

April 6, 1954

J. F. KERBAUGH ET AL

2,674,207

ADJUSTABLE BULKHEAD

Filed May 29, 1950

4 Sheets-Sheet 1

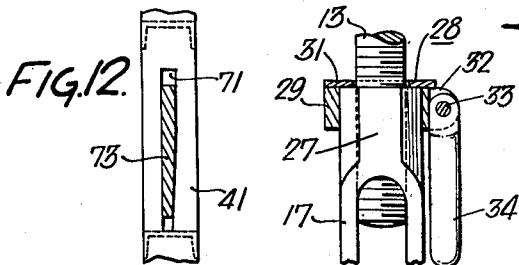
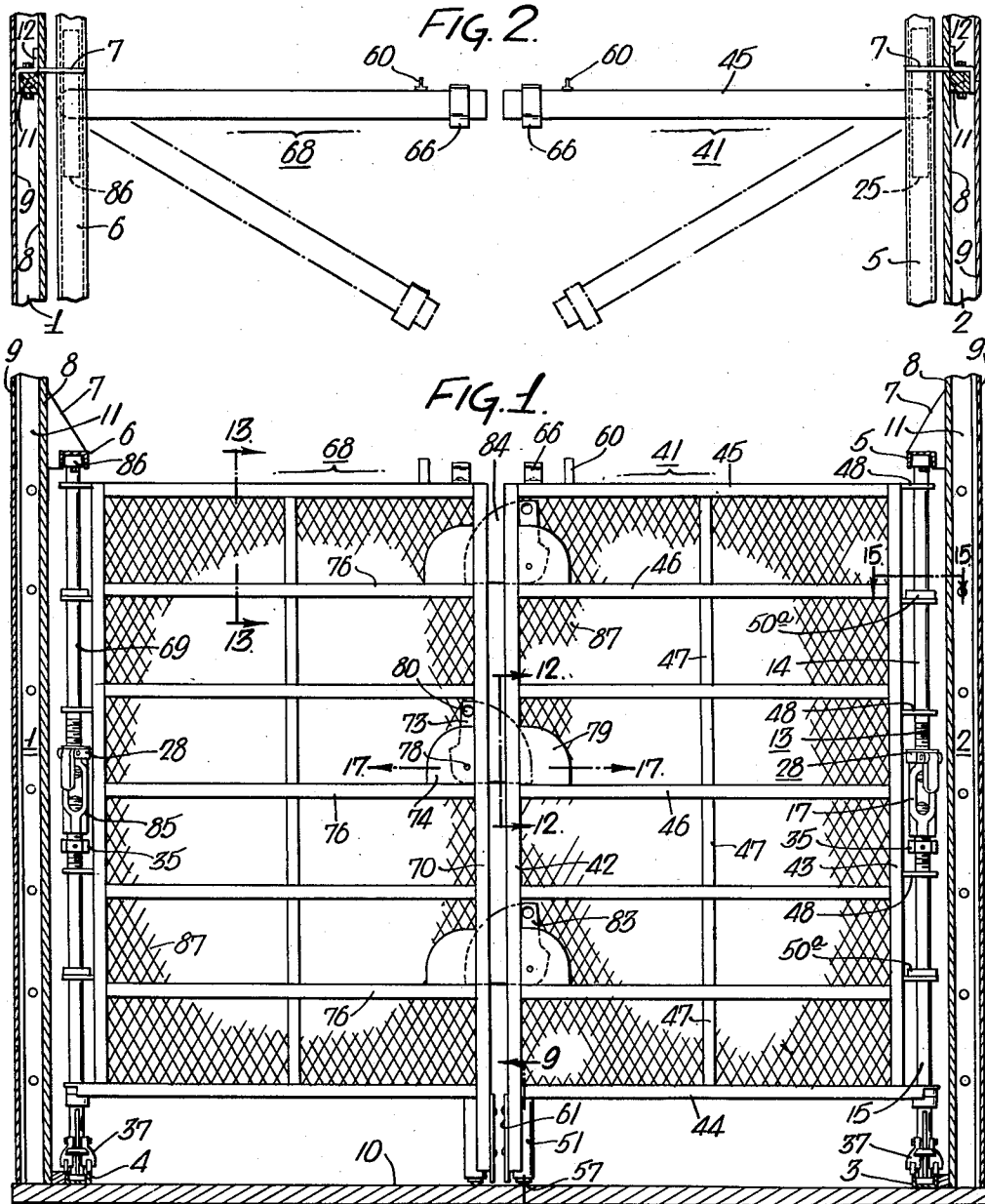


FIG. 16.

Inventors:  
Joseph F. Kerbaugh  
Malcolm D. Kerbaugh  
Paschal W. Barr  
by their Attorneys  
Howson & Howson

