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US-B2- 7 134 469

DESCRIPTION

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates generally to systems for mounting a headrail for a covering for an architectural opening and more specifically to a mounting bracket having a lever lock for securing the headrail to the mounting bracket.

Description of the Relevant Art

[0002] Coverings for architectural openings such as windows, doors, archways and the like typically include a retractable panel of material supported by a headrail. The coverings are typically movable between extended positions wherein the panel of material extends across the architectural opening and a retracted position where the panel of material is either wrapped or gathered within or immediately adjacent to the headrail. The headrail further includes control systems for moving the covering between extended and retracted positions and in the case of "Venetian blinds for tilting the slats of the blind between open and closed positions.

[0003] Headrails are provided in various forms and configurations dictated partly by aesthetics and partly by function. In any circumstance, mounting brackets are provided that can be secured to a frame around the architectural opening and utilized to support the headrail.

[0004] In most instances, the mounting brackets have some form of a release mechanism so that the headrail is releasably secured to the mounting bracket whereby when in use it is reliably secure to prevent an inadvertent removal but can be released and removed for cleaning purposes or the like.

[0005] Systems for releasably securing a headrail to mounting brackets have taken numerous forms including brackets with detents, depressible release arms, snap-on fingers or the like and efforts are continuing for devising more reliable and easy to operate systems.

[0006] US patent application no. US 2007/0000621 discloses a mounting bracket for a covering for architectural openings such as windows, doors, archways, and the like and includes complementary components on the headrail and the mounting bracket to permit the mounting bracket to be inserted into the headrail. A lock lever is provided with access forwardly of the headrail to lock the headrail in position on the mounting bracket or condition the mounting bracket for release of the headrail from a temporarily secured relationship.

SUMMARY OF THE INVENTION

[0007] According to the present invention, there is provided a system as defined in appended claim 1.

[0008] The present invention embodies a system for releasably mounting a headrail for a covering for an architectural opening to mounting brackets in a reliable, efficient, and easy to operate manner. The headrail and mounting brackets are complementary in that the headrail can be temporarily snapped onto the mounting brackets and then firmly locked in a mounted position with a readily accessible lever arm.

[0009] The mounting bracket has a depressible catch arm that is automatically depressed by a ledge on the headrail as the headrail is advanced to a predetermined position relative to the mounting bracket at which point the catch arm snaps into a temporarily secured position. A lever arm on the bracket can then be manually pivoted to a lock position to activate a slide-lock bar that prevents the catch arm from again being depressed thereby securely locking the headrail to the mounting bracket to prevent an inadvertent removal of the headrail. The lever arm of course can be moved to a release position to permit depression of the catch arm by applying reasonable manual force to the headrail.

[0010] Other aspects, features, and details of the present invention can be more completely understood by reference to the following detailed description of a preferred embodiment, taken in conjunction with the drawings and from the appended claims.

[0011] However, the embodiments shown in Fig. 1 to 10 and Fig. 12 to 28 do not belong to the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

Fig. 1 is an isometric of a headrail for a covering for an architectural opening mounted on the mounting brackets of the present invention with lock levers in a locked position.

Fig. 2 is an exploded isometric similar to Fig. 1 with the lock levers in a release position.

Fig. 3 is an enlarged section taken along line 3-3 of Fig. 1.

Fig. 4 is a section similar to Fig. 3 with the lock lever in a release position.

Fig. 5 is an enlarged fragmentary view taken along line 5-5 of Fig. 3.

Fig. 6 is an enlarged fragmentary view taken along line 6-6 of Fig. 4.

Fig. 7 is a section taken along line 7-7 of Fig. 5.

Fig. 8 is an enlarged fragmentary section taken along line 8-8 of Fig. 7.

Fig. 9 is a section similar to Fig. 7 with the slide-lock bar in a release position.

Fig. 10 is a section similar to Fig. 9 with the headrail positioned relative to the mounting bracket as it would be immediately before a temporary connection.

Fig. 11 is a section similar to Fig. 10 with the headrail removed from the mounting bracket.

Fig. 12 is an isometric looking downwardly on the mounting bracket.

Fig. 13 is an isometric looking upwardly at the bottom of the mounting bracket of Fig. 12.

Fig. 14 is a left end elevation of the bracket as shown in Fig. 15.

Fig. 15 is a top plan view of the mounting bracket.

Fig. 16 is a side elevation of the mounting bracket.

Fig. 17 is an enlarged section taken along line 17-17 of Fig. 15.

Fig. 18 is an enlarged section taken along line 18-18 of Fig. 15.

Fig. 19 is an isometric looking downwardly on the slide-lock bar of the mounting bracket.

Fig. 20 is an isometric looking upwardly at the bottom of the slide-lock bar of Fig. 19.

Fig. 21 is an end elevation of the slide-lock bar as shown in Fig. 22.

Fig. 22 is a top plan view of the slide-lock bar.

Fig. 23 is a side elevation of the slide-lock bar.

Fig. 24 is a bottom plan view of the slide-lock bar.

Fig. 25 is an isometric of the lock lever of the mounting bracket.

Fig. 26 is a top plan view of the lock lever.

Fig. 27 is a side elevation of the lock lever.

Fig. 28 is a top plan view of the lock lever.

Fig. 29 is a top plan view of a second embodiment of the mounting bracket of the present invention with the lock lever shown in a locking position and with a portion of the head rail shown in dashed lines.

Fig. 30 is an enlarged vertical section taken along line 30-30 of Fig. 29.

Fig. 31 is a top plan view of the bracket of Fig. 29 with the lock lever in a release position with a portion of the head rail shown in dashed lines.

Fig. 32 is an enlarged vertical section taken along line 32-32 of Fig. 31.

Fig. 33 is a fragmentary bottom plan view showing the bracket in engagement with the head rail and with the lock lever in a locking position.

Fig. 34 is a fragmentary bottom plan view showing the bracket in engagement with the head rail and with the lock lever in a release position.

Fig. 35 is a perspective looking downwardly on the lock lever used in the embodiment of Figs. 32-36.

Fig. 36 is a perspective looking upwardly at the bottom of the lock lever used in the embodiment of Figs. 32-36.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] With reference first to Figs. 1 and 2, a pair of mounting brackets 30 in accordance with the present invention are seen with a headrail 32 for a covering for an architectural opening (not shown). While the frame for the architectural opening to which the brackets 30 can be mounted is not illustrated, the connection will be fully appreciated with the description of a bracket hereafter.

[0014] Before describing a bracket 30 in detail, it is best to understand the structure of the headrail 32 adapted for mounting on the bracket and the headrail is probably best illustrated in Fig. 11. The headrail can be seen to have a generally flat front wall 34 with an arcuate lower edge 36 and a relatively flat top wall 38 projecting rearwardly from the top edge of the front wall. The top wall has a depressed ledge 40 along its rearwardmost edge defining a bevel surface 42 and a rib spacer 44 projecting downwardly at an intermediate location between the front wall 34 and the ledge 40. The headrail is typically extruded so that all of its features extend the full length of the headrail. At a predetermined spacing below the top wall, a support arm 46 extends rearwardly from the front wall of the headrail with the support arm having a lip 48 along its rearwardmost edge. The lip 48, ledge 40, and rib spacer 44 all cooperate in defining a pocket 50 in which a portion of the mounting bracket can be inserted.

