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(54) **Merchandise display with time delay mechanism**

(57) A merchandise display system (1) for displaying items of merchandise on a support has vertically spaced first and second rods extending outwardly from the support. A time delay mechanism (21) is mounted on the upper rod (3) and includes a pair of pivotally mounted plates (23,25) which are selectively moveable into and out of blocking engagement with the lower rod (5) on which the items of merchandise are slidably supported. An item of merchandise is moveable past the forward-

most plate (25) from a space between the plates for removal from a free end of the lower rod while the rearward plate (23) prevents movement of another item of merchandise into the intervening space until the forward plate moves to the blocking position and the rear plate moves to an unblocking position. A magnetically actuated lock mechanism (59) locks the rear plate in an adjusted linear position with respect to the front plate to adjust the intervening space.

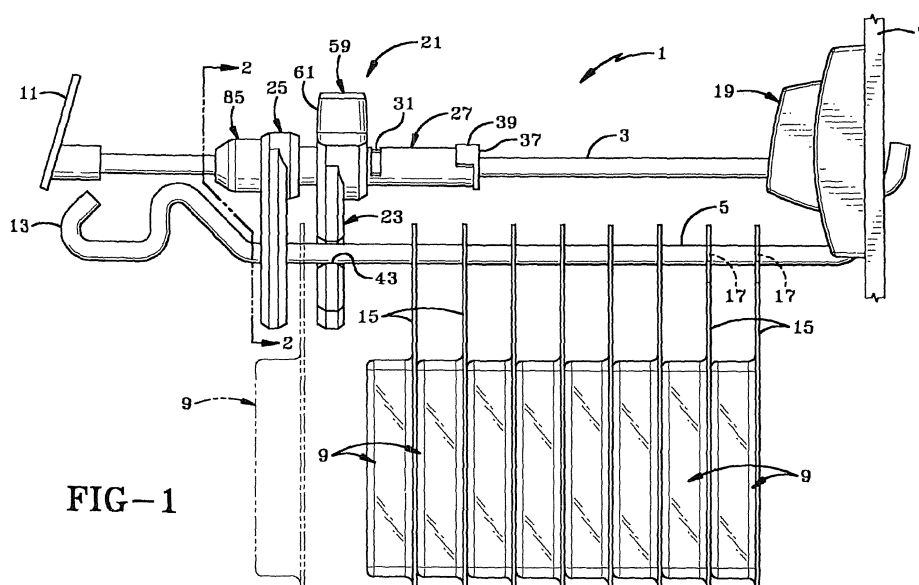


FIG-1

Description

BACKGROUND OF THE INVENTION

1. TECHNICAL FIELD

[0001] The invention relates to systems for displaying items of merchandise on rods extending outwardly from a support structure. More particularly, the invention relates to such a merchandise display system which includes a time delay mechanism mounted on the rods which requires a progression of manual operations by a customer to remove one of the items of merchandise from the rods to retard theft of the displayed merchandise.

2. BACKGROUND INFORMATION

[0002] Items of merchandise are commonly displayed for sale on long protruding rods supported from pegboard or slatboard. These protruding rods are commonly referred to in the art as pegboard hooks or slatboard hooks. Similar rods may also protrude from a wire display rack for the same purpose. Usually the items of merchandise are of a smaller range such as batteries or small tools or other components. Such merchandise is an easy target for shoplifters because they can rapidly remove all of the items from the display rod and remove the merchandise from the store without being detected. Alternately, the entire display rods with the merchandise supported thereon can be removed from the support structure if the rods are not locked thereon. Therefore, it is desirable in the art to provide display rods that prevent the rapid removal of the items of merchandise from the display rods and prevent the removal of the display rods from the support structure. It is also desirable that the display rods prevent the rapid removal of a plurality of the stored items from the rod, yet enable the customer to remove one of the items conveniently from the display rod for purchase at a checkout station.

[0003] Thus, a needs exists for a display system which prevents the sweeping of the stored items from the display rod, yet which enables the customer to easily remove the items of merchandise one at a time from the display rod for subsequent purchase and which prevents the complete removal of the rods from the supporting structure.

BRIEF SUMMARY OF THE INVENTION

[0004] One aspect of the present invention is to provide a display system having a pair of display rods which are lockable to a support structure preventing removal of the display rods and supported merchandise from the support structure.

[0005] Another aspect of the present invention is to provide a time delay mechanism which is mounted on one of the rods which prevents rapid removal of the stored items of merchandise, yet enables the items of merchandise to be removed one at a time from the support rod by a customer for subsequent purchase.

dise to be removed one at a time from the support rod by a customer for subsequent purchase.

[0006] Another feature of the present invention is to provide the time delay mechanism with a spaced pair of pivotally mounted plates, wherein the space between the plate is adapted to receive one or more of the items of merchandise, and which requires a progressive manipulation of the plates for removal of one of the items of merchandise from within the space and from the support rod.

[0007] Another feature of the present invention is to provide the time delay mechanism with a lock device which sets a predetermined spacing between the pair of plates for receiving one or more of the items of merchandise, which item then can then be removed from within the space by manipulation of the forwardmost plate.

[0008] Another aspect of the present invention is to provide the time delay mechanism with a lock mechanism which enables the rearmost plate to be moved to a retracted unblocking position for loading the lowermost rod with the items of merchandise for subsequent dispensing therefrom.

[0009] Still another aspect of the present invention is to enable the lock mechanism to temporarily disengage the rearmost plate from a supporting shaft for repositioning along the rod to adjust the spacing between the plates.

[0010] Another feature of the present invention is to key the pair of plates to each other through a shaft which is telescopically rotatably mounted on one of the rods on which the plates are pivotally mounted to allow 90° of rotation of the plates relative to each other, and wherein both plates cannot be moved to the unblocking positions at the same time unless the lock mechanism is actuated.

[0011] These features and objectives are obtained by the merchandise display system of the present invention, the general nature of which may be stated as including spaced first and second rods adapted to extend outwardly from the support for carrying the items of merchandise; a time delay mechanism requiring a progression of manual operations to enable an item of merchandise to progress forward towards a free end of the first rod for subsequent removal of the item from said first rod; said time delay mechanism including first and second blocking devices moveably mounted on the second rod and operatively engageable with the first rod to block movement of the items of merchandise toward the free end of the first rod and providing a space between said blocking devices along the first rod; said first blocking device being moveable out of blocking engagement with the first rod enabling at least one item of merchandise to move forward on the first rod toward the free end and into the space between said blocking devices with the second blocking device remaining in blocking engagement with the first rod until the first blocking device is returned to blocking engagement after which said second blocking device is moveable to an unblocking position enabling the item of merchandise to move toward the free end of

the first rod.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0012] A preferred embodiment of the invention, illustrated of the best mode in which Applicant contemplates applying the principles, is set forth in the following description and is shown in the drawings and is particularly and distinctly pointed out and set forth in the appended claims.

Fig. 1 is a side elevational view of the merchandise display system of the present invention supporting a plurality of items of merchandise on a support surface.

Fig. 2 is an enlarged fragmentary front sectional view taken on line 2-2, Fig. 1.

Fig. 2A is a fragmentary front plan view of the upper portion of the front blocking plate.

Fig. 2B is a fragmentary front plan view of the upper portion of the rear blocking plates.

Fig. 3 is an enlarged fragmentary top plan view of the time delay mechanism of the merchandise display system as shown in Fig. 1.

Fig. 4 is an enlarged fragmentary sectional view taken on line 4-4, Fig. 3, showing both of the plates of the time delay mechanism in blocking position.

Fig. 5 is an enlarged top plan view of the support shaft of the time delay mechanism.

Fig. 6 is a side elevational view of the support shaft as shown in Fig. 5.

Fig. 7 is a left side elevational view looking in the directions of Arrows 7-7, Fig. 6.

Fig. 8 is right side elevational view looking in the direction of Arrows 8-8, Fig. 6.

Fig. 9 is an enlarged rear sectional view taken on line 9-9, Fig. 3, with both plates being in the blocking position.

Fig. 10 is a view similar to Fig. 9 with the rear plate being moved into the unblocking position.

Fig. 11 is a view similar to Fig. 9 with the front plate being moved into the unblocking position and the rear plate in the blocking position.

Fig. 12 is a view similar to Fig. 11 showing a magnetic key moving the locking mechanism to the unlocked position.

Fig. 13 is an enlarged fragmentary sectional view showing the rear plate of the time delay mechanism moved from its locked operative position of Fig. 4 to a rearmost unlocked position.

Fig. 14 is a fragmentary view, portions of which are in section, showing both of the plates in the unblocking position when the lock mechanism is unlocked as shown in Fig. 13 for loading items of merchandise onto the lower rod.

Fig. 15 is a side elevational view similar to Fig. 1 showing the blocking plates in their retracted inop-

erable positions as shown in Figs. 13 and 14.

Fig. 16 is an enlarged fragmentary sectional view taken on line 16-16, Fig. 15.

