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CA 2628723 A1 2008/10/09

(21) 2 628 723

(12) DEMANDE DE BREVET CANADIEN
CANADIAN PATENT APPLICATION

(13) A1

(22) Date de dépôt/Filing Date: 2008/04/09

(41) Mise à la disp. pub./Open to Public Insp.: 2008/10/09

(30) Priorité/Priority: 2007/04/09 (US11/697,874)

(51) Cl.Int./Int.Cl. *B60P 7/10* (2006.01), *B60P 7/13* (2006.01), *B65D 88/12* (2006.01), *B65G 67/02* (2006.01)

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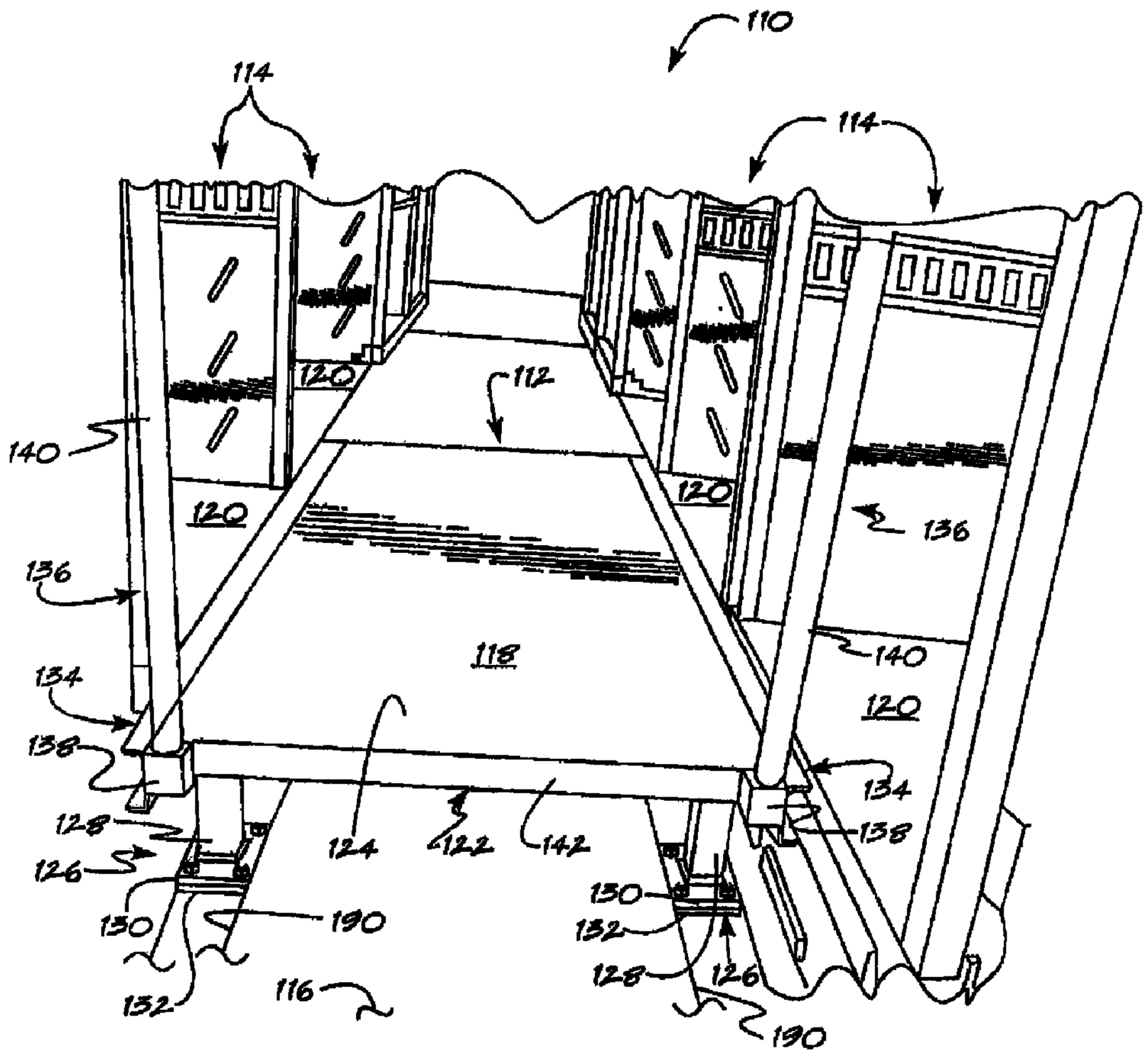
(54) Titre : ENGIN DE MANUTENTION DU FRET
(54) Title: FREIGHT HANDLING APPARATUS



(57) Abrégé/Abstract:
A freight handling apparatus includes at least one of a container or a platform. The container has a front to receive freight and a first retaining feature disposed at the front. The platform has a side that may be laterally opposed to the front of the container and a

CA 2628723 A1 2008/10/09

(21) 2 628 723

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(57) Abrégé(suite)/Abstract(continued):
second retaining feature disposed at the side. The platform retaining feature may cooperate with the container retaining feature to releasably retain the platform to the container.

Abstract of the Disclosure

A freight handling apparatus includes at least one of a container or a platform. The container has a front to receive freight and a first retaining feature disposed at the front. The platform has a side that may be laterally opposed to the front of the container and a second retaining feature disposed at the side. The platform retaining feature may cooperate with the container retaining feature to releasably retain the platform to the container.

FREIGHT HANDLING APPARATUS

Cross-Reference To Related Applications

[0001] This application claims the benefit of and incorporates herein by reference in its entirety U.S. Provisional Application Serial No. 60/633,929, filed December 7, 2004, and is a continuation-in-part of U.S. Application Serial No. 11/295,795, filed December 7, 2005, which is incorporated herein by reference in its entirety.

Field of the Invention

[0002] This invention relates generally to freight systems for freight carriers and, more particularly, to a freight handling apparatus to be transported in a freight carrier.

Background of the Invention

[0003] A system which is presently commonly used to handle and transport cases of beverage containers, for example, from a manufacturing and/or distributing center to a retailer, such as a grocery store, convenience store, etc., is inherently a laborious, time-consuming operation requiring numerous delivery vehicles and operators, each covering a rather limited region. The traditional system involves stacking large numbers of containers onto large pallets at a distribution center, which are loaded into the bay wells of specially designed delivery trucks.

[0004] Upon arrival at a delivery site, the operator fills the particular order by individually selecting the particular containers from the various bays. The operator

unloads the containers by hand and places them onto a hand truck or wheeled dolly typically resting on a lower level than the containers for transport into the facility of the recipient. It takes considerable time and physical effort to fill an order in this manner, inasmuch as it requires the operator to select the appropriate brand and quantity of containers called for by the order, and then to physically remove the various containers from the bays, restack them onto the hand truck or dolly, and transport the containers from the delivery truck into the retail facility.

Summary of the Invention

[0005] A first exemplary implementation of a presently preferred freight handling apparatus includes at least one of a container or a platform. The container has a front and a first retaining feature disposed at the front. The platform has a side that may be laterally opposed to the front of the container and a second retaining feature disposed at the side. The platform retaining feature may cooperate with the container retaining feature to releasably retain the platform to the container.

[0006] This first exemplary implementation of the apparatus may include one or more of the following additional aspects. The first retaining feature may be an opening in a portion of the container and the second retaining feature may be a latch member for cooperation with the opening. The first and second retaining features may include longitudinally extending first and second guides cooperating with one another such that the platform may be longitudinally movable along the container. The first and second guides may include guide rails. The container may include a base including risers defining fork channels and a housing carried on the risers, wherein the first retaining

feature may be carried on one of the risers along a front of the housing, and wherein the platform may include a base having a front and a side, wherein the second retaining feature may be carried by the base along the side and may be configured to be overlapped with respect to the first retaining feature when the platform is retained to the at least one container. The platform may include a base, a deck carried on the base, and supports depending from the base and including legs attached to the base, feet attached to the legs, and shoes carried by the feet. The shoes may be composed of a wearable material such as an ultra high molecular weight polymer. The platform base may include a front and removable handles carried at the front and including posts extending upwardly away from the base. A ramp may include a horizontal portion to overlap a portion of the platform, a locator pin to locate within a locating hole of the platform. A third guide feature may be disposed along a floor of the freight carrier in front of the at least one container and may be adapted to cooperate with a corresponding portion of the platform to guide the platform along the front of the at least one container.

[0007] A second exemplary implementation includes a portable floor surface for use to facilitate unloading a container having a floor. The portable floor surface includes a body having opposite front and rear ends with a lower surface and an upper surface extending between the front and rear ends. The lower surface and upper surface are spaced a predetermined distance from one another to bring the upper surface into a generally flush relation with the floor of the container when the lower surface is resting on a common floor surface with the container. The portable floor surface also includes a latch member operably associated with the body and adapted for operable engagement with the container to releasably lock the portable floor surface to the container.

[0008] This second exemplary implementation may also include one or more of the following additional aspects. Another latch member may be operably associated with the body and adapted for operable engagement with a second container adjacent the first container and in the same row as the first container to releasably lock the portable floor surface to the second container. At least one roller may be operably attached to the rear end and may engage the common floor surface when the false floor is inclined relative to the common floor surface to facilitate transporting the portable floor surface. The roller may be spaced from the common floor surface when the lower surface is resting flat on the common floor surface. A hand grip may be disposed adjacent the front end to facilitate lifting and transporting the portable false floor on the roller.

Brief Description of the Drawings

[0009] The following detailed description of preferred embodiments and best mode will be set forth with reference to the accompanying drawings, in which:

[0010] FIG. 1 is a schematic perspective rear view of a delivery vehicle with a portable floor surface according to one embodiment of the invention;

[0011] FIG. 2 is a diagrammatic plan view schematically illustrating multiple positions of the floor surface in a central aisle within the vehicle;

[0012] FIG. 3 is a view taken generally along line 3-3 of FIG. 2;

[0013] FIG. 4 is a view taken generally along line 4-4 of FIG. 3;

[0014] FIG. 5 is a schematic perspective cutaway view of the vehicle of FIG. 2;

[0015] FIG. 5A is an enlarged view of the encircled area 5A of FIG. 5;

[0016] FIG. 6 is a perspective rear view of an inside portion of freight carrier with a freight handling apparatus including a platform and containers according to another embodiment of the invention;

[0017] FIG. 7 is a perspective view of the freight carrier and showing a portion of a ramp of the system of FIG. 6;

[0018] FIG. 8 is a perspective view of the freight carrier and showing a portion of the underside of the ramp of FIG. 7;

[0019] FIG. 9 is a perspective view of the freight carrier and showing a base and lower portion of a housing of one of the containers of FIG. 6; and

[0020] FIG. 10 is an enlarged perspective view of a portion of the freight handling apparatus of FIG. 6.

Detailed Description of Preferred Embodiments

[0021] Referring in more detail to the drawings, FIGS. 1-5 illustrate a transport cart system or freight handling apparatus constructed according to one presently preferred embodiment having a portable floor surface, referred to hereafter as a platform or false floor 10. The false floor 10 is particularly suited for use with a product support and delivery system such as shown generally at 12 in FIGS. 1-4, and 5A, and disclosed in U.S. Patent No. 6,520,515 to Krawczyk, incorporated herein by reference in its entirety, and which is assigned to Magline, Inc., the assignee of applicants' invention herein. In one aspect, the system 12 includes a plurality of wheeled modules, containers, or carts 14 that can be positioned side-by-side within an interior of a transportation vehicle, such as an enclosed trailer or van 16, for example. The carts 14 are preferably positioned on a

floor 20 along opposite sidewalls 18 of the van 16 in longitudinally extending rows R_1, R_2 (FIGS. 1 and 2). The rows R_1, R_2 generally extend from a front wall 22 of the van 16 toward a back wall 24 thereof and are laterally spaced from one another to define a center aisle A. The aisle A accommodates the passage of a hand truck used by an operator to facilitate removing containers, such as, by way of example and without limitations, multiple mini-stacks of palleted containers C (FIG. 2), from the carts 14 for transport to a retail sales facility, for example.

[0022] As disclosed in the aforementioned incorporated U.S. patent, the carts 14 are generally identical, each including a rigid frame structure provided by a rectangular base frame 26 mounting a set of four caster wheels 28, at least one of which is preferably lockable to preclude normal movement of the cart 14 when locked. A floor or product support member 30 on the cart 14 is carried by the base frame 26 to provide a surface above the van floor 20 on which the stacked containers C are supported.

[0023] Each cart 14 is generally closed on three of its sides via a pair of upstanding side panels 32 and an upstanding back panel 34. A front side 36 of each cart 14 is generally open to permit loading and unloading of the stacked containers from the cart 14. As shown in FIG. 4, the floor 30 of the cart 14 is preferably angled so as to tilt downwardly from the front 36 toward the back 34 of the cart 14 at an angle of about 3 to 5 degrees, by way of example and without limitations. The slight angle of the floor 30 serves to tilt the stacks of containers C into the carts 14 away from the aisle A to facilitate stabilizing the load during transport. The floors or bottom supports 30 of the carts 14 are preferably fabricated having at least one, and illustrated in FIGS. 2 and 5B, as a pair of retaining features or openings 37 to facilitate releasable locking engagement of the false

floor 10 with one or more carts 14. The interior space of each cart 14 accommodates multiple, and represented here, for example, as four, mini-stacks of the containers C, each supported on an associated mini-pallet MP.

[0024] When loading the palleted containers C into the interior space of the carts 14 at a manufacturing or distribution center, for example, one or more mini-stacks of the containers C are preferably loaded according to the brand and quantity called for by the particular retail orders to be delivered on a delivery route. As illustrated in FIG. 2, the carts 14, by way of example and without limitation, are designed to hold four such mini-stacks of containers C, two deep and two wide, within the bay of each cart 14. In this way, each order is pre-assembled on the mini-pallets MP and loaded onto the carts 14 in preparation for delivery. The location of each order is preferably recorded such that an order might be contained in cart no. 4, mini-pallet no. 2, for example. The carts 14 are preferably equipped with a clip board, for example, for holding written or otherwise documented records.

[0025] Once loaded, the carts 14 are wheeled into the trailer 16 and positioned side-by-side along the sidewalls 18, thus, forming the two long rows R_1, R_2 of carts, as illustrated best in FIG. 2. The carts 14 are oriented such that their open fronts 36 face the aisle A. The carts 14 can be locked in position in the manner indicated in the aforementioned incorporated patent. The front-to-back depth of the carts 14 is dimensioned to leave space between the cart rows R_1, R_2 to define the center walkway or aisle A extending the length of the trailer 16. Aisle A is of sufficient width to accommodate the operator and hand truck. In the present example, the carts 14 have a

depth of about 29 inches, providing the aisle A formed within a conventional van or enclosed trailer with a width of about 40 inches between the rows R_1, R_2.

[0026] Referring now to FIGS. 3 and 4, it will be seen that the floors 30 of the wheel supported carts 14 are elevated above the level of the floor 20 of the trailer 16 on which the carts 14 are supported. The leading front edge of each cart floor 30 facing the aisle A may be, by way of example and without limitations, about 7 ½ inches above the floor 20 of the trailer 16. According to the invention, it is desirable to be able to unload the mini-stacks of the containers C from the carts 14 directly with the hand truck, by way of example, disclosed in the aforementioned incorporated patent. The hand truck travels at generally the level of the cart floors 30 on the portable false floor 10 to facilitate engaging, lifting and transporting the mini-stacks C directly with the hand truck. As such, the operator does not need to unload individual ones of the containers C from the carts 14, and manually restack them on the hand truck.

