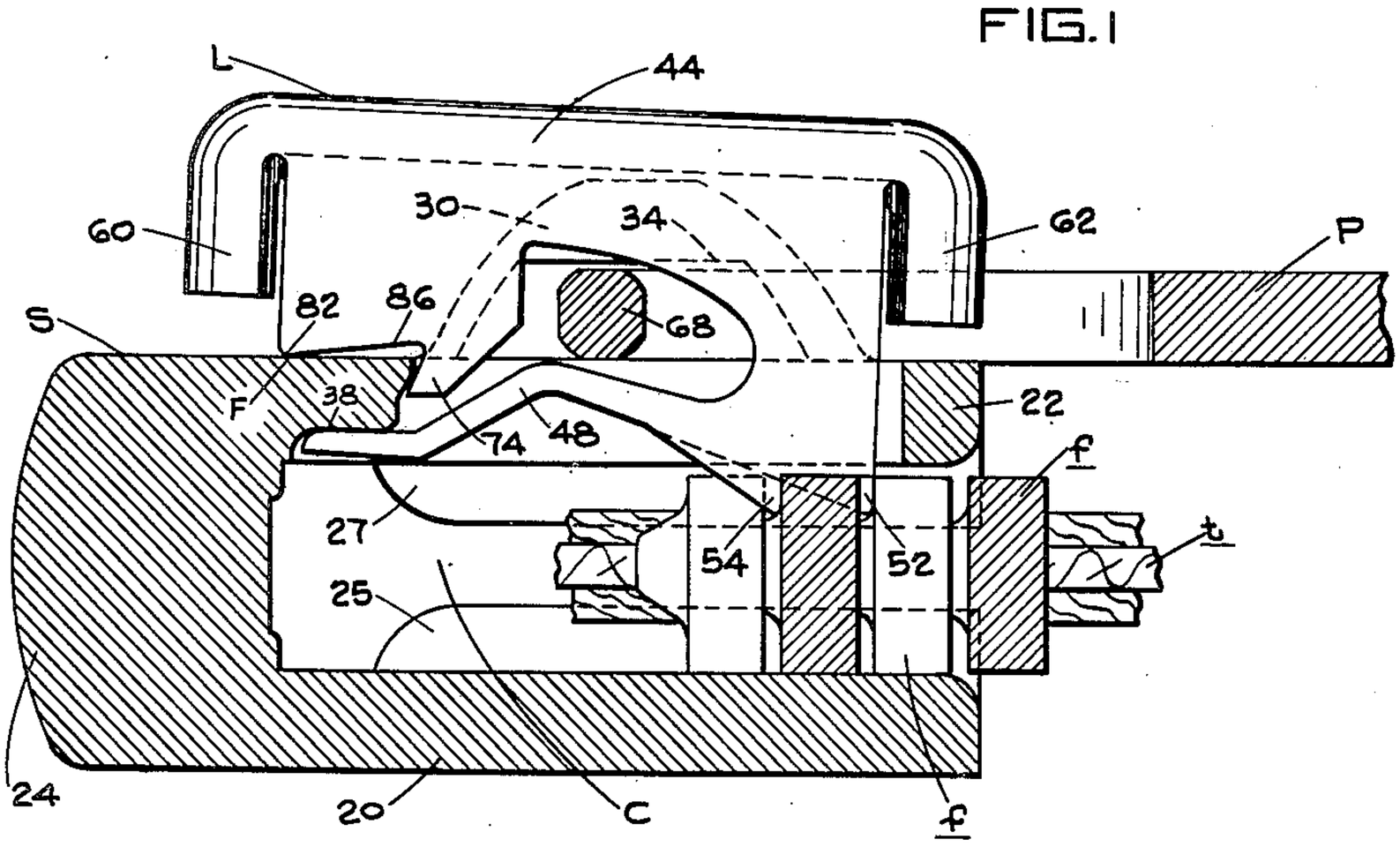

FIG. 2

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AUTOMATIC LOCK SLIDER FOR SLIDE FASTENERS

Filed April 27, 1949 4 Sheets-Sheet 2

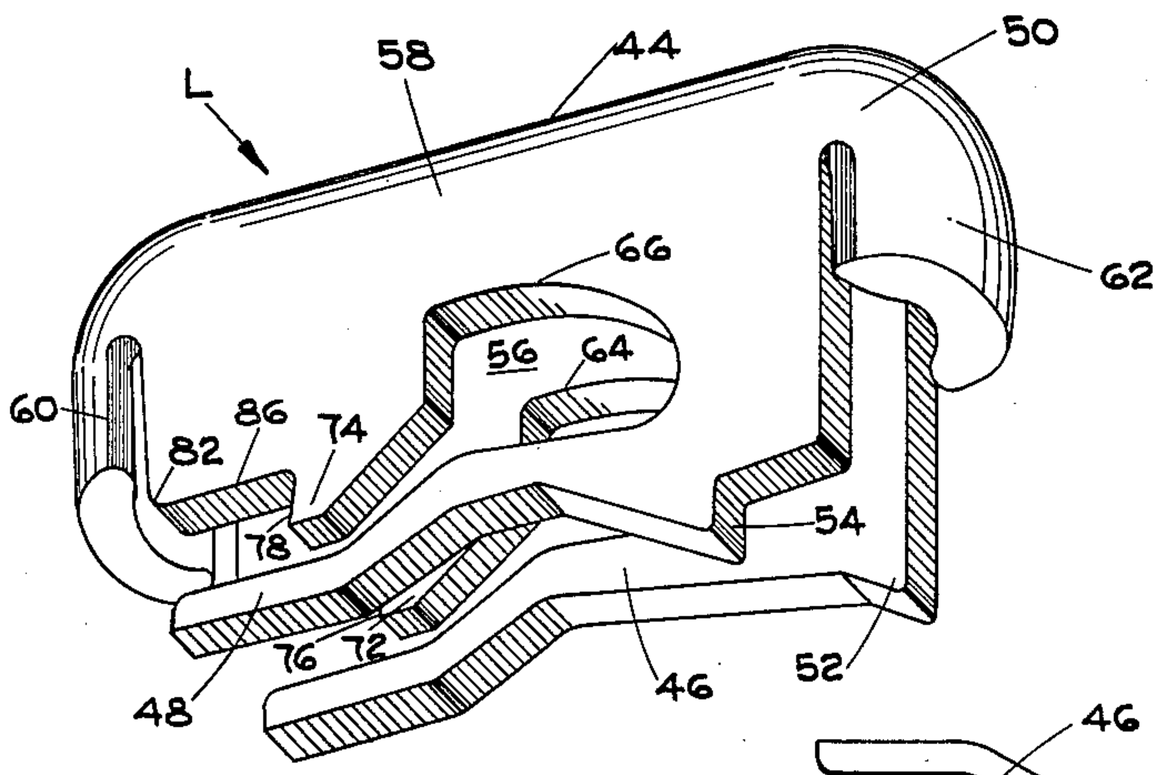

FIG. 3

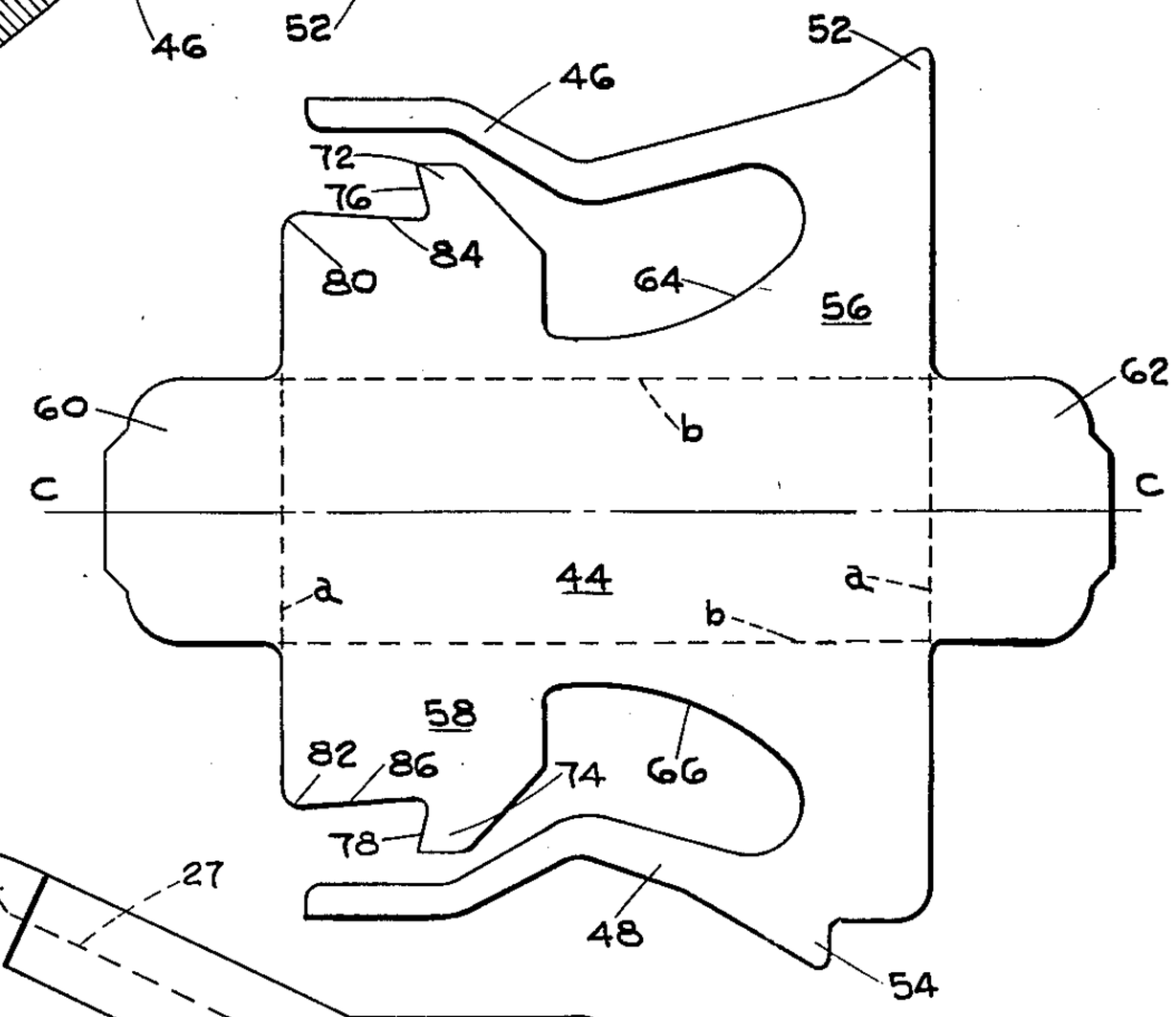

FIG. 4