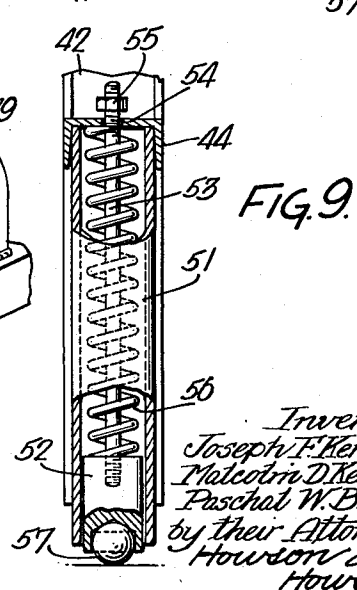
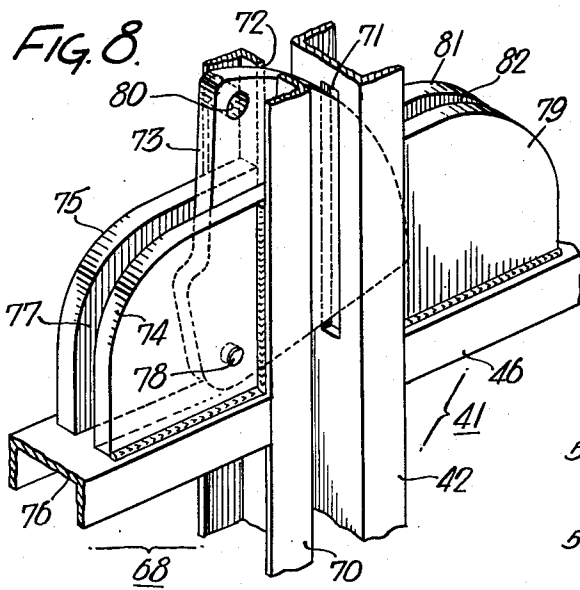
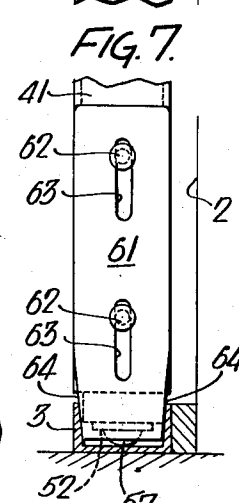
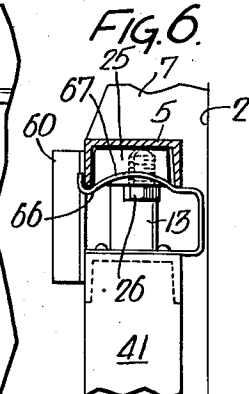
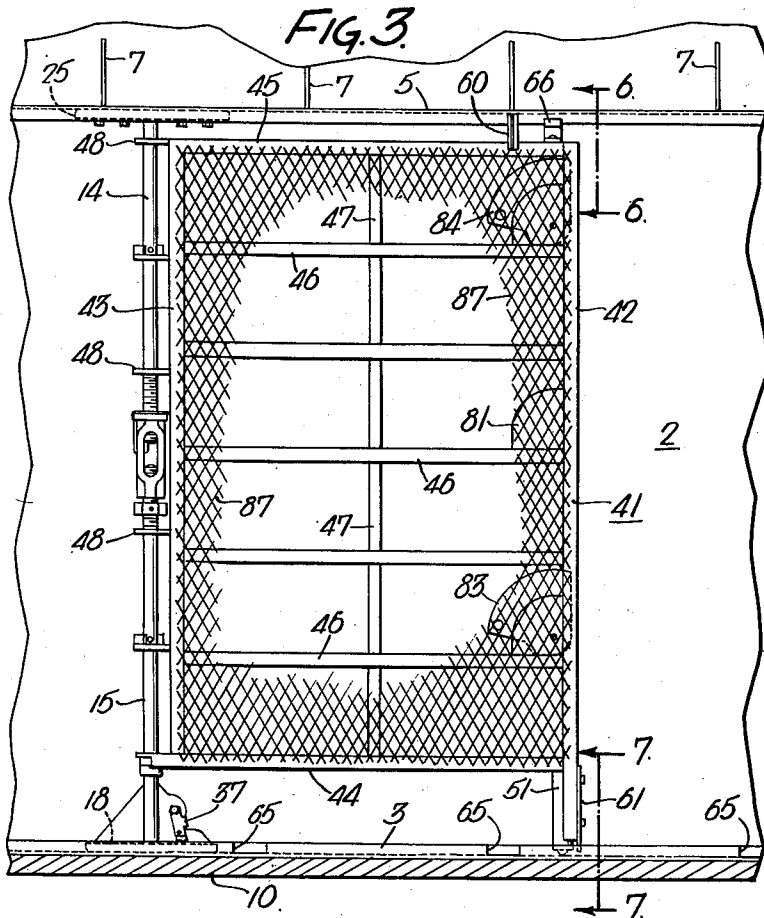
April 6, 1954

J. F. KERBAUGH ET AL  
ADJUSTABLE BULKHEAD

2,674,207

Filed May 29, 1950

4 Sheets-Sheet 2



*Inventors:*  
Joseph F. Kerbaugh  
Malcolm D. Kerbaugh  
Paschal W. Barr  
by their Attorneys  
Howison & Howison

