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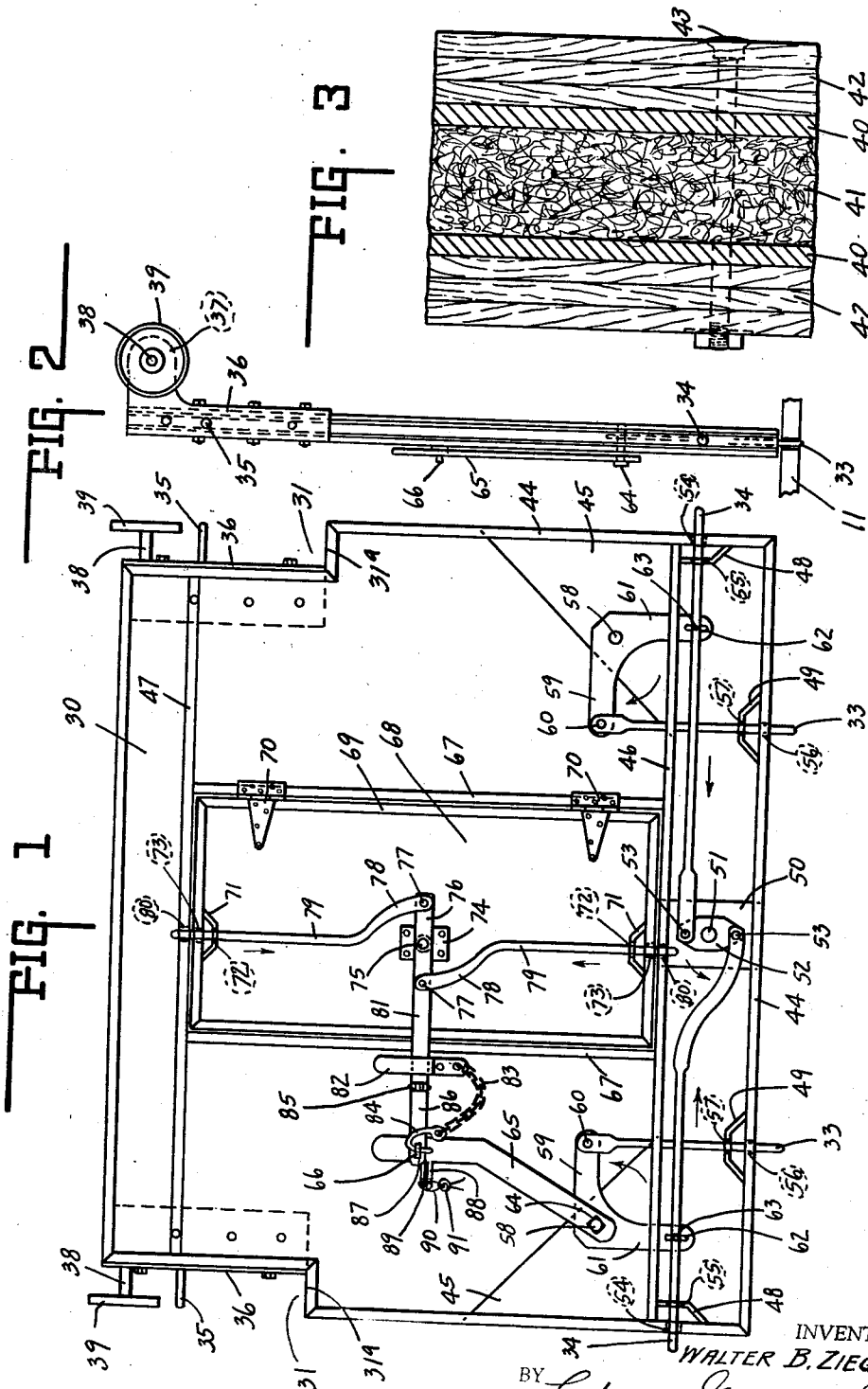
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ADJUSTABLE DOOR TYPE PARTITION FOR CONVEYANCES AND COMPARTMENTS