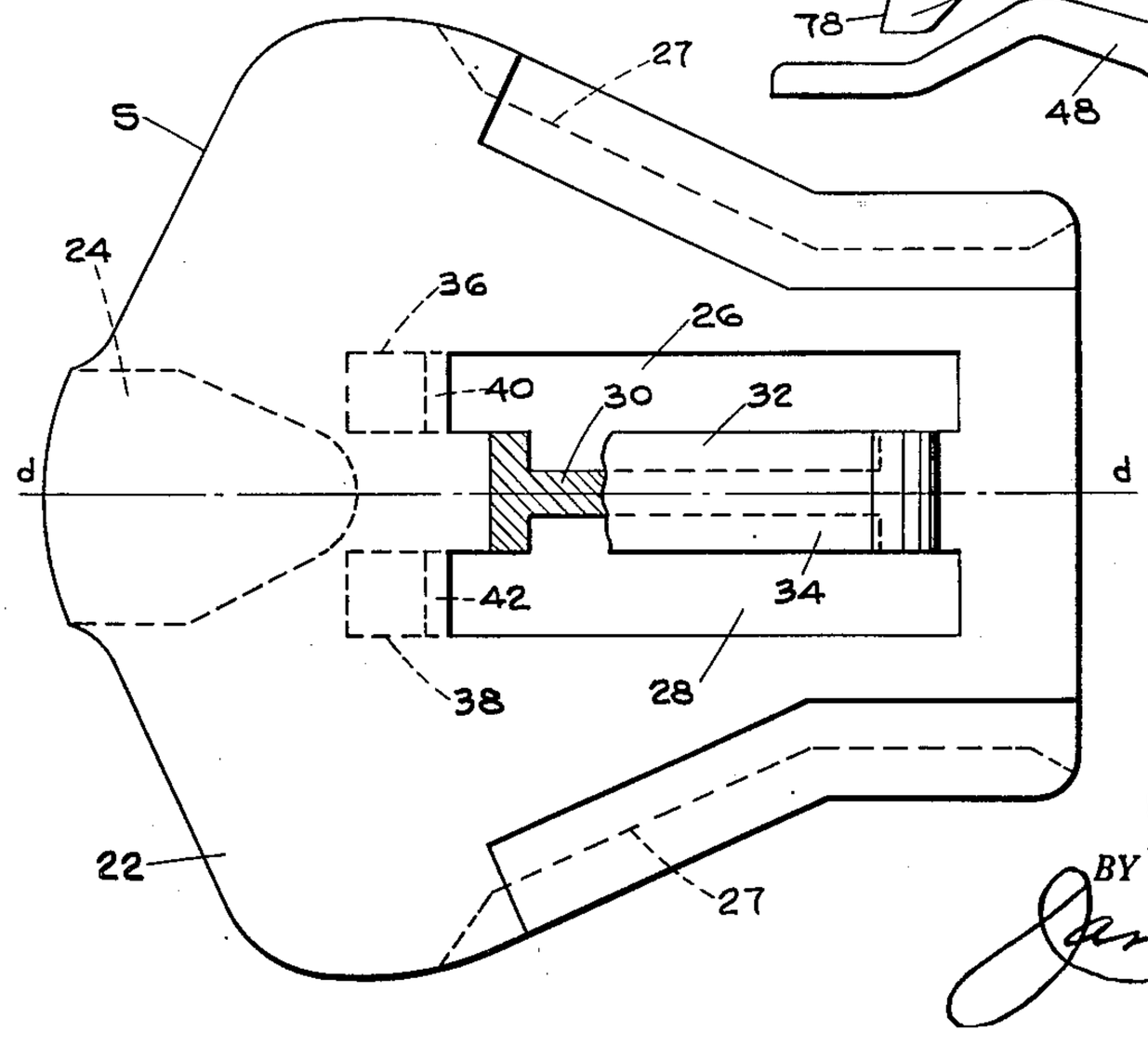

FIG. 5

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AUTOMATIC LOCK SLIDER FOR SLIDE FASTENERS

Filed April 27, 1949 4 Sheets-Sheet 3

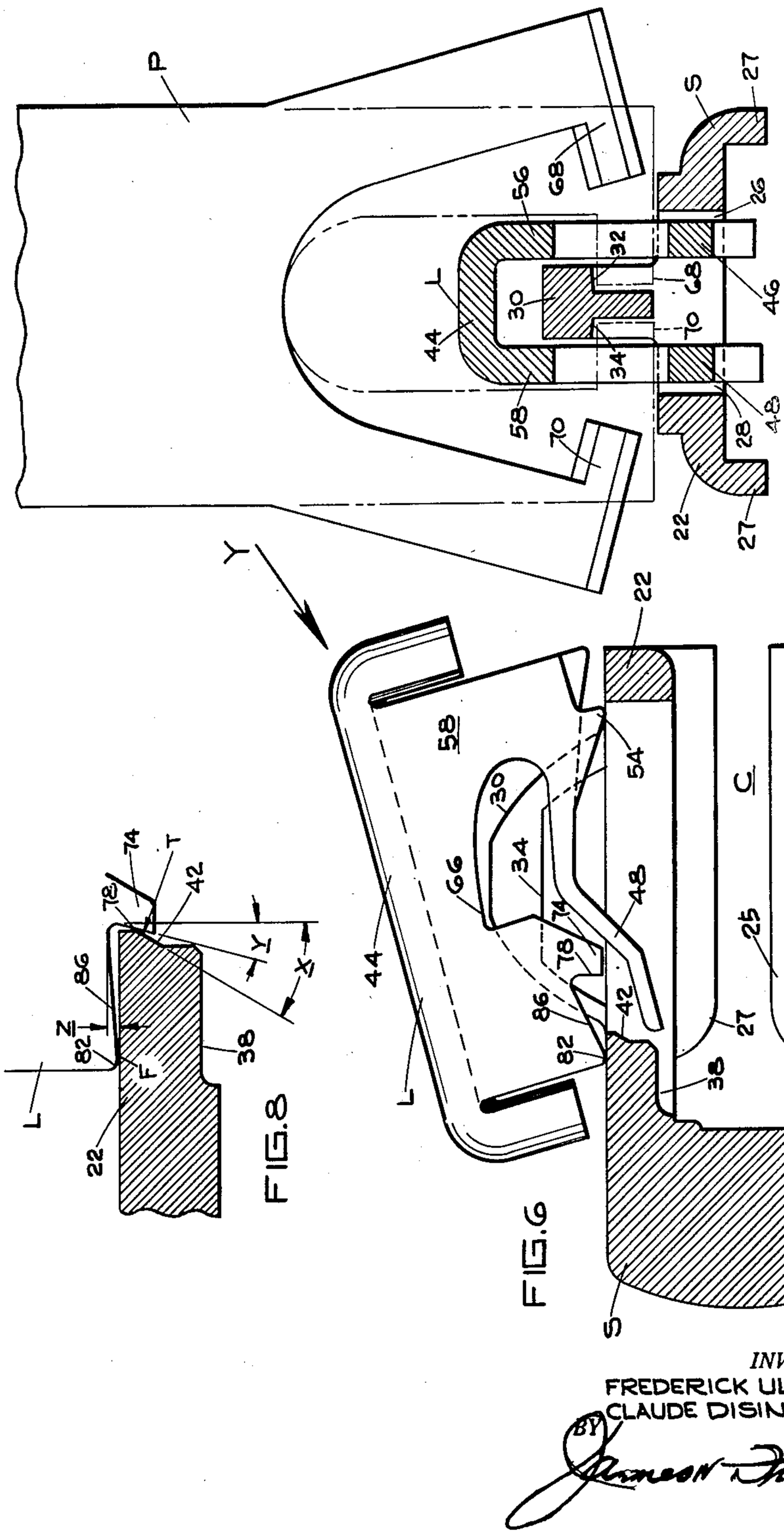

FIG. 7

FIG. 8

FIG. 6

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AUTOMATIC