**April 6, 1954**

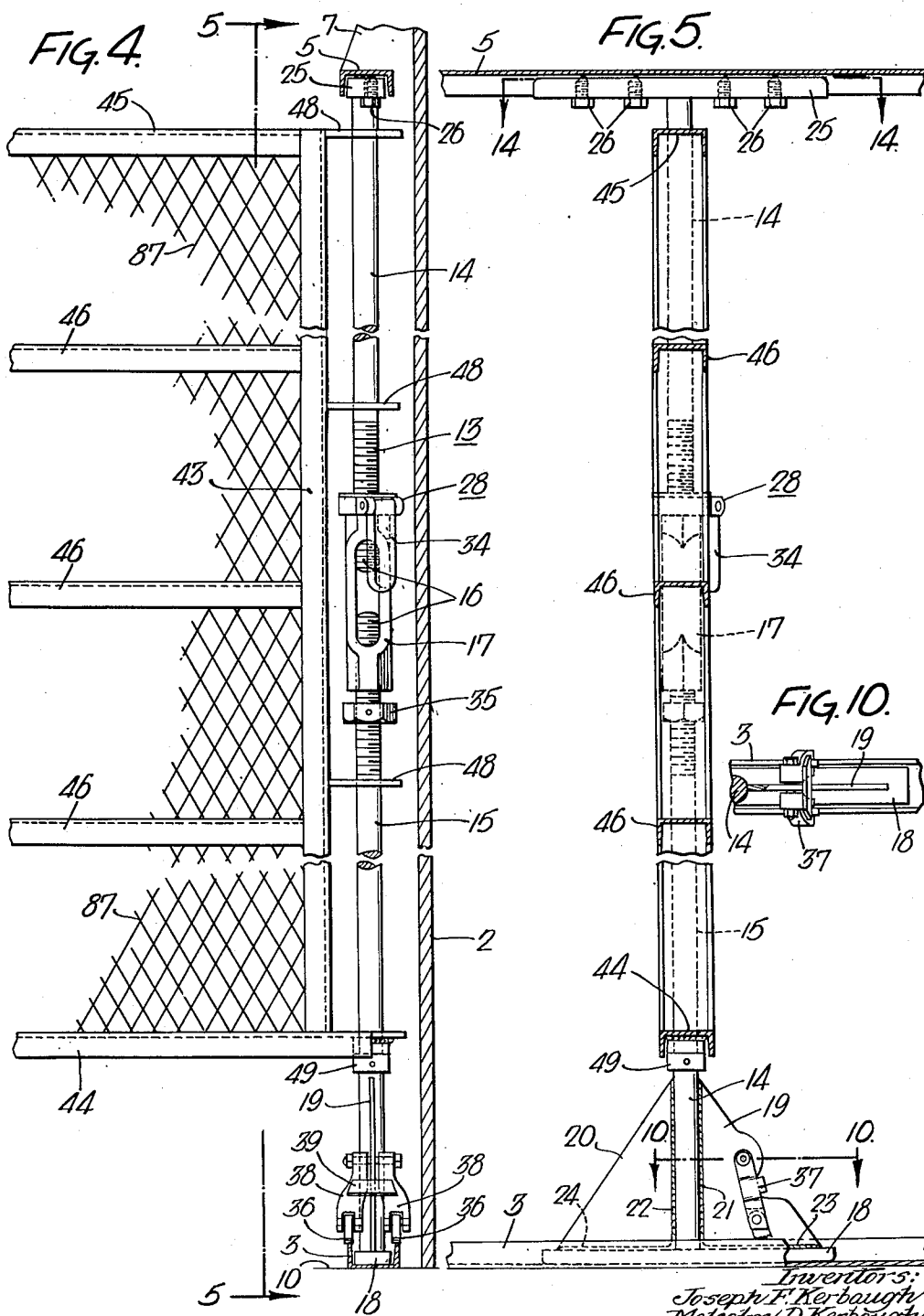
J. F. KERBAUGH ET AL

**2,674,207**

## ADJUSTABLE BULKHEAD

Filed May 29, 1950

4 Sheets-Sheet 3



Inventors:  
Joseph F. Kerbaugh/  
Malcolm D. Kerbaugh/  
Paschal W. Barr  
by their Attorneys,  
Houson & Houson

April 6, 1954

J. F. KERBAUGH ET AL

2,674,207

ADJUSTABLE BULKHEAD

Filed May 29, 1950

4 Sheets-Sheet 4

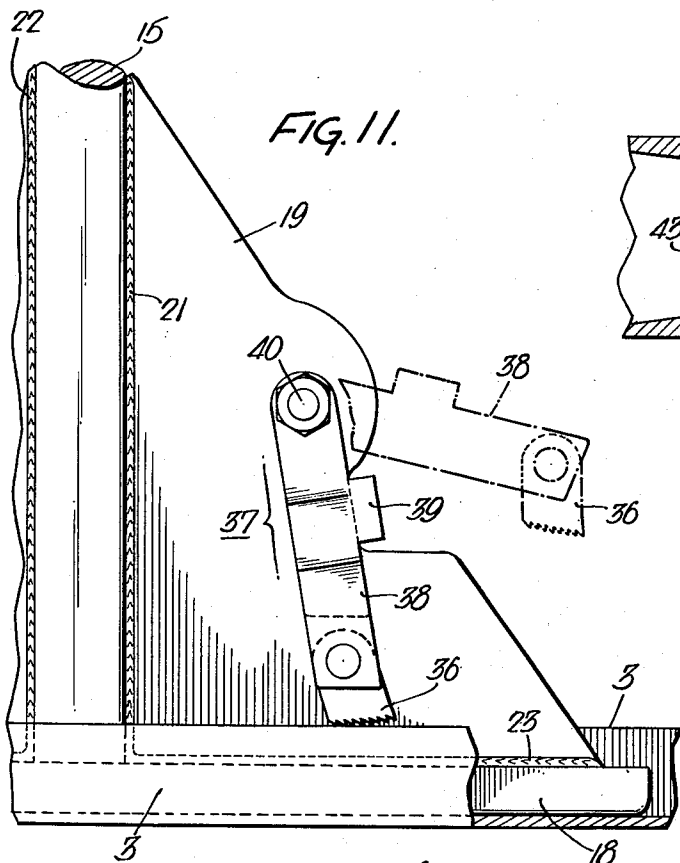


FIG. 15.

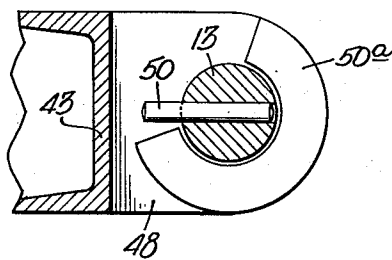


FIG. 13.

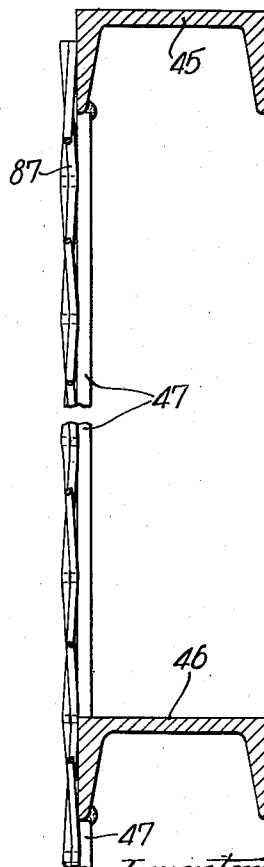


FIG. 14.

