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(54) **SHELF MANAGEMENT SYSTEMS**
VERWALTUNGSSYSTEM FÜR REGALE
SYSTEMES DE GESTION DE RAYONS

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Description

[0001] The present invention relates to a shelf management system, in particular to a product merchandising apparatus, such as a gravity feed merchandising apparatus, a spring loaded merchandising apparatus or a merchandising apparatus with a product pulling mechanism, which is fitted to a sloping shelf, rack or other support unit used in shops, supermarkets and other retailing premises.

[0002] Gravity feed merchandising apparatus and systems have been used in the merchandising industry for a number of years and can be very effective in merchandising small bags, packs and boxes of merchandise, such as sweets, stockings, soups and the like. One such gravity feed merchandising apparatus is described in the present applicant's published International Patent Application WO-A-9317607. That gravity feed apparatus has a sloped shelf, a vertical wall and a slidable cassette for pushing merchandise on the shelf towards the front wall. A portion of the merchandise on display is placed into the cassette. The combined weight of the cassette and the merchandise contained in it forces the remainder of the merchandise to the front of the shelf adjacent the front wall. Also, the lower front edge of the cassette has a rim which contacts the merchandise at its base in order to concentrate the force of pushing the merchandise forward.

[0003] A disadvantage associated with the above arrangement is that for lower density merchandise enough weight may not be generated by putting the merchandise into the cassettes to push the merchandise forward. Other systems use tracks to allow the cassette to slide with reduced friction and dividers to separate rows of product. A disadvantage with these systems is that it is necessary to manufacture many different depths of tracks and dividers to fit to the various sizes of retail shelves. Also, even though the cassette as shown in WO-A-9 317 607 is of simple construction, it still requires assembly by a shop assistant or a shopfitter.

[0004] U.S. 3,285,429 discloses a shelf organizer with a divider member, where the divider member locks in position on the shelf by engaging with a guide rail positioned at the front of the shelf.

[0005] The object of the invention is to alleviate the disadvantages associated with the prior art.

[0006] The present invention provides a shelf management system comprising a product merchandising apparatus for mounting on a shelf, rack or other support unit comprising a locating strip engageable parallel to the front edge of the shelf, rack or other support unit; one or more dividers for dividing the shelf, rack or other support unit into zones to accommodate product; the front end of the or each divider being engageable with and lockable to the locating strip, whereby in the engaged mode the divider is movable relative to the locating strip while being connected to the locating strip, and in the locked mode the divider is secured relative to the locating strip.

[0007] As a result of this structure, the compartments or zones on a shelf can be readily rearranged without any need to demerchandise the shelf.

[0008] Other advantageous features of the invention are defined in the appended Claims 2 to 28 the contents of which are incorporated herein by reference.

[0009] The invention is easy to assemble and fit to a shelf, requires no special skill, tools or knowledge and can therefore be fitted and loaded with merchandise by merchandising staff avoiding the necessity to call on the services of shopfitters.

[0010] The invention will hereinafter be more particularly described with reference to the accompanying drawings which show by way of example only, a number of embodiments of a shelf management system including a product merchandising apparatus according to the invention. In the drawings:-

Figure 1 is a perspective view of a first embodiment of a product merchandising apparatus according to the invention utilising a gravity feed arrangement mounted on a shelf;

Figure 2 is a perspective view of the first embodiment showing one divider, the cassette mounted on the track and the ribs which locate the invention on the shelf;

Figure 3 is a perspective view of the telescopic track and telescopic divider mounted on the ribs;

Figure 4 is a perspective view which shows only the track mounted on the ribs on the shelf;

Figure 5 is a cross sectional view through the base of the cassette as mounted on the telescopic track;

Figure 6 is a cross sectional view of the cassette runner on the telescopic track;

Figure 7 is a cross sectional view of the telescopic track;

Figure 8 is a perspective view from the front and one side of a second embodiment of a product merchandising apparatus according to the invention;

Figure 9 is a perspective view from the rear and one side of the merchandising apparatus as shown in Figure 14;

Figure 10 is an exploded perspective view of the product merchandising apparatus of Figures 14 and 15; and

Figures 11 and 12 are perspective views from the front and rear respectively of the product merchandising modified for a particular merchandising arrangement.

Figure 13 is a perspective view of a third embodiment of a product merchandising apparatus according to the invention, showing a pair of dividers retracted and locked at the front of a shelf;

Figure 14 is a perspective view of the third embodiment showing the dividers extended and engaged at the rear of the shelf;

Figure 15 is a perspective view of the third embodiment showing one divider released at the rear end and unlocked but engaged at the front end;

Figure 16 is a series of orthogonal views 16A to 16G illustrating the detail of the front portion of the divider of the third embodiment;

Figure 17 is a series of orthogonal views 17A to 17G illustrating the details of the rear portion of the divider;

Figure 18 is a series of orthogonal views 18A to 18F and perspective views 18G to 18H illustrating the details of front end of the track of the third embodiment.

Figures 19 and 20 are enlarged side views of one example of a locking and engaging means of the divider of the third embodiment;

Figures 21 and 22 are enlarged side views of a second example of a locking and engaging means of the divider of the third embodiment;

Figures 23 and 24 are enlarged side views of a third example of a locking and engaging means of the divider of the third embodiment;

Figure 25 is a partly exploded front perspective view showing the detail of a removable front end of the divider having solid wings and Figure 26 is a rear perspective view of the same detail;

Figure 27 is a front perspective view of a modified divider of the third embodiment; and

Figure 28 is a rear perspective view of the modified divider of Figure 27.

[0011] Referring to Figure 1 and Figure 2, the first embodiment of product merchandising apparatus 210 comprises a telescopic central track 212 manufactured as two extruded parts of low friction material such as nylon. These parts fit one inside the other as illustrated in Figure 10 and the complete track can be therefore adjusted to fit any shelf depth, of for example, between 300mm and 600mm. The track is secured to the shelf at both ends. The track is provided with a front clip 213 and a rear clip 214 incorporated into the track at the front and rear respectively. Each clip has a socket which locates over ribs 215 and 216 to hold the track 212 in position. Rib 215 includes a flexible element 235 which creates a suction grip on the shelf which can be easily lifted for cleaning. The rib 215 acts only to locate the front edge of the track and dividers.

[0012] A cassette 218 is slidably engaged on the track 212 so as to push items of merchandise (not shown) forward. The cassette 218 is supplied flat as one item and needs only to be folded into shape where it is locked in place by a 'snap' action for ease of assembly. The cassette has a runner 220 which interlocks with the track as shown in Figure 11. This allows the cassette to follow either section of the telescopic track or both sections together in the overlap between the sections. The front of the cassette is shaped to provide a protrusion 222 which contacts the base of the item of merchandise in front of it in order to concentrate the force of pushing the merchandise forward by the force of gravity. The cassette also contains a U-shaped cut out at the front to enable smaller items of merchandise to be lifted out easily by hand.

[0013] There are dividers 224 which separate the rows of merchandise. These dividers are telescopic, accommodating shelves between 300mm and 600mm in depth. The ends of the dividers have sockets which locate over ribs 215, 216

to hold the divider in position.

[0014] The second embodiment of product dispensing apparatus 300 is shown generally in Figures 8 to 12. Track components 301 and 302 are the two parts of the telescopic track that housing 305 slides along, component 301 being the rear or back element in the arrangement and component 302 being the front element. Track component 302 clips onto receiver/profile/rail 308 at the front of the retail shelf and track component 301 clips onto receiver/profile/rail 307 at the rear of the shelf. Rail 308/307 can manifest itself in a number of forms - as a co-extrusion where the other flanges of the profile are of a soft flexible material allowing it to 'grip' like a suction cup to the surface it rests on, incorporating an adhesive tape on the underside of the profile in order to adhere to the surface or incorporating a strip of magnetic tape to grip to metal shelving. Also, incorporated into this profile can be a facility for ticket strips and an upstand or 'fence' facility to stop product falling off the shelf.

[0015] Track component 301 comprises a number of ridges or dimples 311 equally spaced along its length corresponding to a V shaped detail 321 on track component 301 allowing the track to be setup on a display shelf at pre set positions - this is an interference fit which can be reset with adequate applied pressure. Elongate element 304 acts as a 'puller', which pulls housing 305 along track components 301 and 302 in turn pulling product forward on the shelf when the puller element 304 is pulled by a user. The puller element 304 incorporates a snap off section 340 allowing it to be used on different shelf depths.

[0016] Housing 305 acts as a housing for a spring (not shown) when in use and as a pusher along track components 301 and 302 when used in the pusher arrangement. In the "puller" arrangement as shown in the drawings it is being used as a platform or guide along the tracks 301,302 which in conjunction with facia 306 and puller 304 the product is pulled forward along the shelf. Facia 306 can be produced in a range of shapes and sizes depending on the size and shape of the product being either manually pulled or pushed by the spring. Incorporated into the design of the facia is a transparent sleeve 360 that allows the retailer or brand manufacturer to insert a printed message such as indicating the product to be stocked in this row or an 'out of stock' indicator.

[0017] The arrangement shown in Figure 8 is set up as a puller arrangement as merchandising apparatus for flat or flat packed products such as sliced cheeses and meats.

[0018] Component 303 acts as a ridged guide allowing product to be gripped at an angle backwards to a plane shelf surface. Guide 303, nominally half the length of the extended track, is securely placed to the front of the track and retail shelf engaged with track component 302. The friction between housing 305 and track components 301 and 302 ensures that product is kept in line at the back section of the compartment - guide 303 keeping product presented correctly at the front of the shelf.

[0019] Figures 11 and 12 illustrate the arrangement of the embodiment 300 for use with spring loading of the housing 305. A flat section 351 is provided on front wall 350 housing 305 for contacting small items such as spice bottles and medicines. Above the flat section 351 is an angled profile which is a compromise between the puller arrangement (requiring an angle for flat packed products) and the pusher arrangement requiring a flat vertical surface. The house 305 contains the main portion of the spring behind the front wall 350 and is fed through orifice 352 and is held in place at the front of track component 302 by tension around retainer 325.

[0020] Referring now to Figures 13 to 28, the third embodiment 400 of a shelf management system includes dividers 410 (only two of which are shown) for dividing the shelf 405 into zones 420 to accommodate product. The front end 412 of each divider 410 is engageable and lockable to locating strip 430 mounted at the front edge 406 of the shelf 405 and parallel to the front edge.

[0021] The locating strip 430 includes a ridge or ball formation 432 and an upwardly extending lug 434. Complementary formations in the form of a socket 413 and depending lug 414 are provided at the lower front end of the divider 410. In use the socket 413 fits over the ball formation 432 and even while connected can be slid along the strip 430 to the desired location. When the lugs 414 and 434 are inter-engaged the dividers 410 are locked in position and cannot be moved without disengaging the lugs.

[0022] Each divider 410 has two parts or portions, a front portion 415 and a rear portion 416 telescopically engageable with the front portion 415 so as to be extendable and contractable to accommodate different depths of shelves, racks or other support units.

[0023] To provide additional rigidity to the system a second locating strip 440 is mounted at the rear edge 407 of the shelf 405 and parallel to the rear edge. The end 451 of the rear portion 416 has a socket 417 which is engageable with a formation 442 on the second locating strip 440. The end 452 of the rear portion 416 is provided with a clip 453 which engages with a catch 454 on the front portion 415 so as to provide a detent means to prevent the unintentional disengagement of the two portions 415 and 416. To disengage the two portions pressure is applied to release the clip 453 and catch 454.

[0024] A base 440 is provided on the front portion 415 so that the divider is stable and can be standing on the shelf when just connected at its front end. A series of stops 462 are provided along the front portion 415 at 50mm intervals so as to control the amount of the extension of the rear portion 416 for the front portion 415 with notches 463 contacting the stops 462 to provide the necessary contact.

[0025] An alternative version of inter-engaging formations 470, 471 is shown in Figures 23 and 24 to provide the dual engaging and locking function between the divider 410 and the strip 430.

[0026] The front end 480 of the divider 410 can engage with a riser (not shown) located in the front section 408 of the shelf 405. Other options are the provision of flexible barriers 482 as shown in Figure 14 which provide a go/no go arrangement for dispensing merchandise. Other merchandise require the provision of a solid barrier 484 which is engagable by means of a channel 485 engaging with the inverted T shape connection 486 at the front end 480 of the divider 410. Each barrier 482, 484 can have one or two sections depending on its location, i.e. at the end or middle of a shelf.

[0027] The merchandising apparatus 500 includes a spring loaded dispenser 510 mounted on a track 520, the front end 525 of which is engaged with the locating strip 430. As shown in Figure 18, a pair of formations 526 and 527 are provided at the front end 525 which are engagable with the formations 432 and 434 on the strip 430.

[0028] The dispenser 510 includes a receptacle 515 to accommodate a card or other information bearing element to assist the users and customers.

[0029] The shelf management system of the invention can be used in a number of arrangements:-

- (1) Dividers only,
- (2) Dividers with spring loaded dispenser,
- (3) Dividers with gravity feed dispenser,
- (4) Dividers with puller dispenser.

[0030] It is to be understood that the invention is not limited to the specific details described herein, which are given by way of example only, and that various modifications and alterations are possible without departing from the scope of the invention as defined in the appended claims.

Claims

1. A shelf management system comprising a product merchandising apparatus (210, 300, 400) for mounting on a shelf (105), rack or other support unit comprising a locating strip (308, 430) engageable parallel to the front edge of the shelf, rack or other support unit; one or more dividers (224, 303, 410) for dividing the shelf (405), rack or other support unit into zones to accommodate product; the front end (412) of the or each divider (224, 303, 410) being engageable with and lockable to the locating strip (308, 430), whereby in the engaged mode the divider (224, 303, 410) is movable relative to the locating strip while being connected to the locating strip, and in the locked mode the divider (224, 303, 410) is secured relative to the locating strip; engaging and locking means (213, 214, 301, 302, 413, 414, 432, 434,) for engaging and locking the or each divider (224, 303, 410) to the locating strip, whereby the engaging and locking means comprises complementary engageable formations formed on the divider and the locating strip; **characterized in that** the complementary engageable formations comprise a first set of engageable formations (213, 301, 413, 432) including a ball and socket (413, 432) in cross-section and the second set of formations (214, 302, 414, 434) comprises a pair of overlapping lugs (111, 131), whereby to unlock the formations the overlapping lugs (414, 434) are disengaged by tilting the divider (224, 303, 410) towards its front end about the ball and socket arrangement and whereby the socket of the divider may be slid along the ball or ridge formation.
2. A shelf management system as claimed in Claim 1, in which the or each divider (224, 303, 410) is telescopically extendable and contractable to accommodate different depths of shelves, racks or other support units.
3. A shelf management system as claimed in any one of the preceding claims, in which a second locating strip (307, 440) is engageable parallel to the rear edge of the shelf, rack or other support unit, with the rear end (214, 302, 451) of the or each divider being engageable with the second locating strip.
4. A shelf management system as claimed in Claim 3, in which engaging means (214, 302, 417, 442) are provided to engage the rear end of the or each divider to the second locating strip.
5. A shelf management system as claimed in Claim 4 in which the engaging means (214, 302, 417, 442) comprises complementary engageable formations formed on the divider and the second locating strip.
6. A shelf management system as claimed in Claim 5, in which the complementary engageable formations include a ball and socket in cross-section.
7. A shelf management system as claimed in any one of the preceding claims, in which a barrier element (482, 484)

is provided at the front end of the divider so as to prevent merchandise from falling from the shelf.

8. A shelf management system as claimed in Claim 7, in which the barrier element is selected from the group consisting of one rigid flap, two rigid flaps, one flexible flap and two flexible flaps.
9. A shelf management system as claimed in any one of Claims 1 to 6 in which the or each divider is engageable with a riser at the front of the shelf.
10. A shelf management system as claimed in any one of the preceding claims, in which the product merchandising apparatus includes a track (212, 304, 520) engageable with and lockable to the first locating strip.
11. A shelf management system as claimed in Claim 10, in which engaging and locking means (526, 527, 432, 434) are provided to engage and lock the track to the first locating strip (430).
12. A shelf management system as claimed in Claim 11, in which the engaging and locking means comprises complementary engageable formations (213, 214, 432, 434, 526, 527) formed on the track and the first locating strip.
13. A shelf management system as claimed in Claim 12, in which the complementary engageable formations comprise a first set of engageable formations (213, 432, 526) including a ball and socket in cross-section and the second set of formations (214, 434, 527) comprise a pair of overlapping lugs, whereby to unlock the formations the overlapping lugs are disengaged by tilting the track towards its front end about the ball and socket arrangement and whereby the socket of the divider may be slid along the ball or ridge formation.
14. A shelf management system as claimed in any one of the preceding claims, in which the or each divider is provided with an extended base (440) so as to provide stability for the divider.
15. A shelf management system as claimed in Claim 14, in which the cross-sectional shape of the or each divider corresponds to an inverted T-shape.
16. A shelf management system as claimed in Claim 2, in which the or each divider (224, 303, 415, 416) comprises two parts, one part being telescopically engageable with the other with detent means being provided at the engaging end of one or both parts to prevent unintentional disengagement of the two parts.
17. A shelf management system as claimed in Claim 16, in which stop indications (462) are provided at regular intervals along one part of the divider so as to provide a means of determining the length of the divider.
18. A shelf management system as claimed in Claim 10, including a telescopic track engageable with shelves of different depths; a product support member (218, 306, 510) mountable on the telescopic track and a means (220, 305) for moving the product support member and any product supported by the member from one end of the track towards the other end.
19. A shelf management system as claimed in Claim 18, in which the means for moving the product support member comprises a pusher element movable by gravity (220), a pulling mechanism operable by a user (304, 340) or a spring loaded mechanism (305, 510) to urge the product support member towards the said other end of the track.
20. A shelf management system as claimed in any one of Claim 3 to 19, in which the track (212, 301, 520) is of low friction material and a pushing member (220, 306, 510) is slidably mounted on the track for pushing items of merchandise towards a dispensing end of a shelf.
21. A shelf management system as claimed in any one of Claims 10 to 20, in which the track (212, 301, 302, 520) is securable to the shelf at both ends.
22. A shelf management system as claimed in Claim 20, in which the pushing member comprises a pair of runners slidably engageable with the track and a plate engageable with the runners.
23. A shelf management system as claimed in any one of Claims 10 to 22, comprising a cassette (218) for containing items of merchandise with the cassette being slidably mountable on the track; whereby the cassette with its contents provides a weight to push items of merchandise towards a dispensing end of a shelf.