[0015] In Figs. 3 and 4, the headrail 32 is shown connected to a mounting bracket 30 of the present invention with Fig. 4 showing the mounting bracket in a release position and Fig. 3 in a locking position. Further, a roller 52 which might be found in a headrail of a roll-up shade is illustrated positioned within the headrail and beneath the mounting bracket for illustrative purposes only. The mounting bracket is probably best seen in Figs. 12-18. The bracket is made of a somewhat rigid plastic material having some flexibility depending upon the thickness of the plastic for purposes which will become apparent with the description hereafter.

[0016] The bracket 30 can be seen to have a horizontal base 54, a downturned back wall 56 off the rear edge of the base, and upper 58 and lower 60 horizontal flanges extending rearwardly from the back wall. The upper flange, the back wall, and the base all have openings 62 therethrough as possibly best seen in Figs. 12, 13, 14, and 18 through which fasteners (not shown) can extend to secure the bracket to the frame around an architectural opening. The openings 62 are provided in both vertical and horizontal surfaces of the bracket so the bracket can be mounted to a vertical or horizontal surface of the frame depending upon the type of mounting desired for the covering.

[0017] The base 54 has a relatively thick rear portion 64 with a flat upper surface 66 and a slide plate 68 projecting forwardly from the rear portion along a lower edge thereof. The slide plate has a pair of support arms 70 along opposite sides and an integral lead bar 72 connecting the support arms along the forwardmost edge of the slide plate so as to define a rectangular opening 74 therebetween. The opening has a spring catch arm 76 positioned therein with the catch arm having a relatively thin portion 78 integrally connected with and extending forwardly from the relatively thick rear portion 64 of the base in a living hinge and a bevel head 80 at the forwardmost end of the thin portion. The bevel head has front 82 and rear 84 upwardly directed bevel surfaces for purposes to be described hereafter.

[0018] The thin portion 78 is adapted to flex slightly at the living hinge so that the bevel head 80 can be depressed within the rectangular opening 74 in the slide plate 68. The thin portion of the catch arm itself has a rectangular slot 86 formed therein for a purpose to be described hereafter. A pair of overhanging lips 88 project forwardly from the relatively thick rear portion 64 of the base in spaced overlying relationship with a rear portion of the slide plate 68. The overhanging lips define a space therebetween that is continuous with a shallow groove 90 formed in the flat upper surface 66 of the rear portion 64 of the base. A vertical hole 92 is provided in the shallow groove for receipt of a removable pivot pin 94 having an enlarged head as seen in Figs. 7 and 9-11. The pivot pin pivotally secures a lock lever 96 to the base as will be described later.

[0019] As possibly best seen in Fig. 13, the rectangular opening 74 in the slide plate 68 in which the spring catch arm 76 is positioned is continuous with a relatively narrow recessed channel 98 in the bottom of the relatively thick rear portion 64 of the base, which in turn is continuous with a slot-like opening 100 through the rear portion. As possibly best appreciated by reference to Figs. 8 and 13, a pair of support shoulders 102 extend along the sides of the slot-like opening 100 in the base along the bottom thereof.

[0020] A slide-lock bar 104 shown in detail in Figs. 8 and 19-24 is slidably positioned within the opening 74 in the slide plate, the continuous recessed channel 98 and slot-like opening 100 in the rear portion of the base. The slide-lock bar slidably underlies the spring catch arm 76. Referencing Figs. 19-24, the slide-lock bar can be seen to have a flat paddle head 106 with a beveled leading edge 108, a guide block 110 extending upwardly from a rear portion of the paddle head and a slide arm 112 extending rearwardly from the paddle head. The slide arm has a raised block 114 at approximately its longitudinal center with the raised block having a cylindrical guide pin 116 projecting upwardly. The underside of the slide arm has an elongated centered tongue 118 formed integrally thereon (Fig. 20) which projects downwardly a small amount from the remainder of the slide arm. The tongue is also relatively narrow so as to define support edges 120 along opposite sides of the slide arm which are adapted to ride upon the support shoulders 102.

[0021] As probably best seen in Figs. 7-13, the slide-lock bar 104 is positioned in the base 54 so that the support edges 120 on the underside of the slide-lock bar are supported on the support shoulders 102 for sliding movement and the paddle head 106 is disposed within the rectangular opening 74 in the slide plate 68 immediately beneath the spring catch arm 76. The guide block 110 on the paddle head projects into the rectangular slot 86 formed in the spring catch arm to assist in guiding sliding movement of the slide-lock bar. The slide-lock bar is also made of a relatively thin plastic so it too has some flexibility along its length. It should be noted that when the spring catch arm is depressed downwardly, it engages the top surface of the paddle head of the slide-lock bar also depressing the paddle head downwardly due to their uniform flexibility.

[0022] The lock lever 122, which is used to engage and disengage the locking mechanism in the bracket, is seen in detail in Figs. 25-28. It can there be seen to have an elongated relatively flat body 124 with a diagonal gripping rib 126 at one end, a semicircular opposite end 128, a circular passage 130 extending vertically through the body at a location relatively close to the opposite end and an arcuate push-pull slot 132 extending vertically through the flat body between the circular opening and the opposite end of the flat body from the gripping rib. The push-pull slot while being arcuate extends at approximately a 45 degree angle relative to the length of the lever arm for a purpose to be described hereafter.

[0023] The lock lever 122 is secured to the base 54 by positioning the gripping rib 126 at a location beyond the slide plate 68 of the base with the opposite end 128 of the lock lever being positioned within the shallow groove 90 provided in the top surface of the base. The circular passage 130 through the lock lever is aligned with the hole 92 in the shallow groove in the base and the pivot pin 94 is inserted into the hole to pivotally connect the lock lever to the base. It should be appreciated the width of the lock lever body 124 is less than the width of the shallow groove so the lock lever is free to pivot within limits about the pivot pin. A notch 134 is provided in a side of the flat body 124 to accommodate the adjacent overhanging lip 88 when the lock lever is in the locking position of Fig. 3. With the lock lever attached to the base as described, the guide pin 116 on the slide-lock bar 104 extends into the push-pull slot 132 of the lock lever. As will be appreciated by pivoting the lock lever about the pivot pin, the push-pull slot forces the guide pin to move linearly along the length of the bracket so that the slide-lock bar can be moved reciprocally forwardly and rearwardly along the length of the bracket with pivotal movement of the lock lever.

[0024] As will be appreciated with the description later, when the lock lever 122 is aligned with the base as in Fig. 4, the slide-lock bar 104 is fully retracted toward the rear of the bracket 30 whereas when the lock lever is pivoted into the position shown in Fig. 3, the push-pull slot 132 advances the guide pin 116 pulling the slide-lock bar forwardly relative to the base 54. This movement of the slide-lock bar is probably best appreciated by reference to Figs. 5 and 6. The lock lever has arcuately spaced detents 136 in its opposite end 128 that releasably receives vertical beads 138 formed in the adjacent arcuate wall 140 of the shallow groove 90. The detents and beads assist in retaining the lock lever in either a locking or release position to be described in more detail hereafter.