[0013] Similar numbers refer to similar parts throughout the drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0014] The merchandise display system of the present invention is indicated generally at 1, and is shown in Fig. 1. The system includes upper and lower vertically spaced rods 3 and 5 which extend in a cantilever arrangement outwardly from a support structure 7 for slidably suspending a plurality of items of merchandise 9 from lower rod 5. Rods 3 and 5 preferably are formed of metal and have a circular cross-sectional configuration with a product display placard 11 being fixedly mounted on the distal end of upper rod 3. The free distal end 13 of lower rod 5 has a plurality of bends and angles providing a circuitous path that merchandise 9 must transverse when being removed from distal end 13. Preferably the items of merchandise will be contained in a blister pack or the like on a card 15 which has a hole 17 formed therein through which rod 5 extends for slidably supporting merchandise 9 thereon.

[0015] Rods 3 and 5 preferably are secured to support 7 by a lock mechanism 19 which securely locks the rods to support 7 preventing a thief from removing the rods and stored merchandise from the support. Lock 19 may have various configurations such as shown and described in U.S. Patent Nos. 6,659,291, 7,007,810 and 7,131,542, the contents of which are incorporated herein by reference. However, other types of locking mechanisms well-known in the merchandise display art can be utilized for locking rods 3 and 5 on support 7.

[0016] In accordance with the invention, a time delay mechanism indicated generally at 21, is mounted on upper rod 3 and operatively engages lower rod 5. Mechanism 21 includes first and second blocking devices 23 and 25 respectively, which are operatively mounted on a carrier shaft 27. Blocking devices 23 and 25 are shown in the drawings and are described below as plates but can have other configurations without affecting the concept of the invention. Shaft 27 is telescopically slidably mounted on rod 3 which extends through a bore 29 formed therethrough (Figs. 5-8). Shaft 27 is an elongated hollow member which is formed with a plurality of arcuate grooves 31, each of which extends throughout an arcuate length slightly greater than 90°. Shaft 27 has a front end 33 provided with a pair of notches 35 and an end cap 37 having an arcuate projection 39 extending a short distance along shaft 27. A rib 41 extends linearly or longitudinally along the outer surface of shaft 27 from adjacent front end 33 to a distance slightly beyond the rearmost slot 31A. The function of these various features of shaft 27 are discussed further below with respect to plates 23 and 25 and their manner of operation.

[0017] Each of the plates 23 and 25 may have a generally triangular configuration, and preferably are formed of a plastic material. However, other configurations and types of materials can be used for the plates without affecting the concept of the invention. Each of the plates is provided with a U-shaped recess 43 formed in a vertical edge 44 thereof, which recesses align with each other and trap lower rod 5 therein when both of the plates are in a blocking position such as shown in Figs. 2, 4 and 9. Each of the plates have a magnetic 45 mounted adjacent U-shaped recess 43, so that when the plates are in the blocking position closely adjacent lower rod 5, the metal rods are attracted toward the magnets to assist the plates to remain in their blocking positions. Front plate 25 (Figs. 2 and 2A) is formed with a circular opening 47 adjacent the apex 49 of the plate and has a small recess 51 formed therein into which shaft rib 41 is slidably received when plate 25 is telescopically mounted thereon which ensures that plate 25 is fixed to shaft 27 for rotation directly with the shaft. A pair of projections 52 and 54 are formed adjacent opening 47 which engage notches 35 formed in end 33 of shaft 27 to secure plate 25 on shaft 27. Rear plate 23 also is formed with a circular opening 55 adjacent the apex thereof for telescopically slidably receiving shaft 27 therein. An arcuate-shaped notch 57 communicates with circular opening 55 and also receives shaft rib 41 therein to provide limited rotational movement of shaft 27 with respect to rear plate 23. A circular depression 53 may be formed in the lower outer corners of each of the plates to provide a convenient area for the customer to grasp for pivoting the plates between blocking and unblocking positions as described further below.

[0018] A lock mechanism 59 is formed integrally with rear plate 23 and extends upwardly therefrom and includes a generally rectangular-shaped housing 61 which preferably has a D-shaped key-receiving recess 63 formed in the top thereof. A shuttle 65 is slidably mounted within the hollow interior of housing 61 and has a generally inverted trident-shaped configuration with two end legs 67 and a central leg 69. A coil spring 71 is mounted about central leg 69 and within the space between the two end legs for biasing shuttle 65 towards a locking position within one of the arcuate grooves 31 of shaft 27 as shown in Fig. 4. A lock plunger 73 which forms the shaft of the trident-shaped shuttle passes through an aligned opening 75 formed at the bottom of housing 61 and into a selected one of the arcuate grooves 31. Shuttle 65 is formed of a magnetic attractable material such as metal, so that when a magnet 77 is inserted into recess 63 (Fig. 12) it will attract shuttle 65 moving it toward disengagement from shaft groove 31 in the direction of Arrow A. This enables rear plate 23 including the integrally formed lock mechanism 59, to be moved linearly or longitudinally along shaft 27, as shown by Arrow B in Fig. 4, enabling the spacing S, which forms a time delay area, which is the distance between plates 23 and 25, to be adjusted in order to accommodate different sizes of cards 15 or other packages or items of merchandise suspended from

lower rod 5, or to enable more than one of the items of merchandise to be trapped within time delay space S. Also, as shown in Fig. 1, rear plate 23 forms a rear storage area for the items of merchandise with support structure 7. Also, as shown in Fig. 13, after lock plunger 73 has been removed from the selected groove 31, plate 23 can be moved further rearwardly along shaft 27 as shown by Arrow C, until lock plunger 73 rides along the outer surface of shaft 27. This enables rear plate 23 to be freely rotatably mounted on the shaft. Also, as shown in Fig. 13, further rearward movement of plate 23 when rotated to an unblocking position as shown in Fig. 14, will enable shaft end cap 39 to move into an arcuate-shaped opening 81 formed in lock housing 61. This enables plate 23 to be maintained in an unblocking position as shown in Figs. 14 and 15 for loading a plurality of the items of merchandise onto lower rod 5 as shown in Fig. 15, without requiring any further manipulation of plates 23 and 25.

[0019] Magnet 77 preferably is a dipole magnet having a unique magnetic pole arrangement with a D-shaped configuration. This makes it more difficult for a thief to use a standard bar magnet for actuating the lock mechanism. Magnet 77 may be reciprocally mounted in a housing 79 and preferably is of a type shown and described in copending patent application Serial No. 60/879,852, filed January 11, 2007, the contents of which are incorporated herein by reference.

[0020] As shown particularly in Figs. 1, 3 and 4, a stop 85, preferably formed of a plastic-type material and having a central bore 87, is slidably telescopically mounted on upper rod 3. A one-way projection 89 formed within bore 87 is received within a notch 91 formed in rod 3 for positioning stop 85 adjacent the free end of rod 3. This positions time delay mechanism 21 adjacent the ends of rods 3 and 5 and prevents its removal from the free ends of the rods. After plates 23 and 25 have been slidably inserted onto upper rod 3 and lock mechanism 59 actuated to position rear plate 21 on shaft 27 and set time delay spacing S at the desired distance, the time delay mechanism is moved forward into stopping engagement with stop 85. The time delay mechanism then becomes operational for retarding the sweeping movement of a plurality of the items of merchandise 9 or displayed products from lower rod 5 as discussed below.

[0021] Rear plate 23 is free to rotate through 90° on shaft 27 due to the engagement of lock plunger 73 within a selected groove 31 and engagement of rib 41 in notch 57, whereas front plate 25 is only rotatable directly with shaft 27 due to the engagement of shaft rib 41 in complementary-shaped notch 51 formed in plate 25. Although shaft 27 is freely rotatable on upper rod 3, it has limited movement due to the engagement of one or both of the plates 23 and 25 with lower rod 5. Plates 23 and 25 will assume their blocking position when at rest as shown in Figs. 2-4 and in Fig. 9, wherein lower rod 5 is received within aligned U-shaped recesses 43 with magnets 45 assisting in the plates maintaining this position. To move an item of merchandise into space S, rear plate

23 is rotated counterclockwise 90° as shown by Arrow D, Fig. 10, until shaft rib 41 engages the end of notch 57. Shaft 27 cannot rotate since it is secured to front plate 25 by rib 41 and notch 51, and plate 25 is prevented from rotation since it is engaged with lower rod 5. Merchandise 15A is then moved from the rear storage area into space S as shown in Fig. 1. After returning rear plate 23 to its blocking position as shown in Figs. 2 and 9, front plate 25 can be rotated 90° to the unblocking position of Fig. 11 where merchandise 15A can be removed easily by a customer from free end 13 of rod 5 for purchase at a checkout. Shaft 27 rotates 90° with front plate 25 in a clockwise position from its blocking position of Fig. 9 to its unblocking position of Fig. 11. Rib 41 moves freely in notch 57 of rear plate 23 and lock plunger 73 moves freely in arcuate groove 31 of shaft 27 enabling rear plate 23 to remain in its blocking position of Figs. 2 and 11 preventing any of the items of merchandise from being moved forwardly and off rod 5. The engagement of shaft rib 41 in the arcuate-shaped notch 57 of rear plate 23 will enable shaft 27 to rotate 90°, which will automatically rotate front plate 25 90° since it is coupled directly thereto by rib 41 being engaged with plate notch 51. This ensures that front plate 25 is in a blocking position when rear plate 23 is in the unblocking position enabling one or more of the items of merchandise to be moved from the rear storage area into space S, afterwhich rear plate 23 can be rotated 90° from the unblocking position of Fig. 10 to the blocking position of Fig. 9 without causing any movement of shaft 27 and correspondingly of front plate 25 since rib 41 of shaft 27 moves freely within arcuate-shaped notch 57 of rear plate 23. Thus, rear plate 23 is free to rotate 90° from its unblocking to the blocking position without causing rotation of shaft 27 while front plate 25 when moving from the blocking position to the unblocking position must rotate shaft 27 through an approximately 90° rotation without moving rear plate 23 due to rib 41 moving through arcuate-shaped notch 57. Since lock plunger 73 is engaged in one of the selected grooves 31 of shaft 27, it restricts shaft 27 to only a rotation of approximately 90°. This ensures that so long as lock plunger 73 is engaged in a selected groove 31, plates 23 and 25 can only move in their restricted 90° motions and that one of the plates will always be in the blocking position.