24. A shelf management system as claimed in Claim 23 in which the cassette (218) is manufactured from a low friction material, and is slidable on the track.
- 5 25. A shelf management system as claimed in Claim 23, in which the cassette (218) is provided with points of low friction material which are slidable on the surface of the shelf on which the apparatus is mounted.
26. A shelf management system as claimed in Claim 23, in which the cassette is provided with wheels or rollers which allow it to slide directly on the shelf surface.
- 10 27. A shelf management system as claimed in any one of Claims 23 to 26 in which the cassette (218) includes a base, a rear wall and a front wall, the front and rear walls being pivotally attached to the base so as to be foldable from a generally flat transport position to a folded operating position.
- 15 28. A shelf management system as claimed in any one of Claims 24 to 27, in which the cassette comprises a front wall, base and rear wall manufactured from metal so as to provide weight to the cassette.

Patentansprüche

- 20 1. Regalverwaltungssystem mit einer Vorrichtung zur Produktverkaufsförderung (210, 300, 400) zur Anbringung an einem Regal (405), Gestell oder einer sonstigen Trageinheit, mit einem Anordnungsstreifen (308, 430), der parallel zu dem vorderen Rand des Regals, Gestells oder der sonstigen Trageinheit in Eingriff gebracht werden kann; mit einem oder mehreren Teilern (224, 303, 410) zum Unterteilen des Regals (405), Gestells, oder der sonstigen Trageinheit in Zonen zum Aufnehmen eines Produkts; wobei das vordere Ende (412) des oder jedes Teilers (224, 303, 410) mit dem Anordnungsstreifen (308, 430) in Eingriff gebracht werden kann und mit diesem verriegelt werden kann, wobei der Teiler (224, 303, 410) in dem in Eingriff gebrachten Modus relativ zu dem Anordnungsstreifen bewegbar ist, während er mit dem Anordnungsstreifen verbunden ist, und wobei der Teiler (224, 303, 410) in dem verriegelten Modus relativ zu dem Anordnungsstreifen gesichert ist; mit Eingriffs- und Verriegelungsmitteln (213, 214, 301, 302, 413, 414, 432, 434), um mit dem oder jedem Teiler (224, 303, 410) in Eingriff zu kommen und diesen an dem Anordnungsstreifen zu verriegeln, wobei das Eingriffs- und Verriegelungsmittel komplementäre, in Eingriff bringbare Formationen aufweist, die auf dem Teiler und auf dem Anordnungsstreifen ausgebildet sind; **dadurch gekennzeichnet, daß** die komplementären, in Eingriff bringbaren Formationen einen ersten Satz von in Eingriff bringbaren Formationen (213, 301, 413, 432) aufweisen, die im Querschnitt eine Kugel und einen Sockel (413, 432) umfassen, und daß der zweite Satz von Formationen (214, 302, 414, 434) ein Paar von überlappenden Ansätze (414, 434) aufweist, wobei, um die Formationen zu entriegeln, die überlappenden Ansätze (414, 434) **dadurch** außer Eingriff gebracht werden, daß der Teiler (224, 303, 410) in Richtung auf sein vorderes Ende um die Kugel- und Sockel-Anordnung gekippt wird und wobei der Sockel des Teilers entlang der Kugel- oder Erhebungs-Formation verschoben werden kann.
- 25 30 35 40 2. Regalverwaltungssystem nach Anspruch 1, **dadurch gekennzeichnet, daß** der oder jeder Teiler (224, 303, 410) teleskopartig ausziehbar und zusammenschiebbar ist, um unterschiedliche Tiefen von Regalen, Gestellen oder sonstigen Trageinheiten auszugleichen.
- 45 3. Regalverwaltungssystem nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, daß** ein zweiter Anordnungsstreifen (307, 440) parallel zu dem hinteren Rand des Regals, Gestells oder der sonstigen Trageinheit in Eingriff gebracht werden kann, wobei das hintere Ende (214, 302, 451) des oder jedes Teilers mit dem zweiten Anordnungsstreifen in Eingriff gebracht werden kann.
- 50 4. Regalverwaltungssystem nach Anspruch 3, **dadurch gekennzeichnet, daß** ein Eingriffsmittel (214, 302, 417, 442) vorgesehen ist, um das hintere Ende des oder jedes Teilers mit dem zweiten Anordnungsstreifen in Eingriff zu bringen.
- 55 5. Regalverwaltungssystem nach Anspruch 4, **dadurch gekennzeichnet, daß** das Eingriffsmittel (214, 302, 417, 442) komplementäre, in Eingriff bringbare Formationen aufweist, die auf dem Teiler und auf dem zweiten Anordnungsstreifen ausgebildet sind.
6. Regalverwaltungssystem nach Anspruch 5, **dadurch gekennzeichnet, daß** die komplementären, in Eingriff bringbaren Formationen im Querschnitt eine Kugel und einen Sockel aufweisen.

7. Regalverwaltungssystem nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, daß** ein Sperr-
element (482, 484) an dem vorderen Ende des Teilers angeordnet ist, um zu verhindern, daß Waren von dem Regal
herunterfallen.
- 5 8. Regalverwaltungssystem nach Anspruch 7, **dadurch gekennzeichnet, daß** das Sperrelement aus der Gruppe
ausgewählt ist, die besteht aus: einer starren Klappe, zwei starren Klappen, einer flexiblen Klappe und zwei flexiblen
Klappen.
9. Regalverwaltungssystem nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet, daß** der oder jeder Teiler
10 mit einem aufrecht stehenden Element an der Vorderseite des Regals in Eingriff gebracht werden kann.
10. Regalverwaltungssystem nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, daß** die Vorrich-
tung zur Produktverkaufsförderung eine Schiene (212, 304, 520) aufweist, die mit dem ersten Anordnungstreifen
in Eingriff gebracht werden kann und an diesem verriegelt werden kann.
- 15 11. Regalverwaltungssystem nach Anspruch 10, **dadurch gekennzeichnet, daß** Eingriffs- und Verriegelungsmittel
(525, 527, 432, 434) vorgesehen sind, um mit der Schiene in Eingriff zu kommen und diese an dem ersten Anord-
nungstreifen (430) zu verriegeln.
- 20 12. Regalverwaltungssystem nach Anspruch 11, **dadurch gekennzeichnet, daß** das Eingriffs- und Verriegelungsmittel
komplementäre, in Eingriff bringbare Formationen (213, 214, 432, 434, 526, 527) aufweist, die auf der Schiene und
auf dem ersten Anordnungstreifen ausgebildet sind.
- 25 13. Regalverwaltungssystem nach Anspruch 12, **dadurch gekennzeichnet, daß** die komplementären, in Eingriff bring-
baren Formationen einen ersten Satz von in Eingriff bringbaren Formationen (213, 432, 526) aufweisen, die, im
Querschnitt, mit einer Kugel und einem Sockel versehen sind, und daß der zweite Satz von Formationen (214, 434,
527) ein Paar von überlappenden Ansätzen aufweist, wobei, um die Formationen zu entriegeln, die überlappenden
Ansätze außer Eingriff gebracht werden, **dadurch** daß die Schiene in Richtung auf ihr vorderes Ende um die Kugel-
und Sockel-Anordnung gekippt wird, wobei der Sockel des Teilers entlang der Kugel- oder Erhebungs-Formation
30 verschoben werden kann.
14. Regalverwaltungssystem nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, daß** der oder
jeder Teiler mit einer verlängerten Basis (440) versehen ist, um dem Teiler Stabilität zu verleihen.
- 35 15. Regalverwaltungssystem nach Anspruch 14, **dadurch gekennzeichnet, daß** die Querschnittsform des oder jedes
Teilers einer umgekehrten T-Form entspricht.
16. Regalverwaltungssystem nach Anspruch 2, **dadurch gekennzeichnet, daß** der oder jeder Teiler (224, 303, 415,
416) aus zwei Teilen besteht, wobei ein Teil teleskopartig mit dem anderen in Eingriff gebracht werden kann, und
40 wobei Rastmittel an dem eingreifenden Ende von einem oder beiden Teilen vorgesehen sind, um ein unbeabsich-
tigtes Lösen der beiden Teile zu verhindern.
17. Regalverwaltungssystem nach Anspruch 16, **dadurch gekennzeichnet, daß** Anschlaganzeigen (462) in regelmä-
ßigen Abständen entlang eines Teils des Teilers vorgesehen sind, um ein Mittel zu bilden, um die Länge des Teilers
45 zu bestimmen.
18. Regalverwaltungssystem nach Anspruch 10, **gekennzeichnet durch** eine teleskopierbare Schiene, die mit Regalen
von unterschiedlicher Tiefe in Eingriff gebracht werden kann; ein Produkttragteil (218, 306, 510), das auf der tele-
skopierbaren Schiene angebracht werden kann, und ein Mittel (220, 305) zum Bewegen des Produkttragteils und
50 eines Produkts, welches etwa **durch** das Teil getragen wird, von einem Ende der Schiene in Richtung auf das
andere Ende.
19. Regalverwaltungssystem nach Anspruch 18, **dadurch gekennzeichnet, daß** das Mittel zum Bewegen des Pro-
dukttragteils ein Schubelement (220) aufweist, das durch Gewichtskraft bewegbar ist, und einen Zugmechanismus,
55 der durch einen Benutzer (304, 340) oder einen federbelasteten Mechanismus (305, 510) betätigt werden kann,
um das Produkttragteil in Richtung auf das genannte andere Ende der Schiene zu drücken.
20. Regalverwaltungssystem nach einem der Ansprüche 10 bis 19, **dadurch gekennzeichnet, daß** die Schiene (212,

301, 520) aus einem Material mit geringer Reibung besteht, und daß ein Schubteil (220, 306, 510) verschieblich auf der Schiene gehalten ist, um einzelne Teile einer Ware in Richtung auf ein Abgabeende eines Regals zu schieben.

21. Regalverwaltungssystem nach einem der Ansprüche 10 bis 20, **dadurch gekennzeichnet, daß** die Schiene (212, 301, 302, 520) an dem Regal an beiden Enden befestigt werden kann.

22. Regalverwaltungssystem nach Anspruch 20, **dadurch gekennzeichnet, daß** das Schubteil ein Paar von Läufern aufweist, die verschieblich mit der Schiene in Eingriff gebracht werden können, und eine Platte, die mit dem Läufern in Eingriff gebracht werden kann.

23. Regalverwaltungssystem nach einem der Ansprüche 10 bis 22, **gekennzeichnet durch** eine Kassette (218) zum Enthalten von einzelnen Teilen einer Ware, wobei die Kassette verschieblich auf der Schiene angebracht werden kann; wobei die Kassette mit ihrem Inhalt ein Gewicht bereitstellt, um einzelne Gegenstände einer Ware in Richtung auf ein Abgabeende eines Regals zu schieben.

24. Regalverwaltungssystem nach Anspruch 23, **dadurch gekennzeichnet, daß** die Kassette (218) aus einem Material mit geringer Reibung hergestellt ist, und daß sie auf der Schiene verschieblich ist.

25. Regalverwaltungssystem nach Anspruch 23, **dadurch gekennzeichnet, daß** die Kassette (218) mit Punkten aus einem Material mit geringer Reibung versehen ist, die auf der Oberfläche des Regals verschieblich sind, auf dem die Vorrichtung angebracht ist.

26. Regalverwaltungssystem nach Anspruch 23, **dadurch gekennzeichnet, daß** die Kassette mit Rädern oder Rollen versehen ist, die ihr die Möglichkeit bieten, unmittelbar auf der Oberfläche des Regals verschoben zu werden.

27. Regalverwaltungssystem nach einem der Ansprüche 23 bis 26, **dadurch gekennzeichnet, daß** die Kassette (218) eine Basis, eine hintere Wand und eine vordere Wand aufweist, wobei die hinteren und vorderen Wände schwenkbar an der Basis befestigt sind, so daß sie aus einer im wesentlichen ebenen Transportposition in eine aufgeklappte Betriebsposition geklappt werden können.

28. Regalverwaltungssystem nach einem der Ansprüche 24 bis 27, **dadurch gekennzeichnet, daß** die Kassette eine vordere Wand, eine Basis und eine hintere Wand aufweist, die aus Metall hergestellt sind, um der Kassette Gewicht zu verleihen.

Revendications

1. Système de gestion de tablettes comprenant un appareil de commercialisation de produits (210, 300, 400) destiné à être monté sur une tablette (105), une crémaillère ou autre unité de support comprenant une bande de positionnement (308, 430) pouvant se mettre en prise de manière parallèle au bord avant de la tablette, de la crémaillère ou autre unité de support ; un ou plusieurs séparateurs (224, 303, 410) destinés à diviser la tablette (405), la crémaillère ou autre unité de support en zones pour recevoir le produit ; l'extrémité avant (412) du ou de chaque séparateur (224, 303, 410) pouvant se mettre en prise avec et se bloquer par rapport à la bande de positionnement (308, 430), moyennant quoi, en mode en prise, le séparateur (224, 303, 410) est déplaçable par rapport à la bande de positionnement tout en étant relié à la bande de positionnement, et en mode bloqué, le séparateur (224, 303, 410) est fixé par rapport à la bande de positionnement ; des moyens de mise en prise et de blocage (213, 214, 301, 302, 413, 414, 432, 434) pour mettre en prise et bloquer le ou chaque séparateur (224, 303, 410) par rapport à la bande de positionnement, moyennant quoi les moyens de mise en prise et de blocage comprennent des formations complémentaires pouvant être mises en prise formées sur le séparateur et la bande de positionnement ; **caractérisé en ce que** les formations complémentaires pouvant être mises en prise comprennent un premier ensemble de formations pouvant être mises en prise (213, 301, 413, 432) comprenant une rotule sphérique (413, 432) en section transversale et le second ensemble de formations (214, 302, 414, 434) comprend une paire d'oreilles de chevauchement (111, 131) moyennant quoi pour débloquer les formations, les oreilles de chevauchement (414, 434) sont désengagées en inclinant le séparateur (224, 303, 410) vers son extrémité avant autour de l'agencement à rotule sphérique et moyennant quoi la douille du séparateur peut être glissée le long de la formation de rotule ou de saillie.

2. Système de gestion de tablettes selon la revendication 1, dans lequel le ou chaque séparateur (224, 303, 410) est extensible et contractable de manière télescopique pour s'adapter à différentes profondeurs de tablettes, crémaillères

res ou autres unités de support.