[0025] Looking next at Fig. 11, the mounting bracket 30 is shown positioned to receive the headrail 32 with Fig. 10 showing the headrail having been advanced partially onto the mounting bracket so that the lead bar 72 of the slide plate 68 is inserted into the pocket 50 in the headrail between the rib spacer 44 and the support arm 46. It should be noted in the position of Fig. 10, the front bevel 82 on the bevel head 80 has engaged and passed by the rear ledge 40 of the top wall 38. The engagement of the front bevel with the rear ledge cams the bevel head downwardly into the position of Fig. 10. In Fig. 9, the headrail is shown fully advanced onto the bracket in a neutral position where it will be appreciated the bevel head is positioned immediately in front of the bevel 42 on the rear ledge 40 of the top wall of the headrail. The rear bevel surface 84 on the catch arm 76 is engaged with the bevel 42 on the top wall of the headrail so that the headrail is temporarily but releasably secured to the bracket. As will be appreciated, if the headrail were to be pulled forwardly from the position illustrated in Fig. 9, the beveled engagement of the bevel 42 on the top wall with the rear bevel 84 on the catch arm would cam the catch arm downwardly as seen in Fig. 10 which would allow the headrail to be released from the bracket with a predetermined amount of force. As mentioned previously, the catch arm can be depressed from the position of Fig. 9 even though the slide-lock bar 104 is positioned therebeneath because both elements are somewhat flexible.

[0026] With the headrail 32 temporarily connected to the mounting bracket 30 as shown in Fig. 9, however, the lock lever 122 can be pivoted into the position of Fig. 3, which as mentioned previously, causes the slide lock bar 104 to move forwardly relative to the base 54 and as seen in Fig. 7, this extreme forward limited movement of the slide-lock bar causes the paddle head 106 to overlie the lip 48 on the support arm 46 of the headrail which prevents the slide-lock bar and the overlying catch arm 76 from being pivoted downwardly. As will be appreciated, if the catch arm cannot pivot downwardly, the headrail is prevented from removal from the mounting bracket due to the engagement of the bevel surfaces 42 and 84.

[0027] Obviously, to remove the headrail 32 from the support bracket 30, the lock lever 122 is simply pivoted into alignment with the base 54 as shown in Fig. 4 causing the slide-lock bar 104 to be retracted further into the base so that the paddle head 106 no longer overlies the lip 48 of the support arm 46 whereby upon an outward pull on the headrail, the beveled engagement of the surfaces 42 and 84 will cause the catch arm 76 to pivot downwardly with the slide-lock bar as in Fig. 10 permitting removal of the headrail from the support bracket.

[0028] As mentioned previously, the transverse profile of the headrail 32, as illustrated in the drawings, is continuous along the length of the headrail so that any number of support brackets 30 can be positioned for receipt of the headrail. Each support bracket would be operated similarly to remove the headrail from the support bracket or to permit its mounting. It should also be appreciated the gripping rib 126 on the lock lever protrudes forwardly from the front wall 34 of the headrail 32 a sufficient distance to allow an operator to grip the lock lever and move it between locking and release positions. Further, the lock lever can be made of a clear plastic material so as to be less visible for aesthetic purposes.

[0029] An alternative embodiment 142 of the bracket is shown in Figs. 29-32 and is substantially similar to the first-described bracket 30, so that corresponding parts of the bracket have been shown with the same reference numerals. In this embodiment, however, the push-pull slot 132 of the first-disclosed embodiment, which was slightly arcuate in configuration, has been replaced with a generally L-shaped push-pull slot 144 defining detents 146 and 148 at opposite ends of the L-shaped slot for releasably retaining the guide pin 116 in either the locking position of Figs. 29 and 30 or the release position of Figs. 31 and 32.

[0030] In this embodiment of the invention, a horizontally disposed compression spring 150 has been provided with its rear end seated and supported on a horizontal pin 152 disposed on a vertical wall 154 of the bracket forwardly of the downturned back wall 156 as seen in Figs. 30 and 32. The opposite end of the compression spring is received and seated in a recess 156 formed in the rear wall of the block-like base 158 on which the guide pin 116 is formed. The compression spring, therefore, biases the slide-lock bar 104 in a forward direction, even though the bias can be overcome by pivotal movement of the lock lever 96 between the locking and release positions, which causes the guide pin 116 to be cammed along the L-shaped push-pull slot 144.

[0031] As can be best appreciated by reference to Figs. 29 and 31, movement of the lock lever 96 between the locking position of Fig. 29 and the release position of Fig. 31 forces the guide pin 116 rearwardly until it is allowed to snap into one of the detents 146 or 148 at opposite ends of the push-pull slot 144. Once the guide pin is positioned in a detent at either end of the push-pull slot, it is releasably retained in the detent under the bias of the compression spring which exerts a force on the block 158 from which the guide pin is formed.

[0032] In this embodiment of the invention, it will be appreciated the lock lever 96 can therefore be positively, but releasably, positioned in either the locking position of Fig. 29 or the release position of Fig. 31, and the guide pin actually snaps into one of the detents at the ends of the push-pull slot giving an audible notification that the lock lever is in the locking or release position.

[0033] With reference to Figs. 11 and 29-36, the lock lever 96 can be seen to have, at an intermediate location along its length, a downwardly projecting boss 160 integrally formed thereon. As possibly best seen in Figs. 29, 31, 33, and 34, the boss is at an elevation within the bracket 142 to engage the leading edge 162 of the ledge 40 on the head rail 32 as the bracket is being mounted on the head rail 32. In other words, as the bracket is inserted onto the top wall 38 of the head rail, the ledge 40 projects into the bracket (Figs. 30 and 32) so the ledge 40 engages the boss on the lock lever. The boss is offset laterally from the pivot 94 of the lever arm so that when the lock lever is in the release position of Fig. 34, advancement of the bracket onto the head rail causes the ledge 40 to engage and pivot the boss and the lock lever 96 about the pivot 94 until the ledge 40 is fully inserted into the bracket thereby moving the boss and the lock lever from the release position of Fig. 34 to the locking position of Fig. 33. Thus, when the bracket is fully mounted on the ledge 40, the lock lever is in its locking position of Fig. 33 and the guide pin 116 is seated in the detent 146 at one end of the push-pull slot 144. As mentioned previously, when the guide pin snaps into the detent 146 at the end of the push-pull slot, there is an audible sound notifying a user that the bracket is fully inserted onto and latched into its locked position on the head rail.

[0034] When removing the bracket 142 from the head rail 32, the lock lever 96 is manually moved from the locking position of Fig. 33 to the release position of Fig. 34, which causes the boss 160 on the lock lever to force the bracket away from the ledge 40 on the head rail, thereby releasing the bracket from the head rail and in doing so, the guide pin 116 snaps into the other detent 148 in the push-pull slot 144, again giving an audible signal that the bracket is free for removal from the head rail. Movement of the lock lever from its locking position to its release position, of course, is manually done by an operator.

[0035] Other than the boss, the shape of the push-pull slot and the presence of the compression spring and its mounting, the bracket is identical to the previously described bracket and functions the same in releasably securing the bracket to a head rail as previously described.