[0022] As discussed above, movement of lock plunger 73 out of a selected arcuate groove 31, enables rear plate 23 to move rearwardly to a position as shown in Fig. 13 wherein lock plunger 73 is not engaged in any of the grooves 31. This enables rear plate 23 to be moved further along shaft 27 to a fixed unblocking position as shown in Figs. 14-16, in which position arcuate projection 39 of shaft end cap 37 enters into arcuate notch 57 to secure rear plate 23 on shaft 27, to enable lower rod 5 to be loaded by a clerk, or if desired, all of the products easily removed from the distal end of lower rod 5 by an authorized clerk.

[0023] In summary, time delay mechanism 21 once installed on upper rod 3 provides a time delay for remov-

ing products from lower rod 5 by requiring a progression of manual operations of the pair of plates to access one or more of the products trapped within intervening space S. The two plates progressively rotate to allow the item of merchandise to be moved forward and off of rod 5. Since the plates are keyed to each other through shaft 27 it only allows 90° of rotation relative to each other and prevents both plates from being moved out of blocking engagement so long as lock mechanism 59 is engaged in an arcuate groove 31. Furthermore, the spacing or time delay area between the plates is adjustable by use of magnetic key 79 to allow for various widths of products and number of products trapped within space S. The use of magnetic key 79 enables rear plate 23 to be linearly adjusted to a position where it is no longer keyed to shaft 27 as shown in Fig. 13, for further movement rearwardly to the position of Figs. 14-16, for easy loading of the products on rod 5 after both plates are rotated to the full unblocking position of Fig. 14.

[0024] Time delay mechanism 21 does not prevent a thief from removing products from lower rod 5, but prevents the sweeping of a plurality of the products from the rod. Thus it is impractical and undesirable for a thief to constantly manipulate the time delay mechanism to take more than one product from the rod. Also, the locking of rods 3 and 5 to support 7 by lock mechanism 19, prevents a thief from taking both display rods and supported merchandise from the support structure. Although the above movement and operation of time delay mechanism 21 is described in detail above, it requires only several seconds for actuation by a purchaser of the merchandise to remove one or more of the items from lower rod 5. Thus, security device 1 provides a simple yet effective device for retarding and discouraging shoplifting without unduly burdening a perspective purchaser for obtaining one or more of the items from the support rod.

[0025] In the foregoing description, certain terms have been used for brevity, clearness, and understanding. No unnecessary limitations are to be implied therefrom beyond the requirement of the prior art because such terms are used for descriptive purposes and are intended to be broadly construed.

[0026] Moreover, the description and illustration of the invention is an example and the invention is not limited to the exact details shown or described.

Claims

1. A system for displaying items of merchandise from a support comprising:

spaced first and second rods adapted to extend outwardly from the support for carrying the items of merchandise;

a time delay mechanism requiring a progression of manual operations to enable an item of merchandise to progress forward towards a free end

- of the first rod for subsequent removal of the item from said first rod;
 said time delay mechanism including first and second blocking devices moveably mounted on the second rod and operatively engageable with the first rod to block movement of the items of merchandise toward the free end of the first rod and providing a space between said blocking devices along the first rod; said first blocking device being moveable out of blocking engagement with the first rod enabling at least one item of merchandise to move forward on the first rod toward the free end and into the space between said blocking devices with the second blocking device remaining in blocking engagement with the first rod until the first blocking device is returned to blocking engagement after which said second blocking device is moveable to an unblocking position enabling the item of merchandise to move toward the free end of the first rod.
2. The system defined in claim 1 including a stop mounted on the second display rod to stop movement of the pair of blocking devices toward the free end of the first rod; in which the stop includes a bore for telescopically mounting the stop on the second rod; and in which the stop has a projection which is received within a notch formed in the second rod to position the stop on said second rod.
 3. The system defined in claim 1 wherein the first and second blocking devices are mounted on a shaft telescopically slidably rotatably mounted on the second rod; wherein the shaft is hollow for slidably receiving the second rod therethrough; and in which a plurality of arcuate grooves are formed in the shaft for adjustably positioning one of the blocking devices along the shaft to adjust the space between said blocking devices.
 4. The system defined in claim 3 wherein the second blocking device is fixed to the shaft for rotation therewith; and in which the first blocking device is rotatably mounted on the shaft for limited rotational movement thereon.
 5. The system defined in claim 3 including a lock mechanism operatively engageable between the first blocking device and the shaft securing the first blocking device in a linear fixed adjusted position in one of the grooves of the shaft.
 6. The system defined in claim 5 wherein the lock mechanism includes a spring biased plunger adapted to selectively engage one of the shaft grooves and a plunger carrier formed of a magnetically attractable material.
 7. The system defined in claim 3 wherein the shaft includes a retainer engageable with the first blocking device to secure said first blocking device in a second unblocking position with respect to the first rod; and wherein the retainer is an angular projection on the shaft which is slidably received in a recess formed in a portion of the first blocking device.
 8. The system defined in claim 3 wherein the shaft is formed with a linear rib; in which said rib is received in a notch formed in the second blocking device to fix said second blocking device on the shaft for rotation with the shaft; and in which the rib is received in an arcuate recess formed in the first blocking device providing for limited rotational movement of the first blocking device on the shaft for moving between the blocking and unblocking positions.
 9. The system defined in claim 1 wherein each of the first and second blocking device is a plate formed with a recess for receiving the first rod therein when said plate is in the blocking position; and in which a magnet is mounted on each of said plates adjacent said recess to assist in retaining the plates in the blocking positions.
 10. A time delay device for controlling the removal of an item of merchandise from a pair of display rods, said device requiring a progression of manual operations to enable the item of merchandise to progress forward towards a free end of a first rod of the pair of rods for subsequent removal of the item from said first rod;
 said time delay mechanism comprising front and back blocking devices adapted to be moveably mounted on a second rod of the pair of rods for operational engagement with the first rod to block movement of the item of merchandise toward the free end of the first rod and providing a space between said blocking devices along the first rod; said back blocking device being moveable out of blocking engagement with the first rod enabling at least one item of merchandise to move forward on the first rod toward the free end and into the space between said blocking devices with the front blocking device remaining in blocking engagement with the first rod until the back blocking device is returned to blocking engagement after which said front blocking device is moveable to an unblocking position enabling the item of merchandise to move toward the free end of the first rod.
 11. The time delay device defined in claim 10 wherein the front and back blocking devices are mounted on a shaft adapted to be telescopically slidably rotatably mounted on the second rod; wherein the shaft is hollow for slidably receiving the second rod therethrough; and in which a plurality of arcuate grooves

are formed in the shaft for adjustably linearly positioning the back blocking device along the shaft to adjust the space between said blocking device.

- 12.** The time delay device defined in claim 11 wherein the front blocking device is fixed to the shaft for rotation therewith; in which the back blocking device is rotatably mounted on the shaft for limited rotational movement thereon; in which the shaft is formed with a linear rib; in which said rib is received in a notch formed in the front blocking device to fix said front blocking device on the shaft for rotation with the shaft; and in which the rib is received in an arcuate recess formed in the back blocking device providing for limited rotational movement of the back blocking device on the shaft for moving between the blocking and unblocking positions.

- 13.** A method for controlling the removal of an item of merchandise from a display rod comprising the steps of:

mounting a pair of blocking devices on a first rod spaced from and operatively engageable with the display rod and moveable between blocking and unblocking positions with said display rod; blocking movement of the item of merchandise from a free end of the display rod by the pair of blocking devices when said blocking devices are in the blocking position;

moving a first of said pair of blocking devices from the blocking position to the unblocking position;

moving the item of merchandise toward the free end of the display rod past the first blocking device to a space formed between the pair of blocking devices;

returning the first blocking device to the blocking position to capture the item of merchandise in the space between the pair of blocking devices;

moving a second of said blocking devices to an unblocking position;

moving the item of merchandise forwardly from the space toward the free end of the display rod past the second blocking device for subsequent removal therefrom; and

returning the second blocking device back to the blocking position enabling the first blocking device to be moved to the unblocking position enabling another item of merchandise to move into the space between said blocking devices.

- 14.** The method defined in claim 13 including the steps of mounting the pair of blocking devices on a shaft telescopically rotatably mounted on the first rod; fixing the second blocking device on the shaft for rotation with said shaft; moveably mounting the first blocking device on the shaft for limited rotational

movement of said first blocking device on the shaft; and locking the first blocking device on the shaft to adjust the space between the pair of blocking devices.