LOCK SLIDER FOR SLIDE FASTENERS

Filed April 27, 1949 4 Sheets-Sheet 4

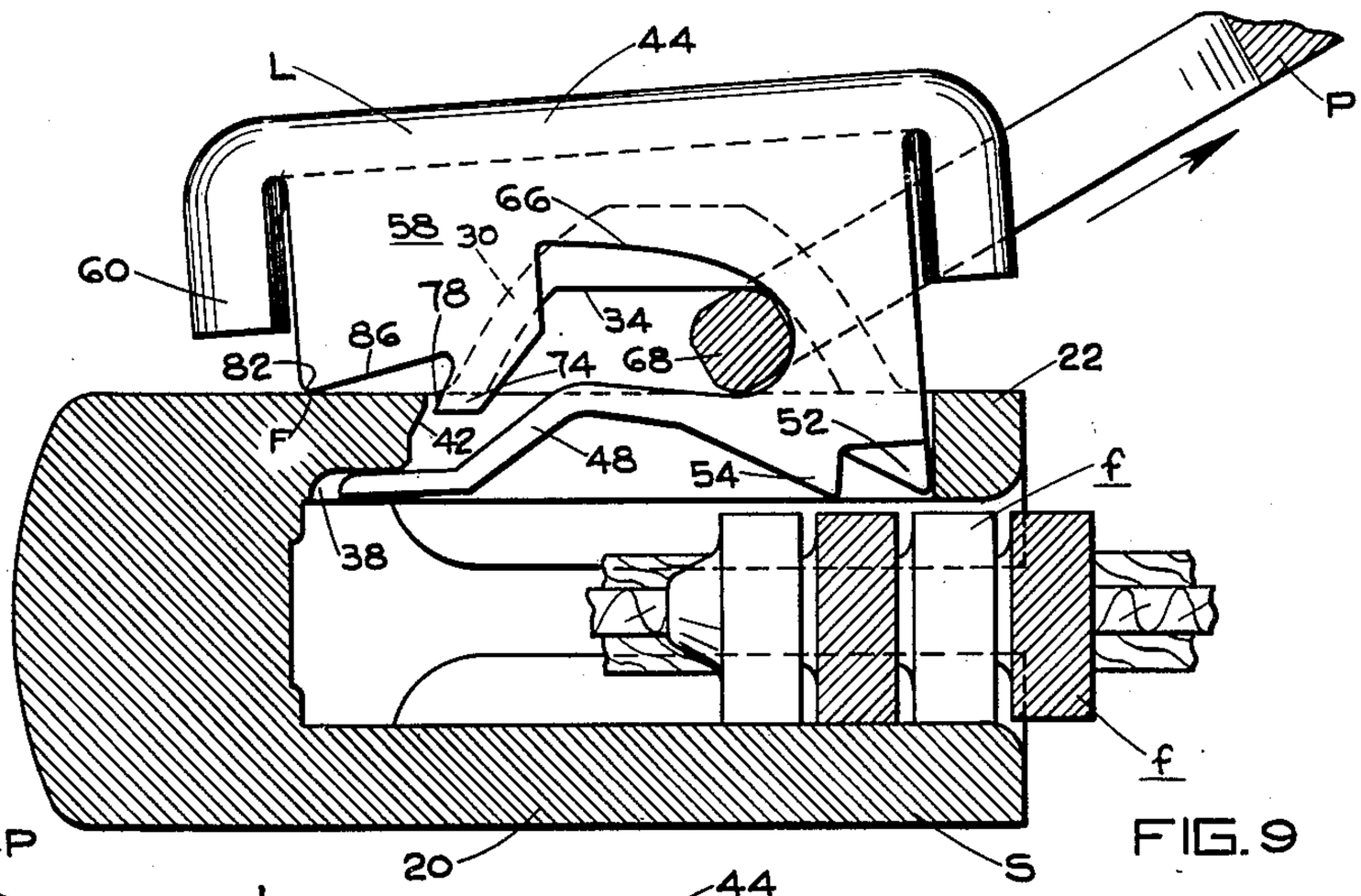

FIG. 9

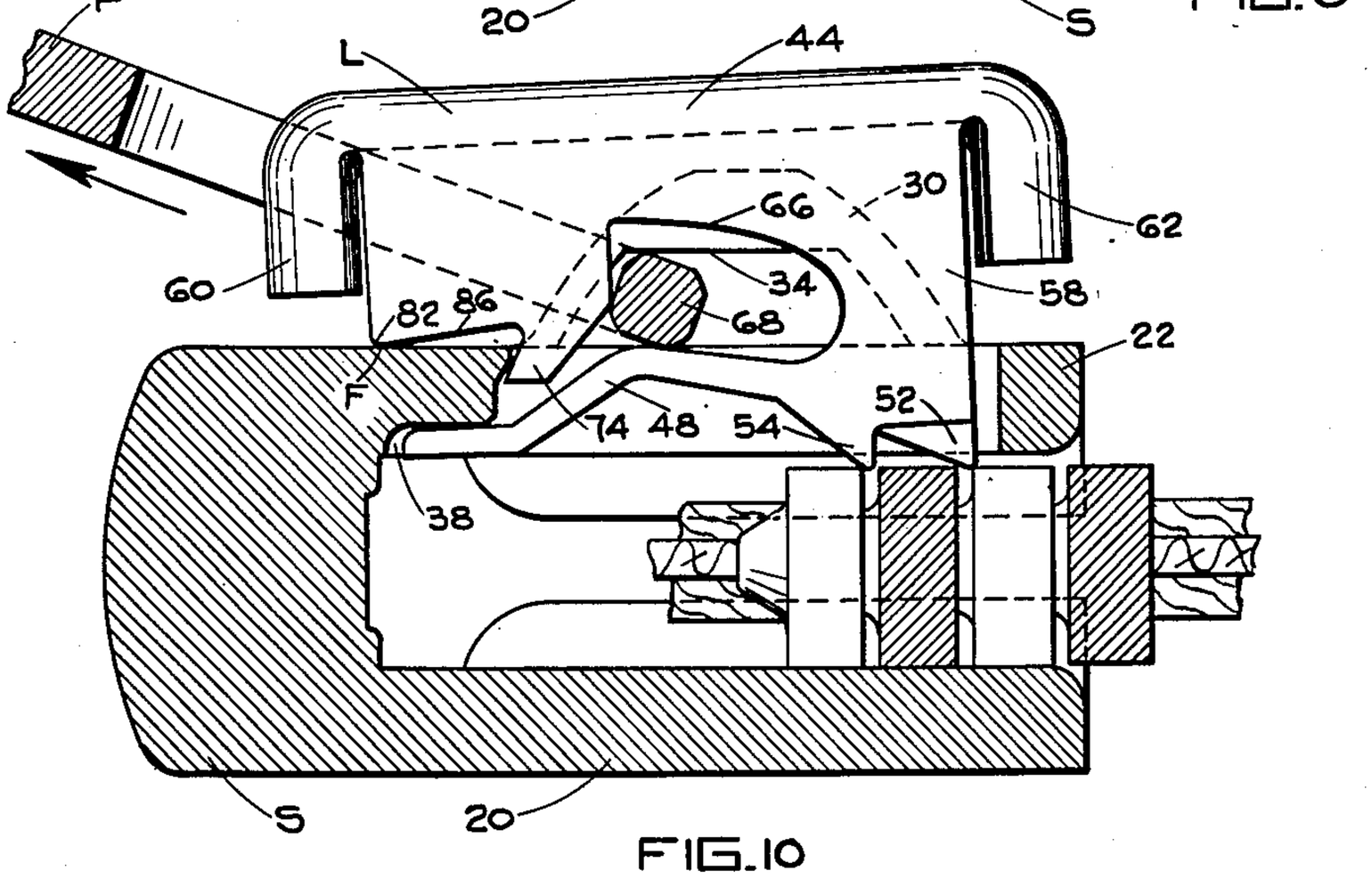

FIG. 10

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2,629,912

UNITED STATES PATENT OFFICE

2,629,912

AUTOMATIC LOCK SLIDER FOR SLIDE FASTENERS

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Application April 27, 1949, Serial No. 89,876

5 Claims. (Cl. 24—205.14)

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This invention relates to an automatic lock slider for slide fasteners.