[0027] According to the invention, the portable false floor 10 is operable for repositioning in the aisle A between the rows R_1, R_2 to provide an upper surface 38 that is substantially level, and nearly abutting the leading front edges of the cart floors 30. While various methods of constructing a raised floor, such as by laying down overturned pallets are possible, it can be cumbersome to position the pallets in the desired locations, let alone obtaining a substantially flush floor surface having a smooth ramp transition. The false floor 10 is constructed as a rigid, strong support member, suitable for supporting heavy loads without becoming unstable or moving from its temporarily locked location, until manually repositioning the false floor 10 is desired. Preferably, the false floor 10 is constructed from fabricated aluminum, such as through stamping or cutting a

predetermined size sheet, and thereafter bending and/or welding seams to form a one piece body 39. It should be understood that other materials, such as steel, or high strength polymeric materials, for example, could be used in combination with molding or other operations, as required to achieve the desired false floor body shape. A layer of non-skid material, such as rubber or a rubberized material, for example, may be adhered to at least a portion of the upper surface 38 of the body 39 to provide a non-skid, high traction surface 45.

[0028] As shown in FIG. 2, the false floor 10 preferably has two generally parallel upstanding sidewalls 40 that extend generally between front and rear ends 41, 43, with an upstanding rear wall 42 extending between the sidewalls 40. As best shown in FIG. 4, the sidewalls 40 are spaced a predetermined distance from one another to fit relatively closely and narrowly within the aisle A defined between the secured carts 14. Accordingly, in this example, the sidewalls 40 may be constructed having outer surfaces spaced about 39 inches from one another, thereby leaving about one-half inch gaps between the opposite sidewalls 40 of the false floor 10 and the leading front edges of the carts 14. It should be understood that the sidewalls 40 may be constructed having any suitable width to accommodate aisles of differing widths.

[0029] As shown in FIG. 3, the rear wall 42 and the sidewalls 40 extend downwardly from the upper surface 38 an equal distance to form a flat base or lower surface 44. To facilitate removing the mini-pallets MP from the carts 14, the lower surface 30 and the upper surface 38 are spaced a predetermined distance from one another by the sidewalls 40 and rear wall 42. Accordingly, to facilitate removal of the mini-pallets MP and/or containers C from the carts 14, in this example, the sidewalls 40

and rear wall 42 are about 7 ½ inches tall. As such, the upper surface 38 of the false floor 10 is gradually brought into a substantially flush relation with the leading front edges of the floors 30 of opposite carts 14 across the aisle A.

[0030] As shown in FIGS. 2 and 3, to facilitate moving the portable false floor 10, preferably, at least one, and shown here, by way of example and without limitation, as a pair of wheels or rollers 46 are operably attached to the rear wall 42. The rollers 46 are laterally spaced from one another inwardly from the sides 40 a suitable distance to avoid interfering with the carts 14, while providing stability to the false floor 10 while it is being moved from one location to another. The rollers 46 are represented as being journaled separately from one another on laterally spaced support brackets 48 via separate axles 50, though, the rollers 46 could be supported by a single axle extending laterally between the support brackets 48, if desired. The support brackets 48 are attached to the rear end 43 by using any suitable fastener, such as screws or bolts, for example. Though represented as being generally fixed, the rollers 46 could be provided for retractable movement into a recess (not shown) in the rear wall 42, thereby allowing the rear wall 42 to be moved into generally flush contact with another flat surface.

[0031] To prevent unintentional or unwanted movement of the false floor 10, the rollers 46 are preferably attached to provide a clearance between the rollers 46 and the trailer floor 20 when the lower surface 44 of the false floor 10 is lying flat on the trailer floor 20. Accordingly, axes about which the wheels rotate, defined here by the axles 50, are preferably spaced from the floor 20 a distance greater than the outer diameter of the rollers 46. Stated another way, the rollers 46 are preferably spaced upwardly from a plane P defined by the lower surface 44, such that the rollers 46 do not intersect or

penetrate the plane P. As such, the rollers 46 do not interfere with the ability of the false floor 10 to rest flat on the trailer floor 20, and thus, remain spaced from the trailer floor 20 as to avoid promoting movement of the false floor 10 while it is resting on the trailer floor 20.

[0032] The false floor 10 has a ramp surface 54 extending generally from the front end 41 toward the back wall 42. The ramp surface 54 is constructed having a generally gradual inclination from the lower surface 44 generally adjacent the front end 41 up to the upper surface 38 to allow the hand truck to be easily maneuvered up and down the ramp surface 54. The ramp surface 54 is constructed integrally and preferably as one piece with the false floor 10. The ramp surface 54, by way of example and without limitations, is shown as being formed in generally centered relation between the sidewalls 40 and having a width less than the width between the sidewalls 40. Preferably, the inclination of the ramp surface 54 provides the generally horizontal upper surface 38 with enough length to span an entire width of at least one cart 14. As such, the ramp surface 54 does not inhibit the user's ability to unload a selected cart or carts 14.

[0033] With the ramp surface 54 spanning less than the entire width of the false floor 10, a pair of ledges 56 having the same height as the upper surface 38 is formed on opposite sides of the ramp surface 54. The ledges 56 have front surfaces 58, preferably constructed having a gripping mechanism, represented here, by way of example and without limitations, as recessed hand slots, referred to hereafter as grips 60 constructed therein. The grips 60 facilitate a user's ability to easily grasp and lift the front end 41 of the false floor 10 until the rollers 46 adjacent the rear end 43 engage the floor 20 of the trailer 16. Thereafter, the false floor 10 is easily rolled along the floor 20 to the selected

location. The grips 60 may be constructed otherwise than as shown here, and could be replaced with handles (not shown) attached to the front surfaces 58, if desired. It is to be understood that the ramp surface 54 could be constructed spanning the entire width between the sidewalls 40, and that the hand slots or handles could be formed in, or attached to an outer surface of the ramp surface 54, preferably adjacent from the sidewalls 40 and inwardly therefrom.

[0034] As best shown in FIGS. 5A and 5B, the false floor 10 normally spans two or more adjacent carts 14 when in a selected, releasably locked position. To facilitate securing the false floor 10 in a selected position, a locking mechanism, represented here, by way of example and without limitations, as a plurality of retaining features or latch members 62, is arranged adjacent at least one, and represented here, for example, as both the side wall 40 edges of the false floor 10 for releasable, locking receipt within the openings 37 in the floors 20 of the carts 14. The latch members 62 are shown here, by way of example and without limitations, as being generally L or U-shaped hooks that are operably associated with the body and preferably extendable upwardly and laterally from the upper surface 38, though they could be fixed to the body. The latch members 62 have a depending portion 64 adapted for releasable close receipt within the openings 37 in the floors 20 of the carts 14. Preferably, the latching members 62 are attached to the false floor 10 in laterally spaced relation from one another for receipt within openings 37 in a pair of first and second adjacent carts 14 positioned in the same row, though they could be received within openings 37 in a single cart 14. By releasably securing the false floor 10 to adjacent carts 14 which are preferably releasably locked in position along one of the rows R_1, R_2 in the van 16, the false floor 10 is maintained in a rigid, secure position, until

the user desires to move the false floor 10. It should be recognized that the latch members 62 can be constructed for plunging, biased, and/or pivotal movement relative to the upper surface 38 to enable the latch members 62 to move between extended and retracted positions, and/or between inwardly and outwardly pivoted positions relative to the sidewalls 40 to facilitate releasably locking the false floor 10 to one or more carts 14, and to facilitate movement of the false floor 10 along the aisle A.

[0035] Upon arrival at delivery location, the operator simply maneuvers the relatively lightweight false floor 10 down the aisle A by grasping the grips 60 and rolling the false floor 10 on the rollers 46 with the ramp surface 54 facing a tail gate of the trailer 16. Upon reaching the desired cart or carts 14, the false floor 10 is positioned flat on the floor 20 of the trailer 16 in front of the cart or carts 14 selected for container C removal. Upon lowering the false floor 10, the latch members 62 can be engaged and releasably locked in the openings 37 in a single cart or an adjacent pair of carts 14. Thus, the false floor 10 is secured and prevented from moving out of its temporarily location. The hand truck is then wheeled down the aisle A, up the ramp surface 54 and onto the upper surface 38 of the false floor 10. With the hand truck being at substantially the same level as the floor 30 of the selected cart or carts 14, the selected product or mini-stacks of containers C can then removed from the desired carts 14 via the hand truck, or easily placed on the hand truck. The hand truck is then rolled off the false floor 10 via the ramp surface 54, and down the aisle A and out of the tail gate of the van 16 to an unloading ramp, or the like. The false floor 10 is then lifted via the hand slots 60, thereby removing the latch members 62 from their temporary locked engagement with the carts 14, thus,

enabling the false floor 10 to be rolled via the rollers 46 to the next selected location for continued use, or to a storage location, preferably clear from the aisle.

[0036] FIGS. 6-10 illustrate a freight handling apparatus 110 according to another presently preferred embodiment. This embodiment is similar in many respects to the embodiments of FIGS. 1-5A and like elements between the drawing figures generally designate like or corresponding elements between the embodiments. Additionally, the description of the previous embodiments is incorporated by reference and the common subject matter may generally not be repeated here.

[0037] FIG. 6 illustrates the freight handling apparatus 110, which can be portable and may be provided for a freight carrier such as a cargo box, semi-trailer, or the like. The apparatus 110 includes a platform 112 disposed adjacent one (or more) container(s) 114 for receiving freight. The apparatus 110 is preferably arranged so that sides of the platform 112 are laterally opposed to fronts of the container(s) 114. As shown, one platform 112 is disposed between two longitudinally extending rows of laterally opposed container(s) 114, but any quantity and configuration of platforms 112 and container(s) 114 can be used. For example, one or more platforms 112 could be used with one row of containers 114 if desired, or between two rows of containers 114, or the like. When the platform 112 is used with only one row of containers 114, then an opposite side of the platform 112 may be exposed to pallets, carts, or the like, instead of another row of the containers 114. As will be described further herein below, the apparatus 110 provides a unique configuration for releasably retaining the platform 112 to the container(s) 114 that allows the platform 112 to be moved along a floor 116 of the freight carrier and along open fronts of the container(s) 114.

[0038] The platform 112 is preferably portable and defines a platform floor 118, which is raised above the floor 116 of the freight carrier and substantially level with inside floors 120 of the container(s) 114. The platform 112 includes several components, which can be composed of any material(s) and constructed in any manner.

[0039] As shown, the platform 112 includes a base 122, a deck 124 carried on the base 122 to define the raised floor 118, and supports 126 at corners of the platform 112 and depending from the base 122 to provide a desired height for the raised floor 118. The base 122 can be any structure such as a frame constructed of tube stock, which can be suitably welded together. The base 122 or any portions thereof may be extruded. The deck 124 can be any generally planar component such as a panel with any non-slip surface features. For example, the deck 124 can be "diamond plate" composed of aluminum or steel. The supports 126 can include legs 128 carried by the base 122, feet 130 carried by the legs 128, and replaceable glides or shoes 132 carried on the feet 130. The legs 128 can be any component such as tube stock, which can be welded to the base 122 in any fashion. The feet 130 can be plates, which can be welded to the legs 128. And, for example, the shoes 132 can be fastened to the plates 130 with suitable fasteners, and can be composed of any wearable material, such as NYLON or any ultra high molecular weight (UHMW) polymer, such as UHMW polyethylene or the like.

[0040] The platform 112 further includes one (or more) retaining feature(s) or guide(s) 134, which longitudinally extend along one or both of the sides of the platform 112 to releasably retain the platform 112 to the container(s) 114 and to allow the platform 112 to be translated longitudinally along the fronts of the container(s) 114. For example, the guide(s) 134 can be carried by sides of the base 122 alongside the platform 112.

More particularly, the guide(s) 134 may include channel stock, which can be welded alongside the base 122. Or, if the base 122 or portions thereof are extruded, the guide(s) 134 may be integral portions of such extrusions to avoid welding. As will be described further herein below, the guide(s) 134 are adapted to cooperate with corresponding structural features of the container(s) 114 and/or of the freight carrier itself.

[0041] The platform 112 can also include handles 136 for manually moving the platform 112. For example, the handles 136 can be generally upright devices including socket housings 138 carried substantially at one (or more) corner(s) of the base 122 and removable posts 140 carried in the socket housings 138 and extending upwardly away from the base 122. More specifically, the socket housings 138 can be welded to the base 122 at a rear end 142 of the platform 122 just inboard of the guide(s) 134 of the platform 112. Accordingly, a user can grasp the posts 140 of the handles 136 and push or pull the platform 112 along the container(s) 114. The handles 136 may be removable to reduce space when the platform 112 is stored on its side or end.

[0042] Referring now to FIG. 7, the apparatus 110 can also include a ramp 144 to provide a transition between the freight carrier floor 116 and the platform deck 124. The ramp 144 can include an inclined portion 146 including a handle aperture 148 to facilitate grasping of the ramp 144, and a horizontal portion 150 terminating the inclined portion 146 for overlapping a portion of the platform deck 124.

[0043] As shown in FIG. 8, the ramp 144 may include one (or more) locator pin(s) 152 projecting from an inside surface of the horizontal portion 150 for locating within one (or more) locator hole(s) 154 in the deck 124 of the platform 112. Although

not required, the ramp 144 may also include one (or more) locator bracket(s) 156 for locating against the rear end 142 of the platform 112.

[0044] Referring now to FIG. 9, the container(s) 114 can be portable and can generally provide structure to carry freight in any organized and stable fashion within the freight carrier. The container(s) 114 include several components, which can be composed of any material(s) and constructed in any manner. The illustrated container 114 includes a base 158 positioned on the floor 116 of the freight carrier for carrying a housing 160, which is adapted to hold freight therein. The base 158 includes front and rear risers 162, 164 and one (or more) bridge member(s) 166, which can be disposed at opposite sides of the base and connect the risers 162, 164 together. The risers 162, 164 can be generally upside-down U-shaped components that define fork channels to accommodate forklift forks for movement of the container(s) 114 and the bridge member(s) 166 can be welded between the risers 162, 164. The base 158 or any portions thereof may be extruded.

[0045] The housing 160 can be carried on the base 158 in any fashion. For example, any portions of the housing 160 can be welded on the base 158 using support brackets 168, at a front 170 and a rear 172 of the base 158. More specifically, the brackets 168 can be welded to the risers 162, 164 of the base 158 and to corresponding lower portions 174 of the housing 160. As better shown in FIG. 10, the brackets 168 include a vertical portion 176 welded to the lower portion 174 of the housing 160, and a horizontal portion 178 welded to the base 158. If the base 158 or portions thereof are extruded, then the brackets 168 can be extruded portions integral with such extrusions.

[0046] Referring still to FIG. 10, the container(s) 114 may also include one (or more) retaining guide(s) 180 to cooperate with the guide(s) 134 of the platform 112 to releasably retain the platform 112 to the container(s) 114 and to allow the platform 112 to be moved along the container(s) 114. For example, the guides 180 can include one (or more) guide rail(s), which can be carried on the base 158. More particularly, the guides 180 can include rectangular bar stock, which can be welded along the front of the container 114, such as substantially along the front 170 of the base 158 and to a top surface of the riser 162. If the base 158 or portions thereof are extruded, then the guides 180 can be extruded portions integral with such extrusions.