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US20070000621A [0006]

Patentkrav

1. Anlæg til montering af en hovedskinne for et dækorgan til dækning af en arkitektonisk åbning på en montagehylde, hvilket anlæg omfatter i kombination:

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en hovedskinne (32), som har en bærearm (46) og en i en vis afstand herfra anbragt væg (40), så at der herimellem fastlægges en lomme (50), og

10

en monteringshylde (142), som omfatter:

(a) organer til forbindelse af montagehylden med en ramme i den arkitektoniske åbning;

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(b) en basisdel (54), som er indrettet til at kunne indskydes i nævnte lomme;

(c) en nedtrykkelig fangarm (76) på basisdelen, og som kan bevæges fra en neutral stilling, hvor fangarmen operativt kan være i indgreb for udløseligt at kunne fastgøre basisdelen i nævnte lomme;

20

(d) en låsestang (104), som er monteret på basisdelen, og som operativt samvirker med fangarmen, hvilken låsestang på glidende måde kan bevæges mellem en låsestilling og en frigivelsesstilling, idet låsestangen i nævnte låsestilling kan ligge an mod bærearmen for at forhindre nedtrykning af fangarmen, således at det på positiv måde sikres, at hovedskinnen fastgøres til montagehylden,

25

(e) en låse-vægtarm (96), som er operativt knyttet til låsestangen med henblik på at kunne bevæge sidstnævnte mellem låsestillingen og frigivelsesstillingen, **kendetegnet ved, at** anlægget yderligere omfatter:

30

(f) en eftergivelig del (150), som på udløsende måde kan påvirke låsestangen i nævnte låse- og frigivelsesstillinger, og

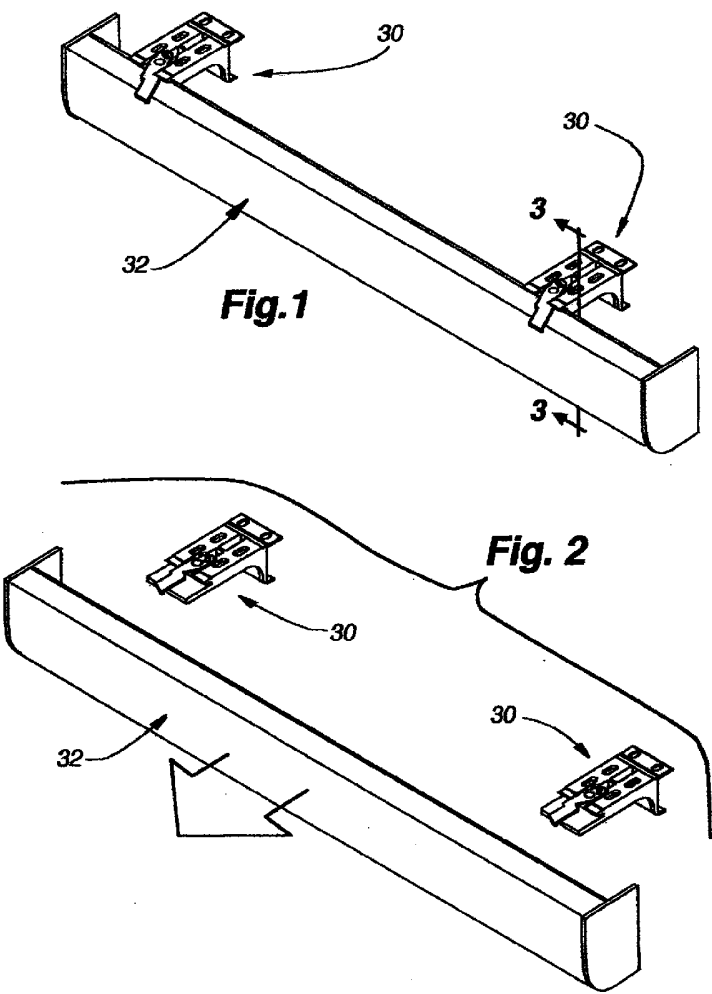
(g) hvor låse-vægtarmen omfatter et fremspring (160), som kan indgribe med væggen, når hovedskinnen monteres på hylden, og hvor anlægget mellem væggen og fremspringet muliggør, at væggen

automatisk kan vippe låsevægt-armen væk fra den udløsende stilling og hen i låsestillingen.

2. Anlæg ifølge krav 1, hvor hovedskinnens væg har en skrå flade (42), og
5 nævnte fangarm har en skrå flade (84), som kan ligge an mod skråfladen på nævnte væg, når denne befinder sig i en neutral stilling, og hvor berøringen mellem de skrå flader kan udløses, undtagen hvis låsestangen befinder sig i låsestillingen.
- 10 3. Anlæg ifølge krav 2, hvor fangarmen har en anden skrå flade (82), som kan bringes i indgreb med væggen i hovedskinnen, når hovedskinnen anbringes på en anden hovedskinne, så at fangarmen trykkes ned fra den neutrale stilling.
- 15 4. Anlæg ifølge krav 1, hvor hovedskinnen har en forvæg (34), og låse-vægtarmen rager forbi forvæggen, når hovedskinnen er anbragt på montagehylden, og låsestangen befinder sig i låsestilling.
- 20 5. Anlæg ifølge krav 1, hvor låse-vægtarmen er drejeligt forbundet med basisdelen og omfatter en tryk-træk-slids (144), og hvor låsestangen har en tap (116), som på glidende måde er optaget i den nævnte slids med henblik på at påvirke den lineære glidebevægelse af låsestangen, efter at låse-vægtarmen har udført en drejebevægelse.
- 25 6. Anlæg ifølge krav 1, hvor der findes et antal montagehylder.
7. Anlæg ifølge krav 5, hvor slidsen ved sine modsat beliggende ender fastlægger nogle hvilepositioner (144, 146) – og dette i forbindelse med de nævnte låse- og frigivelsesstillinger for låsestangen med henblik på udløseligt at
30 kunne tilbageholde nævnte tap.
8. Anlæg ifølge krav 7, hvor slidsen (144) har i hovedsagen L-form.

9. Anlæg ifølge krav 1, hvor den eftergivelige del (150) er en trykfeder.
10. Anlæg ifølge krav 1, hvor en manuel bevægelse af låse-vægtarmen fra nævnte låsestilling til nævnte frigivelsesstilling – når hovedskinnen er monteret
5 på og låst til hylden – automatisk vil udløse hovedskinnen fra dennes låste forbindelse til hylden.