- 15.** A system for displaying and protecting items of merchandise comprising:

a support rod having a free outer front end and adapted to extend outwardly from a support for carrying the items of merchandise;

first and second interconnected blocking devices mounted on the rod and forming a time delay area therebetween, each of said blocking devices being moveable between blocking and unblocking positions but prevented from being in the unblocking positions at the same time;

said first blocking device providing a rear storage area for items of merchandise and when in the unblocking position enables an item of merchandise to move forward from the storage area toward the free end of the rod and into the time delay area with said second blocking device preventing removal of said item of merchandise from the time delay area; and

said second blocking device when in the unblocking position and the first block device in the blocking position enabling the item of merchandise to be removed from the time delay area and off the free end of the rod with the first blocking device preventing forward movement of another item of merchandise from the storage area and into the time delay area until the second blocking device returns to the blocking position and the first blocking device returns to the unblocking position.

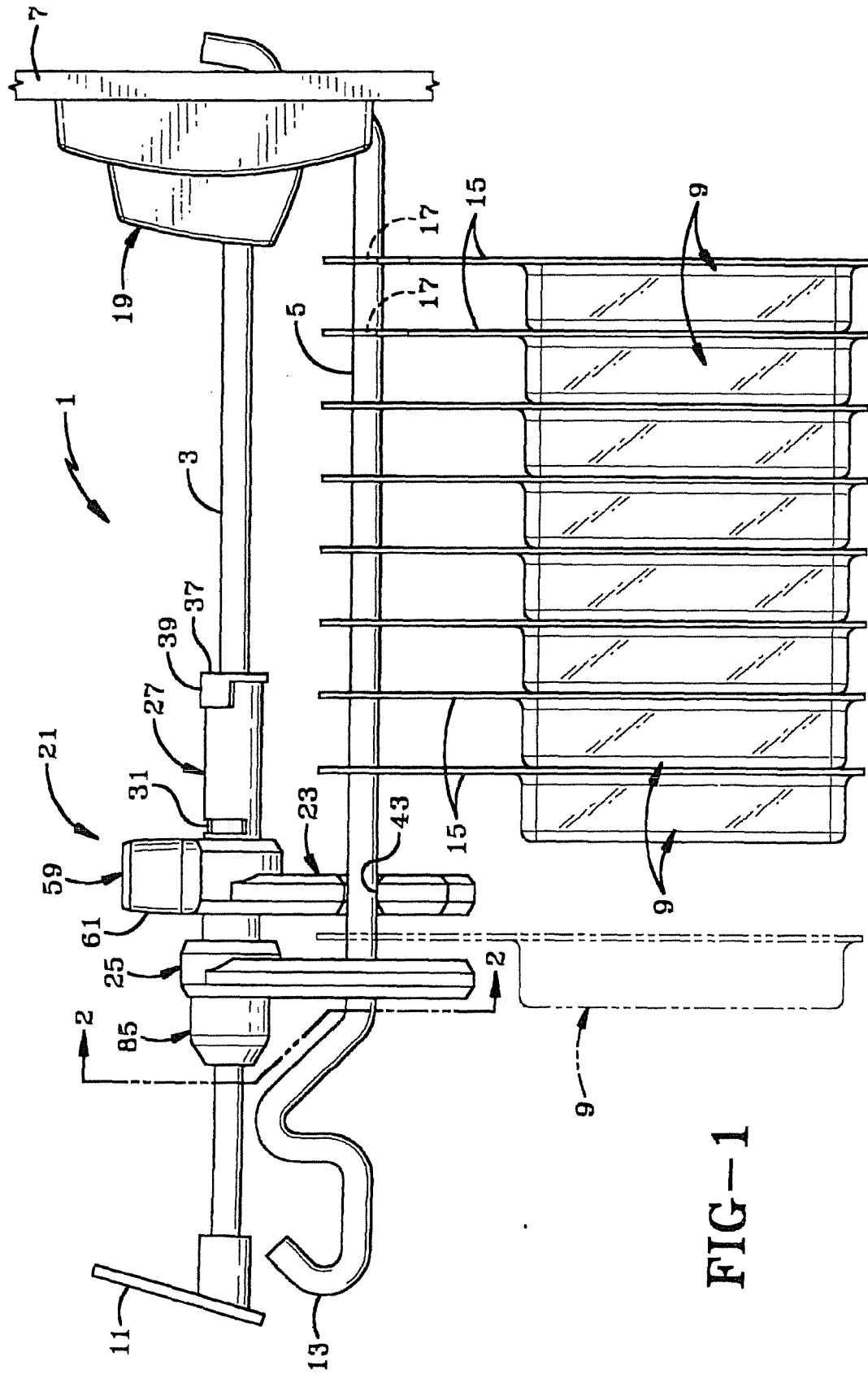


FIG-2

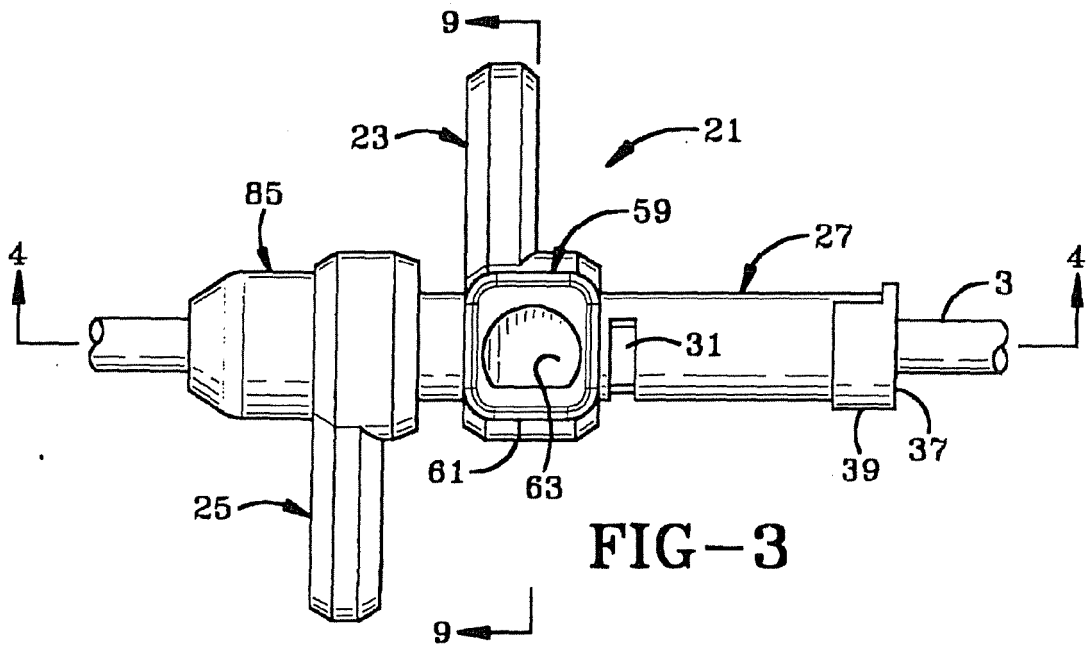
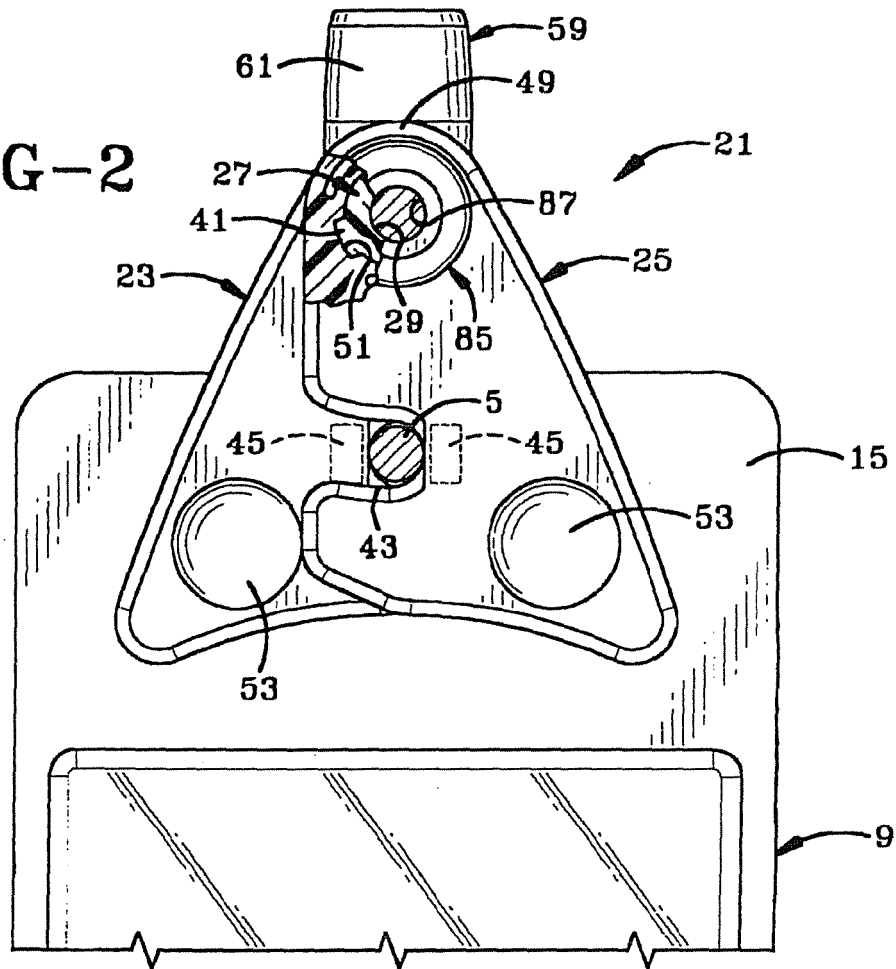
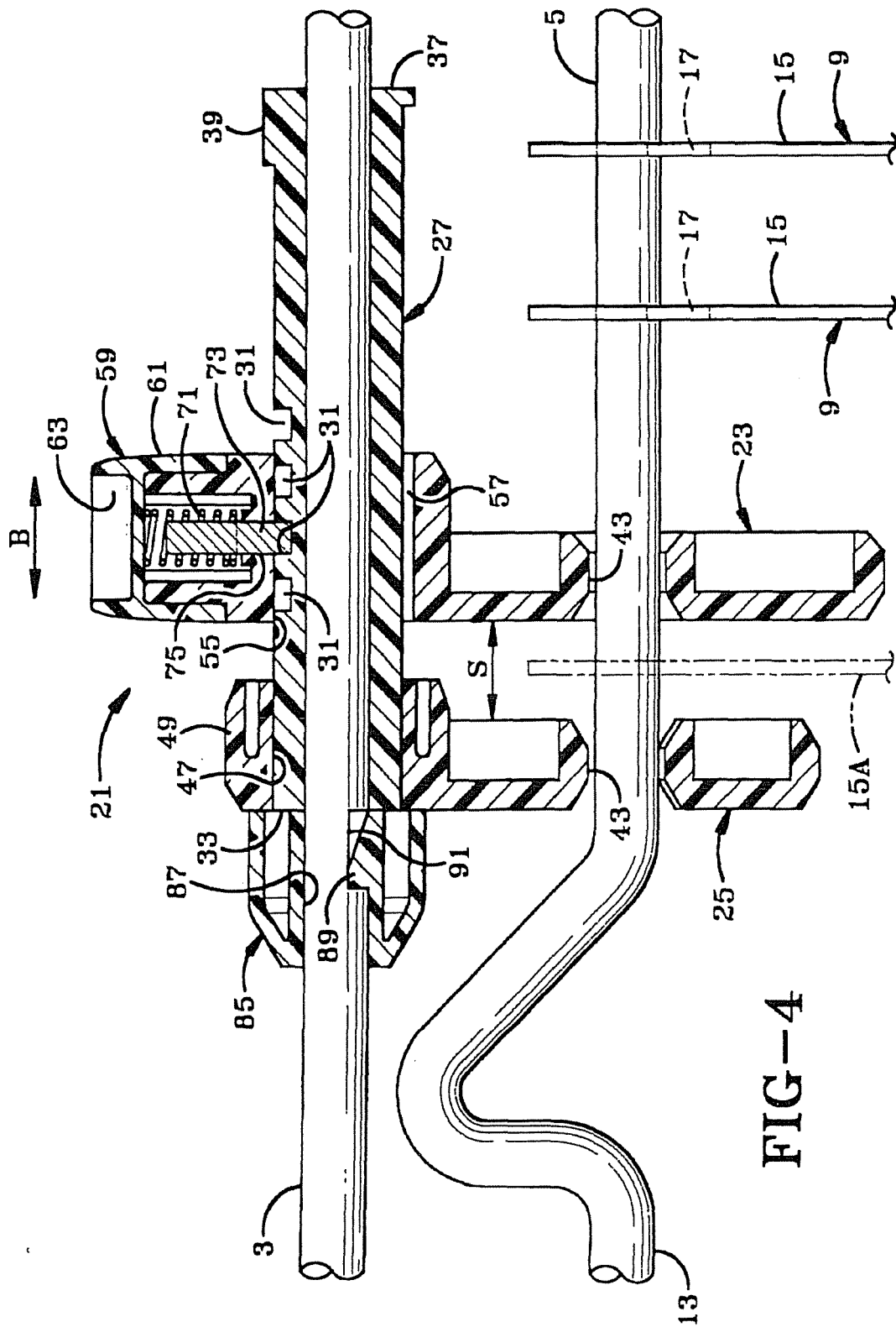