[0047] When the platform 112 is engaged to the container(s) 114 on a common surface such as the freight carrier floor 116, lower edges 182 of the platform guide(s) 134 are disposed lower than upper edges 184 of the base guides 180. In other words, the platform guide 134 is configured to be overlapped with respect to the container guide(s) 180 when the platform 112 is retained to the container 114. Accordingly, the platform 112 can be moved longitudinally along the front of the container(s) 114, but is laterally retained thereto. The platform 112 is releasably retained to the container(s) 114, such that the platform 112 can be lifted or tilted upwardly and moved laterally away from the container(s) 114 to disengage the guide(s) 134, 180. By using the shoes, the entire platform can easily slide on the floor of the truck by pushing on the handles. But, the shoes provide sufficient friction to prevent the platform from sliding with an operator standing on the platform. Accordingly, it is not necessary to latch the platform to the container(s) 114. Rather, the platform 112 can be translated forward and rearward along the container(s) 114 on the freight carrier floor 116 but cannot be moved sideways away

from the container(s) 114 unless the guide(s) 134, 180 are disengaged from one another. Any quantity and size of the guide(s) 134, 180 may be used, and the guide(s) 134, 180 may be provided as integral features of the platform 112 and of the container(s) 114, respectively.

[0048] As shown in FIG. 1, in addition to the container guides 180, other guides 190 may be provided along the floor 116 of the freight carrier and along the fronts of the container(s) 114 to cooperate with any corresponding guides of the platform 112, such as the platform feet 130 and/or the shoes 132. As shown, the guides 190 may include integral features of the floor 116 such as grooves, or the like. In any case, the guides 190 cooperate with corresponding portions of the platform 112 to further guide the platform 112 along the container(s) 114 without allowing the platform 112 to move laterally away from the container(s) 114. Moreover, the platform feet 130 and/or shoes 132 may also be adapted to engage the front of the container base(s) 158 to further guide the platform 112 along the front(s) of the container(s) and to prevent other portions of the platform 112 from interfering with other portions of the container(s) 114.

[0049] While certain preferred embodiments have been shown and described, persons of ordinary skill in this art will readily recognize that the preceding description has been set forth in terms of description rather than limitation, and that various modifications and substitutions can be made without departing from the spirit and scope of the invention. For example, the platform can be constructed from pipe, channel stock, I-beams, or any other suitable structural materials. The invention is defined by the following claims.

What is claimed is:

1. A freight handling apparatus comprising:

at least one container to receive freight and having a front and at least one first retaining feature carried at the front; and

at least one platform having at least one side adjacent the front of the container and at least one second retaining feature carried at the side of the platform and cooperating with the first retaining feature to releasably retain the platform to the container.

2. The apparatus of claim 1, wherein the first retaining feature is an opening in a portion of the container and the second retaining feature is a latch member for cooperation with the opening.

3. The apparatus of claim 1, wherein the first and second retaining features include longitudinally extending first and second guides cooperating with one another such that the platform is longitudinally movable along the container.

4. The apparatus of claim 3, wherein the first and second guides include guide rails.

5. The apparatus of claim 1, wherein the container includes a base including risers defining fork channels and a housing carried on the risers, wherein the first

retaining feature is carried on one of the risers along a front of the housing, and wherein the platform includes a base including a front and a side, wherein the second retaining feature is carried by the platform base along the side and is configured to be overlapped with respect to the first retaining feature when the platform is retained to the container.

6. The apparatus of claim 1, wherein the platform includes a base, a deck carried on the base, and supports depending from the base and including legs attached to the base, feet attached to the legs, and shoes carried by the feet.

7. The apparatus of claim 6, wherein the shoes are composed of a wearable material.

8. The apparatus of claim 1, wherein the platform includes a base including a front and handles carried at the front and including removable posts extending upwardly away from the base.

9. The apparatus of claim 1, further comprising a ramp including a horizontal portion to overlap a portion of the platform, and a locator pin to locate within a locating hole of the platform.

10. The apparatus of claim 1, being adapted to be disposed within a freight carrier having a floor, and further comprising a third guide feature disposed along the floor of the freight carrier in front of the container, wherein the third guide feature is

adapted to cooperate with a corresponding portion of the platform to guide the platform along the front of the container.

11. The apparatus of claim 10, wherein the third guide feature is a groove in the floor of the freight carrier and is adapted to cooperate with feet of the platform.

12. A freight handling apparatus for a freight carrier having a floor, comprising:

at least one container having a front;

a first guide extending longitudinally along the front of the container; and

at least one platform having a side laterally opposed to the front of the container and a second guide extending longitudinally along the side and cooperating with the first guide such that the platform is laterally retained to, and longitudinally translatable along, the front of the container.

13. The apparatus of claim 12, wherein the first guide is adapted to be carried by the floor of the freight carrier, and the second guide includes feet of the platform.

14. The apparatus of claim 12, wherein the container includes a base and the first guide is carried by the base.

15. The apparatus of claim 14, wherein the base includes a riser and the first guide is carried by the riser.

16. The apparatus of claim 12, wherein the container includes a base including risers defining fork channels and a housing carried on the risers, wherein the first guide is carried on one of the risers along a front of the housing, and wherein the platform includes a base having a front and a side, wherein the second guide is carried by the platform base along the side and is configured to be overlapped with respect to the first guide when the platform is retained to the container.

17. A freight handling apparatus comprising a container having a front, and at least one retaining feature carried longitudinally along the front.

18. The apparatus of claim 17, further comprising a platform having at least one side, and a retaining feature carried longitudinally along the side, wherein the platform retaining feature cooperates with the container retaining feature to laterally retain the platform to the container and allow the platform to be moved longitudinally along the front of the container.

19. A freight handling apparatus comprising a platform having at least one side, and a retaining feature carried longitudinally along the side.

20. The apparatus of claim 19, further comprising a container having a front, and at least one retaining feature carried longitudinally along the front, wherein the platform retaining feature cooperates with the container retaining feature to laterally

retain the platform to the container and allow the platform to be moved longitudinally along the front of the container.

21. A portable floor surface for use to facilitate unloading a container having a floor, the portable floor surface comprising:

a body having opposite front and rear ends with a lower surface and an upper surface extending between said front and rear ends, said lower surface and upper surface being spaced a predetermined distance from one another to bring said upper surface into a generally flush relation with the floor of the container when said lower surface is resting on a common floor surface with the container; and

a latch member operably associated with said body and adapted for operable engagement with the container to releasably lock said portable floor surface to the container.

22. The portable floor surface of claim 21 further comprising another latch member operably associated with said body and adapted for operable engagement with a second container adjacent the first container and in the same row as the first container to releasably lock said portable floor surface to the second container.

23. The portable floor surface of claim 21 further comprising at least one roller operably attached to said rear end, said roller engaging the common floor surface when the false floor is inclined relative to the common floor surface to facilitate transporting said portable floor surface.

24. The portable floor surface of claim 21 wherein said lower surface defines a plane and said at least one roller is spaced upwardly from the plane.

25. The portable floor surface of claim 24 wherein said at least one roller is spaced from the common floor surface when said lower surface is resting flat on the common floor surface.

26. The portable floor surface of claim 25 further including a hand grip adjacent said front end to facilitate lifting and transporting said portable false floor on said at least one roller.

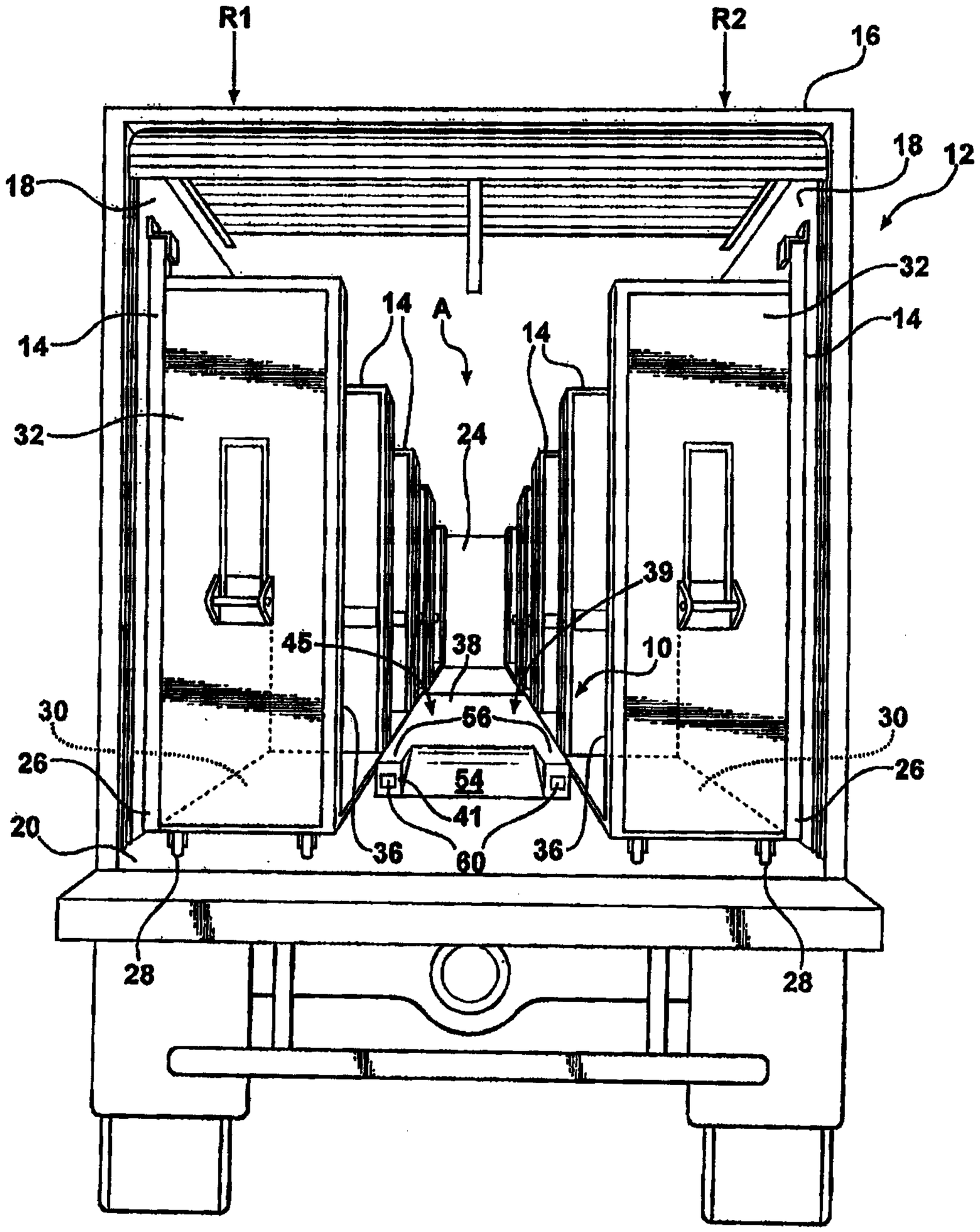
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FIG - 1

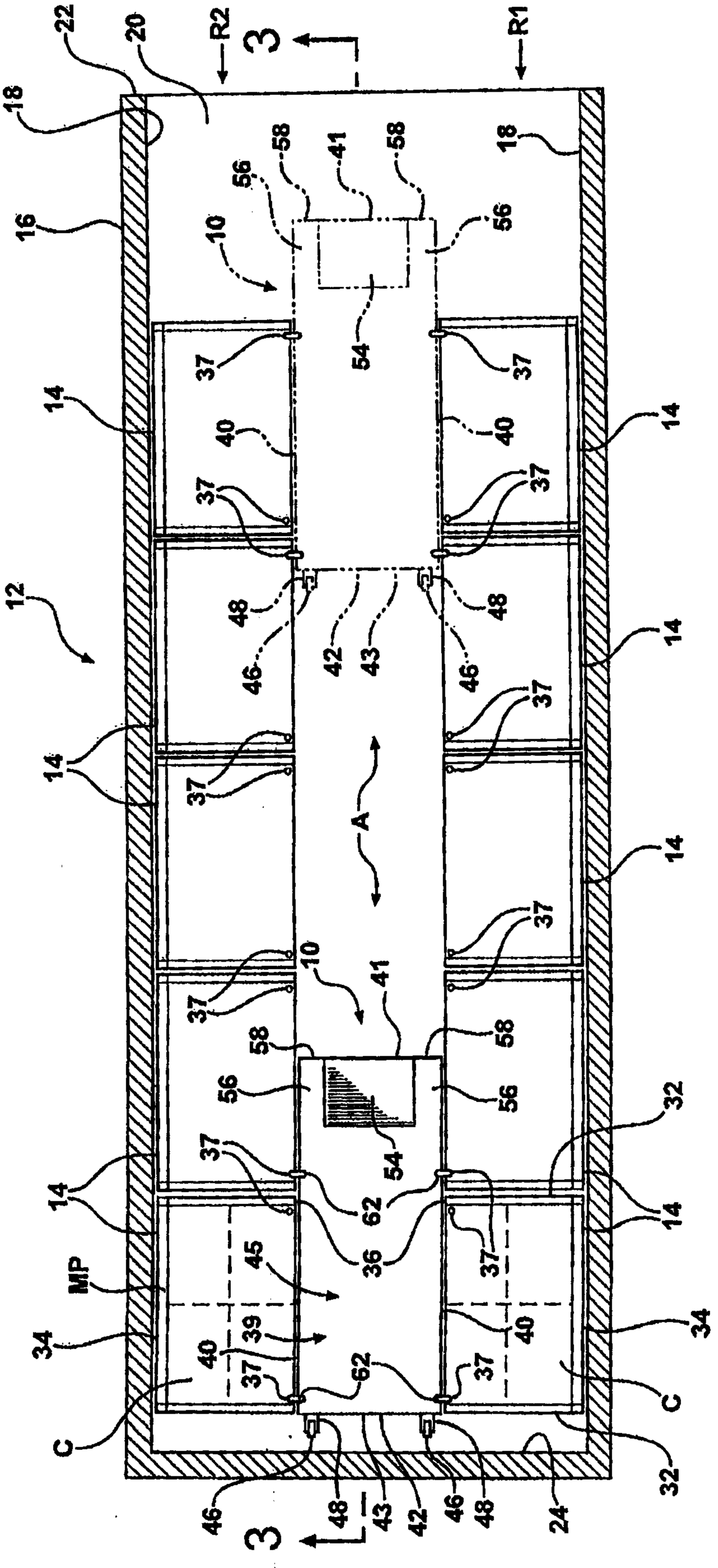
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FIG - 2