- 5 3. Système de gestion de tablettes selon l'une quelconque des revendications précédentes, dans lequel une seconde bande de positionnement (307, 440) peut être mise en prise de manière parallèle au bord arrière de la tablette, de la crémaillère ou autre unité de support, l'extrémité arrière (214, 302, 451) du ou de chaque séparateur pouvant être mise en prise avec la seconde bande de positionnement.
- 10 4. Système de gestion des tablettes selon la revendication 3, dans laquelle des moyens de mise en prise (214, 302, 417, 442) sont prévus pour mettre en prise l'extrémité arrière du ou de chaque séparateur avec la seconde bande de positionnement.
- 15 5. Système de gestion de tablettes selon la revendication 4, dans lequel les moyens de mise en prise (214, 302, 417, 442) comprennent des formations complémentaires pouvant être mises en prise formées sur le séparateur et la seconde bande de positionnement.
- 20 6. Système de gestion de tablettes selon la revendication 5, dans lequel les formations complémentaires pouvant être mises en prise comprennent une rotule sphérique en section transversale.
- 25 7. Système de gestion de tablettes selon l'une quelconque des revendications précédentes, dans lequel un élément de barrière (482, 484) est prévu à l'extrémité avant du séparateur de façon à empêcher la marchandise de tomber de la tablette.
- 30 8. Système de gestion de tablettes selon la revendication 7, dans lequel l'élément de barrière est choisi dans le groupe comprenant un rabat rigide, deux rabats rigides, un rabat flexible et deux rabats flexibles.
- 35 9. Système de gestion de tablettes selon l'une quelconque des revendications 1 à 6, dans lequel le ou chaque séparateur peut être mis en prise avec un élément montant à l'avant de la tablette.
- 40 10. Système de gestion de tablettes selon l'une quelconque des revendications précédentes, dans lequel l'appareil de commercialisation de produits comprend une crémaillère (212, 304, 520) pouvant être mise en prise avec et bloquée par rapport à la première bande de positionnement.
- 45 11. Système de gestion de tablettes selon la revendication 10, dans lequel des moyens de mise en prise et de blocage (526, 527, 432, 434) sont prévus pour mettre en prise et bloquer la crémaillère par rapport à la première bande de positionnement (430).
- 50 12. Système de gestion de tablettes selon la revendication 11, dans lequel les moyens de mise en prise et de blocage comprennent des formations complémentaires pouvant être mises en prise (213, 214, 432, 434, 526, 527) formées sur la crémaillère et la première bande de positionnement.
- 55 13. Système de gestion de tablettes selon la revendication 12, dans lequel les formations complémentaires pouvant être mises en prise comprennent un premier ensemble de formations pouvant être mises en prise (213, 432, 526) comprenant une rotule sphérique en section transversale et le second ensemble de formations (214, 434, 527) comprend une paire d'oreilles de chevauchement, moyennant quoi pour débloquer les formations, les oreilles de chevauchement sont désengagées en inclinant la crémaillère vers son extrémité avant autour de l'agencement à rotule sphérique et moyennant quoi la douille du séparateur peut être glissée le long de la formation de rotule ou de saillie.
14. Système de gestion de tablettes selon l'une quelconque des revendications précédentes, dans lequel le ou chaque séparateur est pourvu d'une base étendue (440) de façon à conférer de la stabilité au séparateur.
15. Système de gestion de tablettes selon la revendication 14, dans lequel la forme de section transversale du ou de chaque séparateur correspond à une forme de T inversé.
16. Système de gestion de tablettes selon la revendication 2, dans lequel le ou chaque séparateur (224, 303, 415, 416) comprend deux parties, une partie pouvant être mise en prise de manière télescopique avec l'autre avec des moyens d'encliquetage prévus à l'extrémité de mise en prise d'une ou des deux parties pour empêcher le désengagement involontaire des deux parties.

17. Système de gestion de tablettes selon la revendication 16, dans lequel des indications d'arrêt (462) sont prévues à intervalles réguliers le long d'une partie du séparateur de façon à proposer des moyens de détermination de la longueur du séparateur.

18. Système de gestion de tablettes selon la revendication 10, comprenant une crémaillère télescopique pouvant se mettre en prise avec des tablettes de profondeurs différentes ; un élément de support de produit (218, 306, 510) pouvant être monté sur la crémaillère télescopique et des moyens (220, 305) destinés à déplacer l'élément de support de produit et un quelconque produit supporté par l'élément d'une extrémité de la crémaillère vers l'autre extrémité.

19. Système de gestion de tablettes selon la revendication 18, dans lequel les moyens destinés à déplacer l'élément de support de produit comprennent un élément formant poussoir déplaçable par gravité (220), un mécanisme de traction actionnable par un utilisateur (304, 340) ou mécanisme à ressort (305, 510) pour pousser l'élément de support de produit vers ladite autre extrémité de la crémaillère.

20. Système de gestion de tablettes selon l'une quelconque des revendications 10 à 19, dans lequel la crémaillère (212, 301, 520) est réalisée dans un matériau à faible coefficient de frottement et un élément de poussée (220, 306, 510) est monté de manière coulissante sur la crémaillère pour pousser les articles de marchandise vers une extrémité de distribution d'une tablette.

21. Système de gestion de tablettes selon l'une quelconque des revendications 10 à 20, dans lequel la crémaillère (212, 301, 302, 520) peut être fixée à la tablette aux deux extrémités.

22. Système de gestion de tablettes selon la revendication 20, dans lequel l'élément de poussée comprend une paire de galets de roulement pouvant être mis en prise de manière coulissante avec la crémaillère et une plaque pouvant être mise en prise avec les galets de roulement.

23. Système de gestion de tablettes selon l'une quelconque des revendications 10 à 22, comprenant une cassette (218) destinée à contenir des articles de marchandise, la cassette pouvant être montée de manière coulissante sur la crémaillère ; moyennant quoi la cassette et son contenu confèrent un poids pour pousser les articles de marchandise vers une extrémité de distribution d'une tablette.

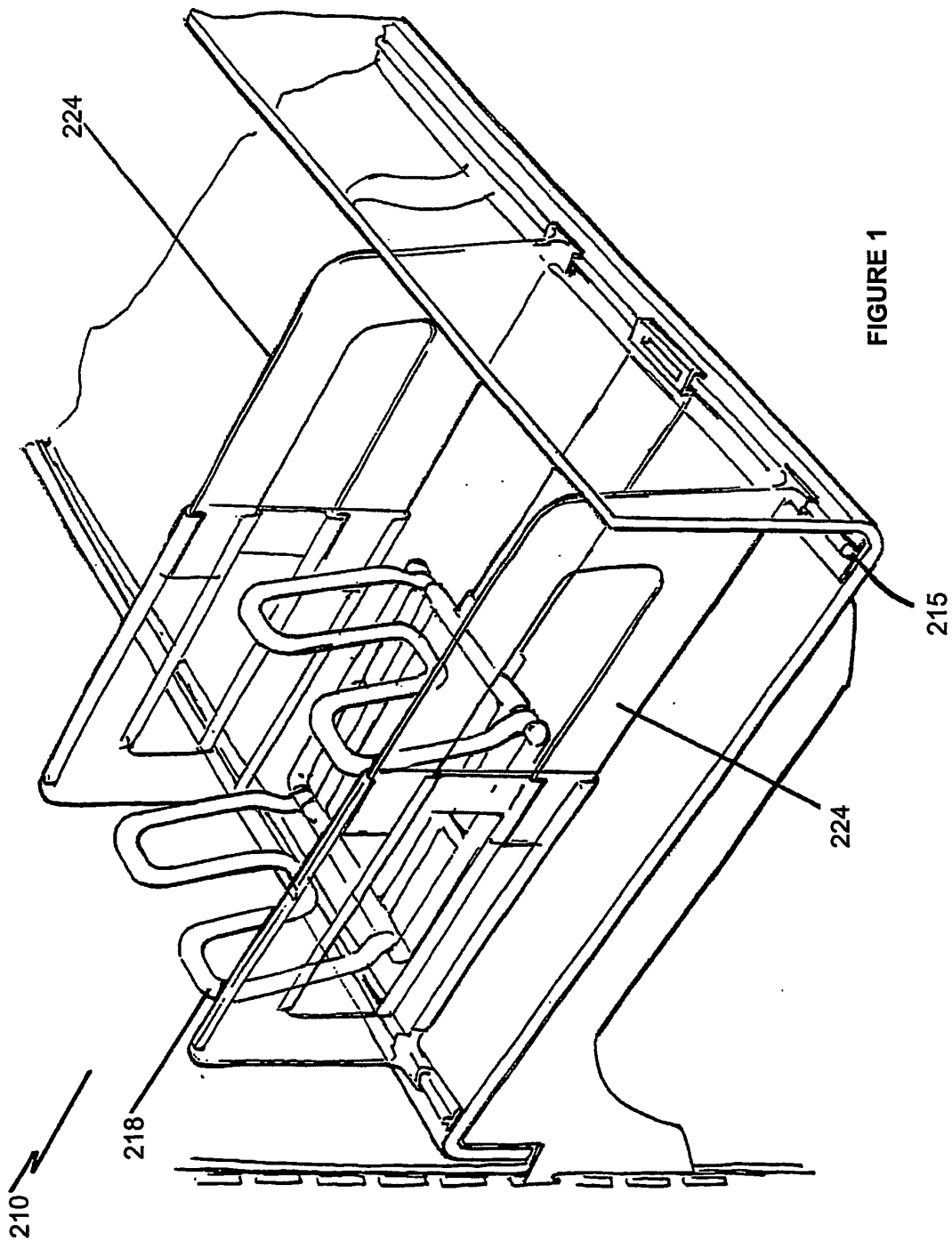
24. Système de gestion de tablettes selon la revendication 23, dans lequel la cassette (218) est fabriquée à partir d'un matériau à faible coefficient de frottement, et peut être glissée sur la crémaillère.

25. Système de gestion de tablettes selon la revendication 23, dans lequel la cassette (218) est pourvue de points en matériau à faible coefficient de frottement qui peuvent être glissés sur la surface de la tablette sur laquelle l'appareil est monté.

26. Système de gestion de tablettes selon la revendication 23, dans lequel la cassette est pourvue de roulettes ou galets qui lui permettent de glisser directement sur la surface de la tablette.

27. Système de gestion de tablettes selon l'une quelconque des revendications 23 à 26, dans lequel la cassette (218) comprend une base, une paroi arrière et une paroi avant, les parois avant et arrière étant fixées de manière pivotante à la base de façon à être pliables d'une position de transport généralement plate à une position de fonctionnement pliée.

28. Système de gestion de tablettes selon l'une quelconque des revendications 24 à 27, dans lequel la cassette comprend une paroi avant, une base et une paroi arrière fabriquées dans du métal de façon à conférer du poids à la cassette.