DRAWINGS



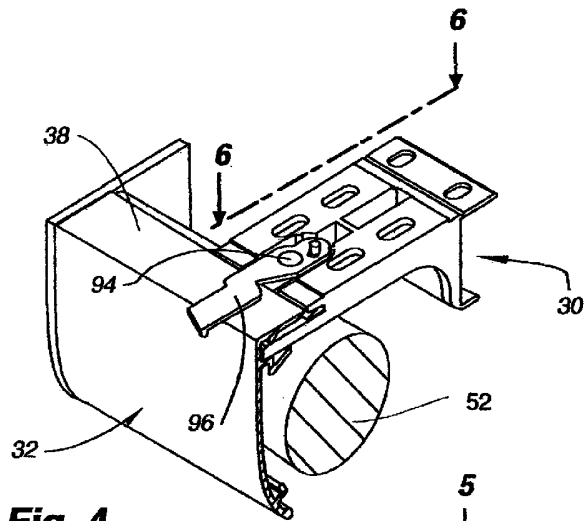


Fig. 4

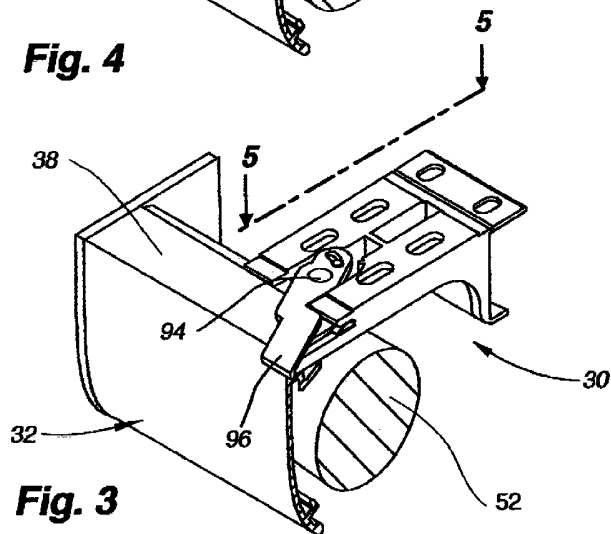


Fig. 3

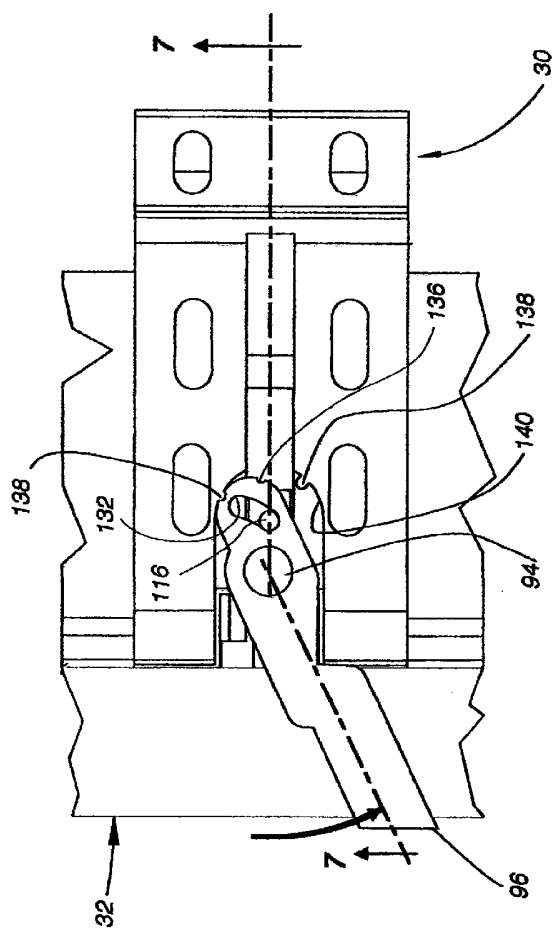


Fig. 5

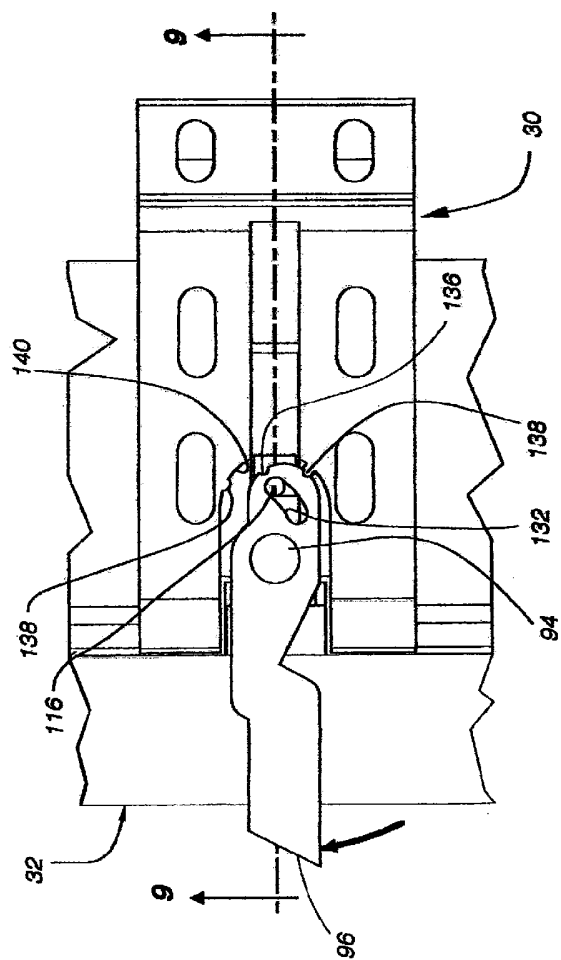


Fig. 6

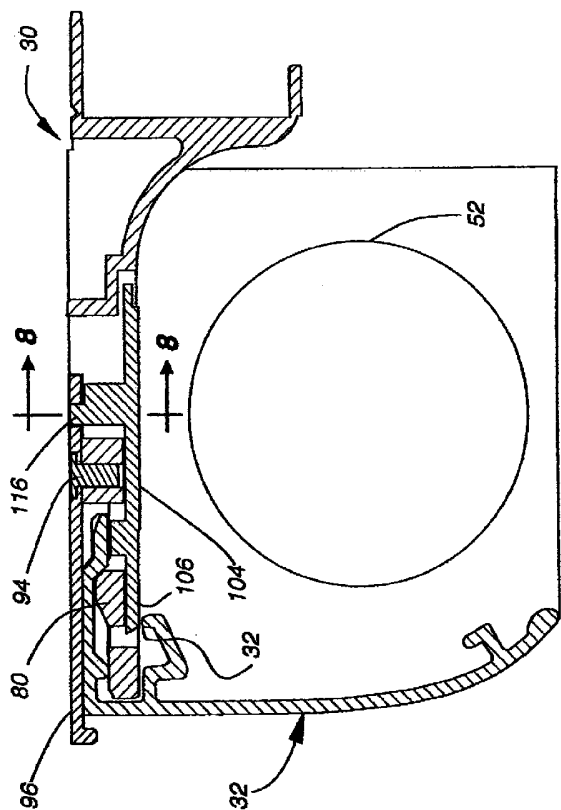


Fig. 7

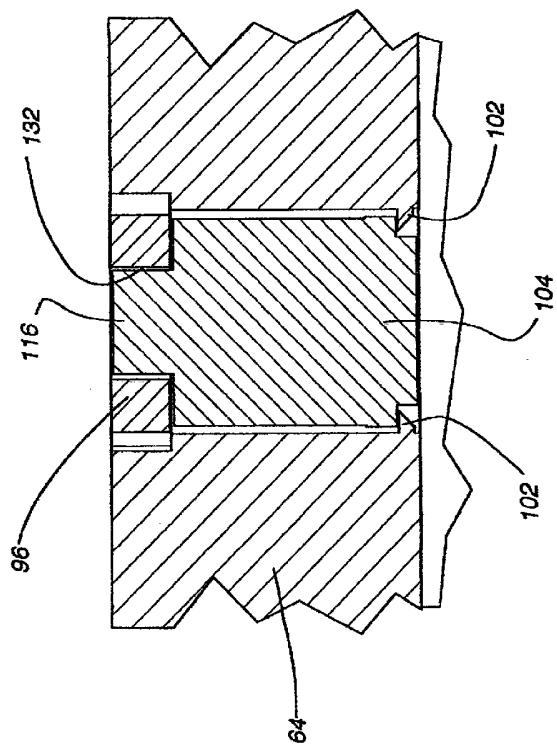