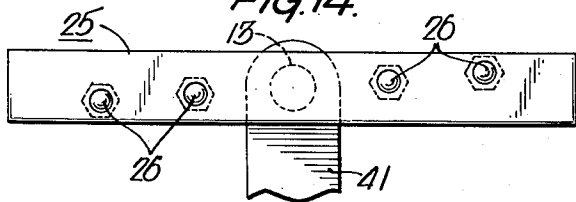
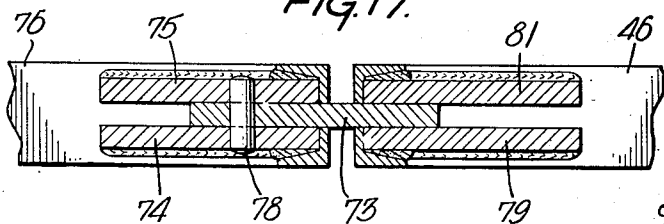


FIG. 17.



Inventors:  
Joseph F. Kerbaugh  
Malcolm D. Kerbaugh  
Paschal W. Barr  
by their Attorneys  
Hudson & Hudson

## UNITED STATES PATENT OFFICE

2,674,207

## ADJUSTABLE BULKHEAD

Joseph F. Kerbaugh, Bryn Mawr, and Malcolm  
D. Kerbaugh and Paschal W. Barr, Haverford,  
Pa.

Application May 29, 1950, Serial No. 165,008

25 Claims. (Cl. 105—376)

1

This invention relates to bulk head structures for use in railway and other cars or vehicles to support shipments of merchandise in full or less-than-carload lots and to minimize the losses arising from damage in transit.

In the shipment of merchandise by rail or other cars or vehicles it is necessary, for economy of floor space, to stack the goods, either packaged or unpackaged, in the car. Such stacks are frequently unstable and tend to disintegrate in transit due to the uneven and irregular car movements. Losses arising from breakage of shipment goods from this cause extends into the millions of dollars over the course of a year.

In order to minimize such breakage, it has been proposed to equip the car or vehicle bodies with bulk head structures functioning to partition off the section or sections containing stacked merchandise so as to prevent the aforesaid losses. The prior bulk heads of this character have been only partially successful, however, due to certain inherent defects and limitations both in the structure of the bulk head itself and in the manner in which it was mounted or supported in the cars.

A primary object of the present invention therefore is to provide a practical bulk head structure of the general character set forth, capable of application to existing railway cars and other vehicles and highly effective in its intended function, said bulk head being readily adjustable longitudinally of the car and affording a highly efficient and flexible means for containing shipments of merchandise in stable stacks within the car.

Another object of the invention is to provide a bulk head structure of the stated character which by reason of its structural form and the manner in which it is mounted in the car will be unaffected in any adverse sense by the weaving action of the car structure which occurs during movement of the car on the rails.

Still another object of the invention is to provide a bulk head structure of the stated type having generally improved means for adjustment in the car and for anchorage in the desired adjusted position.

A further object is to provide a bulk head structure of the character set forth constructed and mounted in a manner such that the elements of the structure may be adjusted to retracted positions against the walls of the car and may be readily demounted for removal bodily from the car.

A still further object is to provide a bulk head

2

of the stated class constructed and mounted so as to have no adverse effect upon the structure of the car in which it may be installed and particularly upon the walls thereof.

5 The invention resides also in certain structural and mechanical details hereinafter described and illustrated in the attached drawings wherein:

Fig. 1 is a fragmentary transverse sectional view illustrating our bulk head installed in a railway car and in operative position within the latter;

Fig. 2 is a plan view of the structure illustrated in Fig. 1;

Fig. 3 is a fragmentary longitudinal sectional view through the car illustrating one of the main sections of the bulk head turned back against the side wall of the car;

Fig. 4 is an enlarged fragmentary transverse sectional view showing details of the bulk head structure;

Fig. 5 is a sectional view on the line 5—5, Fig. 4;

Figs. 6 and 7 are sectional views on the lines 6—6, and 7—7, respectively, of Fig. 3;

Fig. 8 is an enlarged fragmentary view in perspective of one of the functional elements of the structure;

Fig. 9 is an enlarged sectional view on the line 9—9, Fig. 1;

Fig. 10 is a sectional view on the line 10—10, Fig. 5;

Fig. 11 is an enlarged fragmentary side elevational view illustrating the mode of operation of an element of the apparatus;

Fig. 12 is a sectional view on the line 12—12, Fig. 1;

Fig. 13 is a sectional view on the line 13—13, Fig. 1;

Fig. 14 is an enlarged plan view of an element of the apparatus as seen from the line 14—14, Fig. 5;

Fig. 15 is a sectional view on the line 15—15, Fig. 1;

Fig. 16 is a fragmentary enlargement partly in section showing a detail of the apparatus, and

Fig. 17 is a sectional view on the line 17—17, Fig. 1.

In the drawings, the reference numerals 1 and 2 designate the side walls of a rail car, and 10 the floor of the car. Suitably secured to the floor 10 and extending along each of the side walls in slightly spaced relation to the latter is a channel, 3 and 4 respectively, forming recessed tracks or guide rails which function as hereinafter described. Similar inverted channels, 5 and 6

3

respectively, are supported in elevated positions on the respective side walls through the medium of brackets 7, the channel 5 being in vertical alignment with the channel 3, and the channel 6 in vertical alignment with the channel 4, as best illustrated in Fig. 1. These channels will extend preferably over the full length of the car with exception of the areas immediately opposite the doors, and the ends of the channels which adjoin the doors are open and unobstructed.

With reference to Fig. 2, it will be noted that each of the side walls 1 and 2 comprises inner and outer wall panels or sheathing, 8 and 9 respectively, and intermediate studs 11 including in the present instance structural metallic members 12. The brackets 7, which consist in the present instance of substantially triangular metal plate, are welded or otherwise rigidly secured to the members 12 of the wall structure and extend through the sheathing 8, the rails 5 and 6 being welded or otherwise suitably secured to the lower edge portions of the brackets. By this means the upper rails 5 and 6 are rigidly attached to the wall structures.