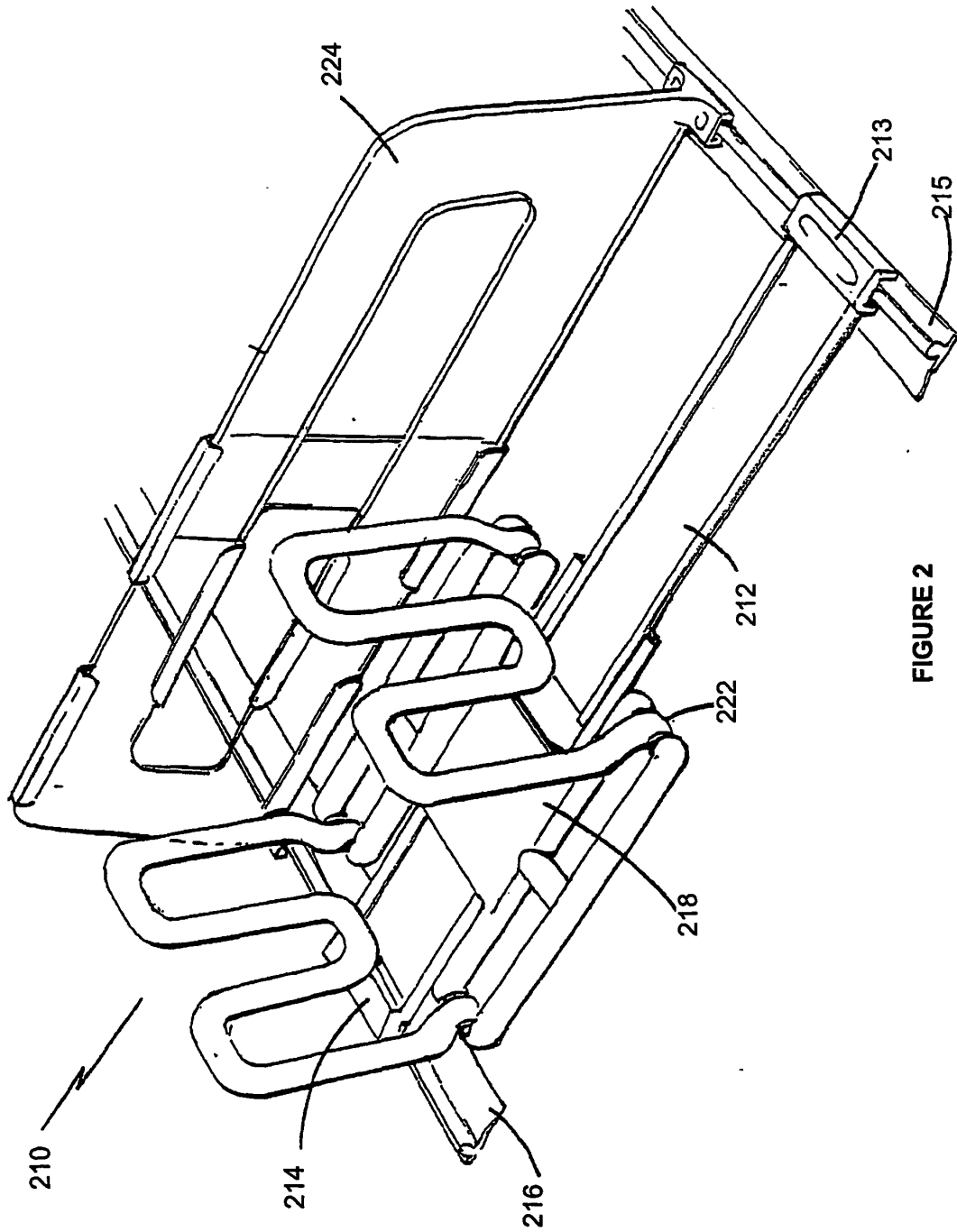


FIGURE 2

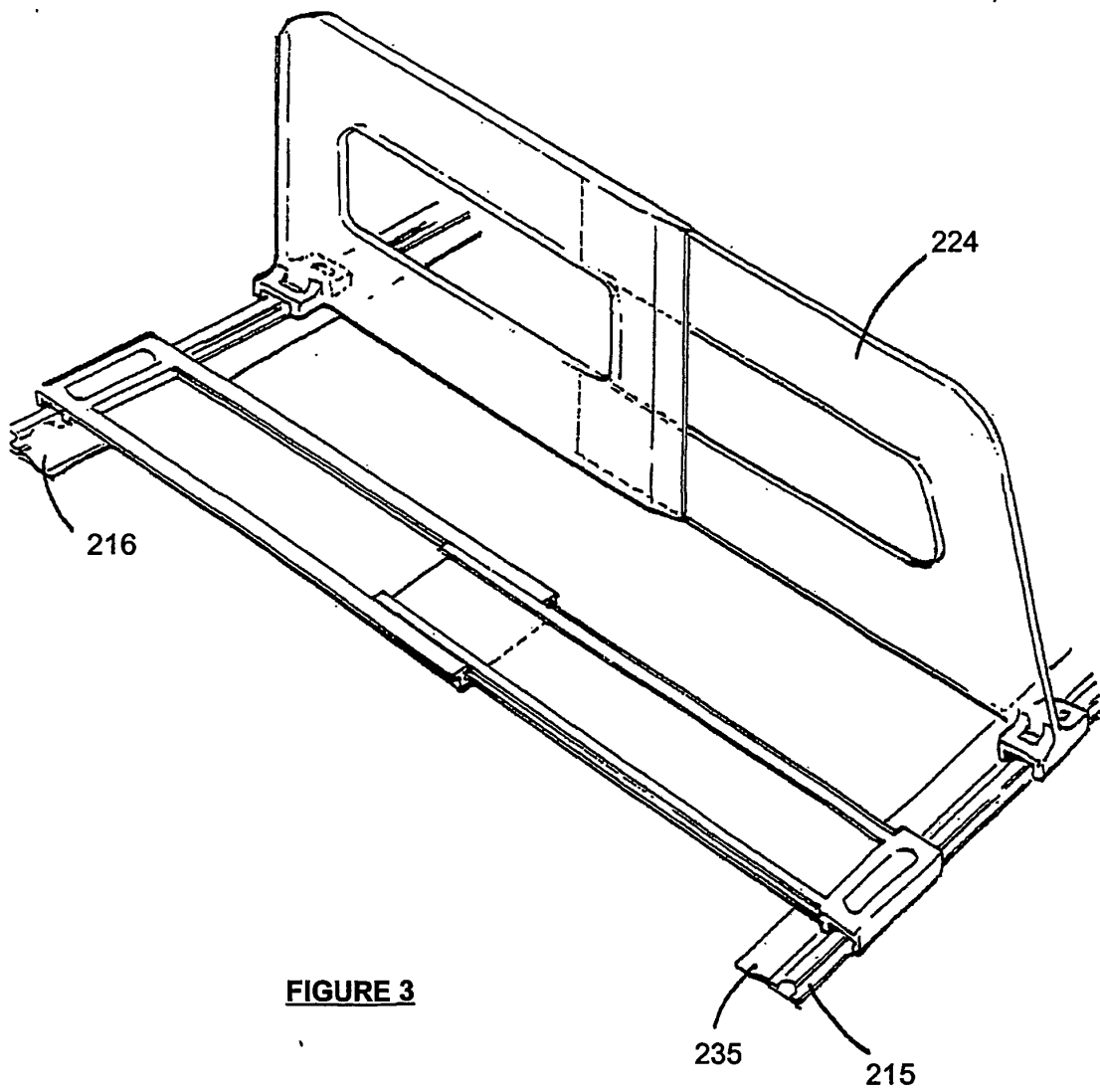


FIGURE 3

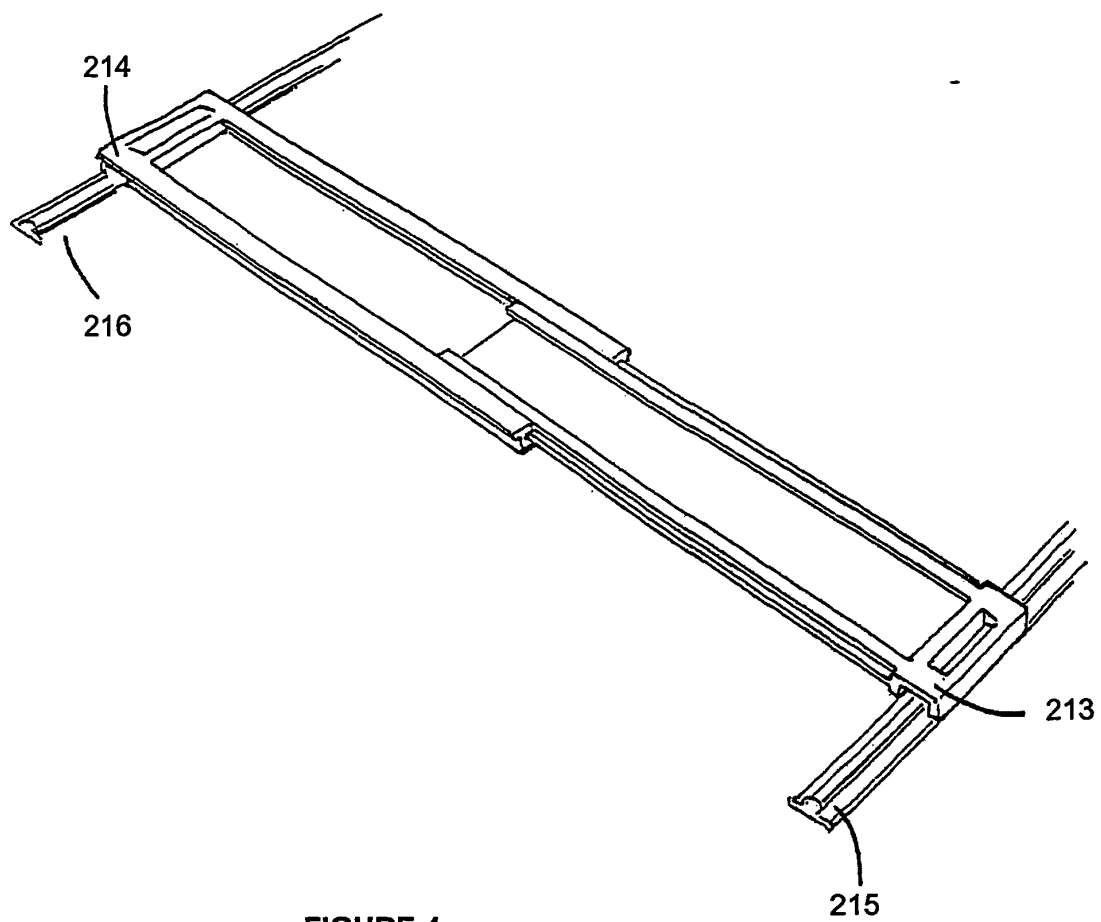


FIGURE 4

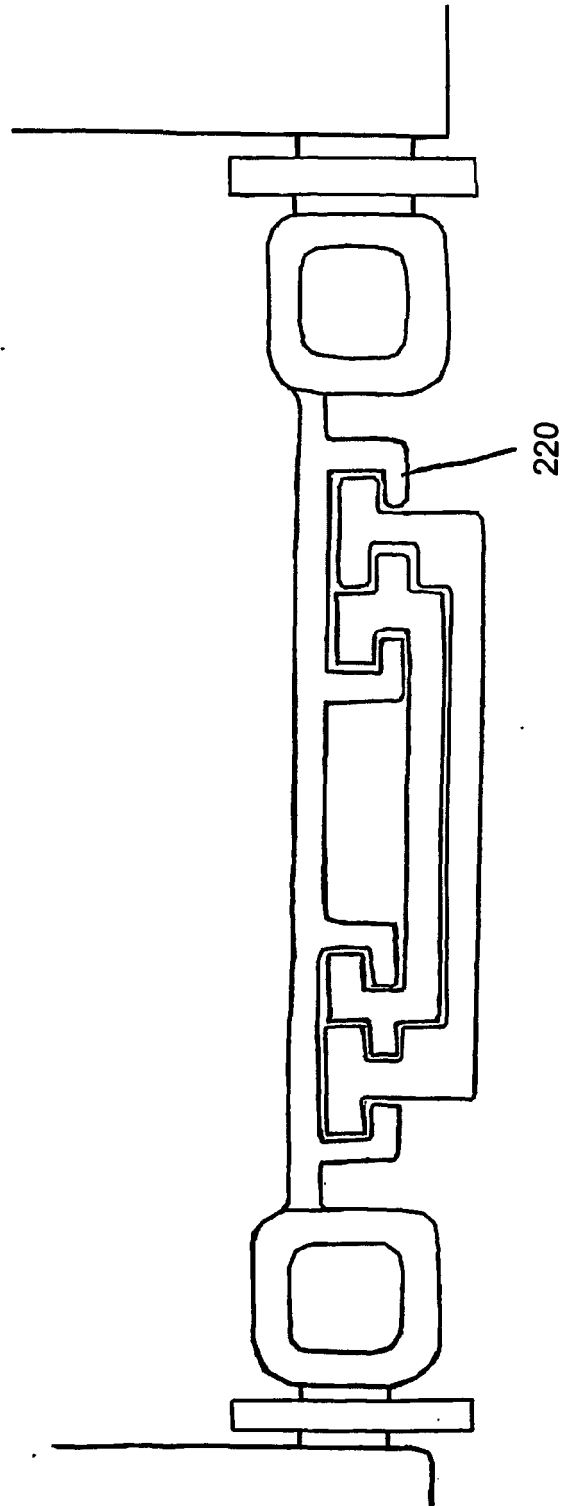


FIGURE 5

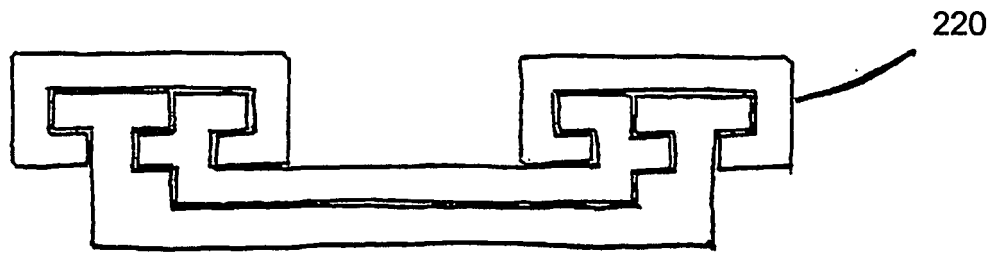


FIGURE 6



FIGURE 7