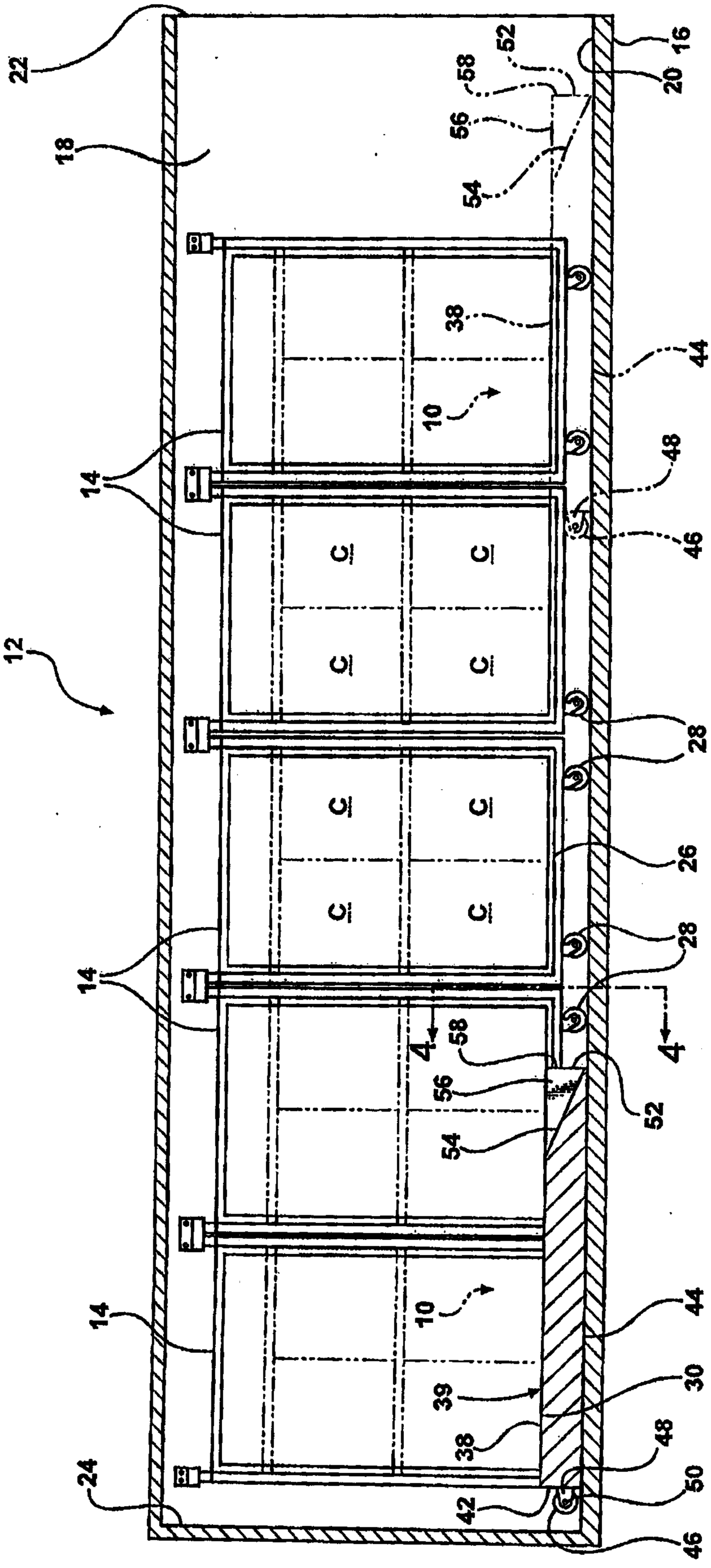

FIG - 3

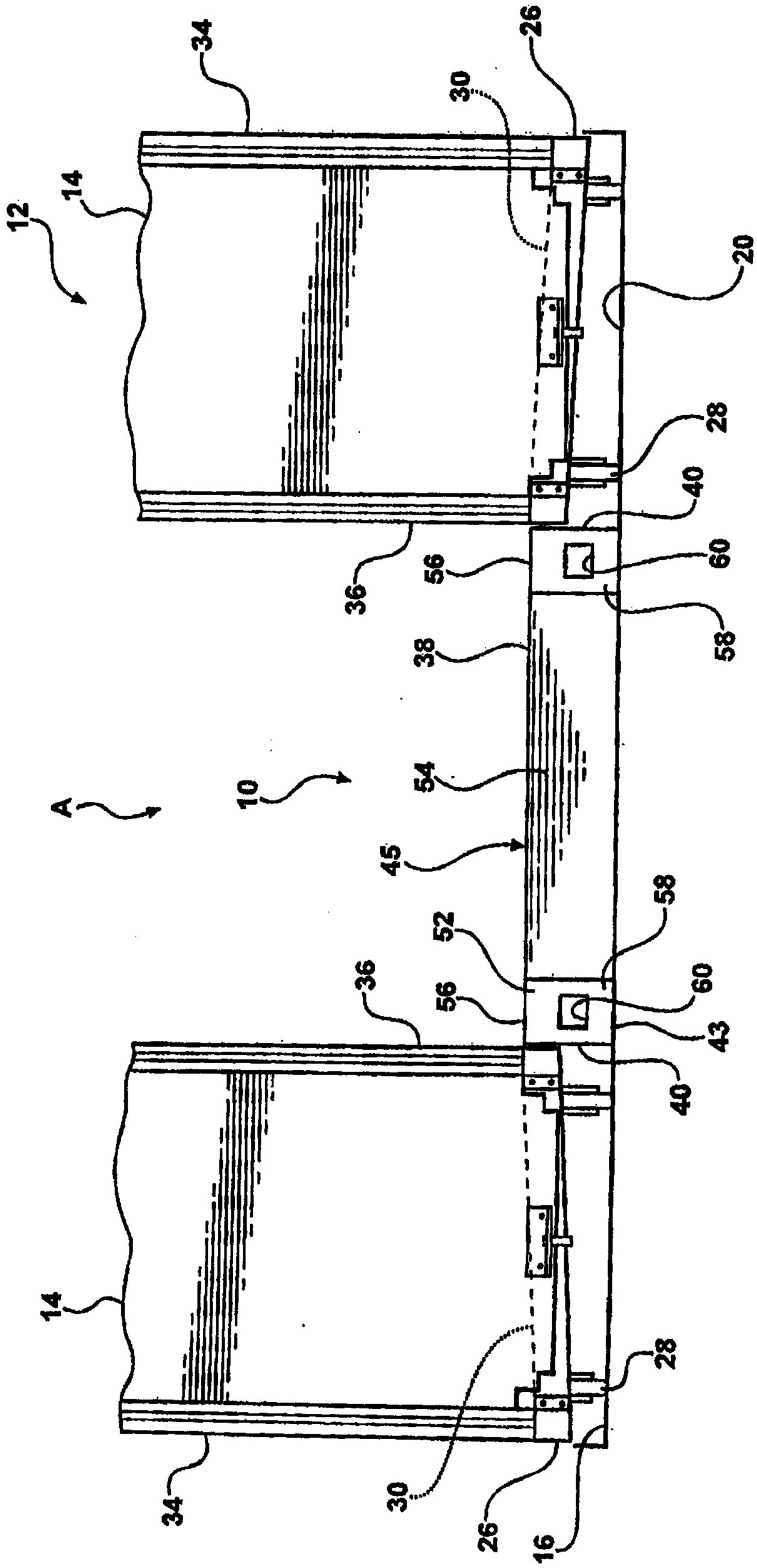
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FIG - 4

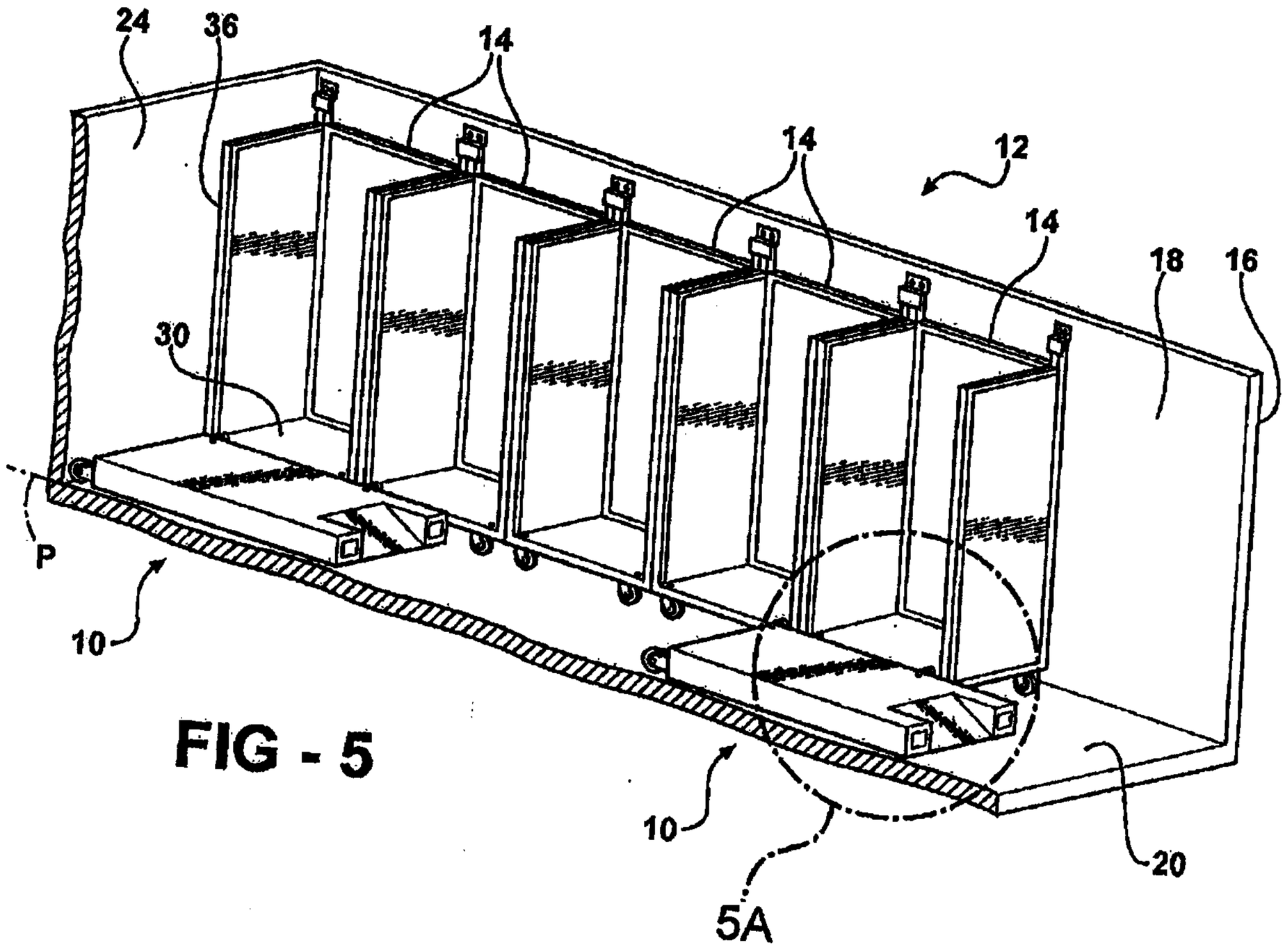
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FIG - 5

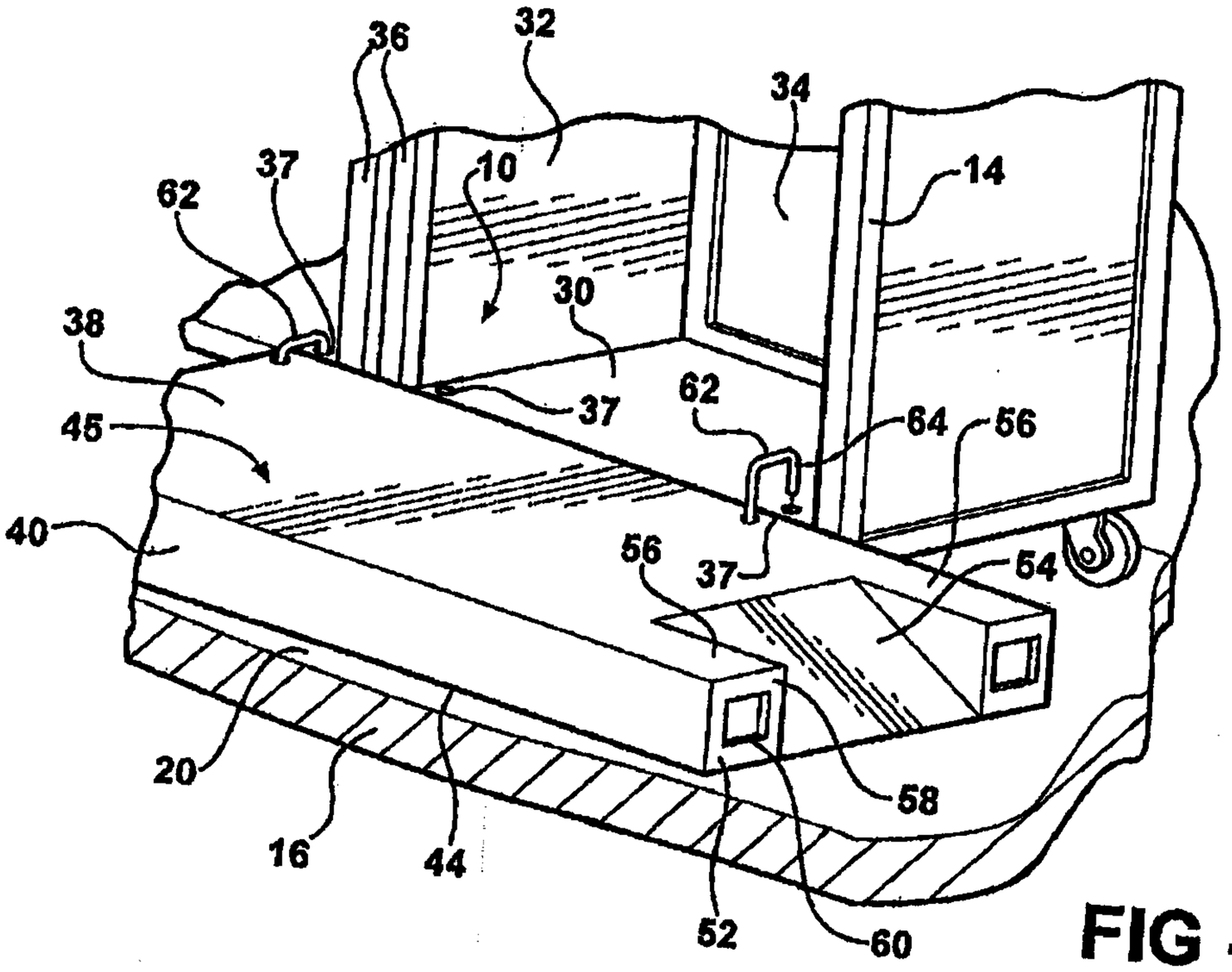
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FIG - 5A

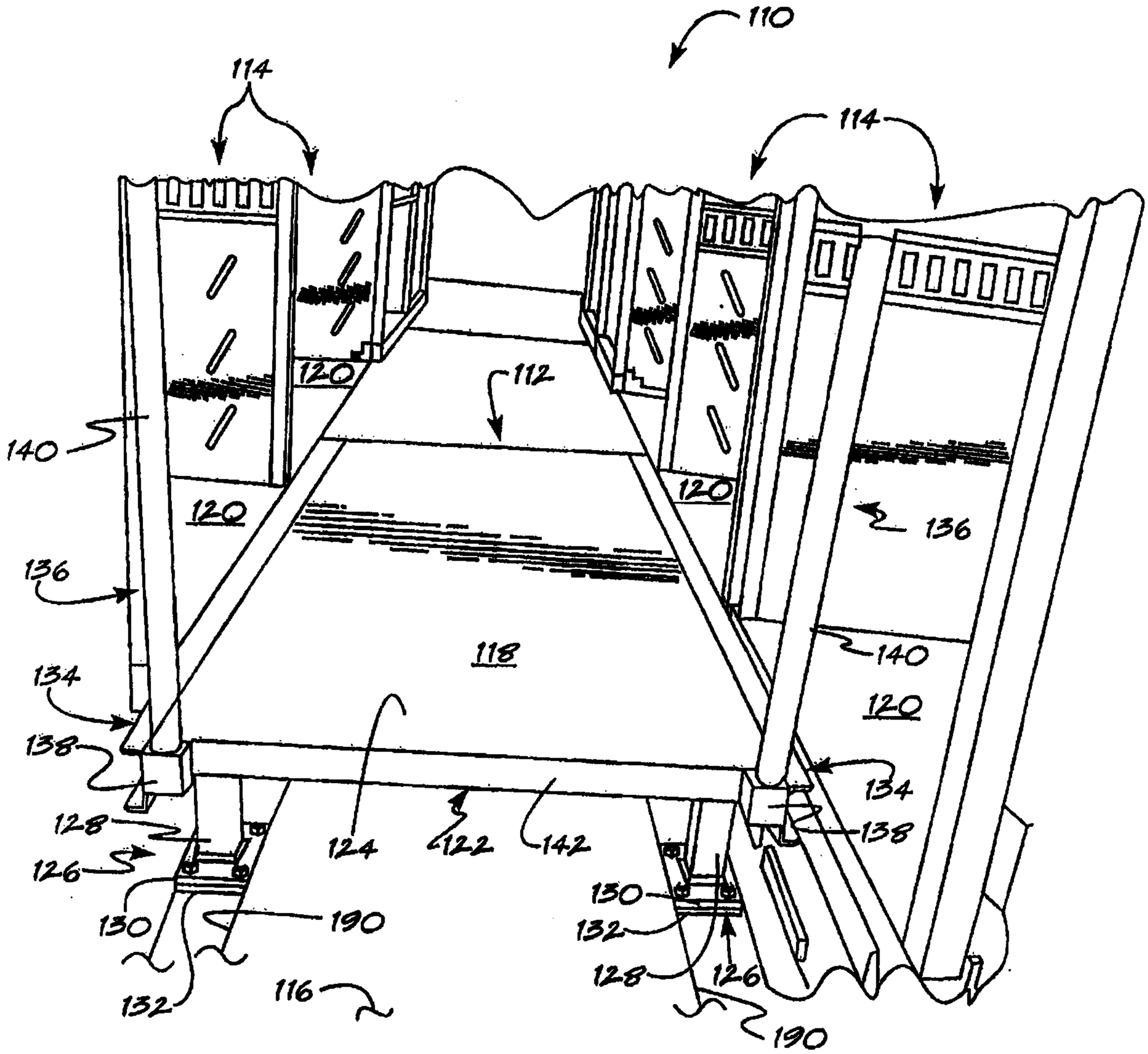
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FIG. 6