Slide fasteners comprise two mating slide fastener stringers (tapes with mounted fastener elements) brought into and out of meshing or mating relation by the movement of a so-called "slider" through the slide channel of which the stringers slide or move. It is necessary to provide a suitable locking device for the slider to prevent the stringers accidentally opening during use. According to one type of lock slider, the locking member is made so as to be entirely automatic in its locking operation. The common form of automatic lock slider embodies a locking member on the slider which is normally held in its locking position by a spring and which is moved against the action of the spring by a pull element connected to the locking member. The present invention relates to an improved automatic lock slider of this type.

More specifically, the present invention relates to an improved automatic lock slider of this type having only three elements, namely, a slider body, a locking member, and a pull device, of the nature disclosed in our pending application, Serial No. 574,893, filed January 27, 1945, Patent No. 2,523,740, granted September 26, 1950, and, therefore, the present invention is featured by the following improvements characteristic of the automatic lock slider of our said pending application:

1. The lock slider is composed only of three elements, namely, the slider, the locking member, and the pull element. These three parts are so designed and constructed that they are capable of being most conveniently and quickly assembled;

2. To achieve this, the locking member embodying its supported part, its locking detent, and the spring for actuating the same, is made as a unitary piece with all these parts integral and preferably shaped up from sheet metal. The use of separate springs, with the difficulties of handling and slider assembling incident thereto, is obviated;

3. Despite the limitations imposed by the small space available on a slider, this unitary locking member is so constructed that ample operating leverages are obtained for effecting the automatic locking operation and the unlocking operation of the slider. In accomplishing this, the locking member and its mounting on the slider are so designed that the locking member leverage and the effective spring leverage each extends over a substantial, such as the greater part, of the slider length; and

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4. The locking member and its mounting are so designed that the proper acting (and different) leverages are made effective for the unlocking and the locking actions of the slider, which are inherently different; the added improvements comprehended and obtained by the structure of the invention of the present application being—

(*a*) An automatic lock slider of such rugged construction is produced that its utility cannot be impaired though it is subject to abuse;

(*b*) The automatic lock slider is provided with means whereby any abnormal forces exerted upon the pull device will be transmitted to the strong slider body rather than the locking member;

(*c*) The locking member is provided with means whereby any abnormal forces applied to the locking member, as when the slide fastener is subjected to sudden and extensive cross-pull forces, are absorbed by strong coacting parts of the locking member and slider body, which also prevent the locking member from being sprung out of position;

(*d*) The automatic lock slider is so constructed that balanced locking and unlocking action will be provided at all times; and

(*e*) The slider body and the locking member are constructed so that the assembly of the parts is further greatly simplified.

To the accomplishment of these objects and such objects as may hereinafter appear, our invention is directed to the automatic lock slider and the component combinations thereof as sought to be defined in the appended claims and as described in the following specification taken together with the accompanying drawings, in which—

Fig. 1 is a front elevational view of a slide fastener including the automatic lock slider of the present invention;

Fig. 2 is a view taken in cross-section approximately in the planes of line 2—2 of Fig. 1, showing the locking member in its locked position;

Fig. 3 is a perspective view of the locking member;

Fig. 4 is a plan view of a blank from which the locking member shown in Fig. 3 is formed;

Fig. 5 is a front elevational view, partly in cross-section, of the slider body;

Fig. 6 is a side elevation, partly in section, showing the manner of assembling the slider body and locking member;

Fig. 7 is a vertical cross-section illustrating the manner in which the pull is assembled with the assembled locking member and slider body;

Fig. 8 is a highly enlarged view of coacting portions of the slider body and locking member when the locking member is in locking position;

Fig. 9 is a view similar to Fig. 2 showing the position of the locking member when the slide fastener is being opened; and

Fig. 10 is a view similar to Fig. 9 showing the position of the locking member when the slide fastener is being closed.

Referring to the drawings, particularly Figs. 1 and 2, the invention is shown applied to a conventional slide fastener comprising a slider provided with an interior slide channel C, two stringers *s*, *s*, the latter each comprising a beaded tape *t* and spaced fastener elements *f*, *f*, mounted thereon, said stringers being adapted to be brought into or out of meshing or mating relation by the up and down movement of the slider through the channel C of which the stringers slide or move. The slide channel C is Y-shaped, through the stem of which the fastener elements move when meshed or interengaged and through the Y-branches of which the fastener elements move when they are disengaged.

The slider of the present invention comprises a slider body S having a rear or bottom wing **20** and a front or top wing **22** connected together at their upper ends by a neck or post **24**. The bottom wing **20** comprises a body wall provided with the inturned opposite flanges **25** and similarly the top wing **22** comprises a body wall provided with the inturned opposite flanges **27**. The described construction defines the interior Y-shaped slide channel C for the slide fastener stringers. Thus far, the construction described is a conventional form of slide fastener. By moving the slider downwardly, the slide fastener is opened, and by moving the slider upwardly, the slide fastener is closed.

A locking member L is mounted on the front wing **22** of the slider body S. As best shown in Fig. 5, the front wing **22** of the slider body S preferably is provided with a pair of laterally spaced, elongated orifices **26** and **28** having their long dimensions extending parallel to the longitudinal axis of the slider body. The orifices **26** and **28** open into the slider channel C. A lug **30** is struck up from the front wing **22** intermediate the orifices **26** and **28**. The lug **30** extends lengthwise of the slider, in a plane perpendicular to the horizontal surface of the front wing **22** and bridges the upper and lower sections of the front wing. The lug **30** is formed or indented so that the top thereof is provided with a pair of oppositely extending flanges **32** and **34**. Within the underface of the front wing **22** there preferably are formed a pair of laterally spaced mounting seats **36** and **38**. The mounting seats **36** and **38** are located in alignment with the orifices **26** and **28**, respectively. If desired, a single depression may be formed within the undersurface of the front wing extending transversely a distance substantially equal to the distance between the

outside longitudinal edges of the orifices **26** and **28**. The leading edges of the front wing **22** adjacent the orifices **26** and **28** are formed with thrust bearing portions or undercuts **40** and **42** beneath the plane of the upper surface of the front wing. Preferably, the undercut surfaces are formed at an angle, designated *x*, of approximately thirty degrees (30°) from the vertical. While the pair of undercuts **40** and **42** is preferred, one may be omitted, if desired. The slider body S thus constructed preferably is formed by a coining or stamping operation and, as is evident from the description thus far, the wings **20** and **22** have flat outer surfaces but for the projecting lug **30** on the front wing **22**.