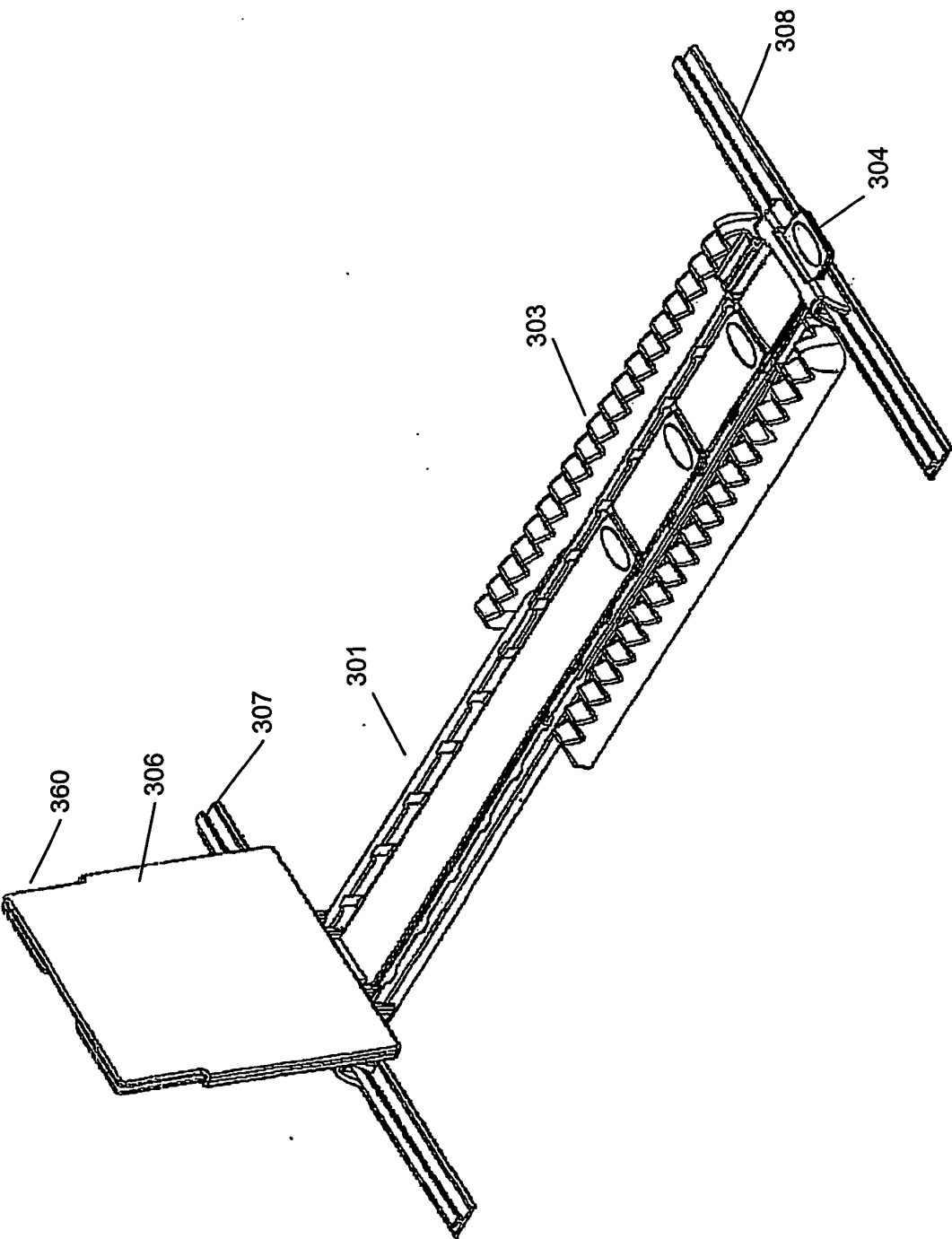


FIGURE 8

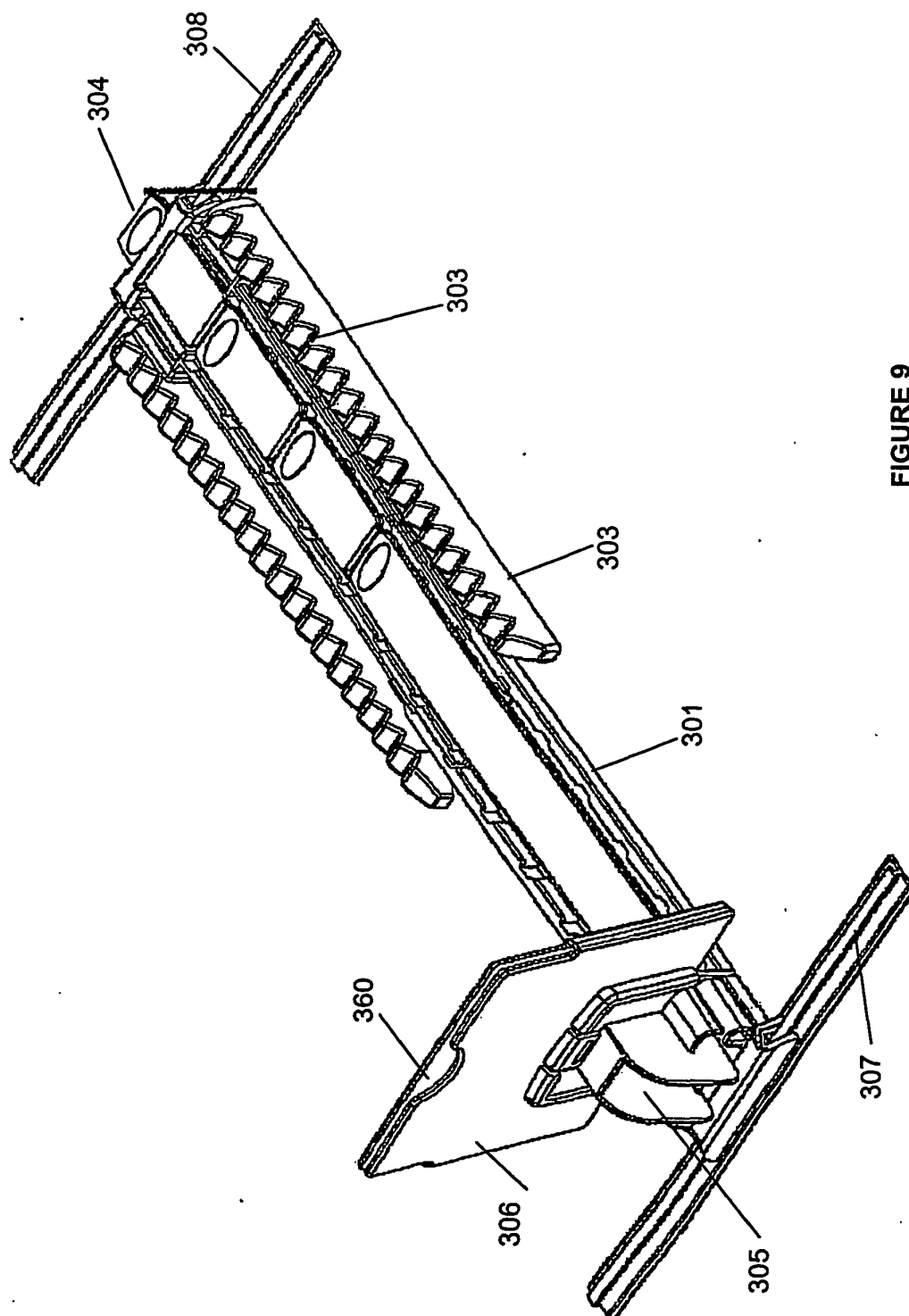


FIGURE 9

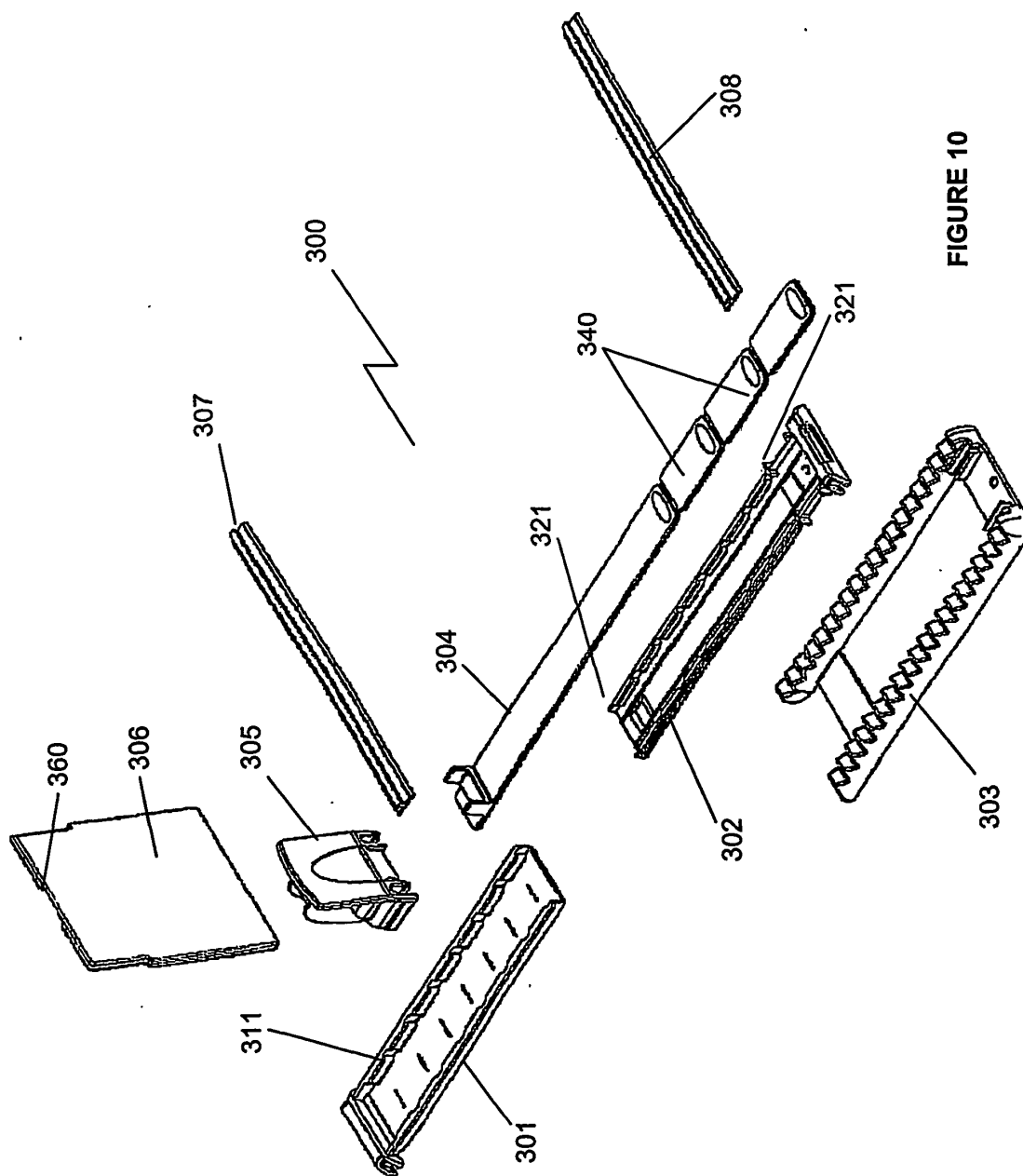


FIGURE 10

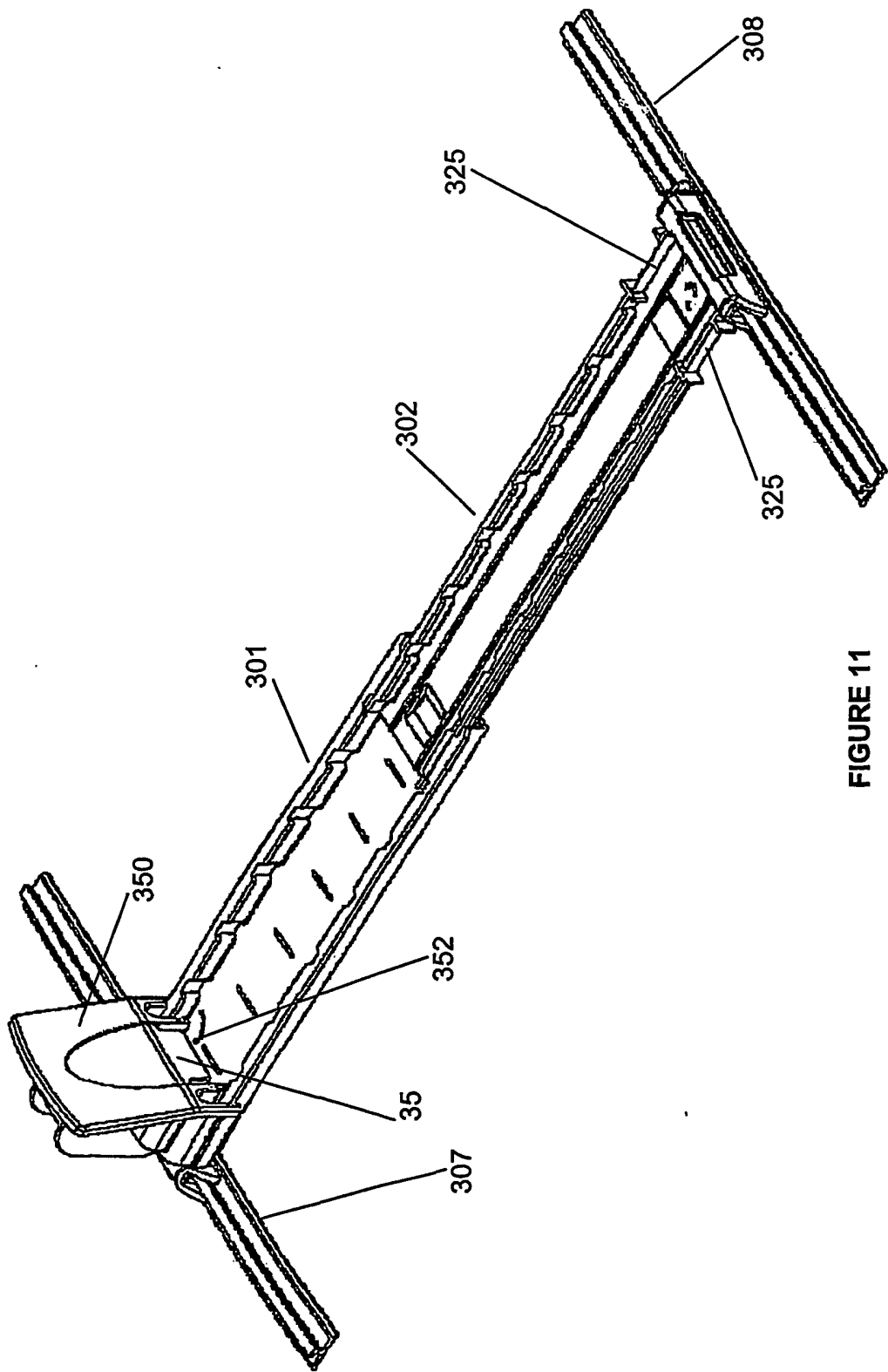


FIGURE 11

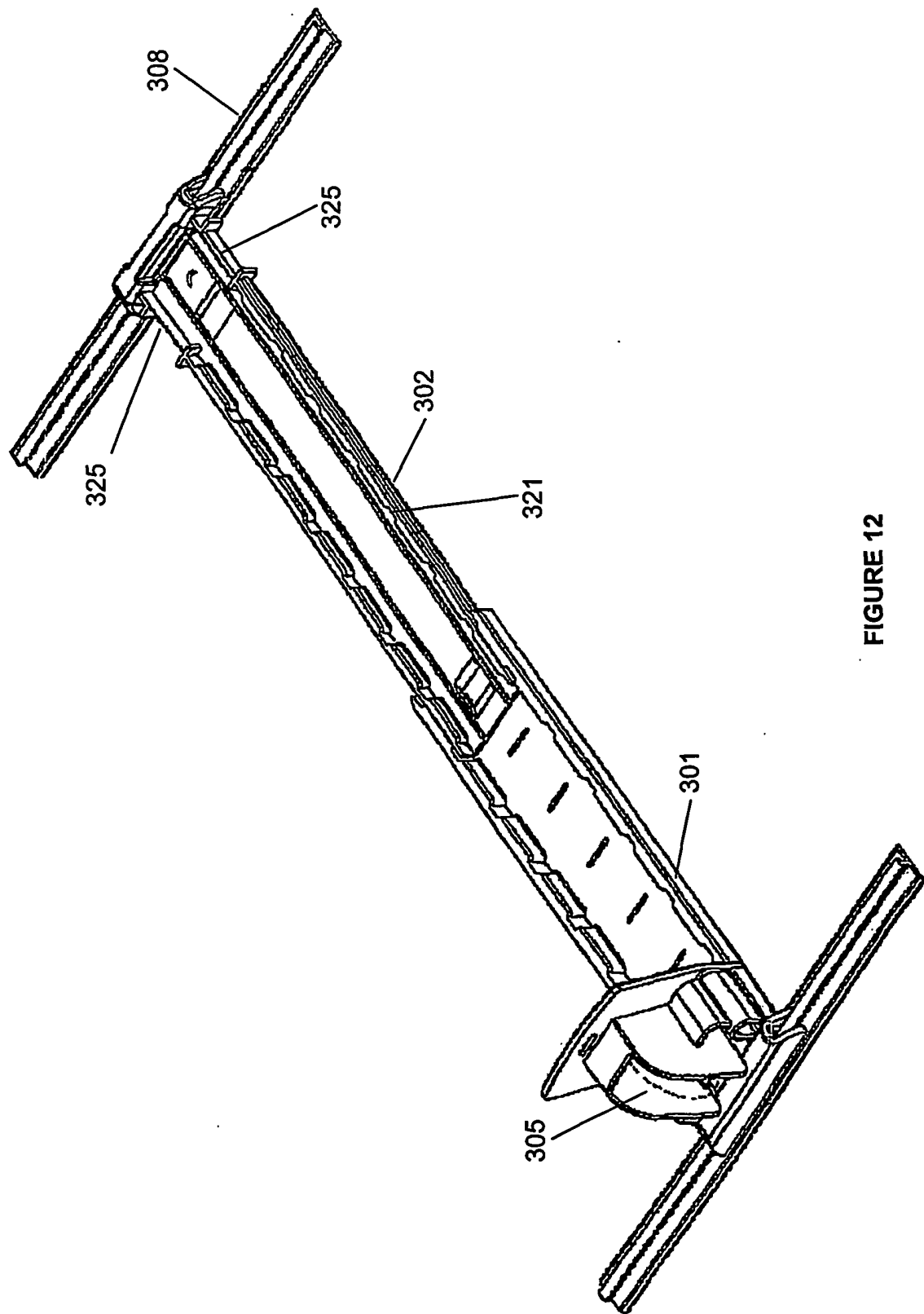


FIGURE 12