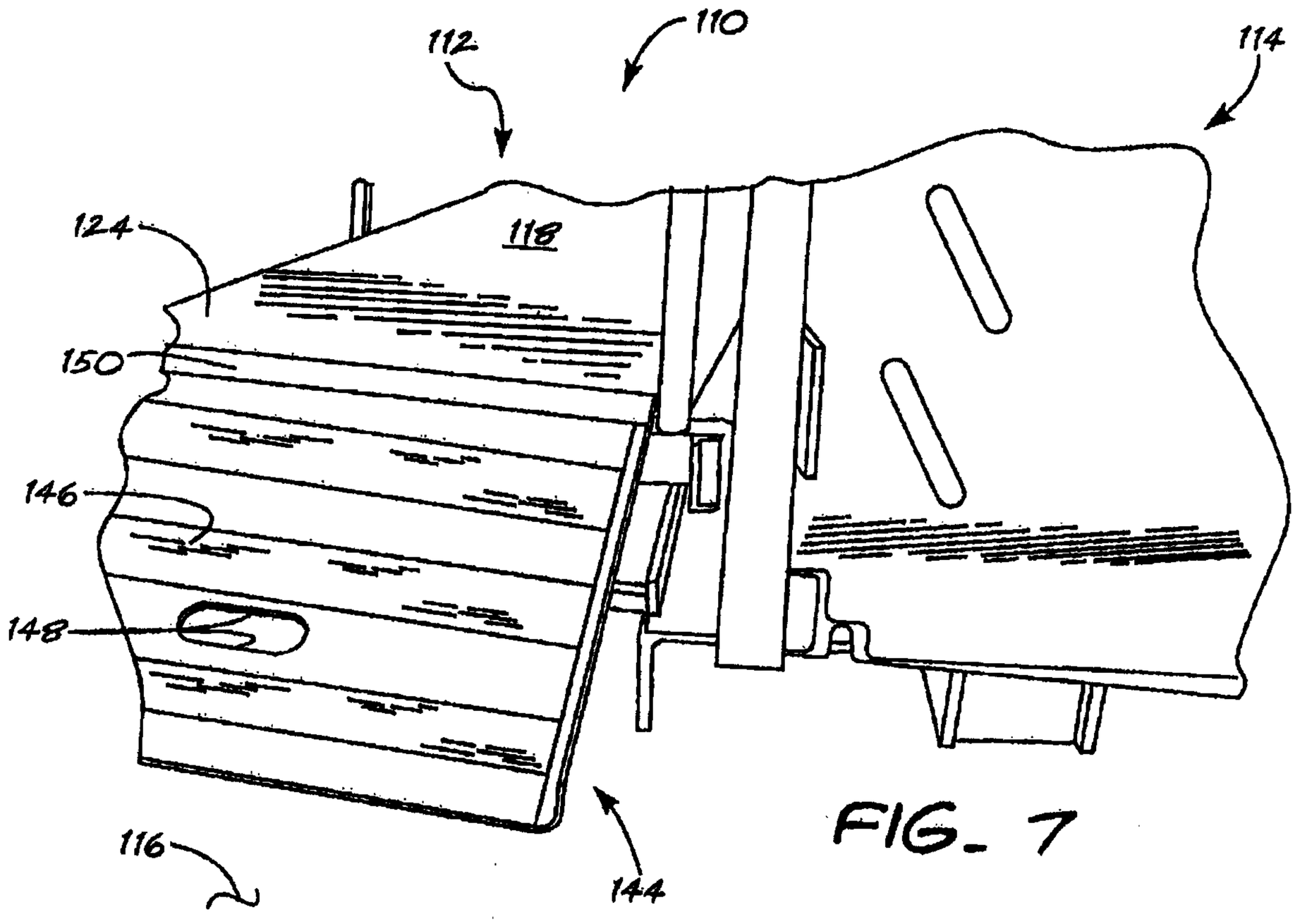
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FIG. 7

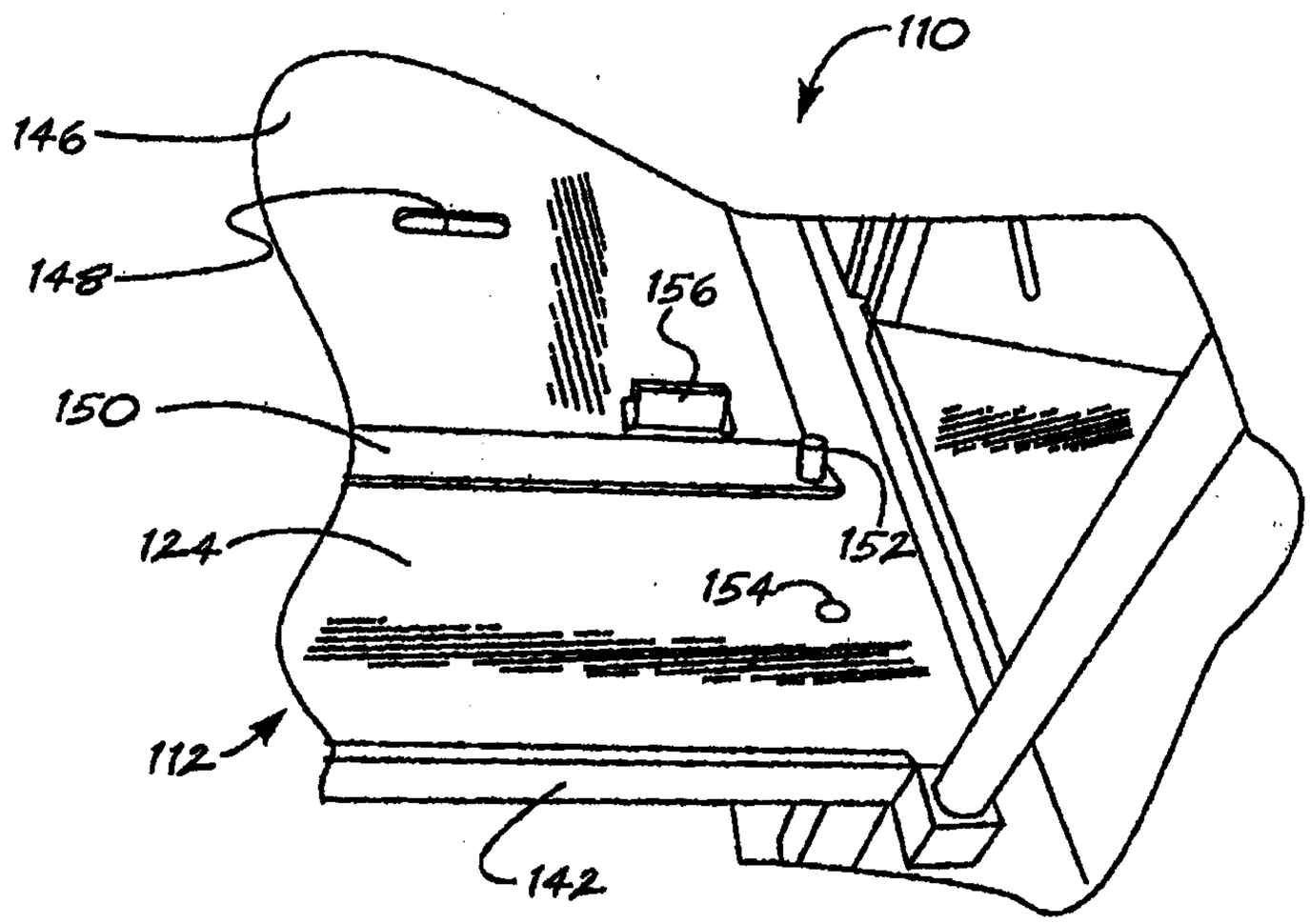
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FIG. 8

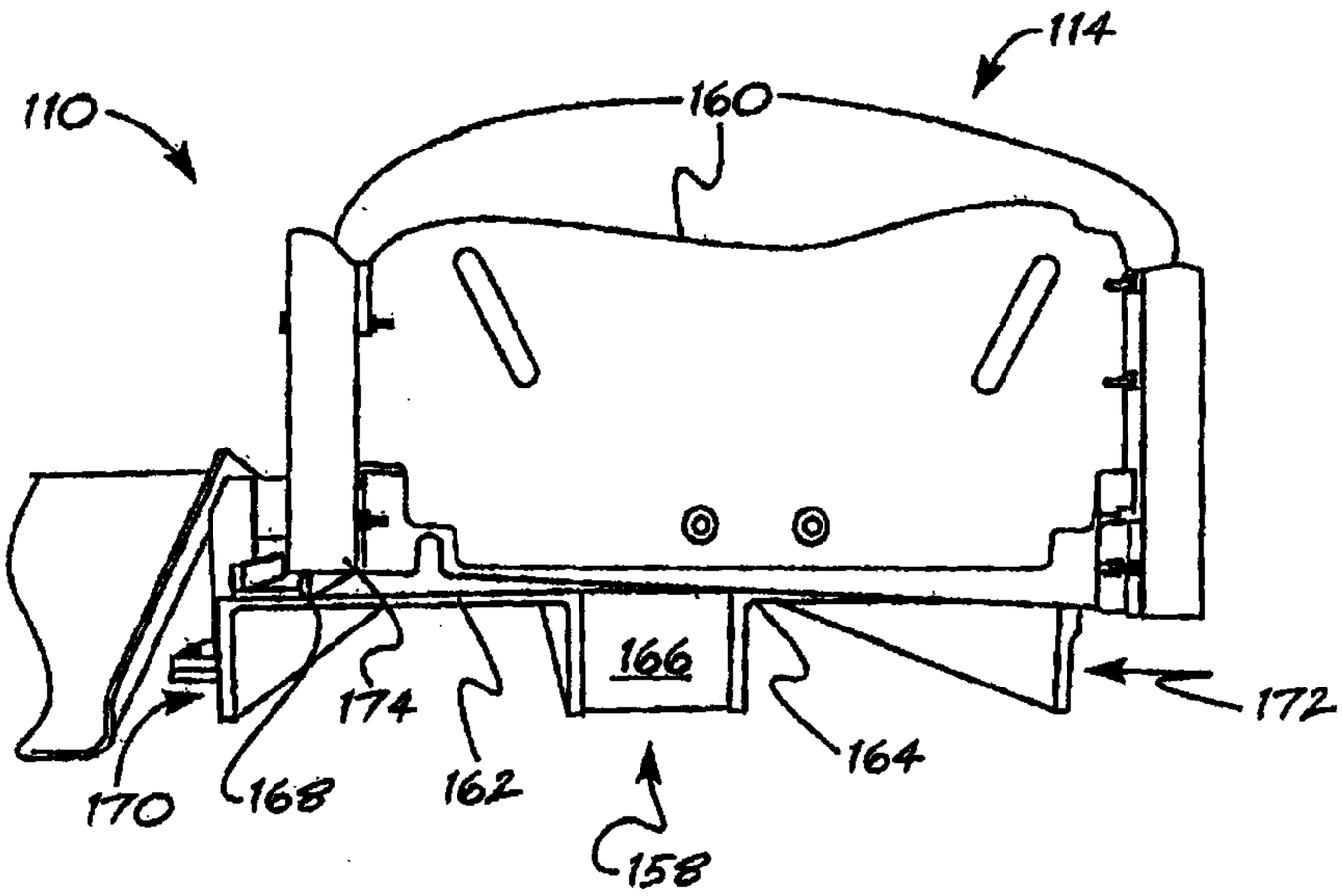
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FIG. 9

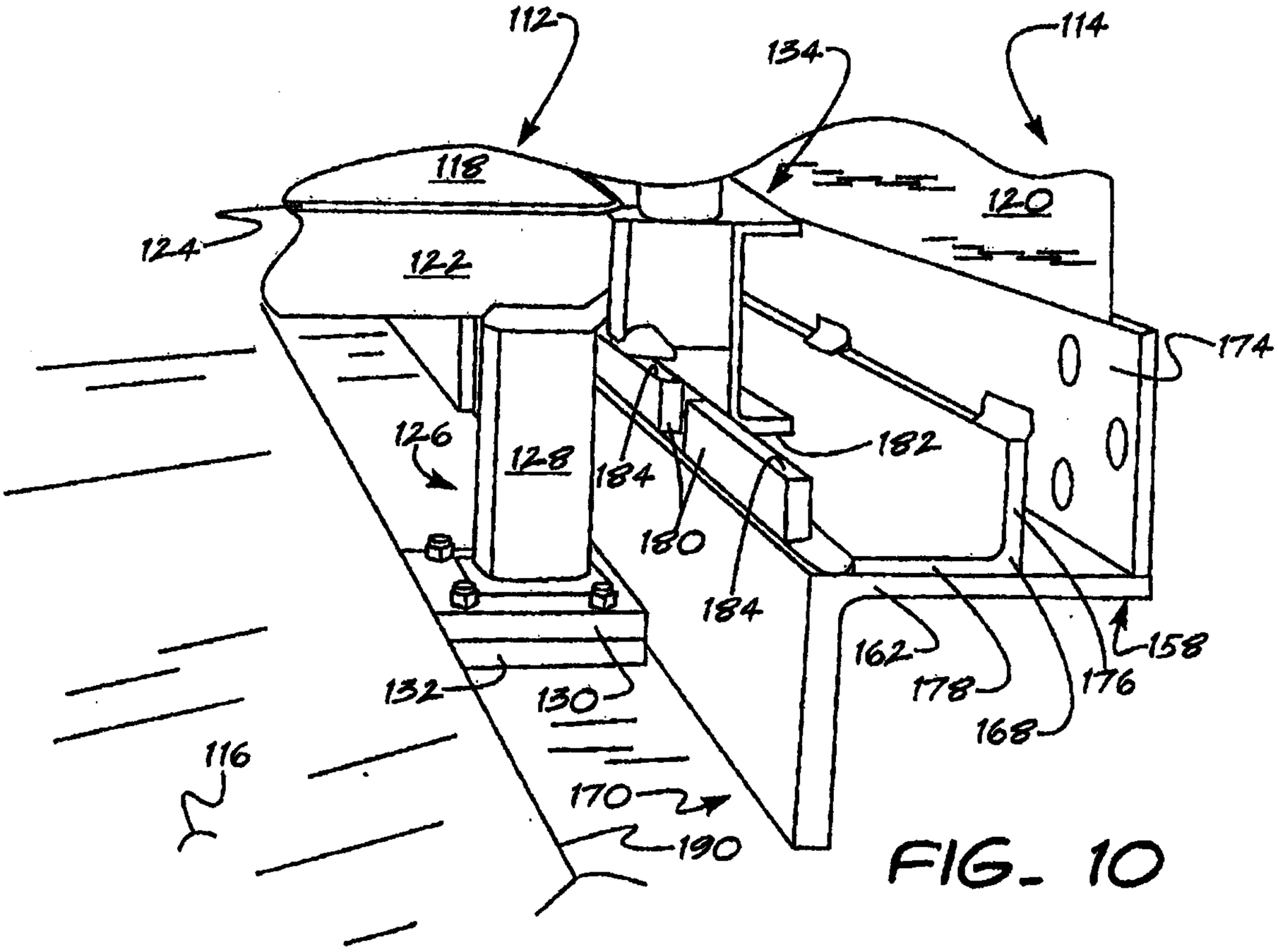
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FIG. 10