The locking member L comprises essentially a front arm **44** and two laterally spaced rear arms **46** and **48** united at their bottom ends **50** and free at their other or top ends. The arms **46** and **48** are movable resiliently with respect to the arm **44**. The locking member L is provided with at least one detent adjacent its bottom end, and in the preferred construction two such detents, **52** and **54**, are provided, both detents being formed to project into the slider channel C. These detents are formed one at the bottom end of the rear arm **46** and the other near the bottom end of the rear arm **48**, both being staggered vertically so as to cooperate with a staggered pair of slide fastener elements *f*, *f*, of the stringers, as best shown in Fig. 2. The resilient relative motion of the front arm **44** and the rear arms **46** and **48** is accomplished by making either the front arm or the rear arms resilient. In the construction shown, the front arm **44** is formed as a rigid element and the rear arms **46** and **48** are formed as and define the resilient arms of the locking member. Each of the rear arms **46** and **48** is formed with a bend intermediate its length, such bend being in a direction towards the rigid arm **44**.

The locking member L is so shaped that its front arm **44** comprises the front wall of an elongated cap which is provided with side walls **56** and **58**, the resilient arms **46** and **48**, and their detents **50** and **52**, being formed integrally with these side walls. The cap may also be provided with top and bottom walls **60** and **62**. The side walls **56** and **58** are formed to provide camming openings **64** and **66**, respectively, for receiving the opposite prongs or trunnions **68** and **70** of a pendant or pull device P.

The locking member L also is formed so that the side walls **56** and **58** preferably provide a pair of laterally spaced thrust guards **72** and **74**, respectively, the forward faces of which, **76** and **78**, are disposed at an angle so that the thrust guards will be underhung with respect to the undercuts **40** and **42** of the slider body S. The faces **76** and **78** preferably are formed at an angle which is less or more acute than the angle *x* of the undercut surfaces in order to allow easy disengagement. This angle, designated *y* in Fig. 8, is preferably approximately fifteen degrees (15°) from the vertical. It is within the scope of the invention to omit one of the thrust guards, if desired, so that one thrust guard will coact with one undercut. The paired elements, however, are preferred. The side walls **56** and **58** also provide a pair of laterally spaced bearings **80** and **82**. The bearings **80** and **82** are formed by rearwardly inclining the edges **84** and **86** of the side walls **56** and **58**, respectively, between the corner of each side wall and its thrust guards. This inclination, designated *z* in Fig. 8, is approximately five de-

grees (5°) from the horizontal and serves to impart initial tension to the resilient arms **46** and **48** when the locking member is assembled with the slider body.

Preferably, the described components of the locking member L comprise a unitary piece, all integrally formed. This unitary piece is formed by stamping a suitable strip of metal, preferably beryllium-copper, into the shape of the blank shown in Fig. 4. The blank then is subjected to a bending operation along the lines *a*, *a* and *b*, *b*, to form the finished locking member L shown in Fig. 3. The resilient arms **46** and **48** preferably are tempered for their resilient action after the element has been shaped into its finished form.

The locking member L is assembled with the slider body S by placing the locking member in the position shown in Fig. 6. In this position, the resilient arms **46** and **48** are disposed within the orifices **26** and **28** with the front arm **44** over the lug **30** and the side walls **56** and **58** straddling the lug. By moving the locking member L in the direction of the arrow Y, the free ends of the resilient arms **46** and **48** move into the mounting seats **36** and **38**, the bearings **80** and **82** slide forward upon the flat, unobstructed upper surface of the front wing **22**, and the faces **76** and **78** of the thrust guards **72** and **74** slide beneath the undercuts **40** and **42**, so that the locking member snaps into assembled position with the slider body. Due to the configuration of the resilient arms **46** and **48**, the original distance between the ends of the resilient arms and the bearings **80** and **82**, and the angularity of the edges **84** and **86**, the locking member L assumes the position shown in Fig. 2. In this position, the resilient arms **46** and **48** are under tension, the action being such that there is an initial tendency to spread the arms **46** and **48** with respect to the relatively rigid arm **44**. With this arrangement of the parts, the locking member L is normally urged into locking position about the laterally spaced fulcra F, formed by the engagement of the bearing edges **80** and **82** with the smooth, flat upper surface of the front wing, as shown in Fig. 2.

The described assembly of the slider body S and locking member L is extremely simple and inexpensive, because it does not require any additional operations such as staking or otherwise deforming any part of the slider body or locking member. The locking member, because of its snap-fit assembly with the slider body, requires some effort to dislodge it even though the pull P has as yet not been assembled therewith. Finally, the assembly operation is completed by locating the pull device P in the position shown in Fig. 7 and deforming the spaced arms having the inturned ends or trunnions **68** and **70** from the solid-line position to the dot-dash position. In this latter position, the engagement of the trunnions **68** and **70** with the lug flanges **32** and **34** will limit the motion that may be imparted to the pull device P. Instead of the particular type of pull device illustrated, a chain pull may be used, whereupon the opposing open ends of the end link would be bent under the flanges of the lug.

With the automatic lock slider consisting only of the slider body S, the locking member L, and the pull device P thus assembled, the resilient action of the pair of laterally spaced rear resilient arms **46** and **48** normally and automatically move the locking member to its locking position about the fulcra F, as shown in Fig. 2.