Fig. 8

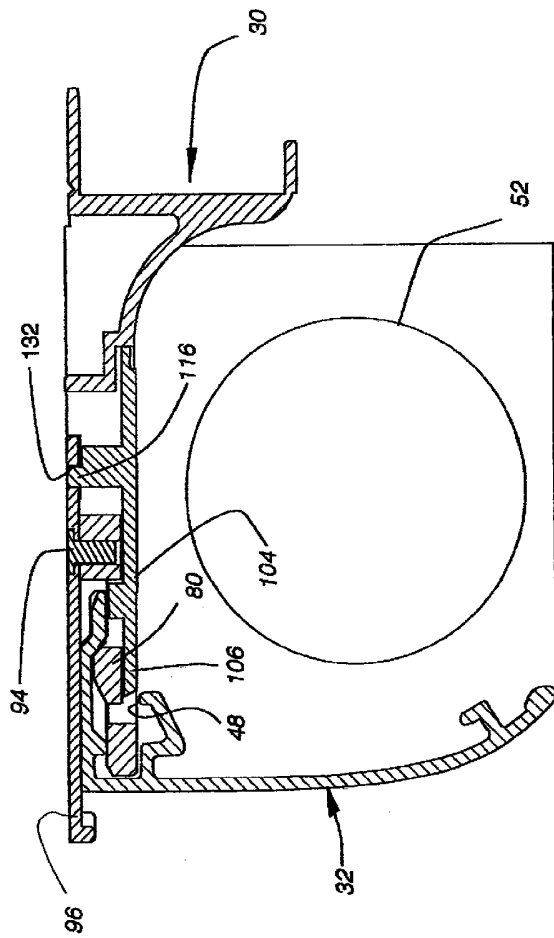


Fig. 9

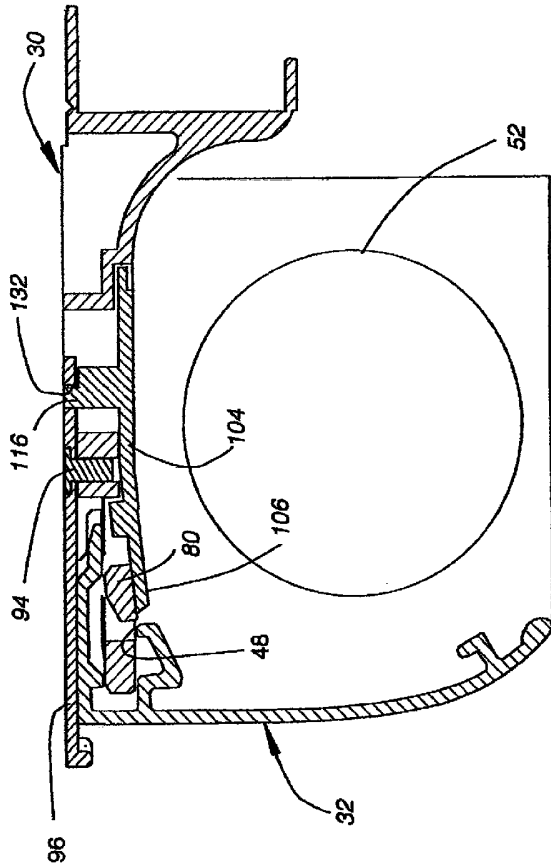
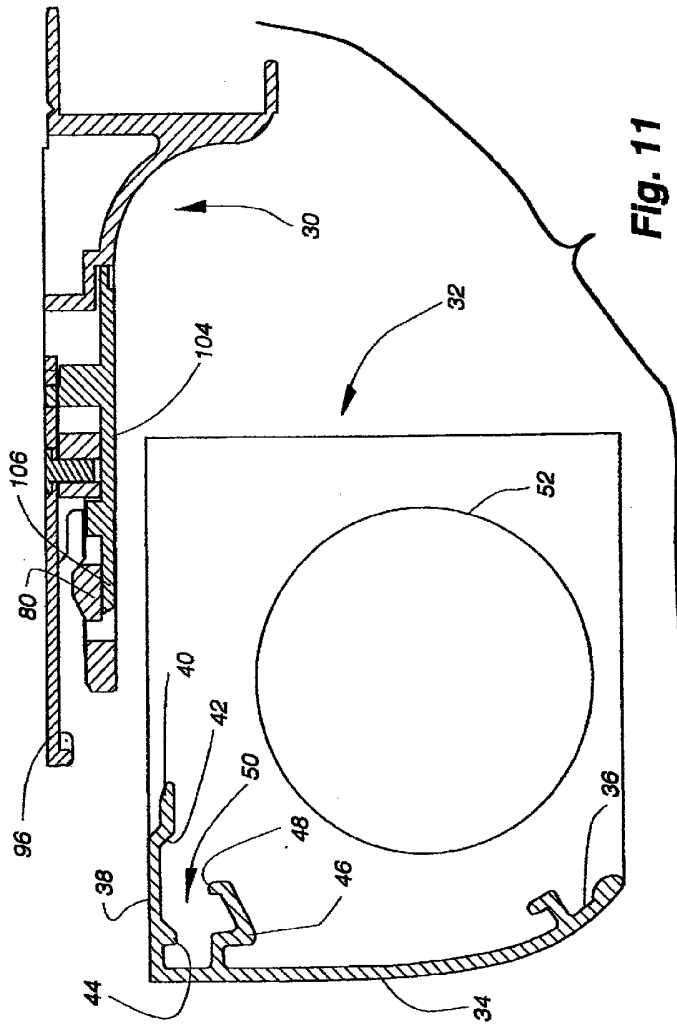
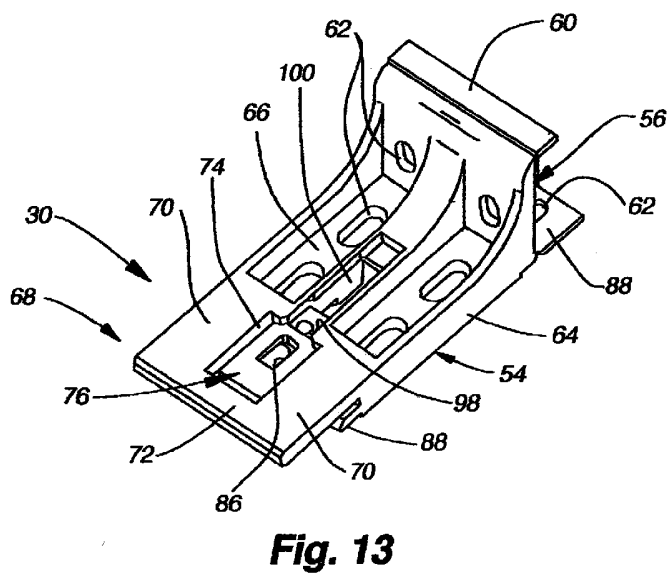
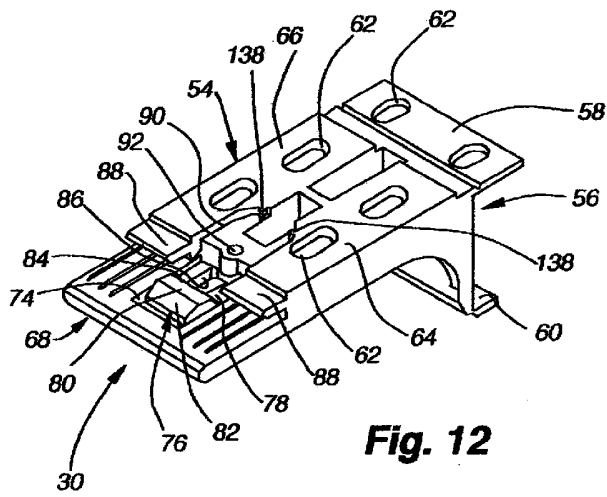
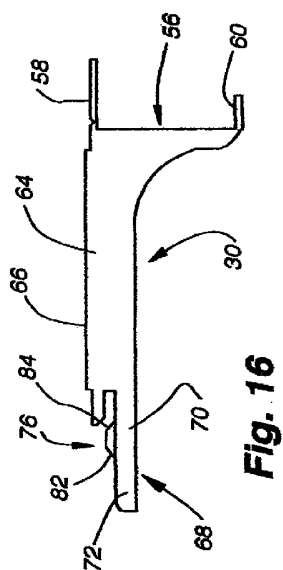
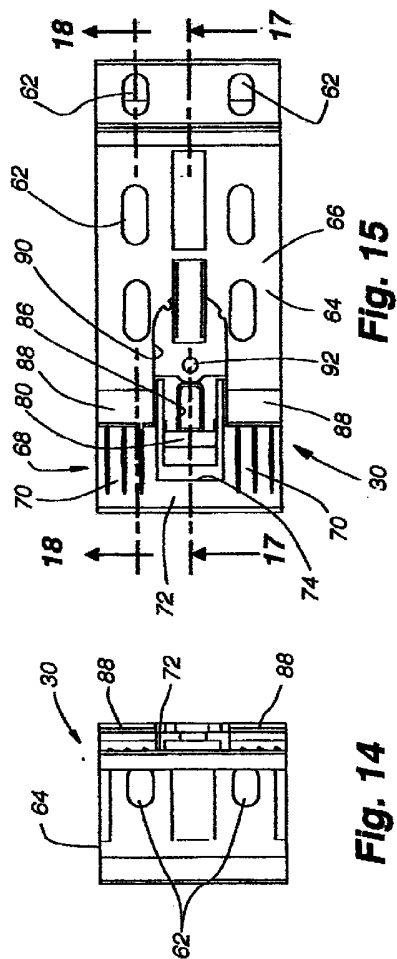