FIG-3



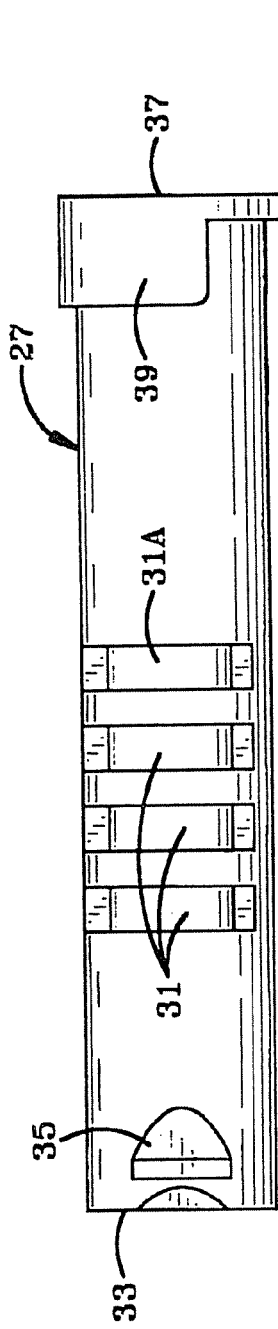


FIG-5

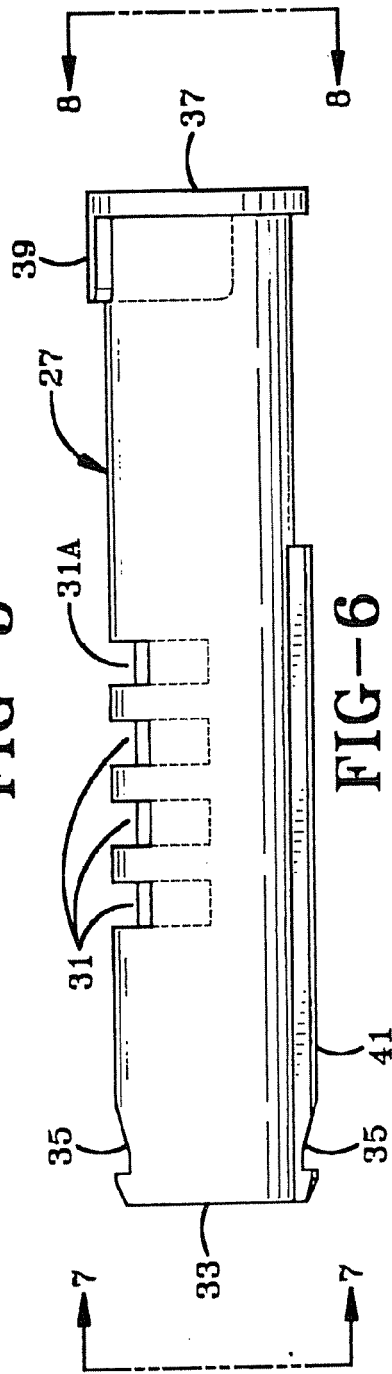


FIG-6

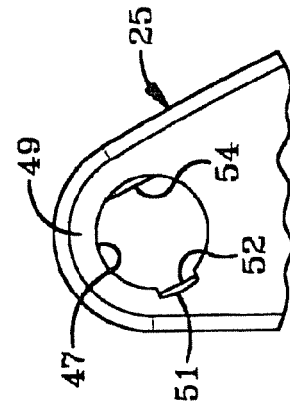


FIG-2A

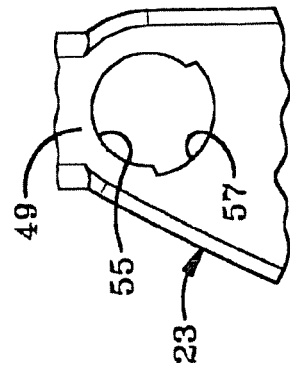


FIG-2B

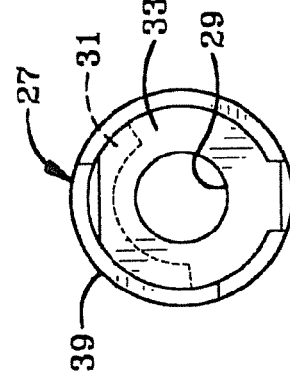


FIG-7

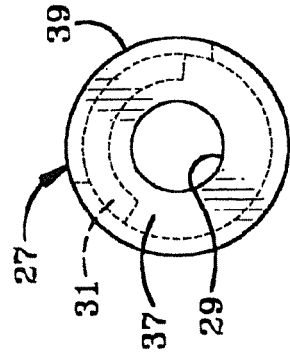


FIG-8

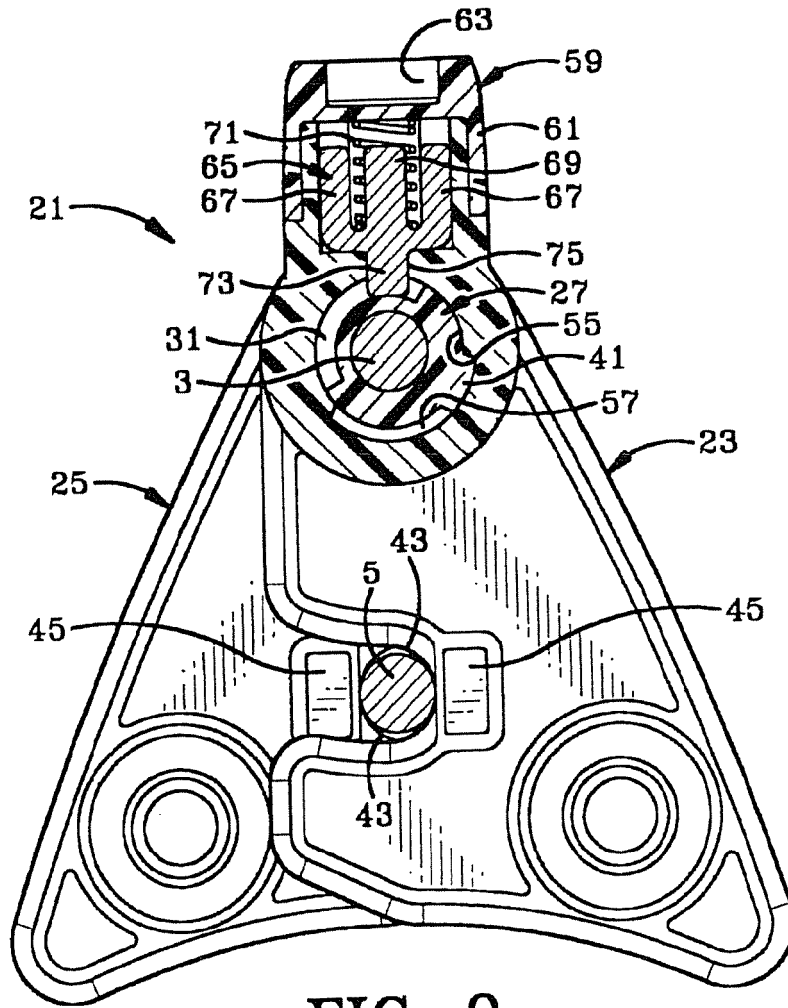


FIG-9

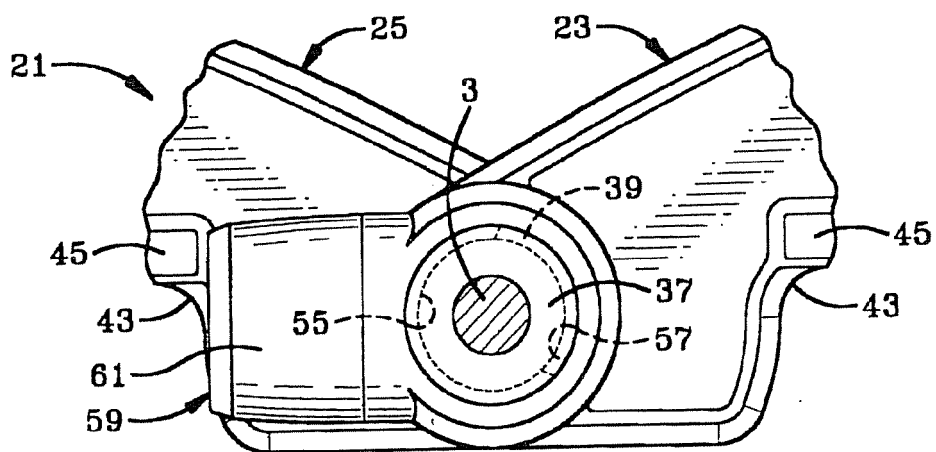
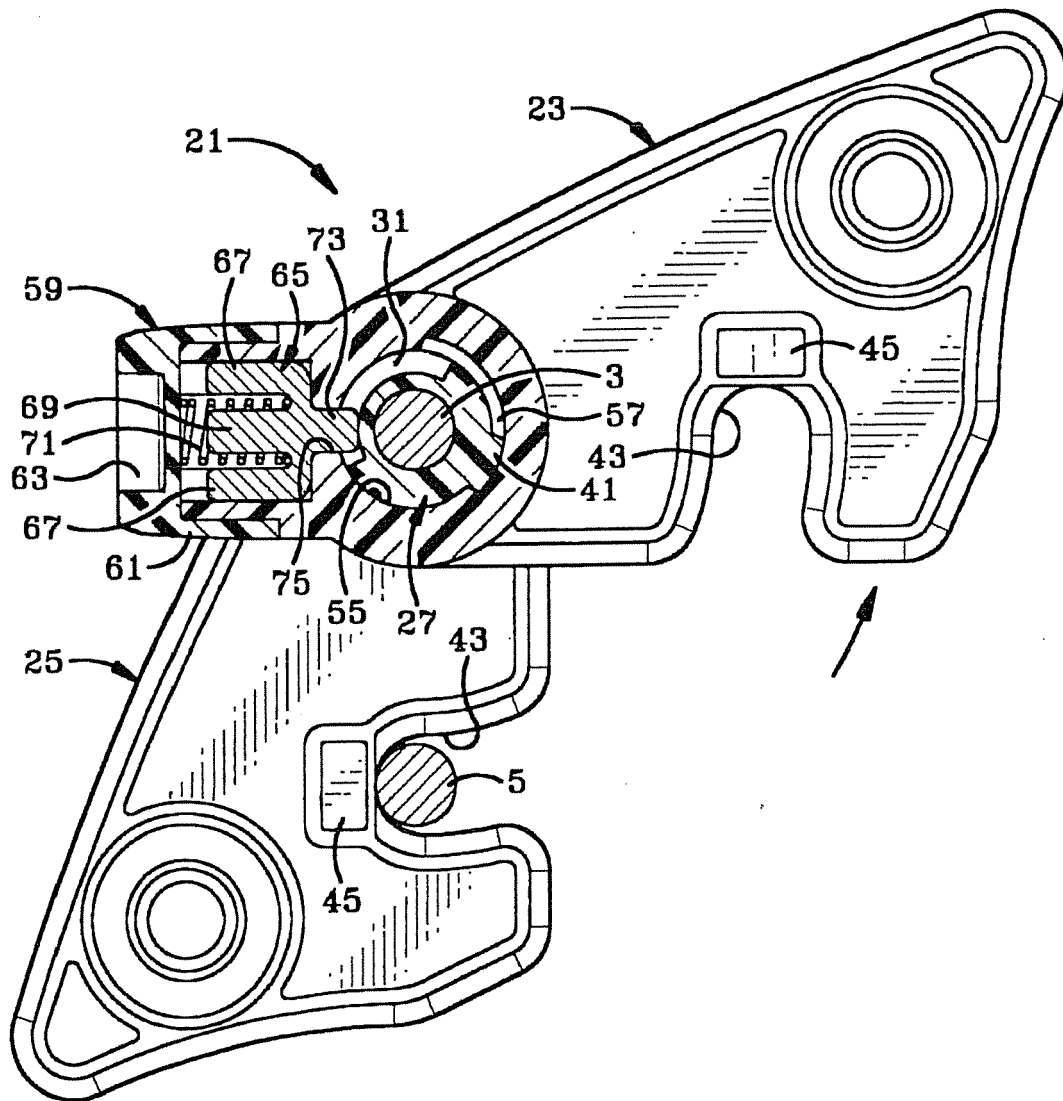