When a cross-pull is exerted upon the upper ends of the stringers *s*, *s*, tending to open the fastener, the slider tends to move downwardly relatively to the stringers, thereby bringing the detents **52** and **54**, if they are not in engagement with the slide fastener elements, into locking engagement with the slide fastener elements *f*, *f*. When this takes place, the locking member L is so acted upon that the thrust guards **72** and **74** engage the undercuts **40** and **42**. Due to the overhang and underhang configuration of these coacting elements, any direction of pressure which would tend to cause the locking member to move outwardly, is changed to a diagonal direction into, instead of out of, the slider body. The thrust so directed, as indicated by the arrow T, prevents the locking member from moving to unlocked position. In fact, increased pressure upon the detents **52** and **54** by the slide fastener elements *f*, *f*, is transmitted to the coacting surfaces of the thrust guards and undercuts to cause the locking member to be forced all the more into its locking position. Moreover, the described construction serves to protect the detents **52** and **54** and the end of the resilient arms **46** and **48** from the effects of sudden and abnormally great cross-pull stresses. The comparatively heavy and strong sections of metal comprising the thrust guards **72** and **74** coact with the rigid and strong slider body at the undercut areas **40** and **42** to absorb any undue shock which normally would be transmitted entirely to the detents **52** and **54** and the ends of the resilient arms **46** and **48**.

The provision of the thrust guards **72** and **74** on the locking member and the undercut areas **40** and **42** of the slider body with which they coact, supply another important function. These coacting elements not only serve to maintain and enhance locking action under intensive cross-pull which may be applied to the fastener, but they also permit movement of the slider to be started to open or close the fastener with little effort, though strong cross-pull still is maintained on the fastener. The faces **76** and **78** of the thrust guards **72** and **74** and the surfaces of the undercuts **40** and **42** are formed so that these coacting surfaces readily may disengage to permit the locking member to rock upwardly about the fulcra F as soon as the pull P is brought to bear against the camming openings **64** and **66**.

The slider is unlocked in the usual way by either a downward pull (during opening of the slide fastener) or an upward pull (during closing of the slide fastener) exerted on the pull device P. During a downward or fastener-opening pull, the pull device P is moved from the position shown in Fig. 2 to that shown in Fig. 9, during which movement the trunnions **68** and **70** engage and ride over the camming openings **64** and **66**. Thus, the locking member L is forced to move outwardly against the action of its resilient arms **46** and **48**, the locking member L during this operation being pivoted about the pair of laterally spaced fulcra F formed by the engagement of the bearing edges **80** and **82** with the smooth, flat upper surface of the top wing **22**. During this operation, the resilient arms **46** and **48** are under increased deflection, the arms **46** and **48** being spread with respect to the arm **44**. The fulcra F provide the right kind and also the desired length of leverage for this action.

During an upward or fastener-closing pull of the pull device P, the trunnions **68** and **70** engage the camming openings **64** and **66** at the forward bends, as shown in Fig. 10. The fulcra F slide

forward slightly upon the flat, upper surface of the front wing, and the locking member L similarly is moved outwardly and about the fulcra F to an unlocking position or to a position where the detents **52** and **54** may move over the slide fastener elements *f, f*. Upon manual release of the pull P, after either a downward or upward pulling operation, the locking member L automatically returns to its locking position, as shown in Fig. 2.

It will be observed from the construction hereinbefore described that the only metal working operation required to assemble the three parts of the automatic lock slider is the simple bending of the pull trunnions **68** and **70** from their original spread-apart position to the position where their ends lie beneath the flanges **32** and **34** of the lug **30** (the dot-dash position of Fig. 7). This ordinary pull assembly operation is used in the manufacture of all the common varieties of non-lock, pin-lock, friction-lock, and wing-lock sliders and, hence, does not entail the necessity for any new type of slider assembly fixtures.

Another interesting feature of our automatic lock slider construction is that while there is no fixed connection between any of the three parts, such as a pin, indentation, or other fixed pivot, the application of any abnormal stress to which the slider may be subjected in use will not result in the disengagement or injury to any of the three parts. As hereinbefore described, the pull trunnions **68** and **70** serve to unlock the locking member when they pass against the camming openings **64** and **66**. By providing the top of the lug **30** with the flanges **32** and **34**, the pull trunnions engage these flanges and, hence, take up any excessive strain which ordinarily would be applied directly to the locking member L. The flanges **32** and **34** are engaged by the pull trunnions **68** and **70** after the trunnions have pressed against the camming openings **64** and **66** sufficiently to lift the locking member out of locking engagement and before the resilient arms **46** and **48** of the locking member can be unduly strained. Continued strain upon the pull P does not affect the locking member. In this way, strong heavy parts of the slider body and pull engage each other; whereas the locking member, which is less rugged than the slider body or pull, is protected from this type of abuse and cannot be dislodged from the slider body.

The presence of the lug **30** beneath the locking member L serves to protect the locking member from blows or pressure upon the top of locking member, as when the slider, as part of a fastener incorporated in a garment, is pressed by an iron or ironing machine. Though the locking member and lug are not connected together, the immediate proximity of the comparatively rigid slider body lug beneath the front arm **44** of the locking member will serve to prevent the locking member from being unduly deformed or injured.

It further will be observed that the locking member L is perfectly symmetrical but for the offset or staggered relation of the detents **52** and **54**. A central or median line *c—c* through the locking member (such median line being shown, for convenience of illustration, on the locking member blank of Fig. 4, it being evident that the same is true for the formed locking member shown in Fig. 3), indicates that the rear resilient arms **46** and **48**, the camming openings **64** and **66**, the thrust guards **72** and **74**, and the bearings **80** and **82** are symmetrically disposed with respect to the longitudinal axis of the member. The slider body S also is symmetrically formed in that

the orifices **26** and **28**, the mounting seats **36** and **38**, and the undercuts **40** and **42** are symmetrically located with respect to a longitudinal median line *d—d*, as shown in Fig. 5. The symmetrically-formed locking member L, assembled with the symmetrically-formed front wing of the slider body S, provides balanced locking and unlocking action of the slider upon a slide fastener. The fulcra for locking and unlocking and the thrust bearings which absorb cross-pull strains, are equidistantly and laterally spaced from and athwart the longitudinal axis of the slider. Such balanced construction prevents the slider from twisting upon the chain of fastener elements though the fastener is subjected to unequal or unbalanced cross-pull forces.

In the construction thus provided, it will be apparent that the product possesses novel and highly improved functions and characteristics. While we have shown and described a preferred form of our lock slider, it will be apparent that changes may be made therein without departing from the principles thereof and the spirit of the invention defined in the following claims.