Supported in upright position between the rails 3 and 5 is a post 13, see Figs. 1 and 4, which comprises upper and lower separately formed sections 14 and 15, the proximate ends of these sections being threaded, as indicated at 16, for reception of a turnbuckle 17. This turnbuckle unites the sections 14 and 15 and affords a means for axially extending and contracting the post so as to vary the effective length of the latter. The lower end of the post is provided with an elongated shoe 18 which fits slidably within the lower channel 3, and, as shown in Fig. 5, the shoe is rigidly secured to the lower end of the post through the medium of angle plates 19 and 20, one on each side of and united to the post, preferably by welding, along the edges 21 and 22, and along the adjoining edges 23 and 24 to the upper surface of the shoe 18.

A similar shoe 25 is secured to the upper end of the post 13 and is slidably fitted to the channel 5, it being apparent that the shoes 18 and 25, being of substantial length, function in conjunction with the rails 3 and 5 to maintain the post 13 in upright substantially vertical position. By adjusting the turnbuckle 17 so that the effective length of the post is somewhat less than the vertical distance between the webs of the channel rails 3 and 5 the post may be readily adjusted longitudinally of the car in the rails; and the post may be immobilized in the rails by adjustment of the sleeve 17 to increase the length of the post to an extent causing it to jam between the rails in obvious manner. In order to make this anchorage of the post between the rails more positive the upper shoe 25 may be provided with a plurality of set screws 26 the pointed tips of which project beyond the upper surface of the shoe so that when the shoe is forced upwardly the tips will be brought into forcible engagement with the opposed surface of the channel 5. Preferably the screws are staggered, as shown in Fig. 14, so that no two will engage the rail on the same longitudinal line.

As shown in Fig. 16 the end 27 of the turnbuckle 17 is made externally of hexagonal form for engagement with a wrench element 28. The wrench consists of an annular body member 29 having an hexagonal bore or socket which fits the upper end of the turnbuckle, and a flange plate 31 at the top extending inwardly so as to overlap the hexagonal socket and thereby to af-

4

ford a support for the wrench upon the upper edge of the turnbuckle. The flange 31 has a central opening for the post 13. The member 29 has spaced lugs 32, 32 between which a handle element 34 is suspended on a pin 33, the handle being used to manipulate the wrench. The wrench is normally seated on the upper end of the turnbuckle, as shown in Fig. 16, and may be freely lifted from the turnbuckle and turned independently on the post to a new engagement position.

Threaded on the lower section 15 of the post 13 immediately below the turnbuckle 17, is a stop nut 35. This nut is preferably of the self-locking type and its function is to limit actuation of the turnbuckle to a safe range precluding inadvertent contraction of the post to an extent freeing the post from the upper channel rail. Normally, therefor, manipulation of the turnbuckle to reduce the length of the post can progress only to the extent of releasing the post for adjustment longitudinally of the supporting rails 3 and 5 and not to a point permitting the upper end of the post 14 to leave the channel 5. If, however, it should be desired to separate the post 13 from the rails 3 and 5, the nut 35 may be turned down on the post section 15 so as to permit the required actuation of the turnbuckle.

By reference to Figs. 5, 10 and 11, it will be noted that the plate 19 of the lower shoe assembly has pivotally mounted therein a member 37; this member comprising a pair of arms 38, 38 located respectively at opposite sides of the plate 19 and rigidly connected by a cross bar 39. A bolt 40 provides the pivotal connection in the plate, and the lower ends of the arms 38 diverge so that their lower ends respectively overlie the upturned flanges of the rail 3. Pivotaly mounted in the lower end of each of the arms is a dog 36, the lower convex and toothed surface of which engages the upper edge of the proximate side flange of the rail. The arms are supported by the dogs in a position slightly inclined to the vertical, as illustrated, so that the member 37 may act effectively as a detent preventing movement of the post assembly in the one direction (to the right as viewed in Fig. 5) while permitting free movement in the opposite direction. The detent may be released by elevation about the pivot 40.

Pivotaly supported on post 13 is a gate or bulk head panel 41. The gate consists in the present instance of a substantially rectangular frame composed of channel bars 42, 43, 44 and 45, forming the two sides, the bottom and top rails of the gate, these members being secured together at their ends by welding or other suitable means and being reenforced and rigidified by a series of transverse channels 46, which extend between the adjoining pairs of the channels 46 and are welded or otherwise secured to the latter, see Fig. 13. Extending transversely from the bar 43 is a vertical series of hinge pieces 48 which are apertured for reception of the upper and lower elements 14 and 15 of the post 13, and the end of the bottom rail 44 is extended beyond the side upright 43 and is similarly apertures for reception of the lower post section 15, this end of the rail 44 resting upon a collar 49 welded or suitably secured by other means to the said post. By this means the gate or panel member 41 is pivotally connected to the post and is supported in a relatively elevated position upon the latter. Relative pivotal movement of the gate and post is limited by stop pins 50 fixed in the

5

elements 14 and 15 of the post 13 near the top and bottom of the gate respectively, see Figs. 1 and 15, which coast with a shoulder 50a on the adjoining hinge pieces 48. In this manner the elements 14 and 15 are established in a predetermined relation since neither element can be turned independently through more than approximately 90 degrees with respect to the other element or to the turnbuckle. The said relation is determined by the effective distance between the post-supporting rails and the overall length of the post required for efficient operation in the rails.