FIG-16



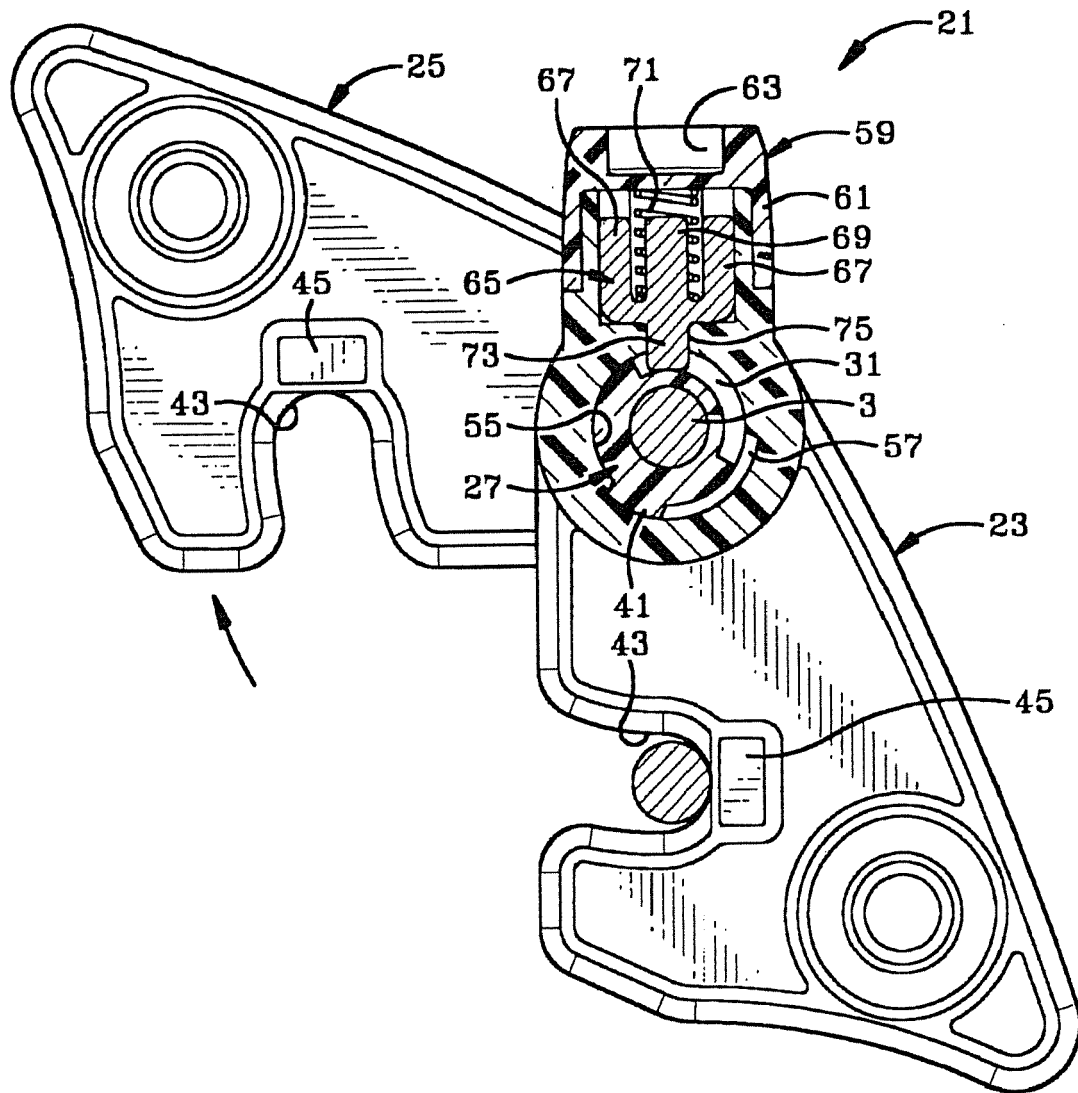
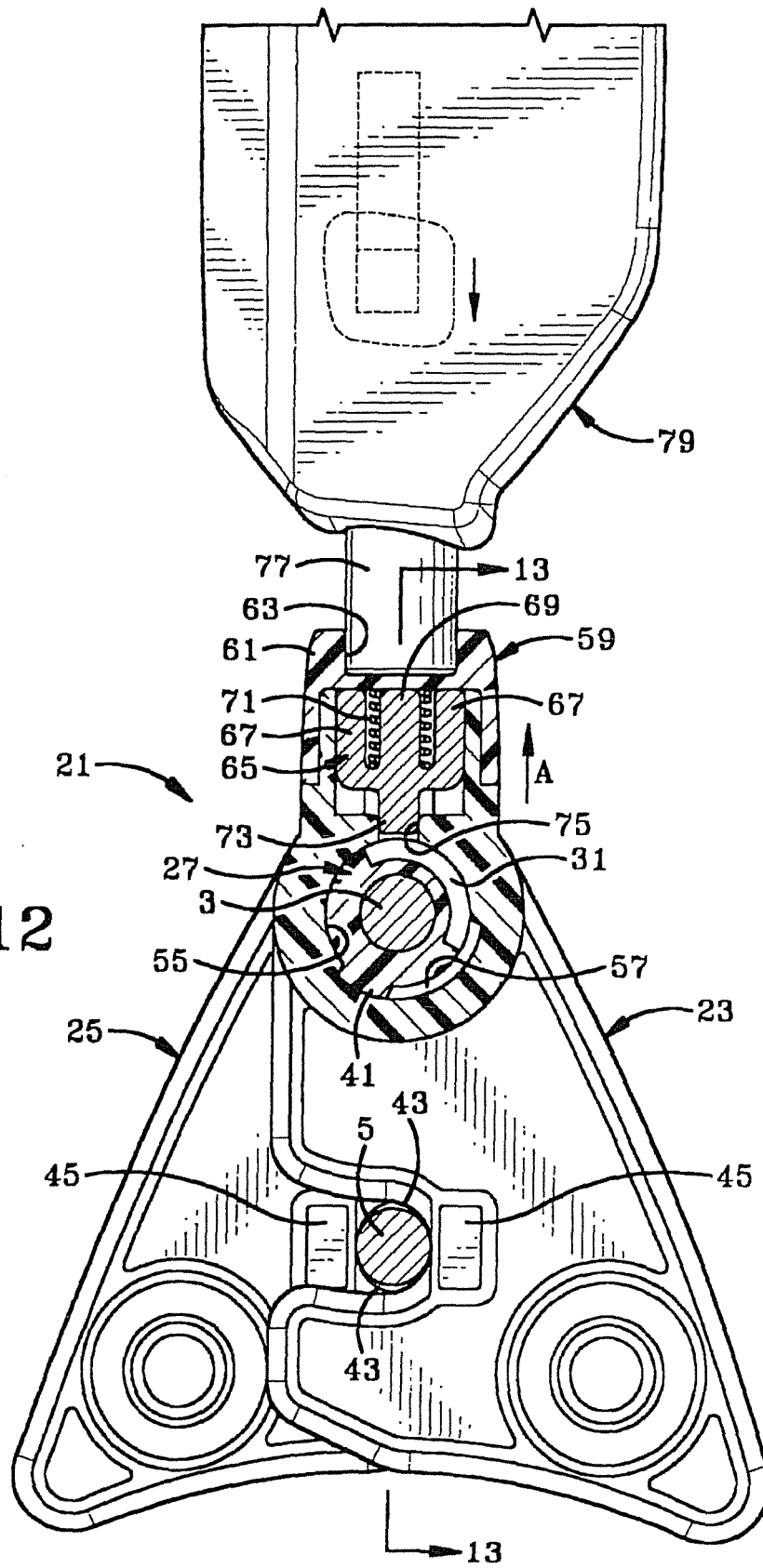
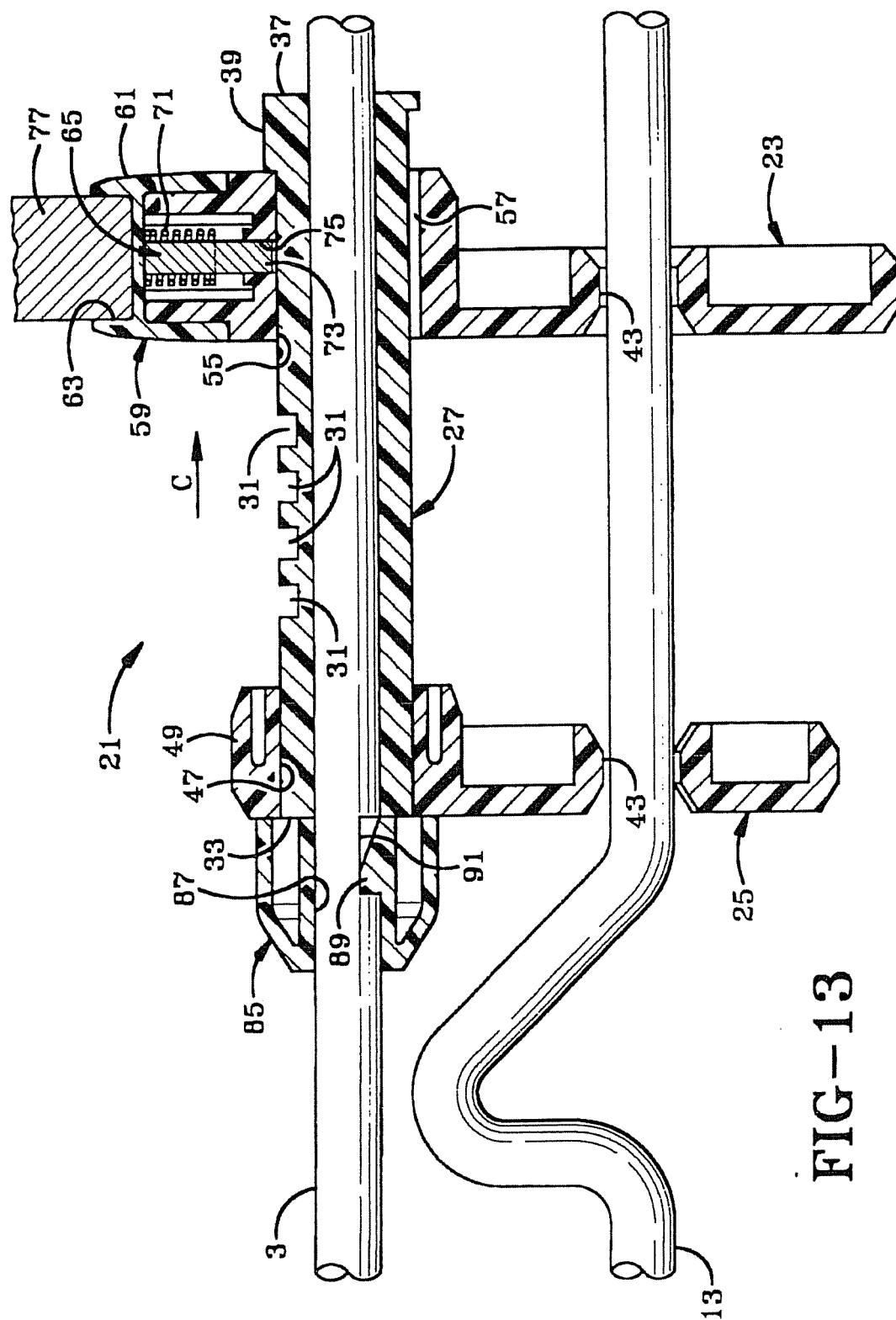
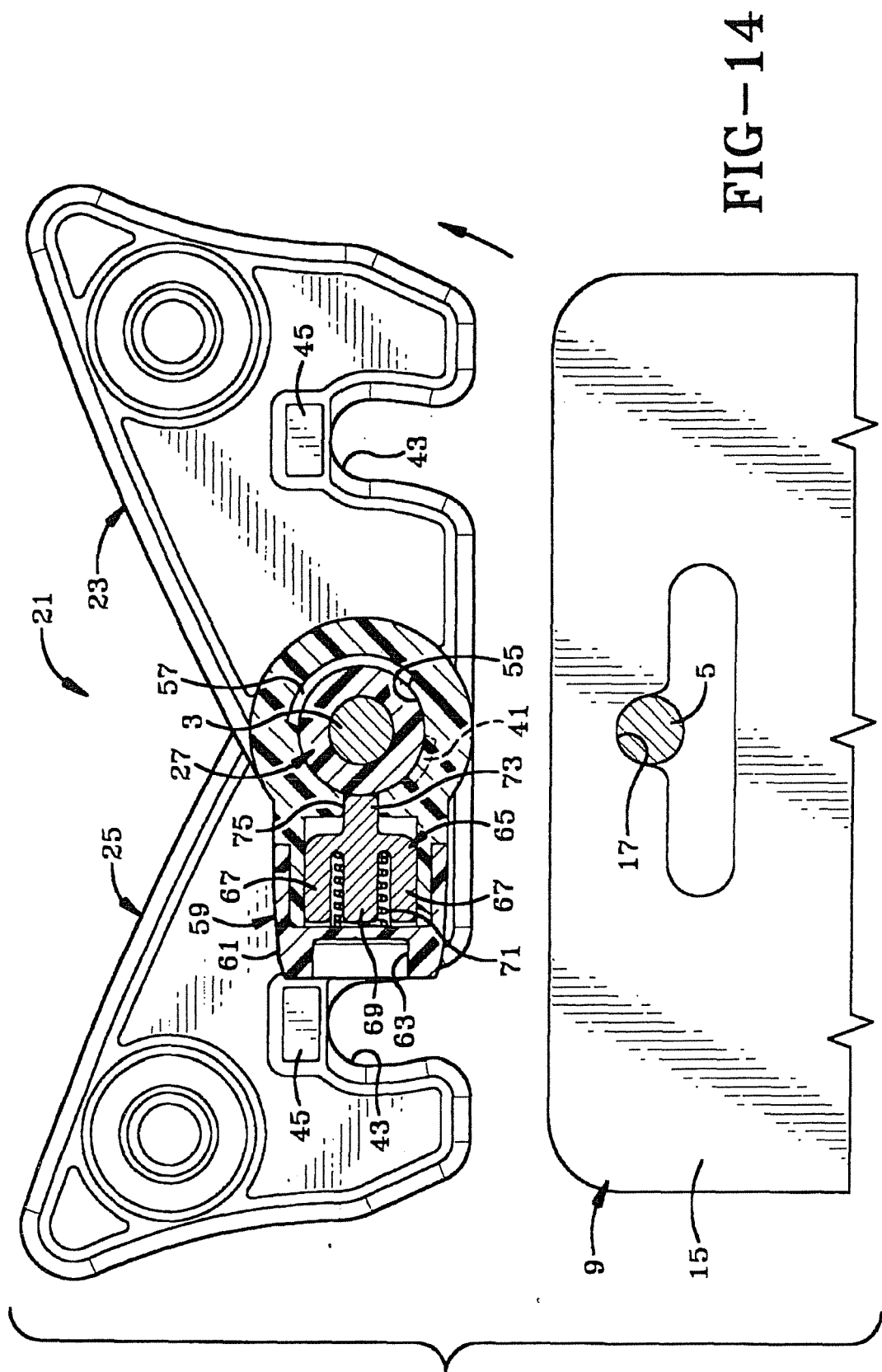
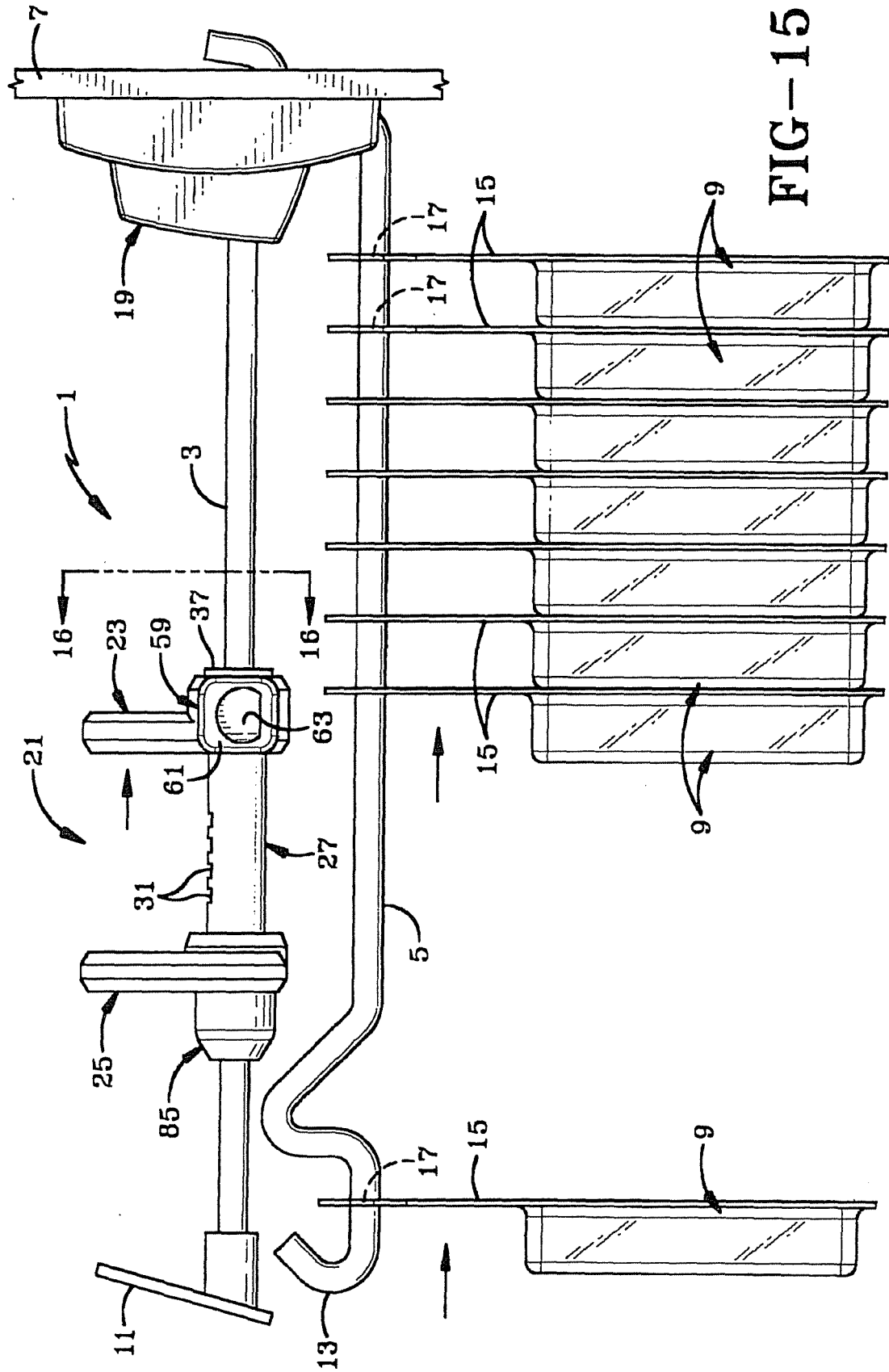


FIG-12











EUROPEAN SEARCH REPORT

Application Number
EP 08 15 9068

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 5 597 150 A (STEIN ARTHUR [US] ET AL) 28 January 1997 (1997-01-28) * figures *	1-15	INV. A47F5/08
A	NL 1 000 796 C2 (TCHAI HOLDING B V [NL]) 15 January 1997 (1997-01-15) * figures *	1-15	
A	US 7 197 902 B1 (BARKDOLL PATRICK J [US]) 3 April 2007 (2007-04-03) * figures *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 January 2009	Examiner van Hoogstraten, S
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22-01-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5597150	A	28-01-1997	NONE	
NL 1000796	C2	15-01-1997	NONE	
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REFERENCES CITED IN THE DESCRIPTION

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