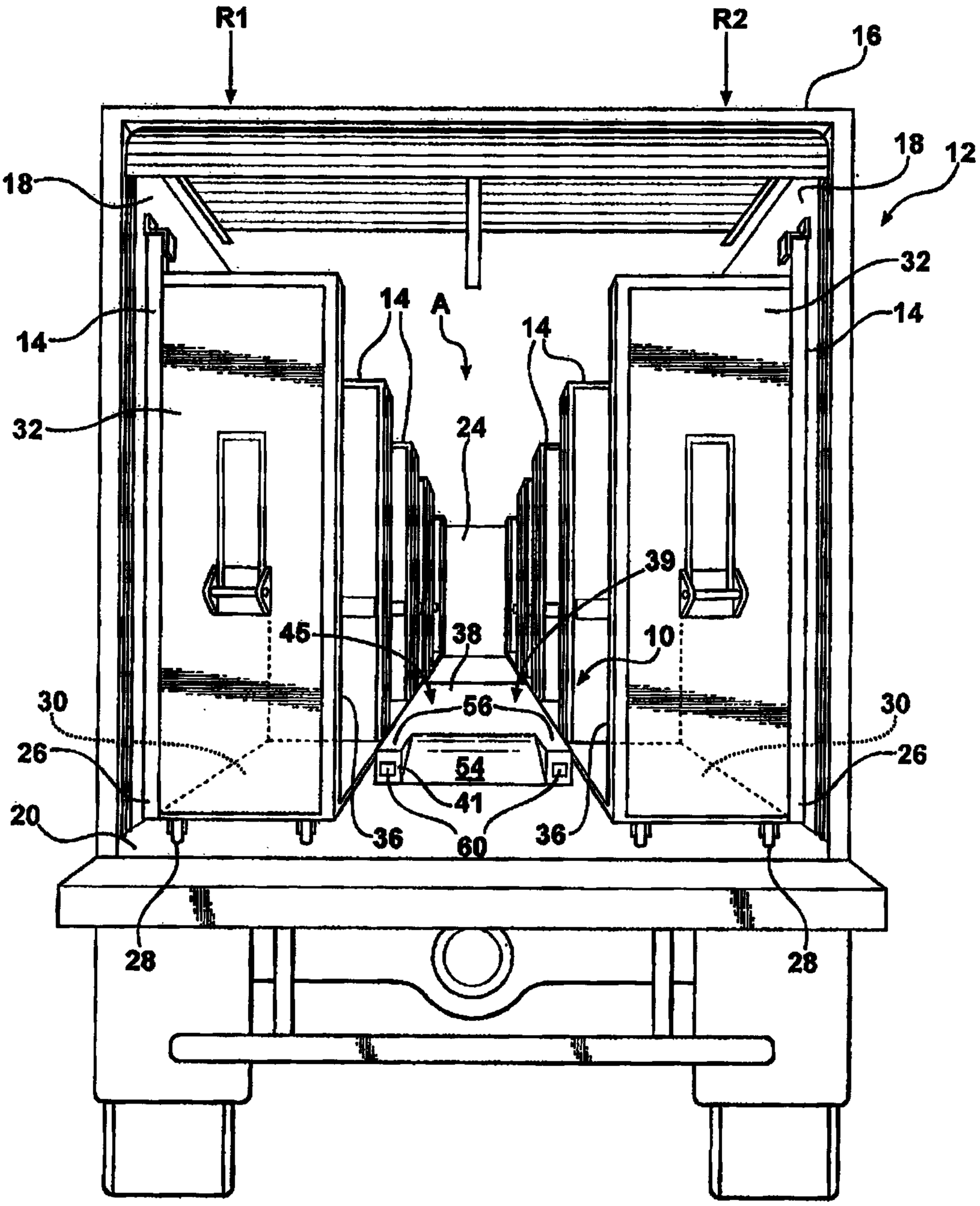
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FIG - 1

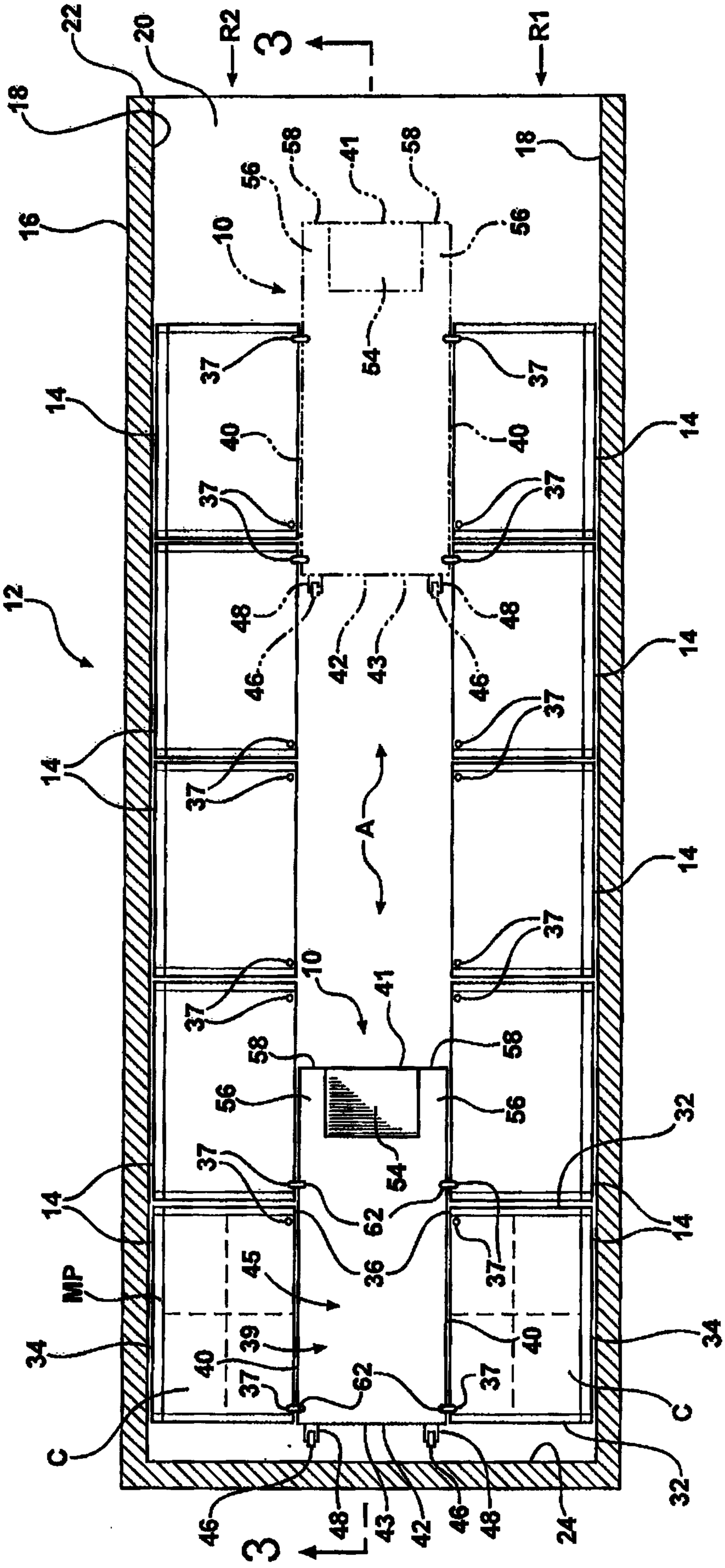
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FIG - 2

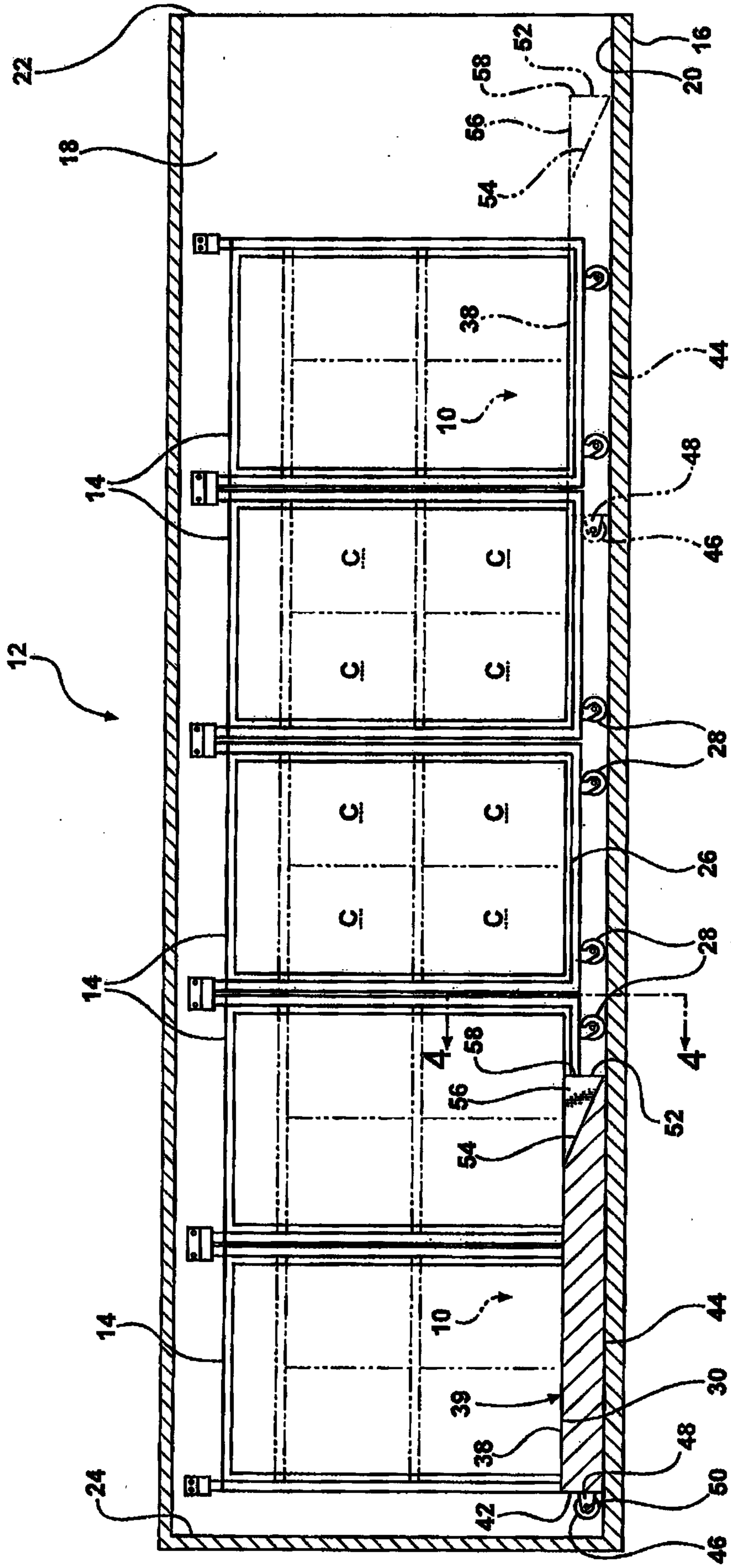

FIG - 3

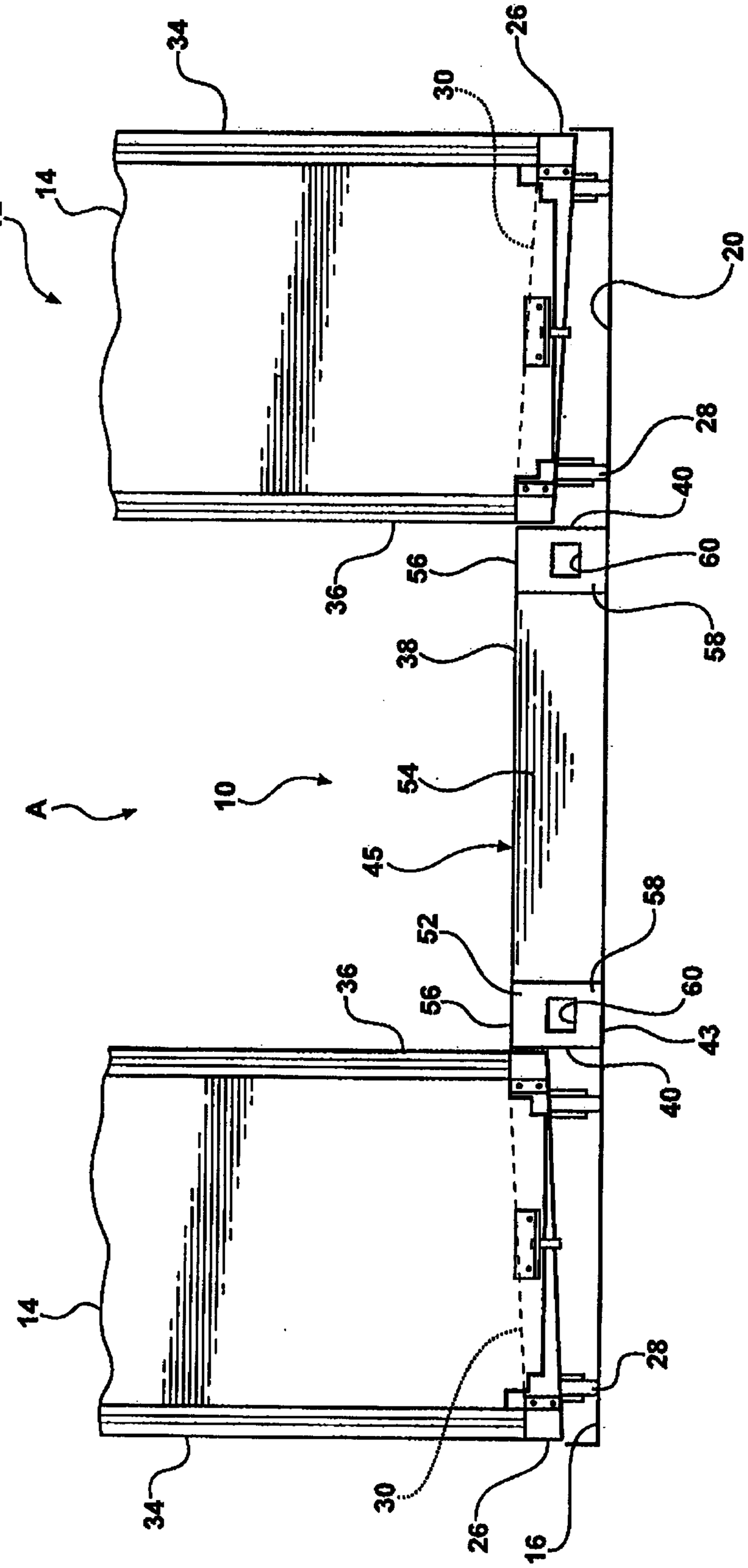
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FIG - 4