The channel upright 42 extends downwardly below the bottom rail 44 and has attached thereto a short cylinder 51, see Fig. 9, which forms a casing within the lower end of which is slidably supported a block 52. This block is secured to the lower end of a rod 53 which extends upwardly and through an aperture 54 in the top wall of the casing, the upper end of the rod 53 being threaded and being provided with a nut 55 which limits the downward movement of the block 52 in the casing. A spring 56 surrounds the rod 53 and is confined between the block 52 and the top wall of the casing, the spring thereby exerting pressure tending to hold the block 52 in the bottom of the casing in the position shown in Fig. 9. Rotatably secured in a socket in the bottom of the block 52 is a spherical element 57 and this element 57 will normally contact the floor of the car, as illustrated in the drawings, to thereby resiliently support the outer free end of the panel structure 41 i. e. the end remote to the post 13 about which the panel pivots. Slidably supported on the front of the channel 42 is a plate 61, see Figs. 1 and 7, this plate being held in position against the face of the channel by studs 62 which pass through slots 63 in the plate so as to permit vertical adjustment of the plate on the wall of the casing. The lower end of the plate 61 is tapered, as indicated at 64, and the function of this plate will be hereinafter described.

The gate 41 described above may be swung about the post 13 between the extended or operative position, shown in Fig. 1, and a retracted position illustrated in Fig. 3 wherein the gate is turned back parallel to the side wall 2. In this position the lower end of the outer side member 42 of the gate rests within the channel 3, and in order to admit this lower end to the channel the latter is provided with slots 65 in the upright flange or side thereof which faces the center of the car. By adjusting the gate in the channel until the lower end of the member 42 registers with one of these slots 65 the said lower end may pass into the channel, and further adjustment along the rails will then carry the lower end of the upright out of registry with the slot 65 so as to preclude accidental displacement of the gate from the retracted position. The lower end 64 of the plate 61, when the plate is in the normal position shown in Fig. 7, will engage the side walls of the channel with wedging action tending to lock the entire gate structure against displacement longitudinally of the channel rails in which it is supported.

At the top of the gate 41 and near the said outer or free end thereof is a spring clip 66, the specific form of which is best shown in Fig. 6. When the gate is in retracted position this spring element will engage the upper channel 5 and, by reason of the upwardly bowed portion 67 of the spring which projects into the interior

6

of the channel, will constitute a spring latch anchoring the upper outer corner of the gate to the rail. Thus, in the retracted position all four corners of the gate may be effectively immobilized against movement when the car is in motion. A stop element 60 at the top of the gate and adjacent its outer end acts by engagement with the outer face of the upper rail 5 to limit the opening movement of the gate and to relieve the spring clip 66 of this function.

As shown in Fig. 1 the gate 41, when in the operative position, extends approximately half way across the width of the car, and a correspondingly constructed gate 68 is suspended from a post 69 at the opposite side of the car, identical in form with the post 13 and supported in similar manner on the rails 4 and 6 and completes the bulk head structure. Since the structural form and mode of suspension of the gate 68 is identical with that of the gate 41, no specific description of the former gate will be given, and corresponding parts may be identified by the same reference numerals.

When the gates 41 and 68 are in the extended positions as shown in Fig. 1, outer side member 42 of the gate 41 will be slightly spaced from the corresponding outer side member 70 of the gate 68. In each of the gates the outer member, 42 and 70 respectively, is slotted vertically, as indicated at 71 and 72 in Fig. 8, these slots registering with each other. Pivotaly secured to the gate 68 in a position in which it can be projected outwardly through the slot 72 is a segmental bolt 73, and when thus projected, as shown in Fig. 8, this bolt will intersect both of the slots 71 and 72, bridging the space between the confronting outer edges of the gates, and will thereby interlock the gates in the extended or operative positions. In the area of the slot 72 the gate 68 is provided with reinforcing plates, 74 and 75 respectively, which are secured in spaced relation between the inner face of the outer upright 70 and one of the horizontal channel bars 76, which correspond to the bars 46 of the gate 41 previously described. In the present instance the plates 74 and 75 are welded at their edges to the upright 70 and transverse bars 76 and constitute rigid elements of the gate structure. The space 77 between the plates 74 and 75 corresponds substantially in width to the thickness of the bolt so that the bolt may move freely within the space 77 but will be supported by and between the plates. The bolt 73 is pivotaly supported upon a pin 78 which extends between and is supported in the plates 74 and 75 behind the slot 72 of gate 68, and when the bolt 73 is projected, as illustrated in Fig. 8, it will pass into the space 82 between reinforcing plates 79 and 81 in the gate 41 and will find support between the latter. An aperture 80 in the bolt 73 affords a means for advancing and retracting the bolt. This bolting structure is readily manipulated and has the strength and rigidity to hold the outer ends of the gates 41 and 68 together under the load conditions.

A similar bolting device designated generally by the reference numeral 83 is provided in the lower portion of the gate 41; and above the bolt 73, a third and like bolting device 84 is provided, again in the gate 41.

While it is preferred to form the slots 71 and 72 of the uniform width throughout and to make the bolt 73 also of uniform thickness, it may be found desirable to taper the slots and the bolt downwardly, as indicated in Fig. 12, so that when

the bolt is projected into the operative position it will wedge itself solidly in the slots.

In operation of this bulk head, for supporting less-than-carload lots of merchandise for example stacked in an end of the car, the gates may first be adjusted in their respective rails to positions wherein they lie against the exposed face of the stack or close to said face. The gates may be thus adjusted individually, or may be locked together in the extended portions and be moved as a unit. The turnbuckles 17 and 85 of the respective posts 13 and 69 will then be turned to force the upper and lower ends of the posts into secure frictional engagement with the rails. In this operation, the points 26 in the upper shoe 25 and the similar points in the corresponding upper shoe 85 of the post 69 will materially increase the frictional grip between these shoes and the respective upper rails 5 and 6. The detent 36 in the lower end of the post 69, will also operate to lock the lower ends of the posts in position. With the gates extended and the bolts 73, 83 and 84 in the operative positions, the gates will be locked in place to maintain the merchandise in the normal stack at the end of the car. Access to the goods through the bulk head may be prevented by providing expanded metal or other sheathing at one side and over the entire areas of the respective gates, as shown at 87 in Fig. 1; and the gates themselves may be locked together by chains passed around the outer end members and padlocked, or by other suitable means.