Fig. 10







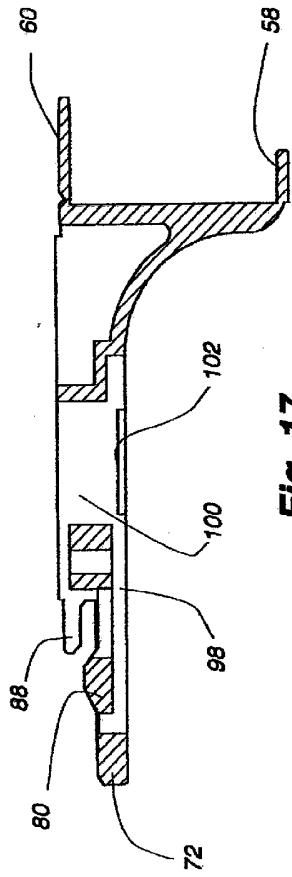


Fig. 17

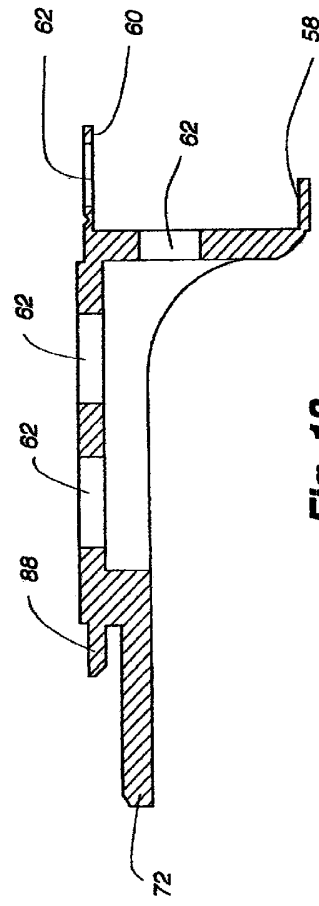
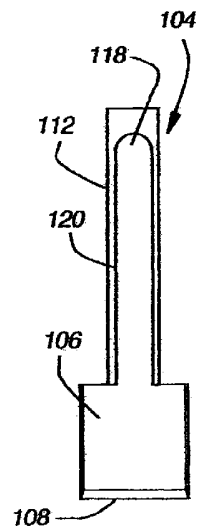
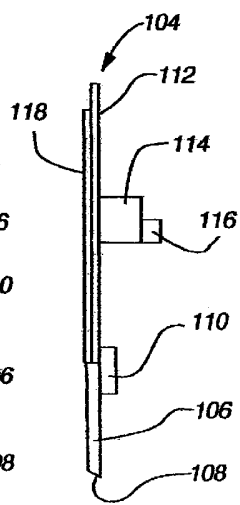
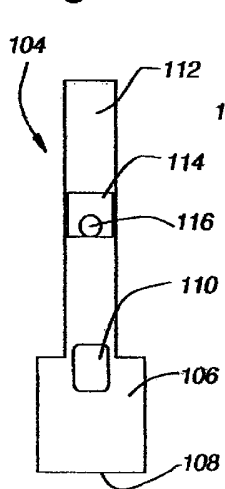
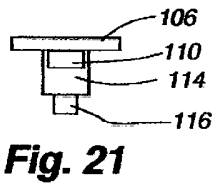
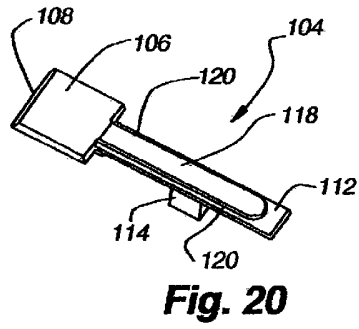
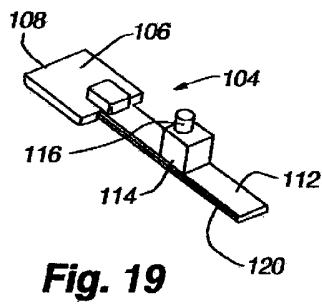
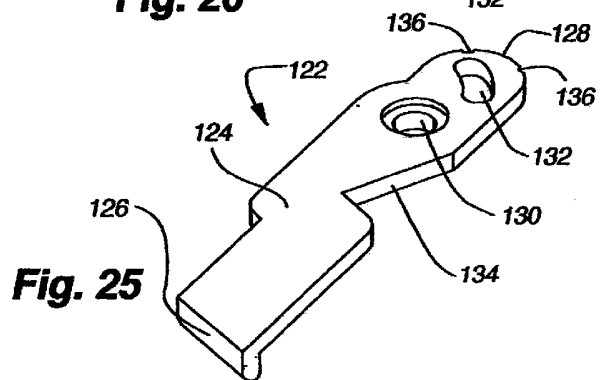
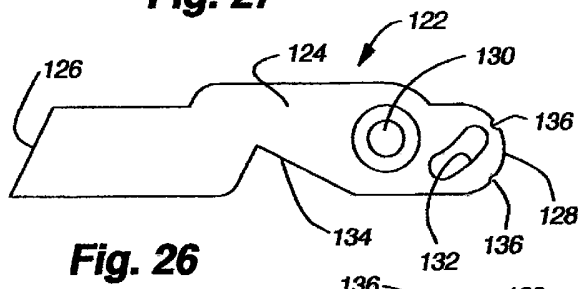
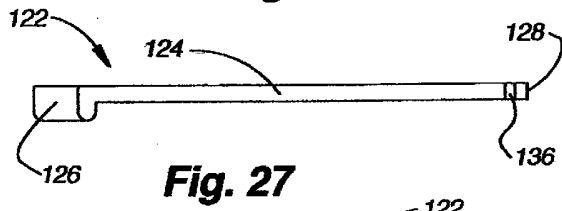
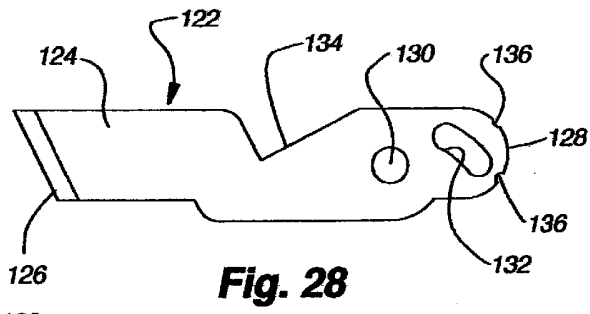
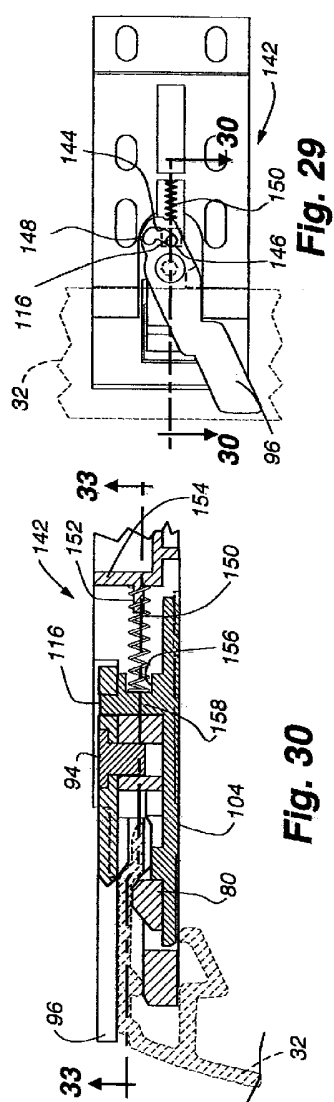
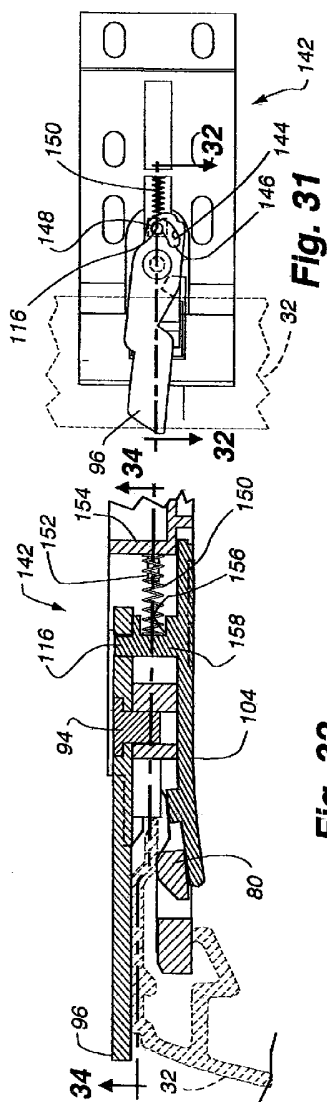