Filed Sept. 22, 1938

2 Sheets-Sheet 1



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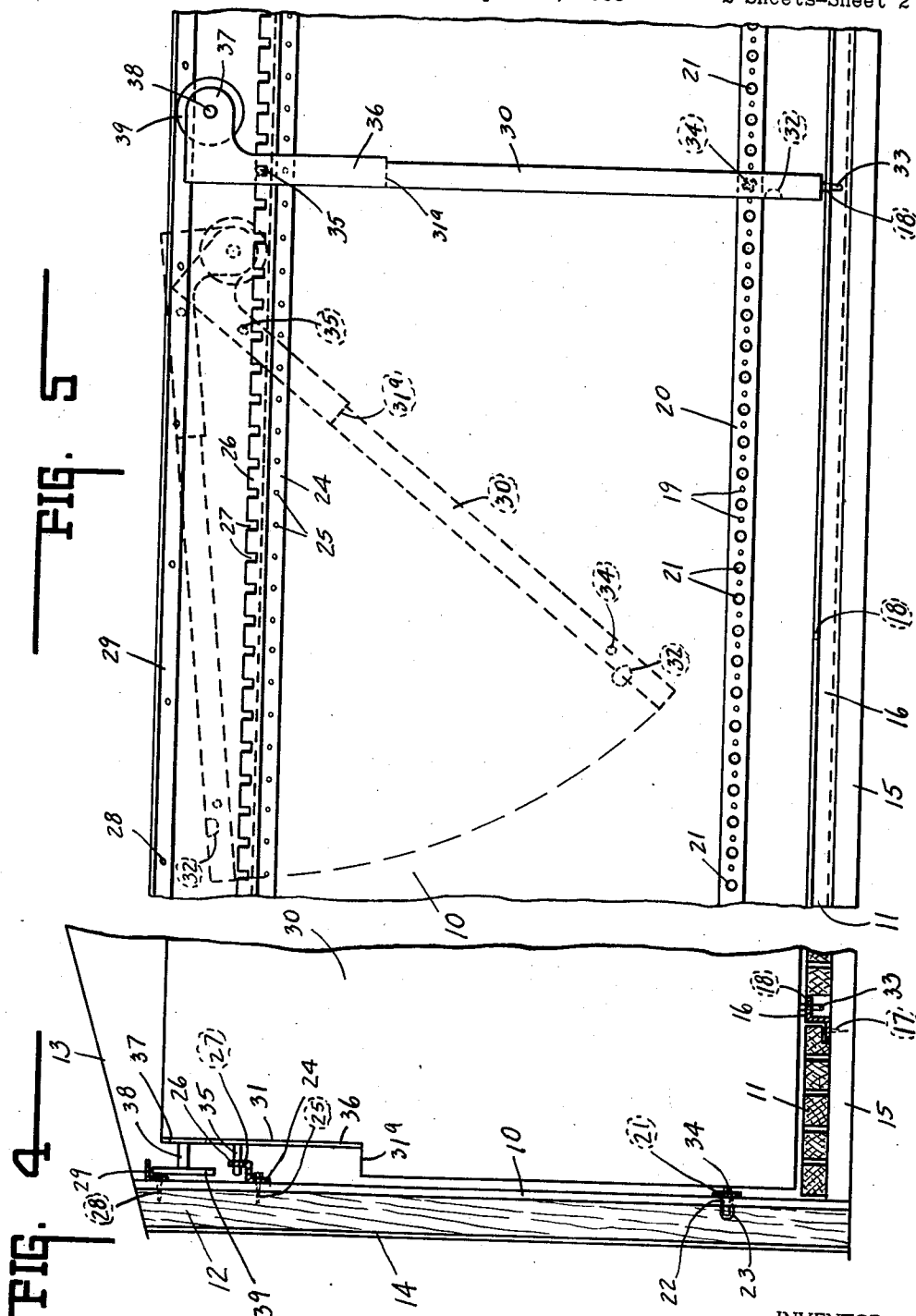
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UNITED STATES PATENT OFFICE

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ADJUSTABLE DOOR TYPE PARTITION FOR
CONVEYANCES AND COMPARTMENTS

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7 Claims. (Cl. 105—376)

This invention relates to an adjustable bulkhead or partition arrangement for railroad cars, trucks, ship compartment and the like.

Herein the invention, by way of example only, is illustrated and described as applied to a freight car.

The chief object of the invention is to provide an adjustable partition for transportation and/or storage compartments to provide a smaller compartment space in segregated relation with respect to the remainder of the main compartment.

Another object of the invention is to provide a partition or bulkhead of the character indicated with a door whereby access may be had to the separated space and which may be locked and sealed.

Another object of the invention is to provide a retractile anchoring arrangement which may be locked and sealed in projected partition anchoring position.

Another object of the invention is to provide means for securing an adjustable partition against bodily movement of the partition in all directions, especially against upward movement.

Another object of the invention is to provide an adjustable partition arrangement, the partition portion being bodily movable into an overhead position when desired to facilitate loading and unloading.

Another object of the invention is to provide an arrangement of the character indicated whereby more than one partition may be employed simultaneously or none may be employed in which substantially no space is occupied by the compartment included portions of the arrangement.