It is to be noted particularly that whereas the bulk head structure as a whole is solidly anchored in position, there is still freedom for relative movement between the gate elements 41 and 68, the only rigid connection between the gates and the car structure being at the posts 13 and 69. This structural feature has an important function in permitting the bulk head structure as a whole to accommodate itself to the weaving action of the car which inevitably occurs when in movement on the rails. The car does not constitute a rigid structure, and the ability of the transverse bulk head to accommodate itself to the distortional movements of the car in which it is anchored is essential in order to preclude damage to and eventual destruction of the bulk head. The nature of the bolt devices 73, 83 and 84 described above also contribute to the ability of the gates to adjust with respect to each other in the plane of the bulk head to the weaving movements of the car. Similarly, the spring backed bearings 57 at the outer ends of the gates or panels afford a degree of freedom for self adjustment of the panel structures to the relative angular displacements that may occur in travel between the side walls and floor of the car.

In removing the bulk head, in order to afford access to the goods for unloading, the bolts 73, 83 and 84 may first be retracted, it being noted that the space between the confronting edges of the gates 41 and 68 affords access for a bar or other instrument that may be required to drive the bolts back to their retracted positions. Release of the bulk head may also be effected by manipulation of the turnbuckles 17 and 85, or either one of them, which will release the primary support and permit the bulk head structure to move back in the supporting rails. Manipulation of the turnbuckles may be effected by way of the wrench elements 26, which after a given angular movement may be elevated from the upper ends of the turnbuckles and reapplied in a position permitting an additional increment of angular movement. The

release movements of the turnbuckles, however, is limited, as previously described, by the stop nuts 35 so that the operator may not inadvertently contract the posts 13 and 69 to an extent releasing them fully from the upper channels 5 and 6. If it be desired, however, to remove either or both of the gates 41 and 68 from their supporting channels the nuts 35 may be adjusted so as to permit the turnbuckles to effect the required longitudinal contraction of the posts.

It is to be noted that the method of mounting the channel rails, one of each pair on the floor and the other rigidly secured to the structural members of the side wall, practically precludes damage to the floor, walls and other interior parts of the car by the bulk head structure.

A car equipped for bulk heads of this construction may receive any required number of the bulk head structures so that each less-than-carload lot of merchandise to be transported may be confined safely within its individual compartment, or may occupy with other less-than-carload lots given areas of a single compartment. In effect, the invention provides a structurally simple but strong and rugged bulk head device adjustable longitudinally in the car as may be required to divide the car space into a plurality of compartments within which the merchandise to be transported may be safely and securely stacked under conditions substantially precluding damage due to inadvertent displacement of the merchandise from the stack.

The invention, described above in a preferred embodiment, while finding an application of primary importance to rail cars, may be used also to advantage in other vehicles employed for transporting merchandise. Also, the aforedescribed embodiment may be modified in detail to a material degree without departure from the invention as defined in the appended claims.

We claim:

1. In an adjustable bulk head structure for merchandise transport vehicles, a pair of upright members and means for releasably securing said members in selected positions at opposite sides respectively of the vehicle body, a panel structure pivotally attached to each of the members for swinging movement between a retracted position, wherein the panel lies substantially parallel to the proximate side wall of the body, and an extended position wherein the panel lies substantially normal to said wall, the free outer edges of the panels lying in proximity to each other when the panels are in the extended positions, and means for releasably securing the said outer edge portions of the panels together.

2. A bulk head structure according to claim 1 including resilient support means for the outer end of the panel.

3. A bulk head structure according to claim 1 wherein the panel structures are supported on the respective upright members with freedom for displacement upwardly on the latter.

4. A bulk head structure according to claim 1 wherein each of the upright members is slidably engage at top and bottom respectively in a channel rail mounted on and extending longitudinally of the vehicle, said member having a channel-engaging shoe at both top and bottom precluding angular displacement of the member with respect to the rail.

5. A bulk head structure according to claim 4 wherein the upper shoe is provided with means for frictionally interlocking the shoe with the rail.

6. A bulk head structure according to claim 5 wherein the said friction interlock means consists of a plurality of elements detachably secured in the shoe and having pointed extremities projecting beyond the upper rail engaging surface of the shoe for engagement with the bottom of the channel when the upright member is extended.

7. A bulk head structure according to claim 1 wherein each of the upright members is slidably engaged at top and bottom respectively in a channel rail mounted on and extending longitudinally of the vehicle, said member having a shoe at the lower end thereof seated slidably in the lower channel rail and having retractable means for frictional engagement with the rail so as to immobilize the shoe in the channel.

8. A bulk head structure according to claim 7 wherein the said immobilizing means comprises an arm pivotally attached to the upright member and depending over an upper edge of the channel, and a dog pivotally attached at the lower end of said arm and having a toothed convex lower surface for engagement with the said upper edge of the rail, said arm being offset from the vertical when the dog is in contact with said upper edge.

9. An adjustable bulk head structure according to claim 1 wherein the outer edge portions of the panels contain vertical registering slots, and wherein further one of said panels carries a plate-like bolt member adjustable through the slot of the carrying panel and into the registering slot of the other panel to thereby secure the outer edges of the member together against relative lateral displacement.

10. A bulk head structure according to claim 9 wherein each of the panel structures comprises a plate extending rearwardly from and at each side of the bolt slot, said pairs of plates closely confining the bolt when in the operative position.

11. A bulk head structure according to claim 1 wherein each of the panel structures is provided at its outer free end with a floor-engaging bearing.

12. A bulk head structure according to claim 11 wherein the bearing means is resiliently supported in the panel structure.

13. A bulk head structure according to claim 1 wherein the lower end of the upright member is supported on the floor of the vehicle and the upper end on the adjoining wall.

14. A bulk head structure according to claim 13 including means for resiliently supporting the outer end of the panel from the said floor.