Fig. 18







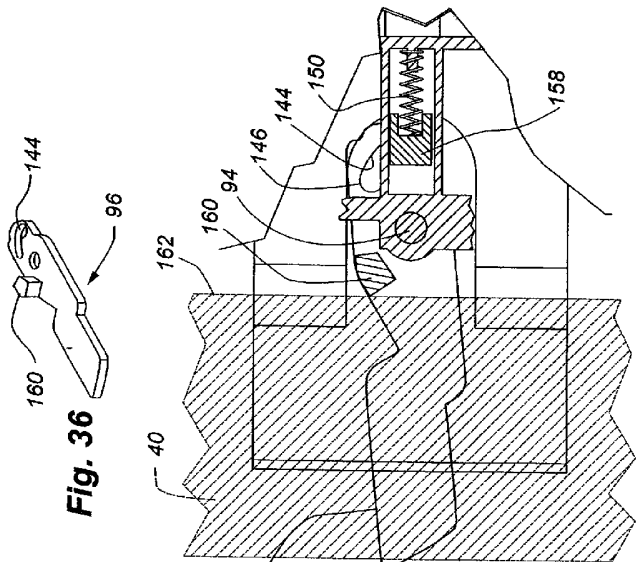


Fig. 33

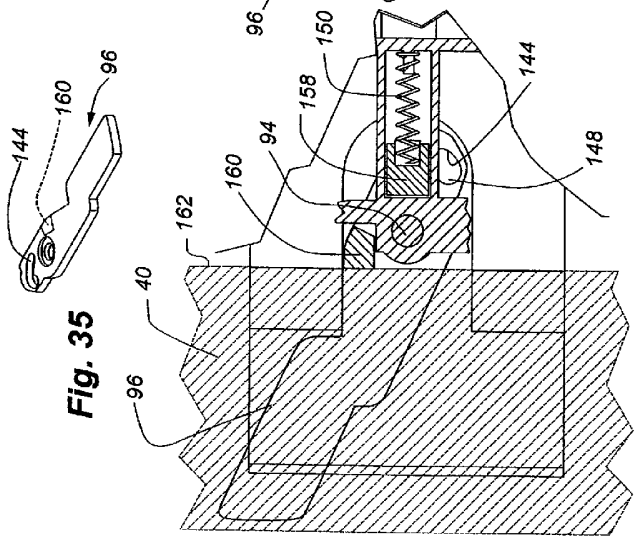


Fig. 34



Fig. 35

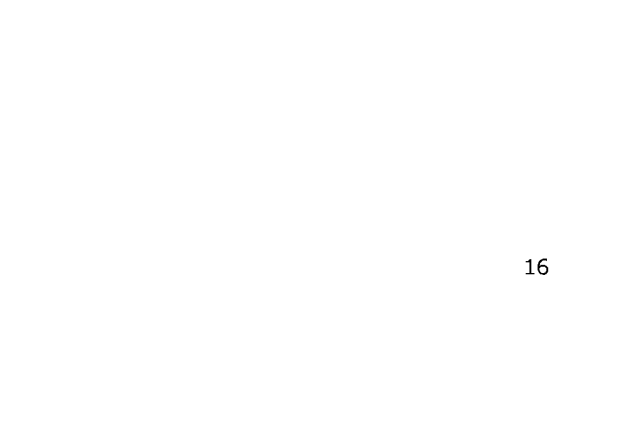


Fig. 36