The chief feature of the invention consists in providing means and so associating the same together that the foregoing objects are accomplished.

Other objects and features will be more fully set forth hereinafter.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings Fig. 1 is a front elevation of a partition embodying the invention, parts of the cover and insulation being omitted for clearness as more fully set forth hereinafter, all retractile parts being shown locked and sealed in the projected position.

Fig. 2 is a side elevation of the partition and a portion of the floor.

Fig. 3 is an enlarged sectional view through the partition.

Fig. 4 is a vertical section through a freight car or truck with the invention applied thereto, the partition being shown in elevation.

Fig. 5 is a side elevation of the interior of such an arrangement, the partition in full lines being shown in an anchored position corresponding to sub-compartment formation, the upper dotted position being that when the partition is elevated to facilitate loading and unloading, the intermediate dotted position indicating an intermediate position of the partition in its movement from the first to the second mentioned position.

In Figs. 4 and 5 of the drawings 10 indicates the inside of a vehicle, storage space or the like, and 11 the bottom or floor of same. The wall 10 is supported by studding 12 carrying the roof 13 and outside wall 14 and supported by the main bottom, or base, or bed 15. All of the aforesaid may be of any conventional construction, as desired.

Positioned in the base 11 is a pair of spaced and parallel metal members 16, somewhat Z shaped, in cross section. The lower flange is suitably secured at proper intervals to the bed 15, as at 17. The upper flange is provided with a longitudinal series of openings 18 therethrough. The space beneath this flange is utilized as hereinafter pointed out.

Near the bottom of each side wall is suitably secured as at 19, a strap 20 having a longitudinal series of spaced openings 21 therein corresponding in spacing to opening series 18. Recesses 22 in the side wall 10 may be extended as at 23, if desired, into the studding, if necessary. Between studding there is sufficient clearance for the purpose desired, as pointed out hereinafter.

Above strap 20, and parallel thereto is another Z shaped track 24, the lower flange of which is secured to the side wall 10 as at 25. The upper flange 26 lies parallel to and spaced from the side wall 10 and its upper edge is provided with a longitudinal series of spaced sockets 27 corresponding in spacing to opening series 18 and opening series 21. The intermediate portion of track 24 forms a run-way. In spaced relation to each track 24 and suitably secured, as at 28, to the side wall 10 near the top thereof is an angle member 29.

The Z members 16, the two straps 20, the two Z members 24 and the two angle members 29 constitute the sole additions to a conventional structure of the character indicated. Members 29 and 24 may be integral, if desired.

In Figs. 4 and 5, 30 indicates generally a partition or bulkhead cut away at each upper corner

as at 31 for track clearance when the door is tilted from the vertical position. The door near its bottom edge is provided with hand grips in the form of recesses 32.

5 Extending downwardly from the bottom edge of the partition are two retractile locking rods 33. Extending from each side face of the partition and near the bottom is the retractile locking rod 34. Extending from the side edge of each
10 recess is the steel pin 35 carried by the angular bracket 36, the angular portion 37 of which mounts stub axle 38 carrying wheel 39.

Rod 33 is receivable by recess or opening 18 in member 16. Rod 34 is receivable by the horizontally aligned openings 21 in strap 20 and pin
15 35 is seatable in the horizontally aligned notch or recess 27. The wheel 39 then engages the underface of track plate 29 and forms therewith a lock.

20 When the partition is tilted, upon retraction of rods or locking bolts 33 and 34, the pins 35 are elevated from the recesses 27 in the members 24 and the wheels 39 carrying the partition weight, ride upon the horizontal intermediate portion of
25 members 24 so that the partition may be moved from one position to another in the compartment.

If the partition be applied to a freight car, the track arrangement would be interrupted at the
30 usual central door opening in each side. The partition then could be removed or installed quite readily by being moved to the upper dotted line position, see Fig. 5. To facilitate loading and
35 unloading it also may be withdrawn to this location and elevated and held in that position. The reason it cannot be so elevated at other positions in the car is because the lower edge 31^a of recess 31 would engage track member 24 and
40 prevent further upward movement. Suitable means, not shown, may be provided to hold the partition elevated, however, as herein illustrated the lower portion of the partition is shown supported by the upper edge of member 24, see Fig. 5.

45 Reference will now be had to Figs. 1 to 3, inclusive, for a brief description of the partition structure. Preferably the same is of insulating type. Sealing flaps, not shown, may seal substantially all wall to partition spacings except
50 those not to be sealed and necessary to insure refrigeration by circulation of cool air from compartment to compartment in refrigerator cars.