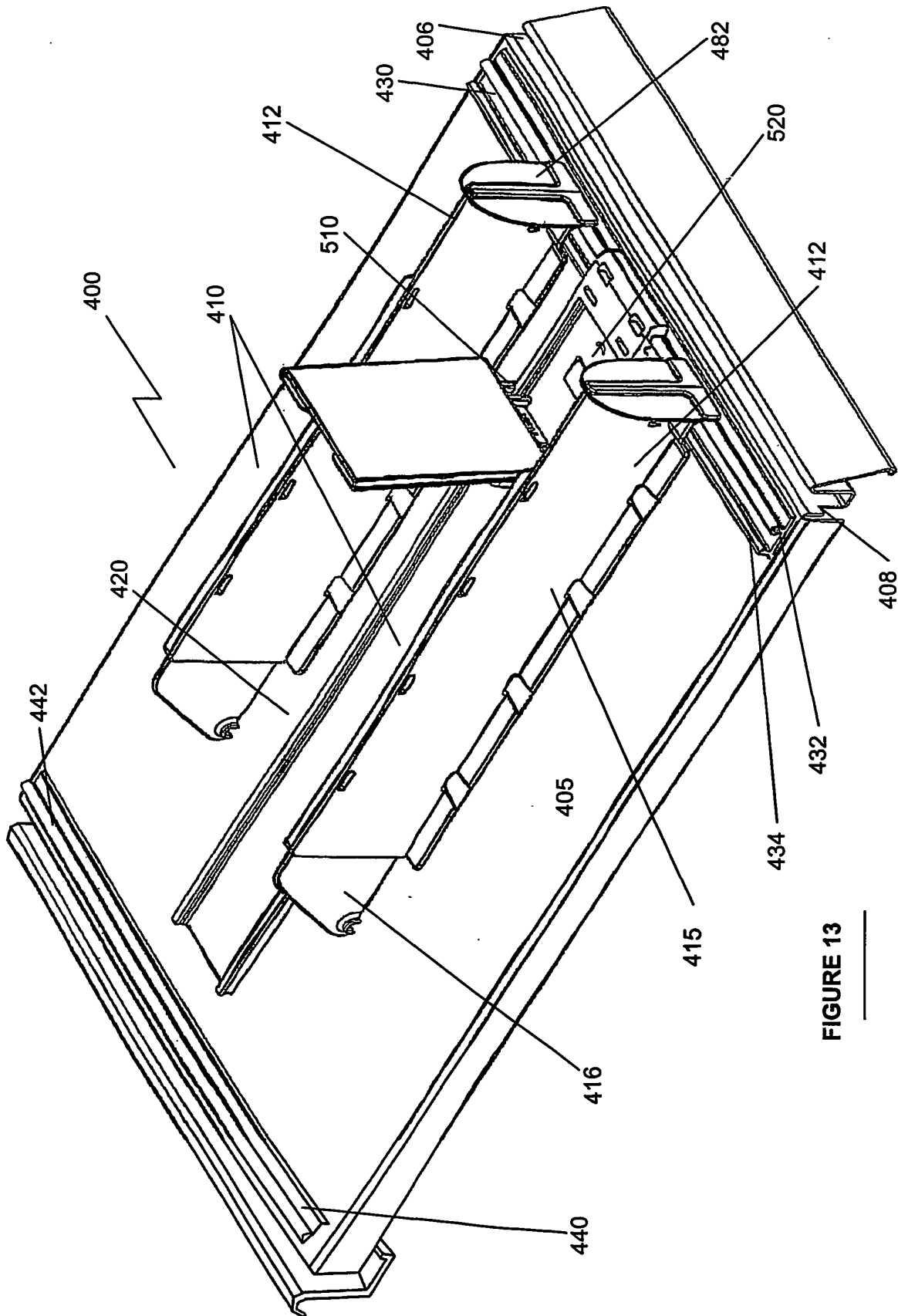


FIGURE 13

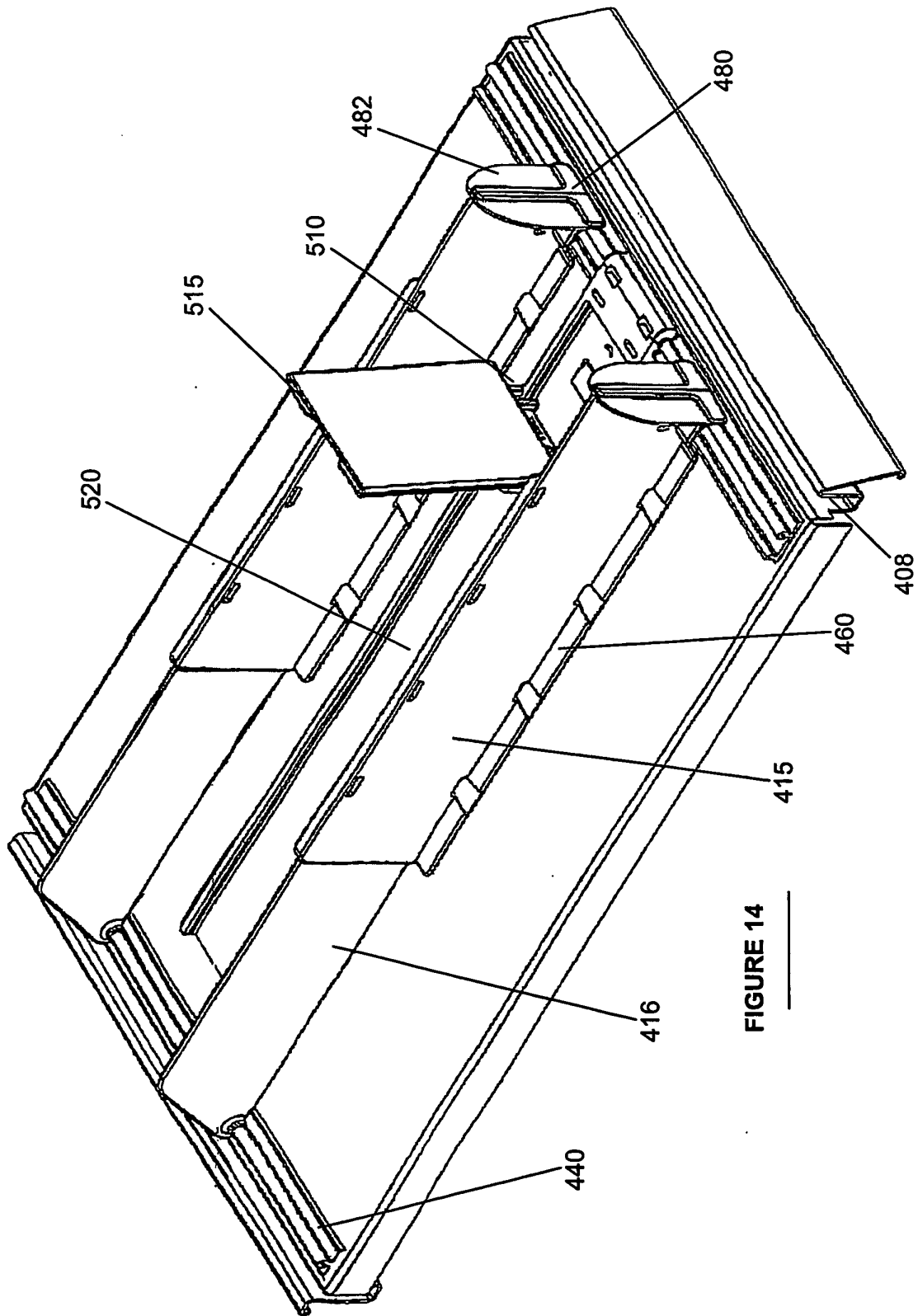


FIGURE 14

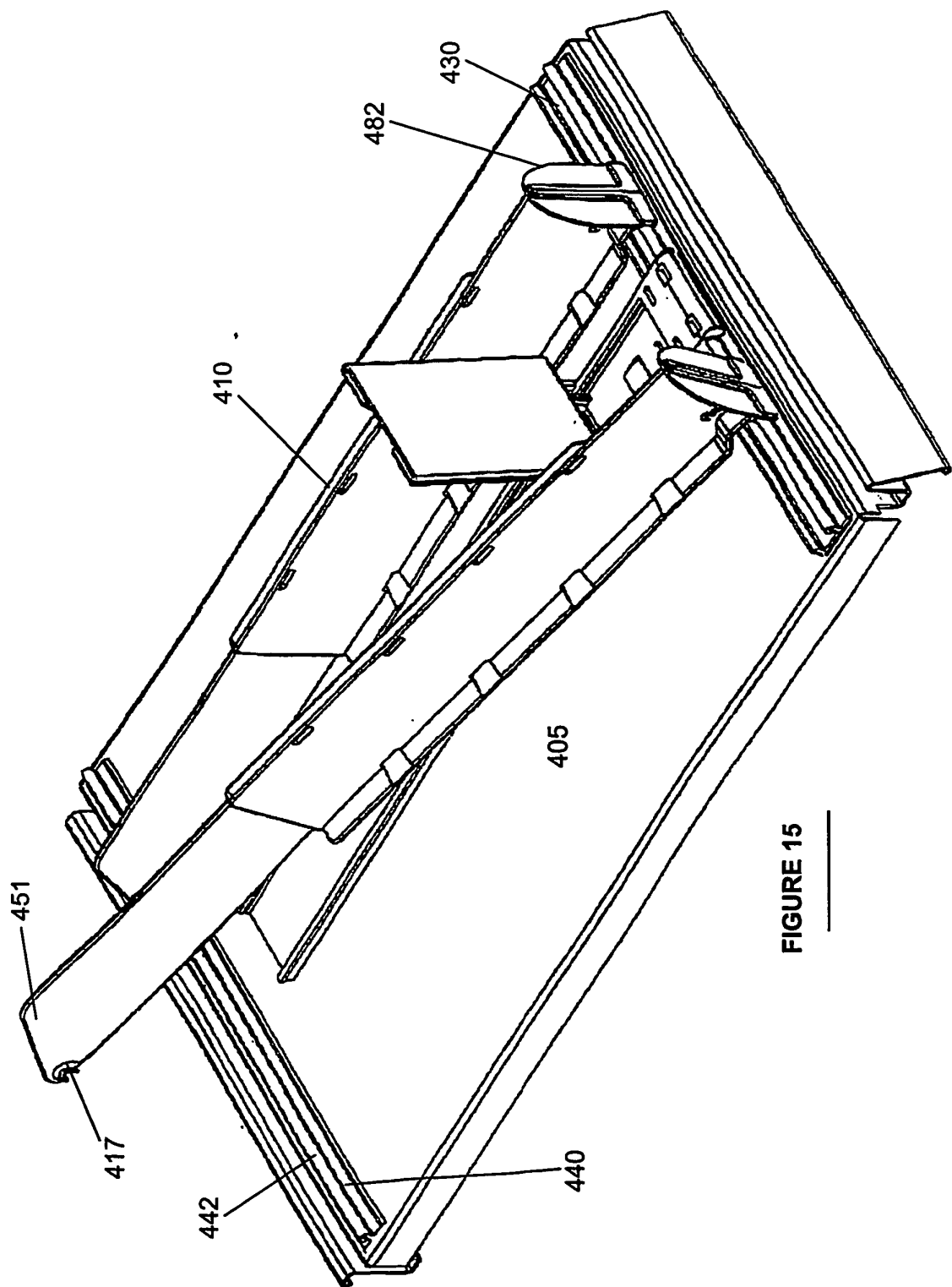
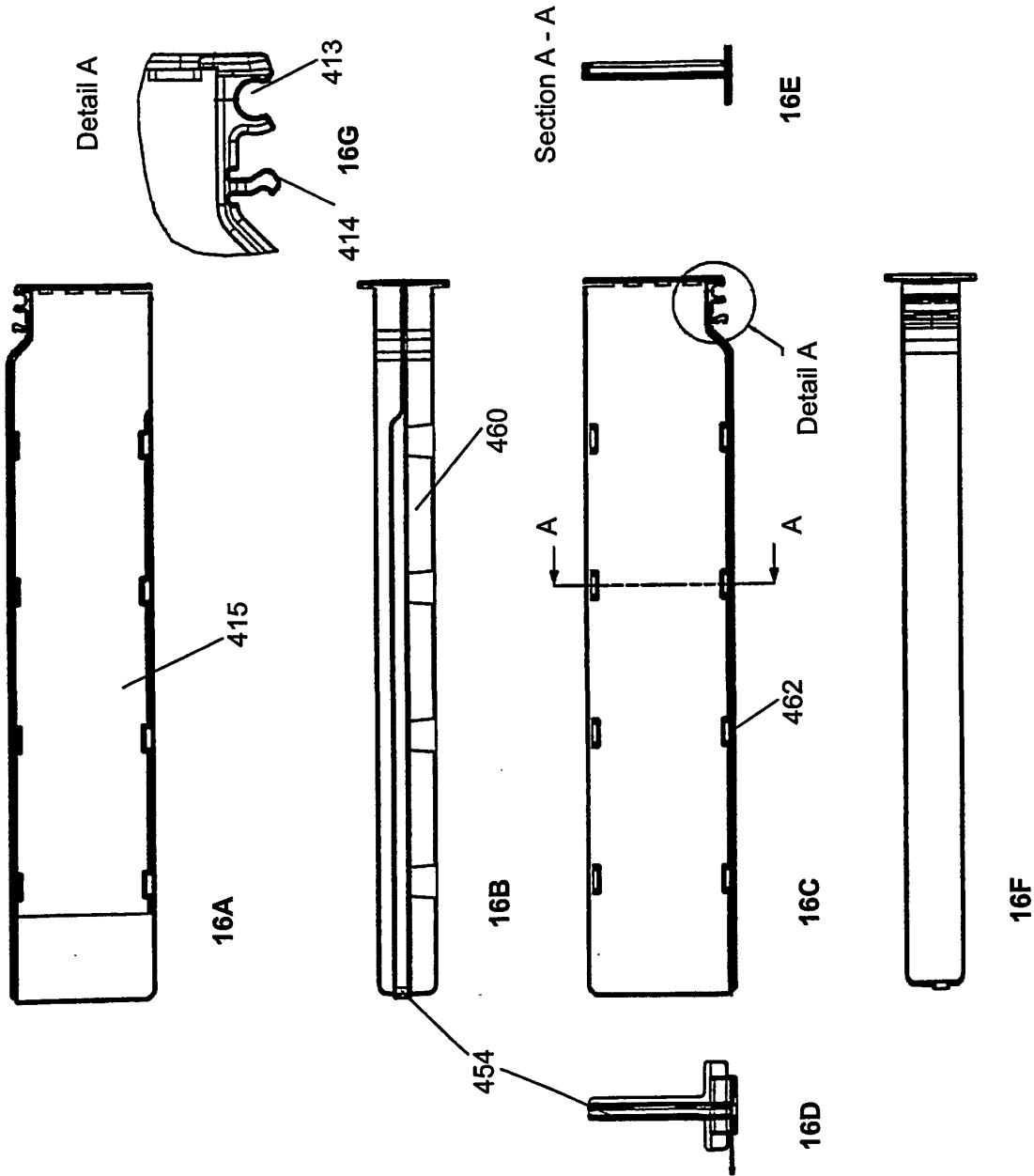


FIGURE 15

FIGURE 16



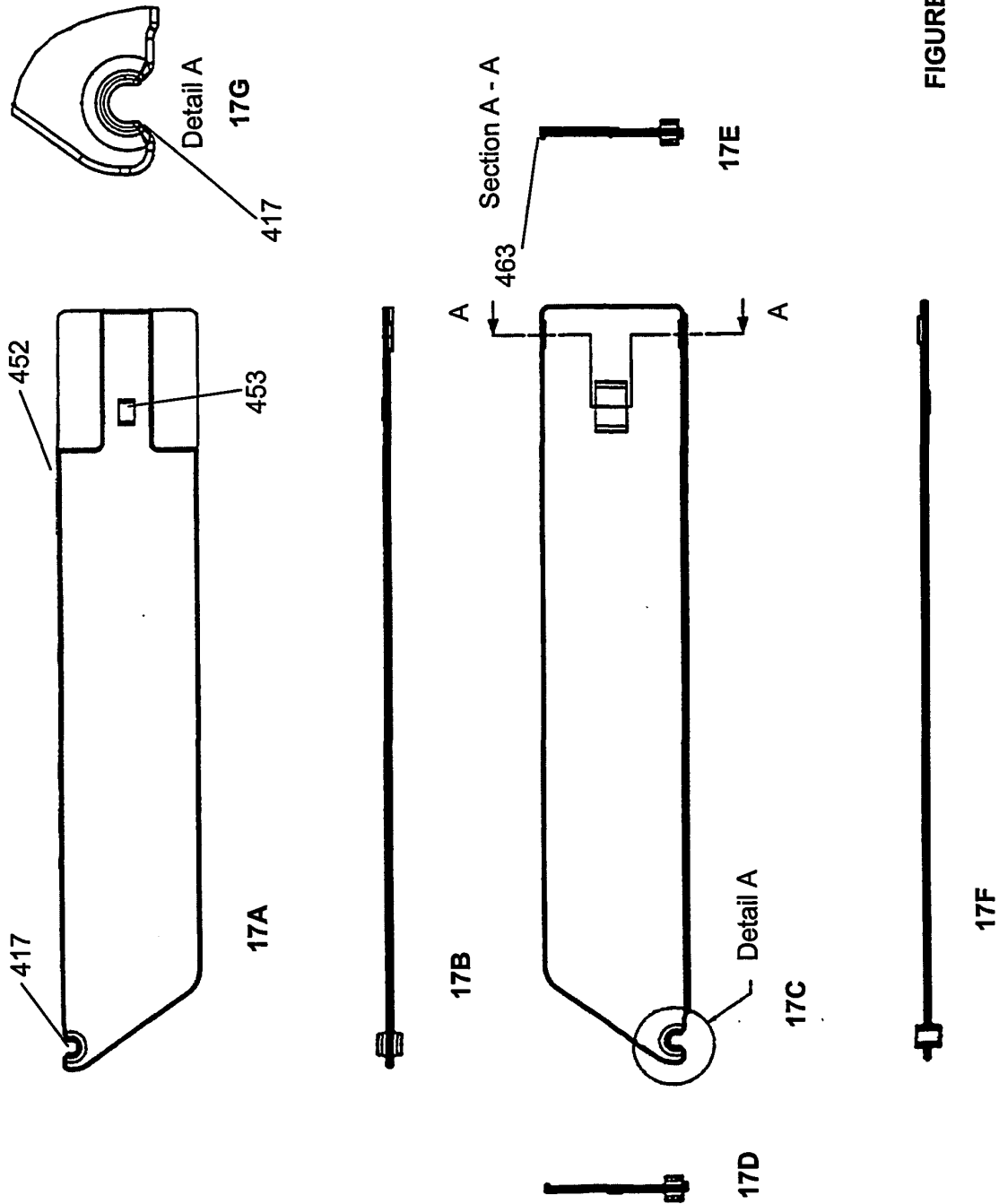
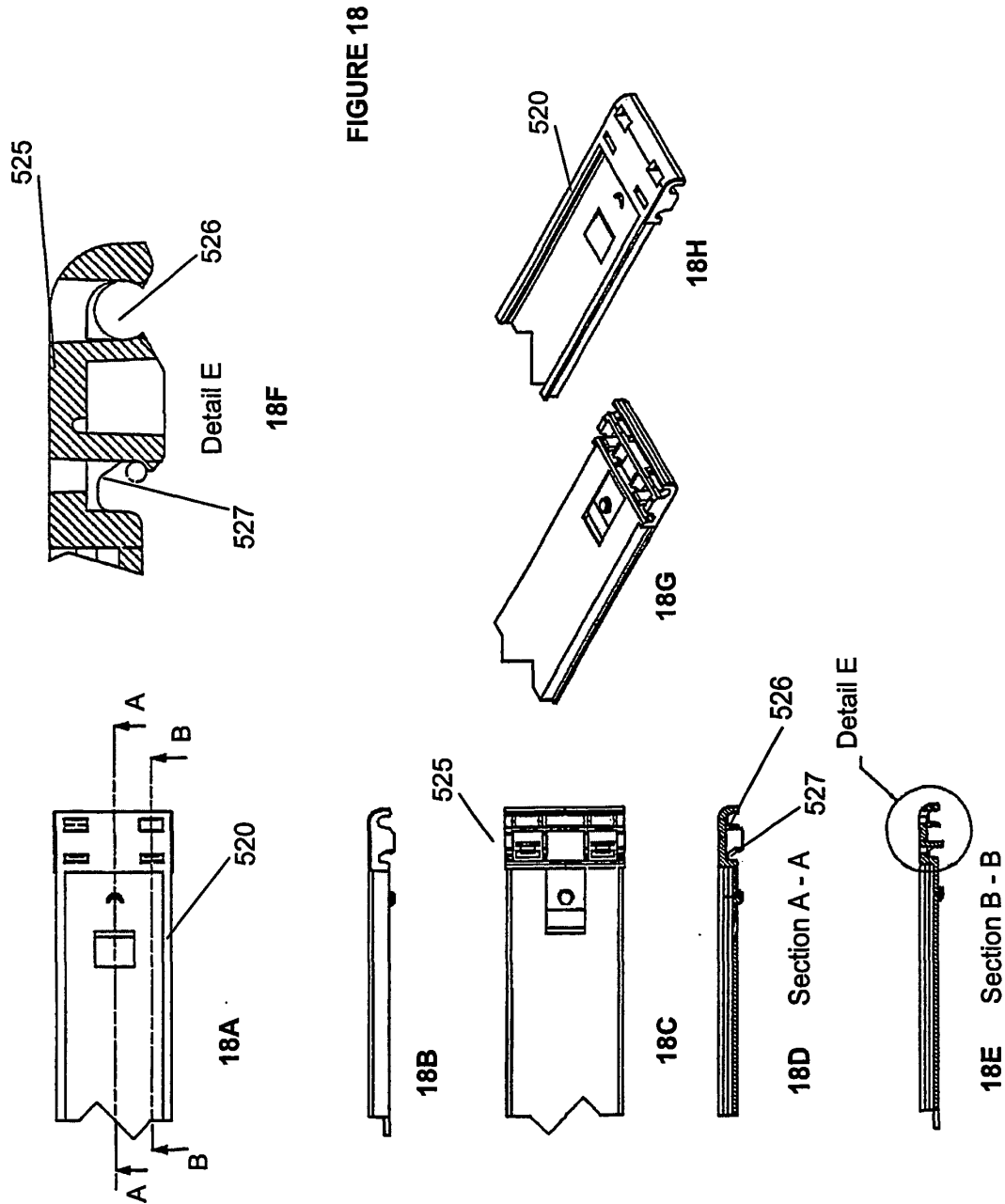