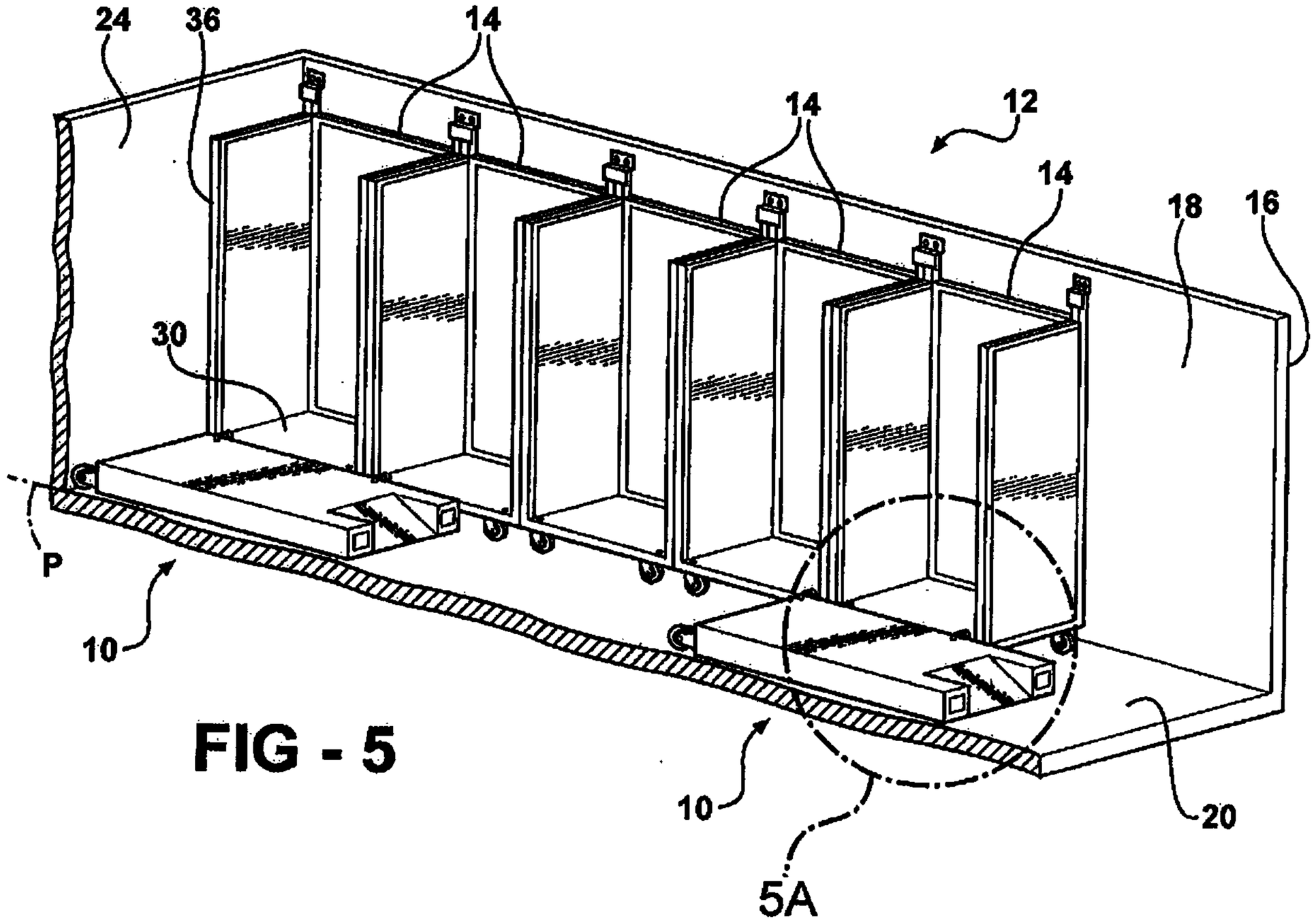
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FIG - 5

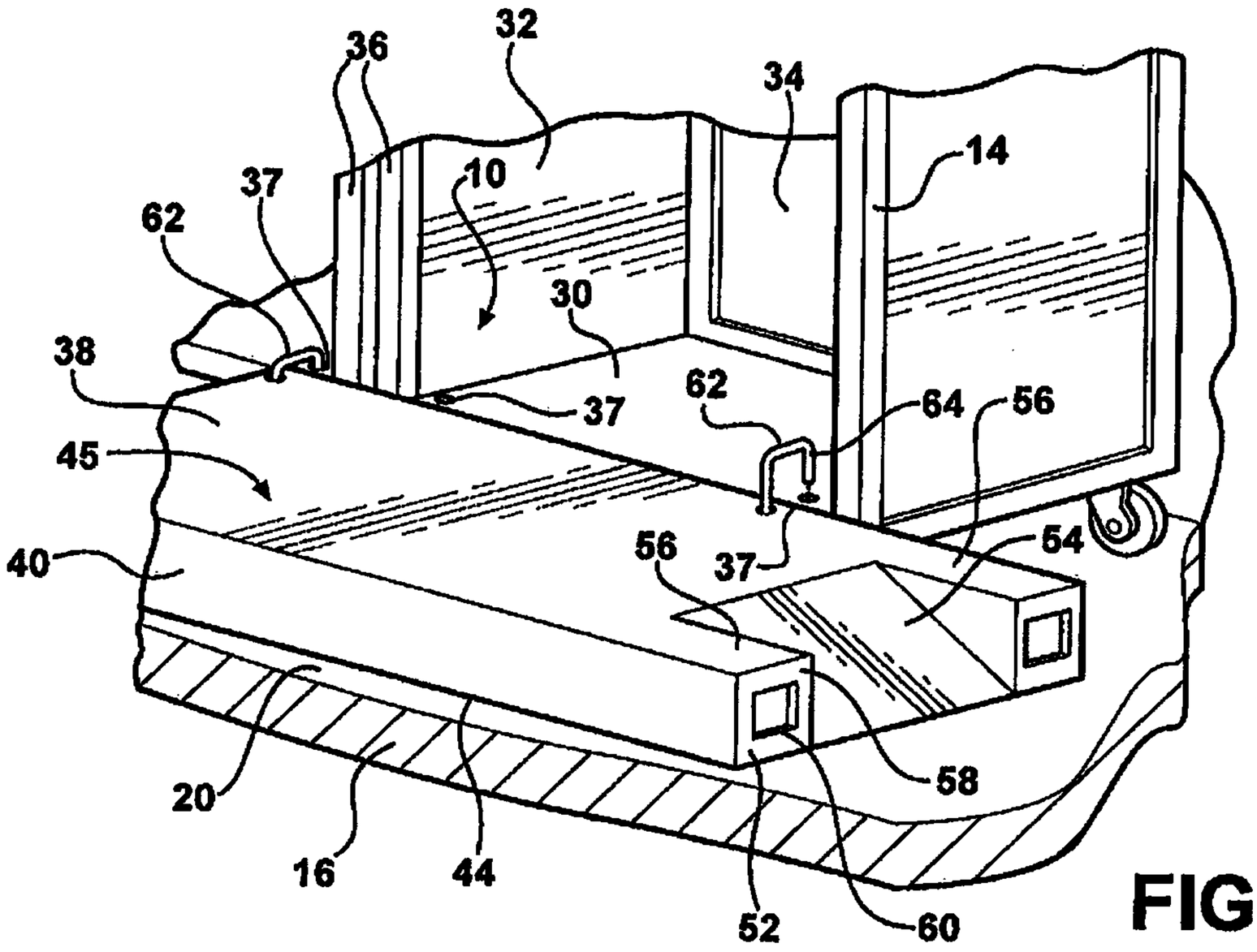
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FIG - 5A

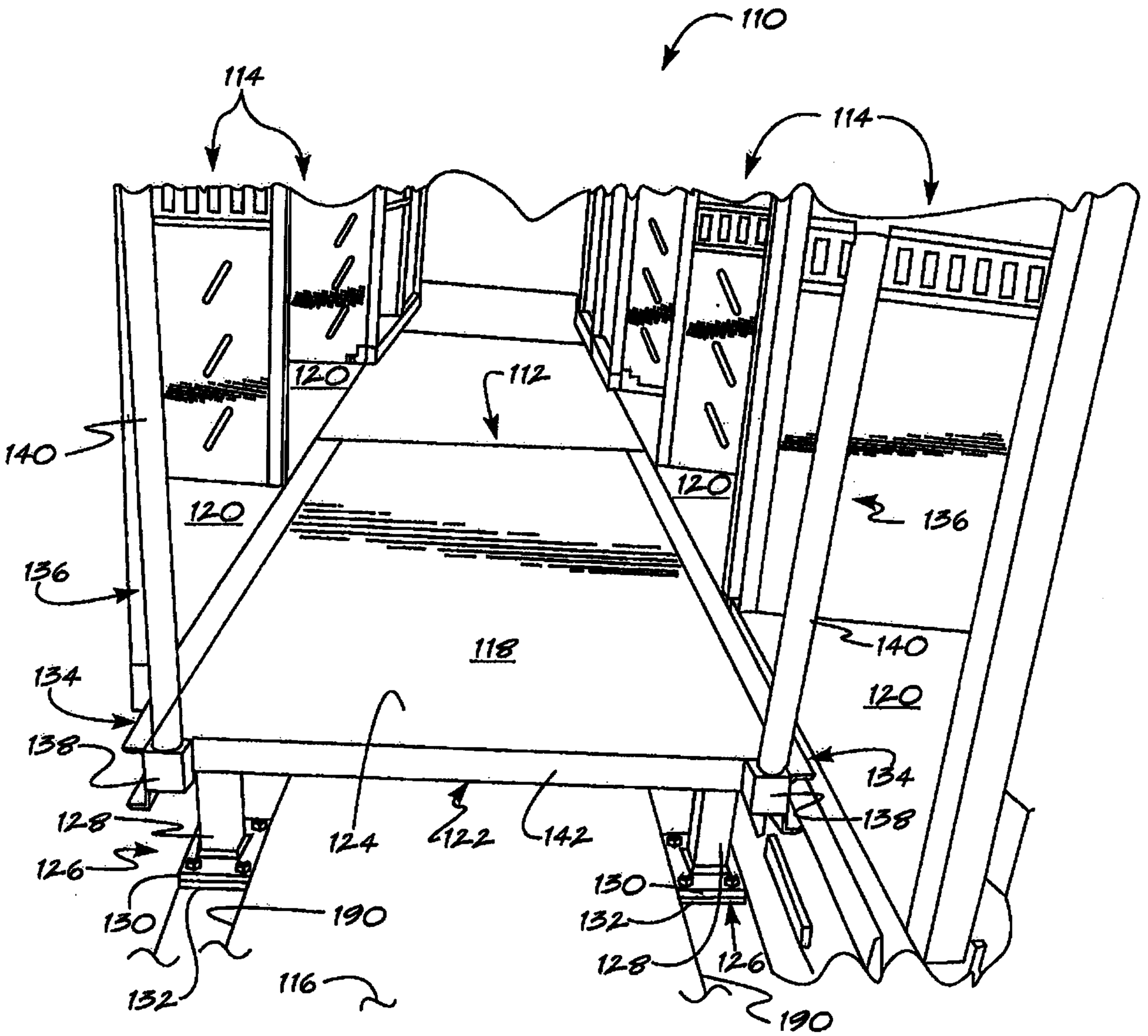
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FIG. 6

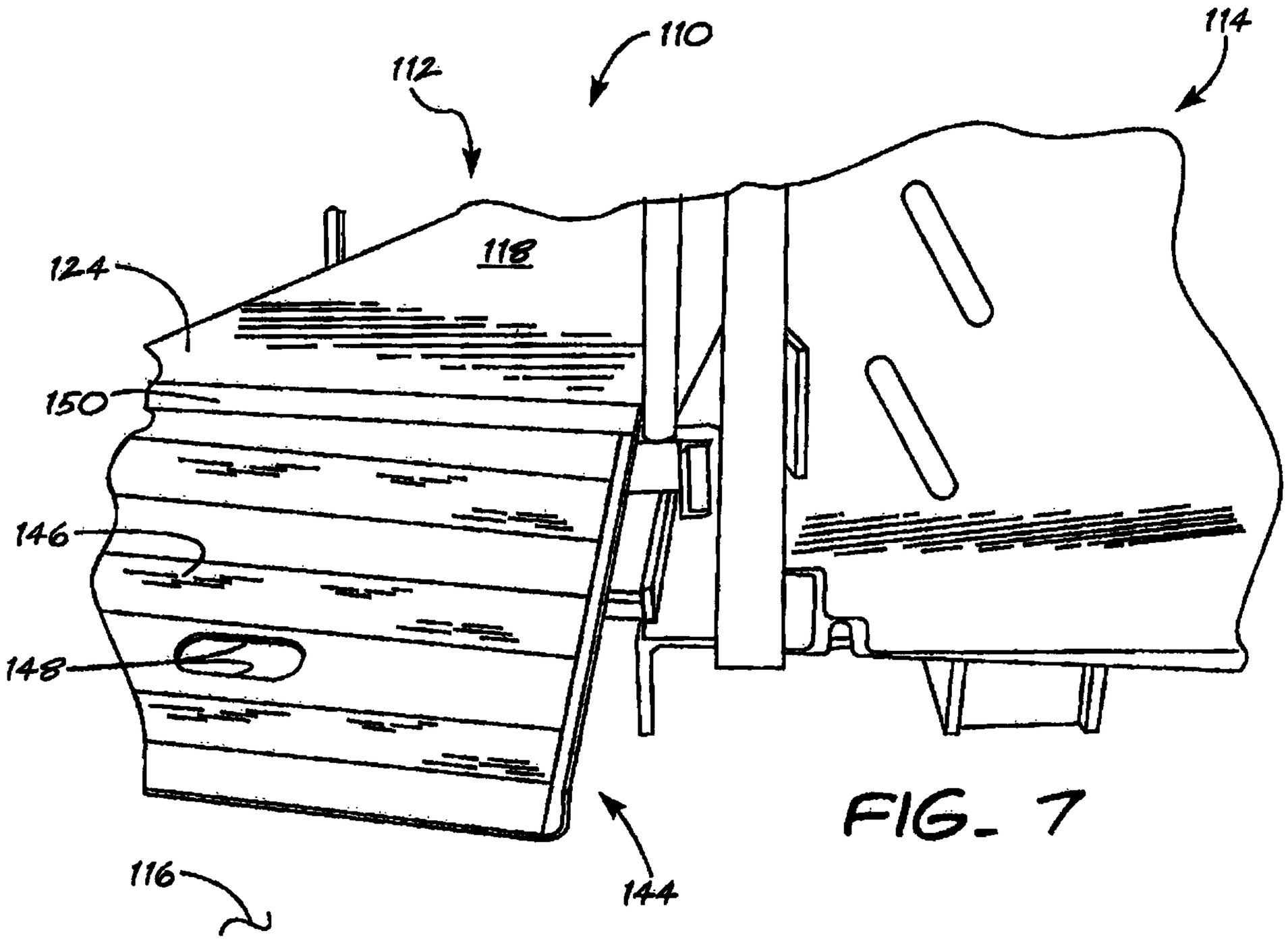
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FIG. 7