We claim:

1. An automatic lock slider for a slide fastener comprising a slider body having front and rear wings spaced to provide a slider channel for the slide fastener stringers, a locking member mounted in position on the front wing of said slider body, and a pull device for engaging said locking member, said front wing being formed with a pair of laterally spaced orifices opening into the slider channel and a lug intermediate said orifices, said lug being provided at the top thereof with a pair of oppositely extending flanges, said locking member comprising a front arm and a pair of laterally spaced rear arms connected together at their bottom ends and free at their top ends, said front and rear arms being resiliently movable with respect to each other, at least one of said rear arms being provided with a detent, said rear arms being disposed within said orifices with the free ends thereof mounted beneath the front slider wing, and the free end of the front arm bearing upon the upper surface of the front wing, the front and rear arms being spread with respect to each other to normally urge the locking member to locking position, the upper surface of said front wing providing a fulcrum for unlocking the locking member when the pull device is moved against the locking member, said locking member being insertable in its said position on said front slider wing with a snap-fit and with the locking member straddling said lug and with said locking member being capable of a slight longitudinal movement on said slider body and relatively to said lug, and said pull device serving as the only means for permanently securing said locking member to said slider body, said pull device engaging said lug flanges to limit the force which may be applied directly to the locking member.

2. An automatic lock slider for a slide fastener comprising a slider body having front and rear wings spaced to provide a slider channel for the slide fastener stringers, a locking member mounted in position on the front wing of said slider body, and a pull device for engaging said locking member, said front wing being formed with a pair of laterally spaced orifices opening into the slider channel and a lug intermediate said orifices, and a thrust bearing portion formed in said front wing adjacent one of said orifices, said lug being provided at the top thereof with

a pair of oppositely extending flanges, said locking member comprising a front arm and a pair of laterally spaced rear arms connected together at their bottom ends and free at their top ends, and a thrust guard, said front and rear arms being resiliently movable with respect to each other, at least one of said rear arms being provided with a detent, said rear arms being disposed within said orifices with the free ends thereof mounted beneath the front slider wing, the free end of the front arm bearing upon the upper surface of the front wing, the front and rear arms being spread with respect to each other to normally urge the locking member to locking position, the upper surface of said front wing providing a fulcrum for unlocking the locking member when the pull device is moved against the locking member, said locking member being insertable in its said position on said front slider wing with a snap-fit and with the locking member straddling said lug and with said locking member being capable of a slight longitudinal movement on said slider body and relatively to said lug, said pull device serving as the only means for permanently securing said locking member to said slider body, said pull device engaging said lug flanges to limit the force which may be applied directly to the locking member, and said thrust guard engaging said thrust bearing portion of the slider body when cross-pull is applied to the fastener.

3. An automatic lock slider for a slide fastener comprising a slider body having front and rear wings spaced to provide a slider channel for the slide fastener stringers, a locking member mounted in position on the front wing of said slider body, and a pull device for engaging said locking member, said front wing being formed with a pair of laterally spaced orifices opening into the slider channel and a lug intermediate said orifices, said lug being provided at the top thereof with a pair of oppositely extending flanges and a pair of laterally spaced mounting seats formed within the underface of the front wing each in alignment with each of said orifices, said locking member comprising a front arm and a pair of laterally spaced rear arms connected together at their bottom ends and free at their top ends, said front and rear arms being resiliently movable with respect to each other, at least one of said rear arms being provided with a detent, said rear arms being disposed within said orifices with the free ends thereof mounted in said mounting seats, the free end of the front arm bearing upon the upper surface of the front wing, the front and rear arms being spread with respect to each other to normally urge the locking member to locking position, the upper surface of said front wing providing a fulcrum for unlocking the locking member when the pull device is moved against the locking member, said locking member being insertable in its said position on said front slider wing with a snap-fit and with the locking member straddling said lug and with said locking member being capable of a slight longitudinal movement on said slider body and relatively to said lug, and said pull device serving as the only means for permanently securing said locking member to said slider body, said pull device engaging said lug flanges to limit the force which may be applied directly to the locking member.

4. An automatic lock slider for a slider fastener comprising a slider body having front and rear wings spaced to provide a slider channel for the slide fastener stringers, an integrally formed locking member mounted in position on the front wing of said slider body, and a pull device for engaging said locking member, said front wing being formed with a pair of laterally spaced orifices opening into the slider channel and a lug intermediate said orifices, said lug being provided at the top thereof with a pair of oppositely extending flanges, a pair of laterally spaced mounting seats formed within the underface of the front wing each in alignment with each of said orifices, and an undercut formed in said front wing adjacent one of said orifices, said locking member comprising a front arm and a pair of laterally spaced rear arms connected together at their bottom ends and free at their top ends, and a thrust guard, said front and rear arms being resiliently movable with respect to each other, at least one of said rear arms being provided with a detent, said rear arms being disposed within said orifices with the free ends thereof mounted in said mounting seats, the free end of the front arm bearing upon the upper surface of the front wing, the front and rear arms being spread with respect to each other to normally urge the locking member to locking position, the upper surface of said front wing providing a fulcrum for unlocking the locking member when the pull device is moved against the locking member, said locking member being insertable in its said position on said front slider wing with a snap-fit and with the locking member straddling said lug and with said locking member being capable of a slight longitudinal movement on said slider body and relatively to said lug, said pull device serving as the only means for permanently securing said locking member to said slider body, said pull device engaging said lug flanges to limit the force which may be applied directly to the locking member, and said thrust guard engaging said undercut when cross-pull is applied to the fastener.

5. An automatic lock slider for a slide fastener comprising a slider body having front and rear wings spaced to provide a slider channel for the slide fastener stringers, an integrally formed locking member mounted in position on the front wing of said slider body, and a pull device for engaging said locking member, said front wing being formed with a pair of laterally spaced orifices opening into the slider channel and a lug intermediate said orifices, said lug being provided at the top thereof with a pair of oppositely extending flanges, a pair of laterally spaced mounting seats formed within the underface of the front wing each in alignment with each of said orifices, and a pair of laterally spaced undercuts formed in said front wing each adjacent each of said orifices, said locking member comprising a front wall and a pair of laterally spaced side walls providing a front arm and a pair of rear arms, respectively, connected together at their bottom ends and free at their top ends, a thrust guard and a camming opening formed in each of said side walls, said front and rear arms being resiliently movable with respect to each other, each of said rear arms being provided with a detent, said rear arms being disposed within said orifices with the free ends thereof mounted in said mounting seats, the free end of the front arm bearing upon the upper surface of the front wing, the front and rear arms being spread with respect to each other to normally urge the locking member to locking position, the upper surface of said front wing providing a fulcrum for

unlocking the locking member when the pull device is moved against the camming openings, said locking member being insertable in its said position on said front slider wing with a snap-fit and with the locking member straddling said lug and with said locking member being capable of a slight longitudinal movement on said slider body and relatively to said lug, said pull device serving as the only means for permanently securing said locking member to said slider body, said pull device engaging said lug flanges to limit the force which may be applied directly to the locking member and said thrust guards engaging said undercuts when cross-pull is applied to the fastener.

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