In Fig. 3, 40 indicates two spaced metal plates, 41 insulation or mineral wool or the like, and 42
55 plies of wood or the like. These may be suitably secured together as at 43.

The partition 30, see Fig. 1, includes a frame 44 of channel cross section suitably outlining the partition, and to which the plates 40, gussets 45,
60 cross members 46 and 47 and braces 48 and 49 are secured. Braces 48 are apertured and serve as guides for rods 34. Braces 49 are apertured and serve as guides for rods 33.

Plate 50 is suitably secured between member 46
65 and frame 44 and supports pivot 51 pivotally mounting cross bar 52 to which at 53 is pivotally secured the adjacent ends of rods 34. One or both of said adjacent ends may be offset, as illustrated. Such offsetting insures horizontal alignment
70 of rods 34 which extend through apertures 54 in frame 44 and apertures 55 in braces 48.

Rods 33 extend through apertures 56 in frame 44 and the registering apertures 57 in braces 49. Pivotally supported at 58 on each gusset plate 45
75 is an angle lever having one arm 59 pivotally

connected as at 60, to the upper end of rod 33. The lower arm 61 of the lever is slotted as at 62, and riding therein is a pin 63 rigidly secured to rod 34.

The left hand pivot 58 is shown as a square 5 shaft 64 and rigid therewith is lever 65. Shaft 64 extends from the interior of the partition to one side thereof and upon the exposed end is secured said lever 65. Thus, all the mechanism
10 last described, except lever 65, is concealed within and protected by the partition structure. Moving lever 65 counter-clockwise retracts all rods 33 and 34. Opposite movement projects all rods 33 and 34. Lever 65 is provided with an eye
15 portion 65 near its upper end.

Whenever the partition or bulkhead is employed wherein access is to be had to the compartment formed thereby and the partition is not to be disturbed, the partition may be provided with an access door, see Fig. 1.

Extending between cross members 46 and 47 are members 67. A door 68, framed as at 69, is hinged in the door opening as at 70. The door may be of the same internal structure as the partition, see Fig. 3. Braces 71 are apertured at 72
25 and frame 69 to which the same are secured is similarly apertured as at 73. Plate 74 mounts pivot 75 which has one end exposed on the face of the door. Lever 76 has its opposite ends pivotally connected as at 77 to the offset adjacent
30 ends 78 of rods 79, the free ends of which are slidably mounted in apertures 72 and 73. Cross members 46 and 47 are apertured at 80 to receive the rods 79 when projected. When retracted, door 68 can be opened by swinging same
35 on its hinges 70.

Secured upon the exposed end of shaft 75 to which lever 76 is secured is lever 81, which extends across the door and partition toward the free end of lever 65. The partition exteriorly
40 and adjacent lever 65 and eye 66 is provided with a socket 82 to the lower end of which is secured chain 83 supported by hook 84.

Lever 81 seats in socket 82 when the door is closed. Hingedly connected at 85 to the free end
45 of lever 81 is the arm 86, which is slotted as at 87, to receive the eye 66 of lever 65. The slot exposed eye receives hook 84. Extensions 88 and 89 on lever 65 and arm 86 are apertured to receive a seal wire 90, the ends of which are
50 sealed by the lead seal 91.

Any attempt to open the door, or to move the partition with or without door opening requires breaking the seal. For inspection or like purposes, the seal is broken, hook 84 disengaged
55 from eye 66, and then arm 86 is disengaged from the eye 66 by swinging on hinge 85. When free, arm 86 can be used as a handle to elevate clockwise lever 81 from socket 82. When clear of the socket the bolts 79 are retracted permitting the door 68 to swing on its hinges 70. Closing the sealing is effected by reverse operations. The hinge connection of extension 86 permits the arm to be swung outwardly without moving lever 81. This retains the door in closed position.
65 Lever 65 then can be actuated for partition release.

While the invention has been illustrated and described in great detail in the drawings and foregoing description, the same is to be considered
70 as illustrative and not restrictive in character.

The several modifications described herein as well as others which will readily suggest themselves to persons skilled in this art, all are considered to be within the broad scope of the in-
75

vention, reference being had to the appended claims.

The invention claimed is:

1. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and positioned near the top, each of said tracks comprising a notched flange, a rail member spaced above and paralleling each of said tracks, a strap member on each of said side walls near the bottom paralleling said tracks and rail members, each of said strap members having a longitudinal series of openings therein, another pair of rail members imbedded in the floor of the conveyance, each having a series of spaced openings therein, means mounted on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, additional means secured to said partition structure above said pivot means and locking with said first mentioned rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear upon said tracks to solely support said partition structure when said partition structure is swung about said pivot means, whereby said partition structure upon further swinging movement to clear said pivot means of said notches may be moved longitudinally of the conveyance, projectable and retractable means associated with said partition structure and complementary to the aforesaid openings in said strap members and second mentioned rail member, and means including a pair of angle levers positioned within adjacent corners of said partition structure, for simultaneously projecting and retracting said projectable and retractable means.

2. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and positioned near the top, each of said tracks comprising a notched flange, a rail member spaced above and paralleling each of said tracks, a strap member on each of said side walls near the bottom paralleling said tracks and rail members, each of said strap members having a longitudinal series of openings therein, means mounted on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, additional means secured to said partition structure above said pivot means and locking with said first mentioned rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear upon said tracks to solely support said partition structure when said partition structure is swung about said pivot means, whereby said partition structure upon further swinging movement to clear said pivot means of said notches may be moved longitudinally of the conveyance, projectable and retractable means associated with said partition structure and complementary to the openings in said strap members, and means including a pair of angle levers positioned within adjacent corners of said partition structure for simultaneously projecting and retracting said projectable and retractable means.

3. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and positioned near the top, each of said tracks comprising a notched flange, a rail member spaced

above and paralleling each of said tracks, another pair of rail members imbedded in the floor of the conveyance, each having a series of spaced openings therein, means mounted on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, additional means secured to said partition structure above said pivot means and locking with said first mentioned rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear upon said tracks to solely support said partition structure when said partition structure is swung about said pivot means, whereby said partition structure upon further swinging movement to clear said pivot means of said notches may be moved longitudinally of the conveyance, projectable and retractable means associated with said partition structure and complementary to the openings in said second mentioned rail members, and means including a pair of angle levers positioned within adjacent corners of said partition structure for simultaneously projecting and retracting said projectable and retractable means.

4. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and positioned near the top, each of said tracks comprising a notched flange, a rail member spaced above and paralleling each of said tracks, means mounted on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, and additional means secured to said partition structure above said pivot means and locking with said rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear upon said tracks to solely support said partition structure when said partition structure is swung about said pivot means, whereby said partition upon further swinging movement to clear said pivot means of said notches may be moved longitudinally of the conveyance.

5. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and positioned near the top, each of said tracks comprising a notched flange, a rail member spaced above and paralleling each of said tracks, a strap member on each of said side walls near the bottom paralleling said tracks and rail members, each of said strap members having a longitudinal series of openings therein, another pair of rail members imbedded in the floor of the conveyance, each having a series of spaced openings therein, means mounted on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, additional means secured to said partition structure above said pivot means and locking with said first mentioned rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear upon said tracks to solely support said partition structure when said partition structure is swung about said pivot means, whereby said partition structure upon further swinging movement to clear said pivot means of said notches may be moved longitudinally of the conveyance, projectable and retractable means associated

with said partition structure and complementary to the aforesaid openings in said strip members and second mentioned rail members, and means for simultaneously projecting and retracting said projectable and retractable means.

5 6. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and positioned near the top, each of said tracks comprising a notched flange, a rail member spaced
10 above and paralleling each of said tracks, a strap member on each of said side walls near the bottom paralleling said tracks and rail members, each of said strap members having a longitudinal series of openings therein, means mounted
15 on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, additional means secured to said partition structure above said pivot means and locking with
20 said first mentioned rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear
25 upon said tracks to solely support said partition structure when said partition structure is swung about said pivot means, whereby said partition structure upon further swinging movement to clear said pivot means of said notches may be
30 moved longitudinally of the conveyance, projectable and retractable means associated with said partition structure and complementary to the openings in said strap members, and means for

simultaneously projecting and retracting said projectable and retractable means.

7. A partition arrangement for conveyances, and the like, including parallel tracks supported adjacent the side walls of the conveyance and
5 positioned near the top, each of said tracks comprising a notched flange, a rail member spaced above and paralleling each of said tracks, a pair of rail members imbedded in the floor of the conveyance, each having a series of spaced openings
10 therein, means mounted on the partition and seating in the notches in the flanges of said tracks for pivotally supporting a partition structure within the conveyance, additional means secured to said partition structure above said pivot means
15 and locking with said first mentioned rail members for preventing pivot means and notch separation when said partition structure is supported in vertical relation, said additional means being adapted to bear upon said tracks to solely support
20 said partition structure when said partition structure is swung about said pivot means, whereby said partition structure upon further swinging movement to clear said pivot means of said notches may be moved longitudinally of the conveyance,
25 projectable and retractable means associated with said partition structure and complementary to the openings in said second mentioned rail members, and means for simultaneously projecting and retracting said projectable
30 and retractable means.

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