FIGURE 17



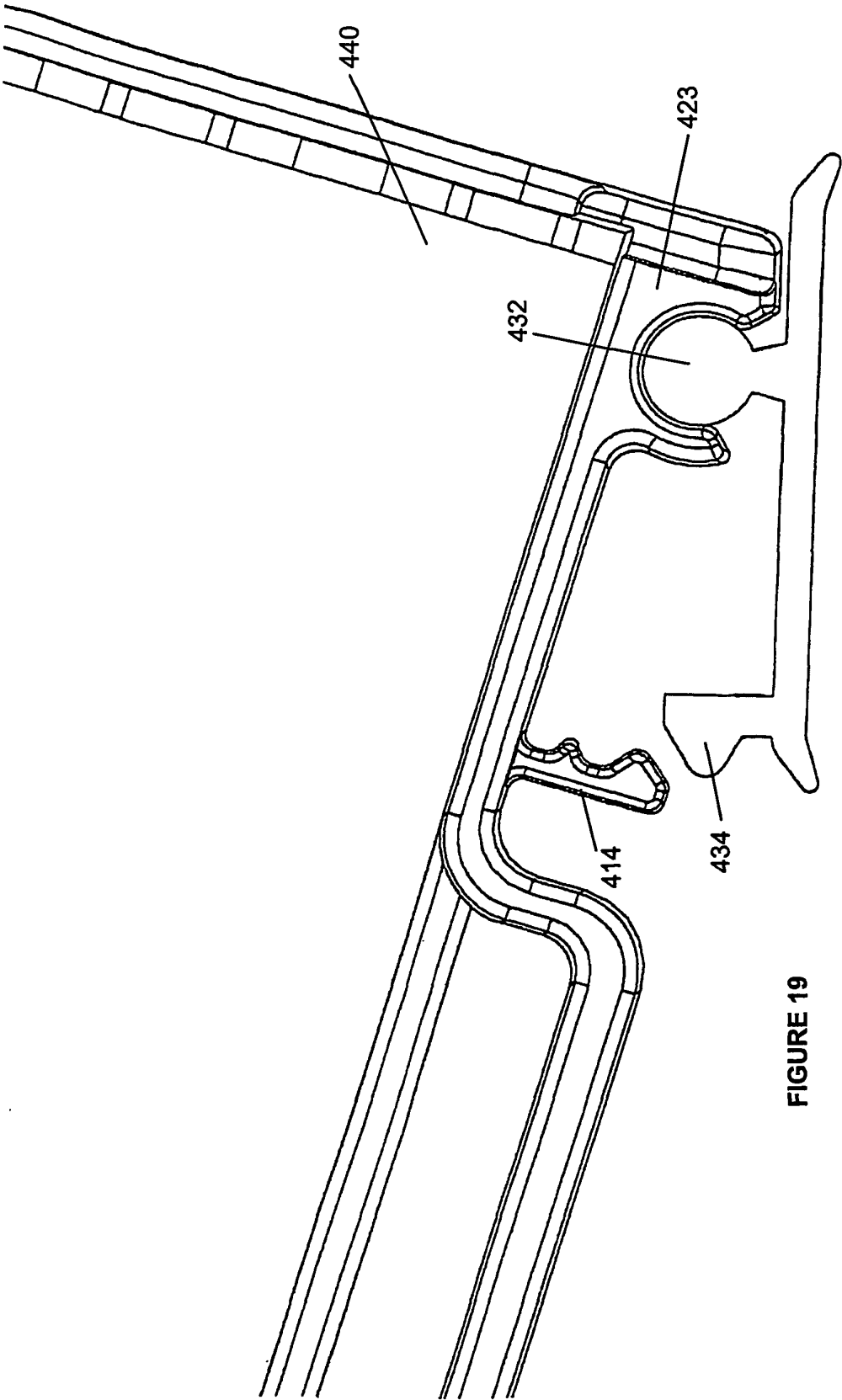


FIGURE 19

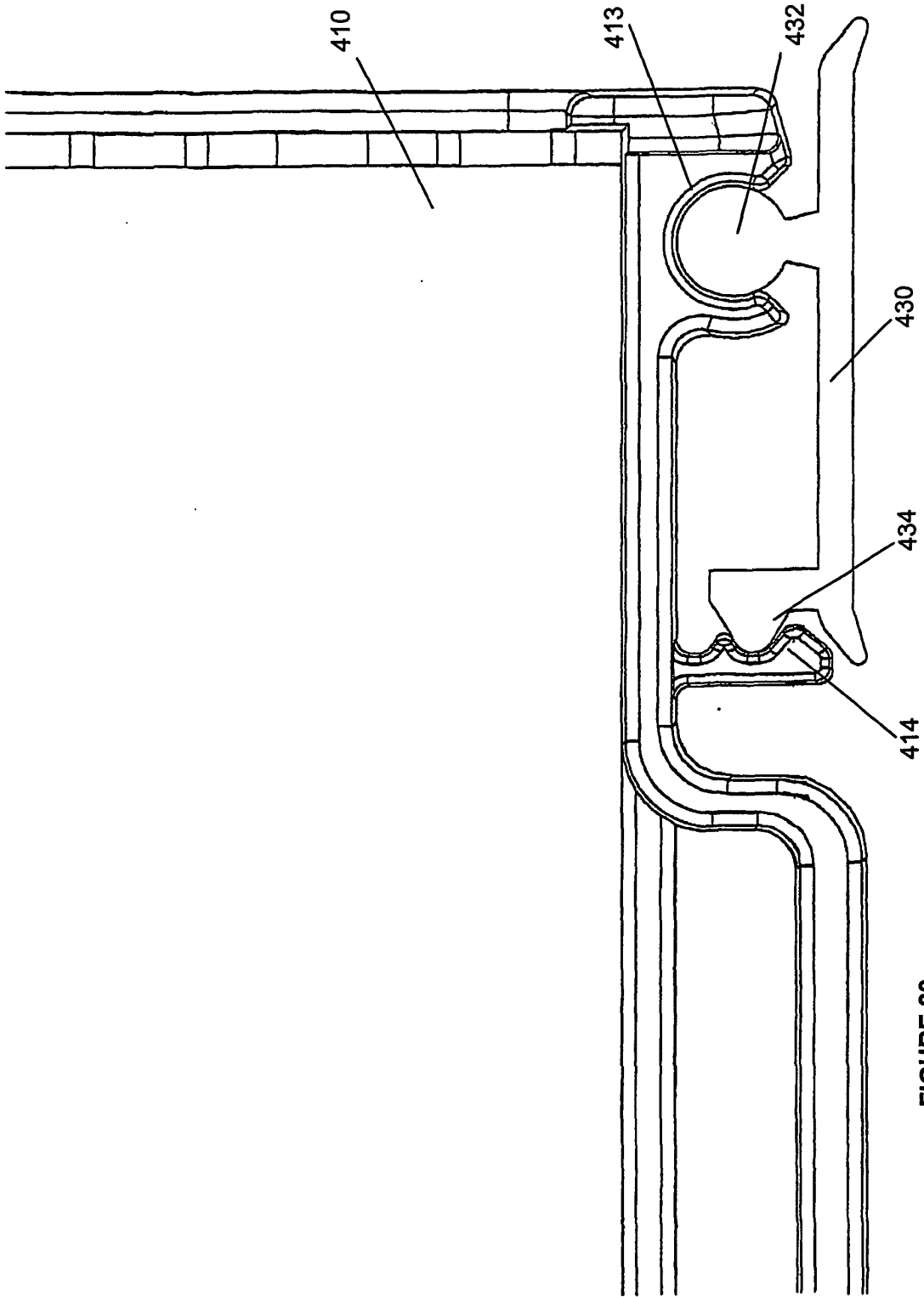


FIGURE 20

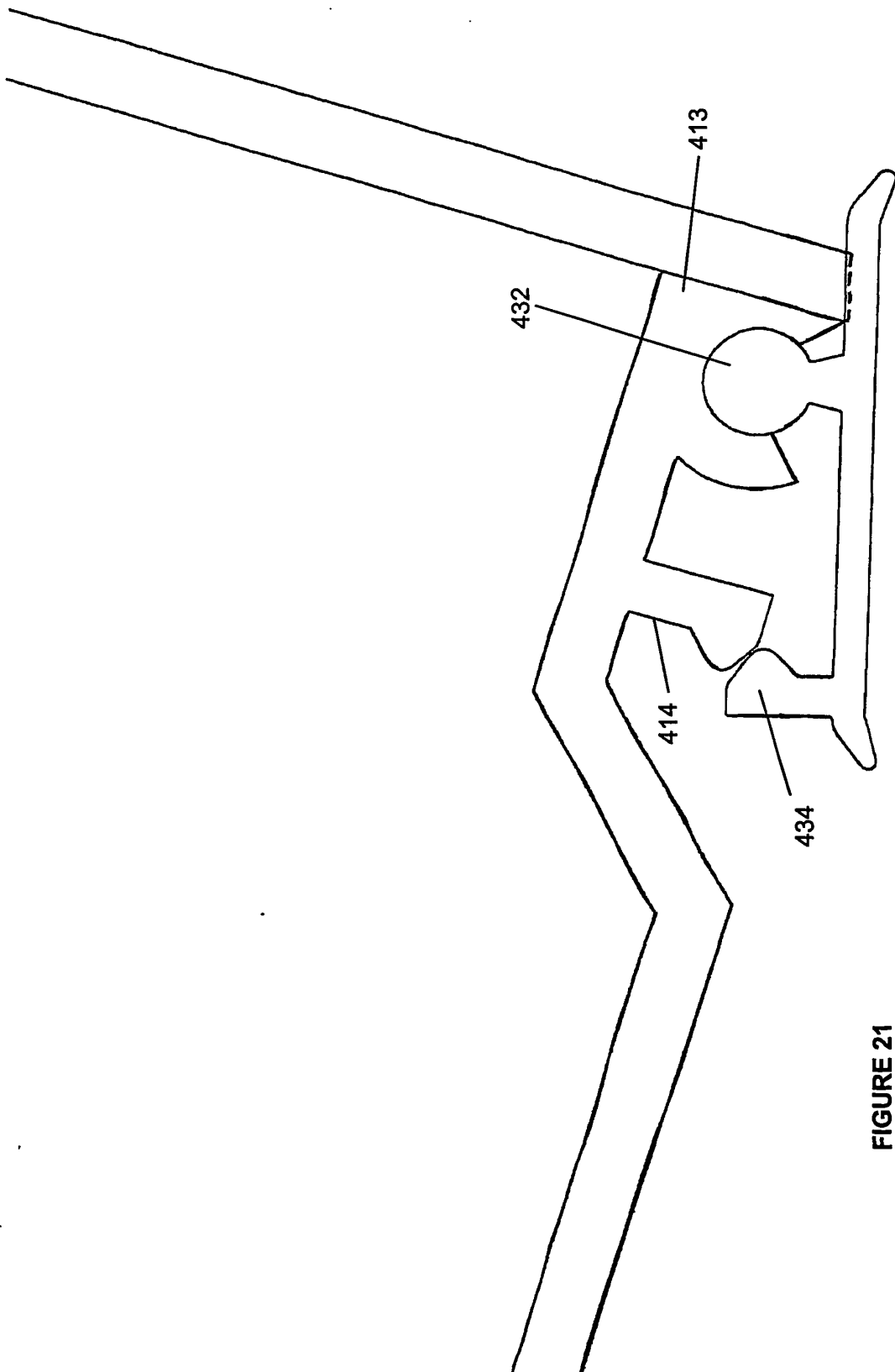


FIGURE 21

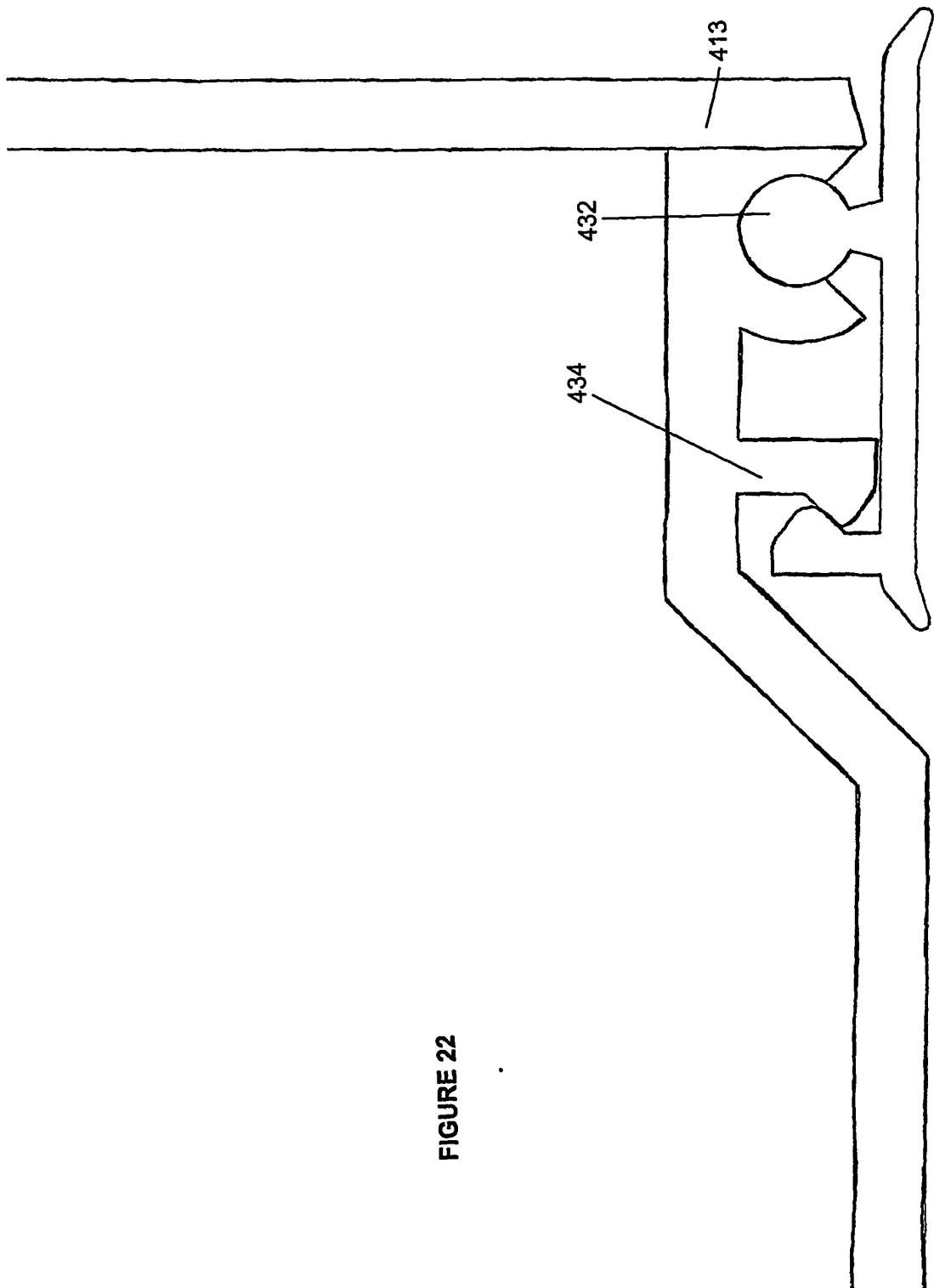


FIGURE 22

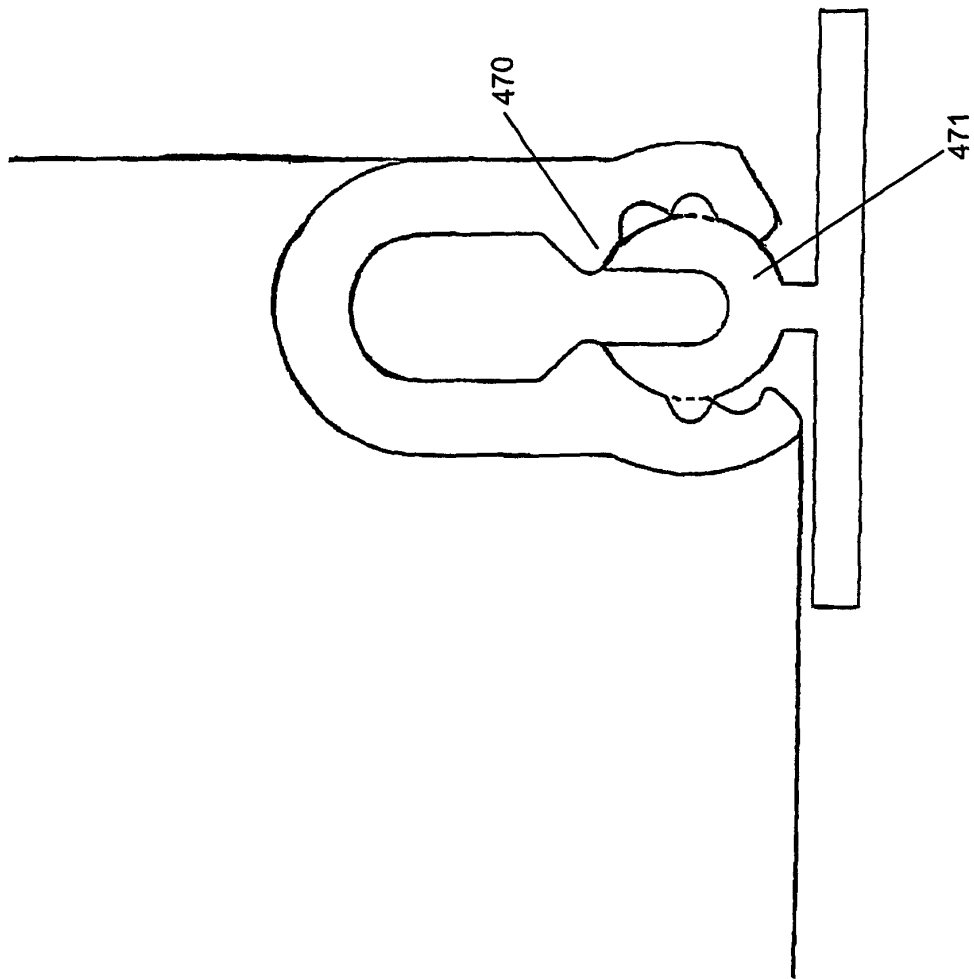