15. In an adjustable bulk head structure for merchandise transport vehicles, complementary upper and lower rails extending longitudinally at each side of the vehicle body and supported respectively on the side wall and floor of the said body, an upright member engaged at top and bottom respectively with the upper and lower rails of each complementary pair for adjustment longitudinally of the latter, means for releasably anchoring the members in adjusted positions on the rails, a panel structure pivotally attached to each of the members for swinging movement between a retracted position, wherein the panel lies substantially parallel to the proximate wall of the said body, and an extended position wherein the panel lies substantially normal to said wall, the free outer edges of the panels being in proximity to each other when the panels are aligned in the extended positions, and means

for releasably securing the said outer edge portions of the panels together.

16. In an adjustable bulk head structure for merchandise transport vehicles, complementary upper and lower rails extending longitudinally at each side of the vehicle body; an upright member engaged at top and bottom respectively with the upper and lower rails of each complementary pair for adjustment longitudinally of the latter, means for releasably frictionally interlocking the upright members with the rails to anchor the said members in adjusted positions on the latter, a panel structure pivotally attached to each of the members for swinging movement between a retracted position, wherein the panel lies substantially parallel to the proximate wall of the said body, and an extended position wherein the panel lies substantially normal to said wall, the free outer edges of the panels being in proximity to each other when the panels are aligned in the extended positions, and means for releasably securing the said outer edge portions of the panels together.

17. A bulk head structure according to claim 16 wherein the frictional interlocking devices include means for extending and contracting the upright member between the rails so as selectively to bind the member between the rails and to release the member from said binding engagement.

18. A bulk head structure according to claim 17 wherein the upright member consists of upper and lower aligned elements engaged respectively with the upper and lower rails, the adjoining portions of said elements being oppositely threaded for reception of a turnbuckle by means of which upright member may be extended and contracted.

19. A bulk head structure according to claim 18 wherein means is provided for limiting the contractive movement of the turnbuckle so as to preclude complete disengagement of the upright member from the rails, said limiting means being adjustable to permit contraction of the said member by action of the turnbuckle to an extent releasing the upper end of the member from the upper rail.

20. A bulk head according to claim 19 wherein the turnbuckle actuating means consists of a wrench permanently mounted in the upright member and movable between operative and inoperative positions with respect to the turnbuckle.

21. In an adjustable bulk head structure for merchandise transport vehicles, a pair of upright members and means for releasably securing said members in selected positions at opposite sides respectively of the vehicle body, a panel structure pivotally attached to each of the members for swinging movement between a retracted position, wherein the panel lies substantially parallel to the proximate side wall of the body, and an extended position wherein the panel lies substantially normal to said wall, the free outer edges of the panels lying in proximity to each other when the panels are in the extended positions and containing vertical registering slots, a plate-like bolt member pivotally mounted on one of said panels and adjustable through the slot of the carrying panel and into the registering slot of the other panel to thereby secure the outer edges of the members together against relative lateral displacement, a plate on each of the panel structures extending rearwardly from and at each side of the bolt slot so as to closely

confine the bolt when in the operative position, and said slots and the plate-like bolt member being tapered toward the bottom whereby the bolt may have wedging engagement with the slots when in the operative position.

22. In an adjustable bulk head structure for merchandise transport vehicles, complementary upper and lower rails extending longitudinally at each side of the vehicle body, an upright member engaged at top and bottom respectively with the upper and lower rails of each complementary pair for adjustment longitudinally of the latter, means for releasably anchoring the members in adjusted positions on the rails, a panel structure pivotally attached to each of the members for swinging movement between a retracted position, wherein the panel lies substantially parallel to the proximate wall of the said body, and an extended position wherein the panel lies substantially normal to said wall, the free outer edges of the panels being in proximity to each other when the panels are aligned in the extended positions, means for releasably securing the said outer edge portions of the panels together, and means for interlocking the free ends of the panels with the respective supporting rails when the panels are in the retracted positions.

23. In an adjustable bulk head structure for merchandise transport vehicles, complementary upper and lower rails extending longitudinally at each side of the vehicle body, an upright member engaged at top and bottom respectively with the upper and lower rails of each complementary pair for adjustment longitudinally of the latter, said upright member comprising upper and lower elements and means for relatively adjusting the elements to vary the effective height of the member, means for releasably anchoring the members in adjusted positions on the rails, a panel

structure pivotally attached to each of the members for swinging movement between a retracted position, wherein the panel lies substantially parallel to the proximate wall of the said body, and an extended position wherein the panel lies substantially normal to said wall, the free outer edges of the panels being in proximity to each other when the panels are aligned in the extended positions, and means for releasably securing the said outer edge portions of the panels together.

24. A bulk head structure according to claim 23 including means for preventing material displacement of the said elements with respect to each other except by said adjusting means.

25. In a bulk head structure for merchandise transport vehicles, a pair of guide rails permanently secured in vertically aligned positions at each side of the vehicle body, complementary independent bulk head members adjustably supported in said pairs of rails respectively, and means confined to said members and rails for anchoring the members in adjusted operative position in the vehicle, said anchoring means comprising anchoring elements and means for expanding said elements between and into forcible engagement with the rails of the respective pairs.

#### References Cited in the file of this patent

#### UNITED STATES PATENTS

| Number    | Name               | Date          |
|-----------|--------------------|---------------|
| 199,685   | Bergman .....      | Jan. 29, 1878 |
| 1,085,285 | Monesmith .....    | Jan. 27, 1914 |
| 1,896,198 | MacMillan .....    | Feb. 7, 1933  |
| 2,155,463 | Angell .....       | Apr. 25, 1939 |
| 2,155,872 | Reifer et al. .... | Apr. 25, 1939 |
| 2,501,420 | Steins .....       | Mar. 21, 1950 |
| 2,516,527 | Oltz .....         | July 25, 1950 |
| 2,517,823 | Angell .....       | Aug. 8, 1950  |