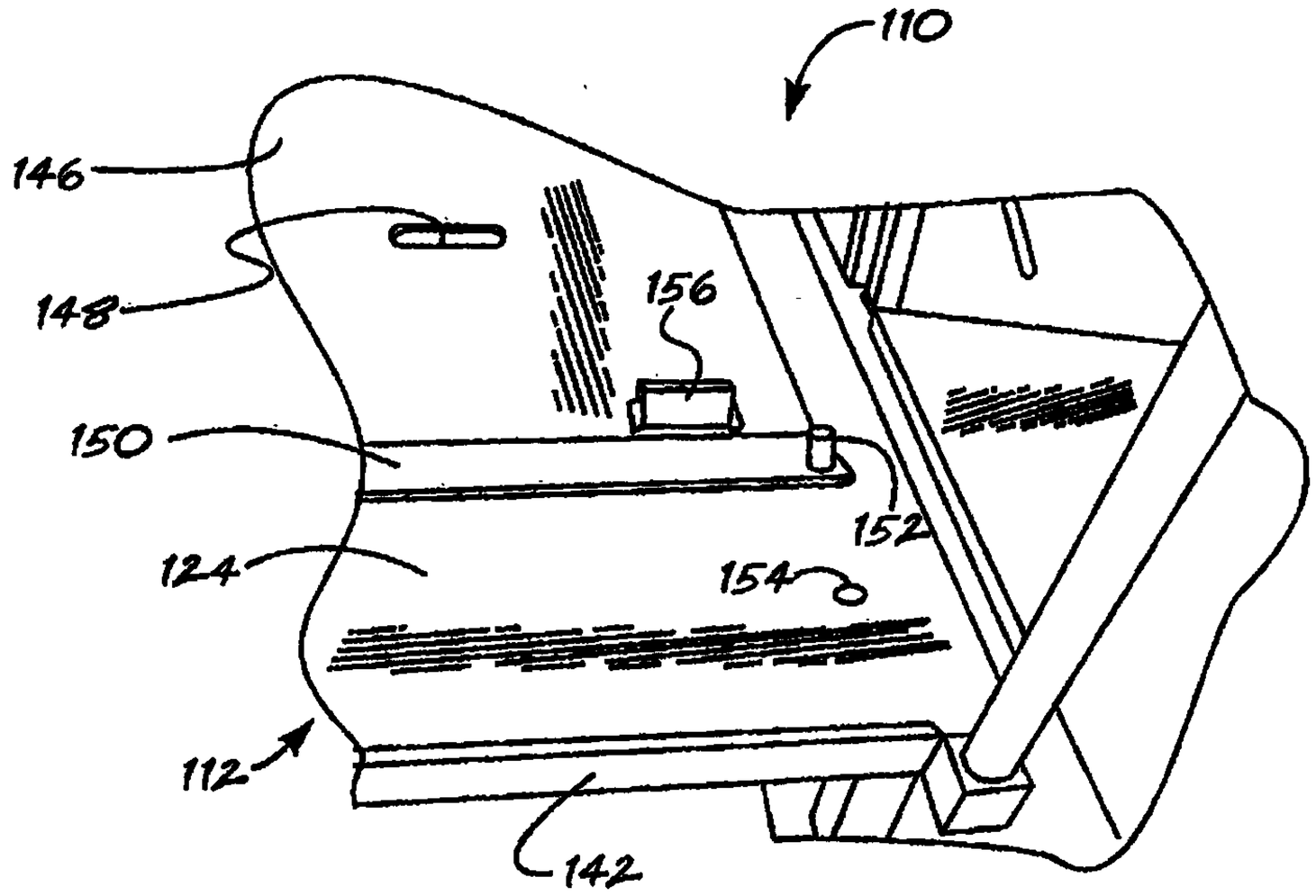
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FIG. 8

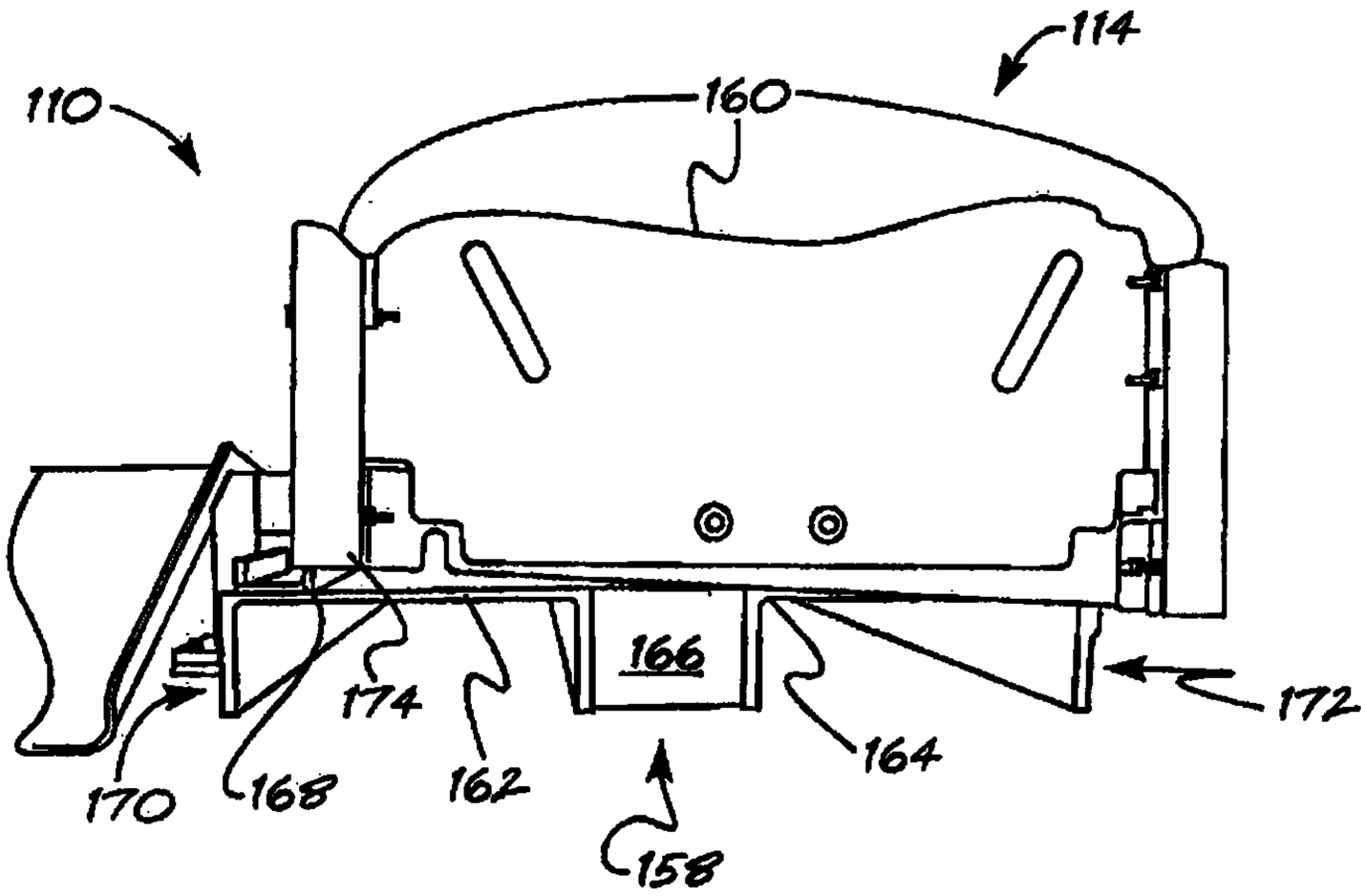
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FIG. 9

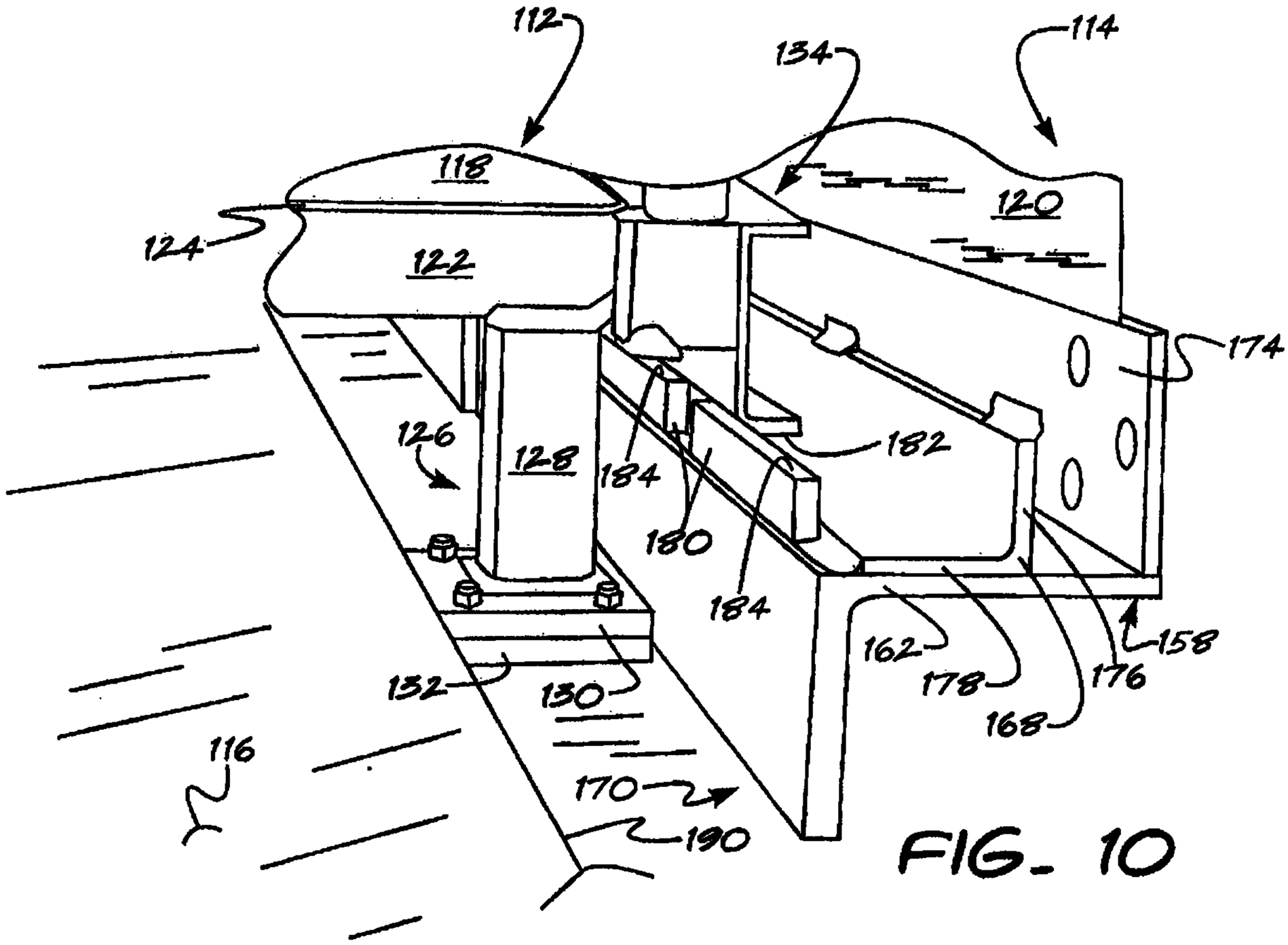
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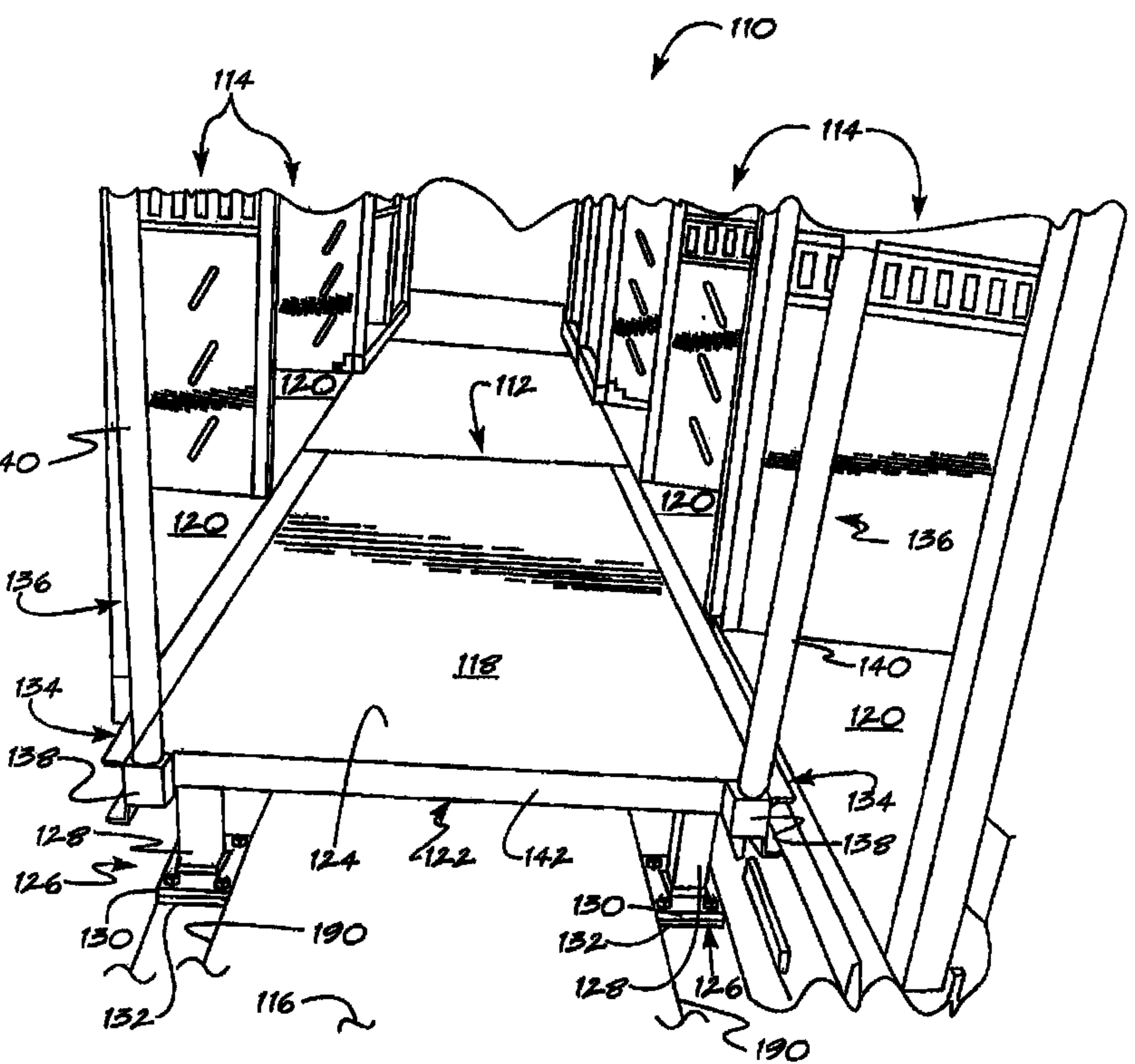
FIG. 10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