FIGURE 23

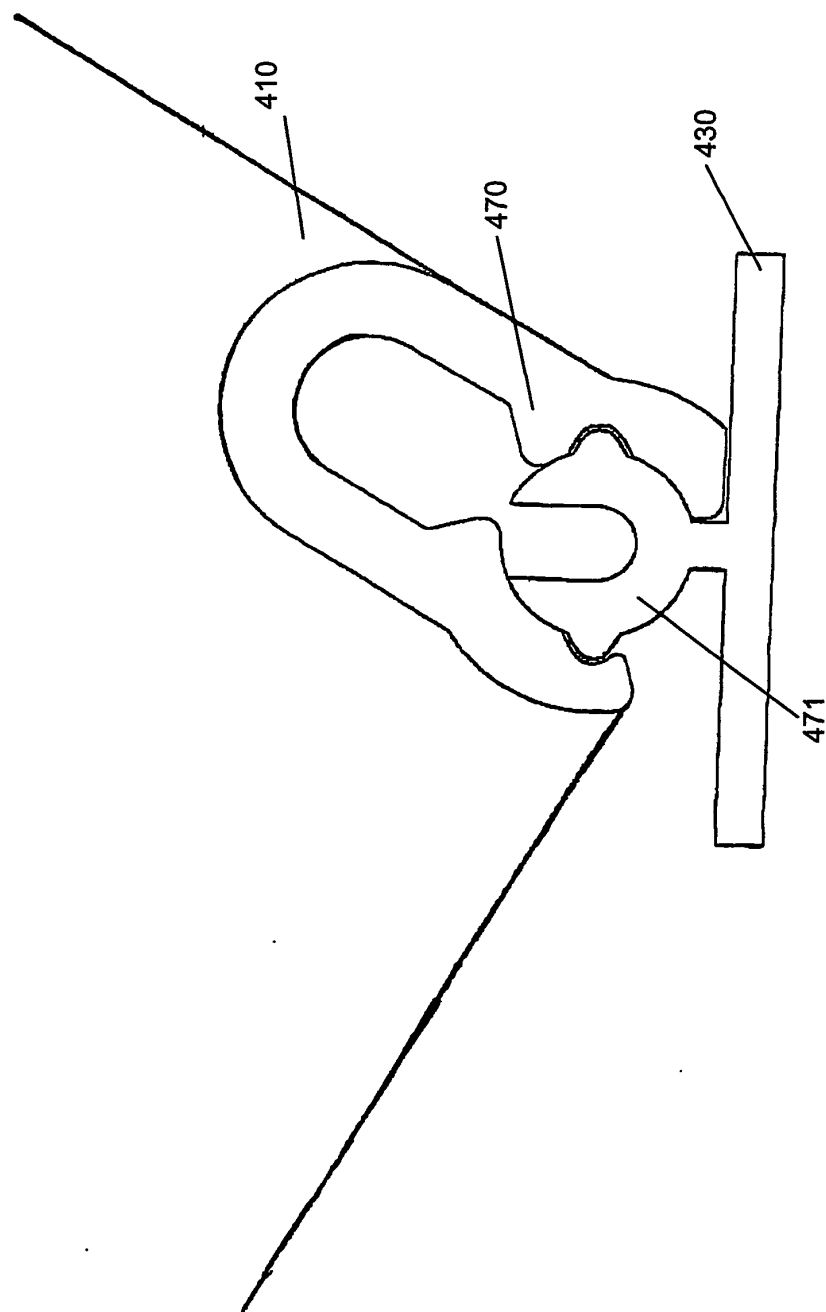


FIGURE 24

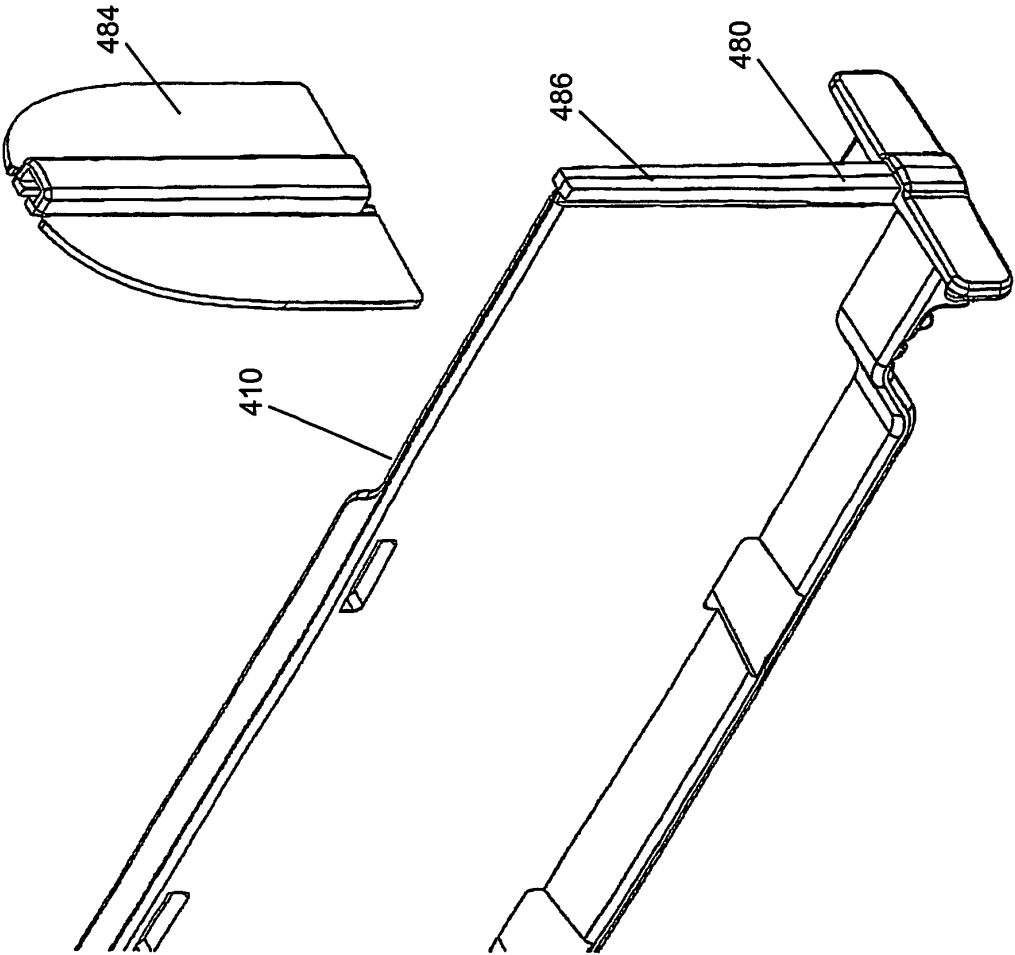


FIGURE 25

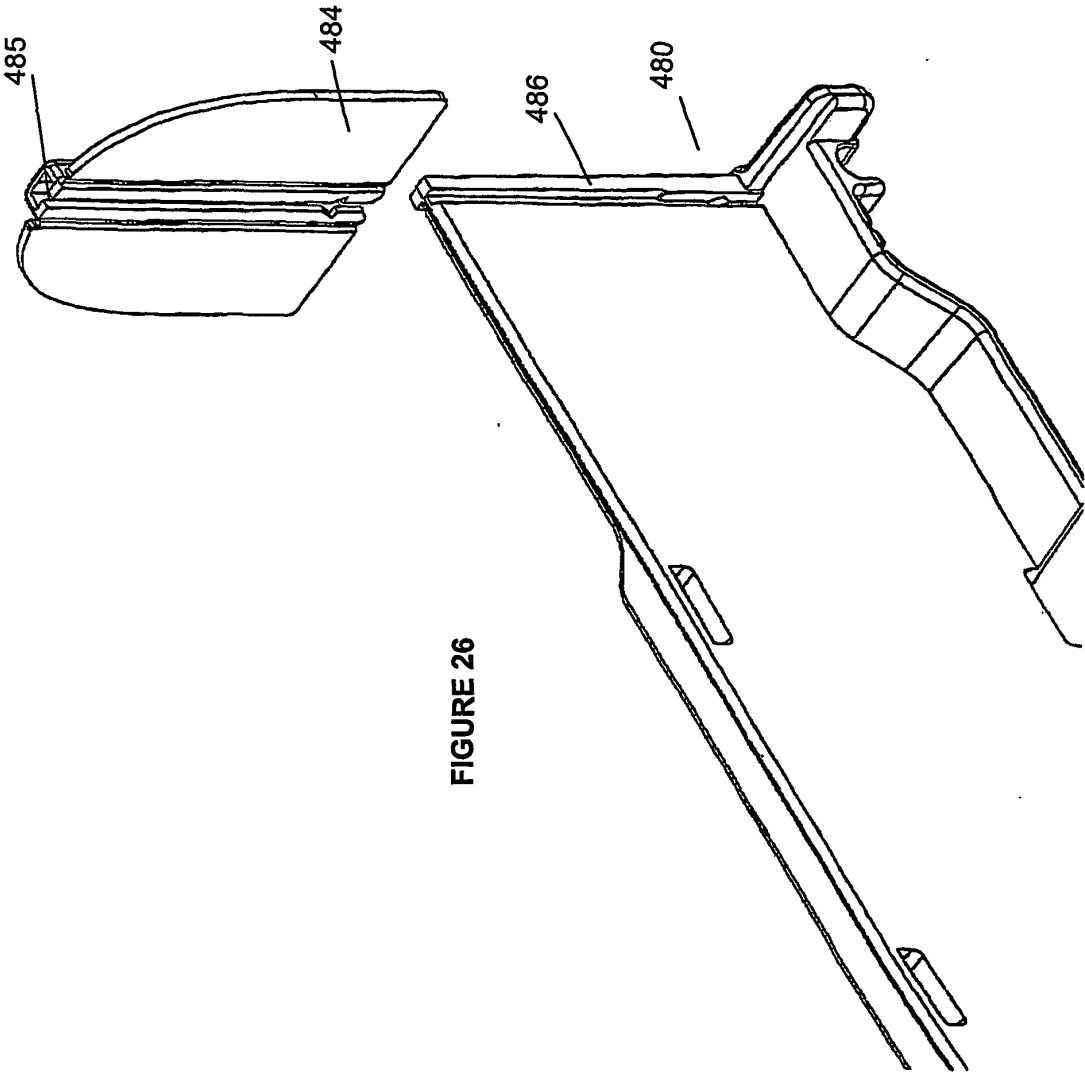


FIGURE 26

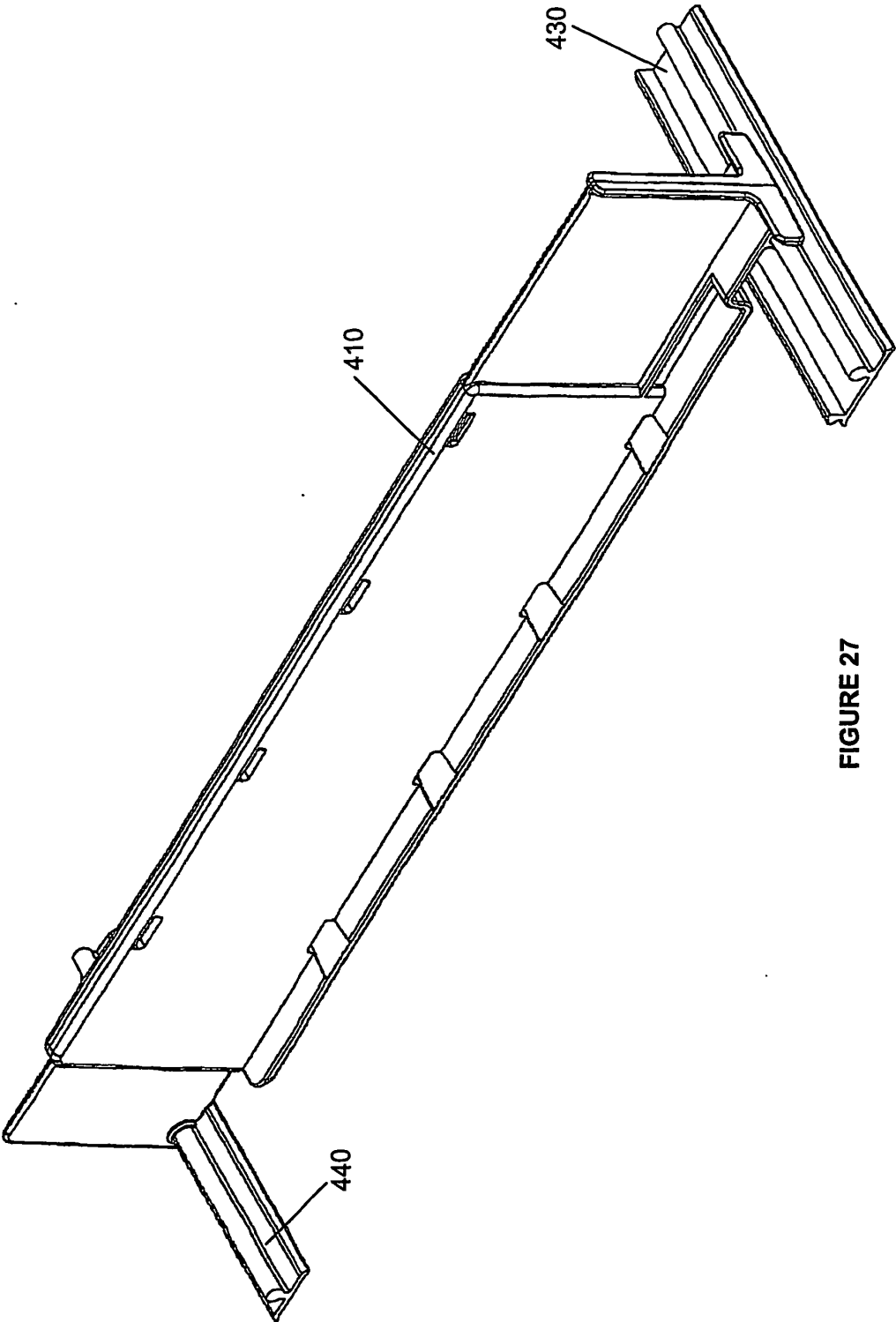


FIGURE 27

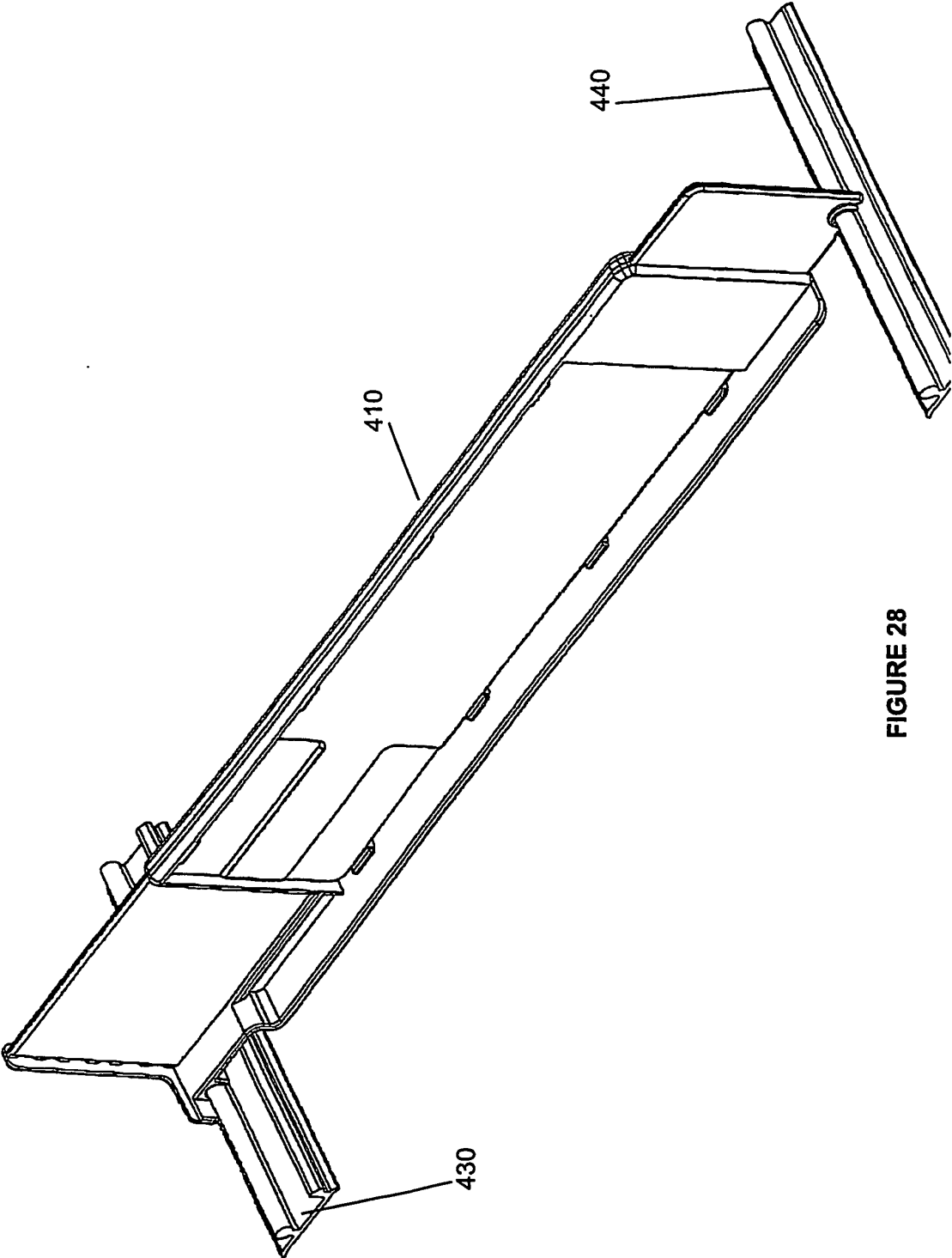


FIGURE 28