

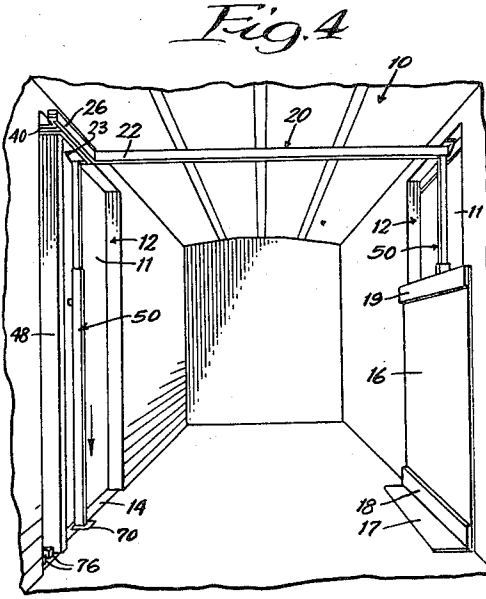
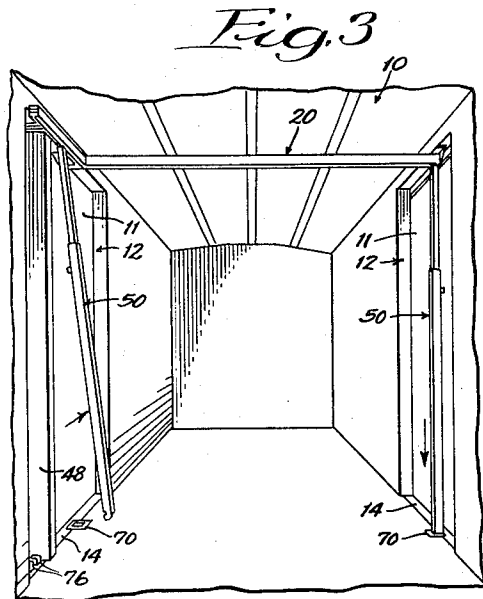
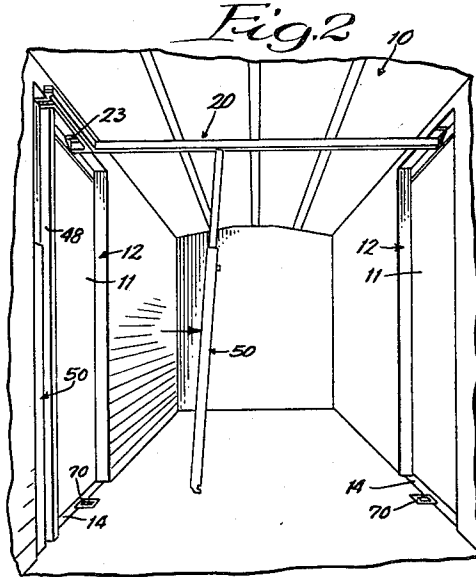
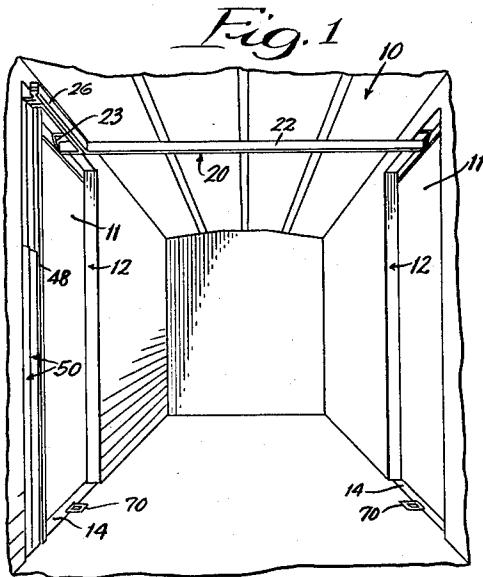
April 12, 1960

H. E. KEATING ET AL
REINFORCING STRUCTURES FOR TEMPORARY BARRICADES
FOR DOORS OF BOXCARS AND GRAIN CARS

2,932,262

Filed May 9, 1955

3 Sheets-Sheet 1



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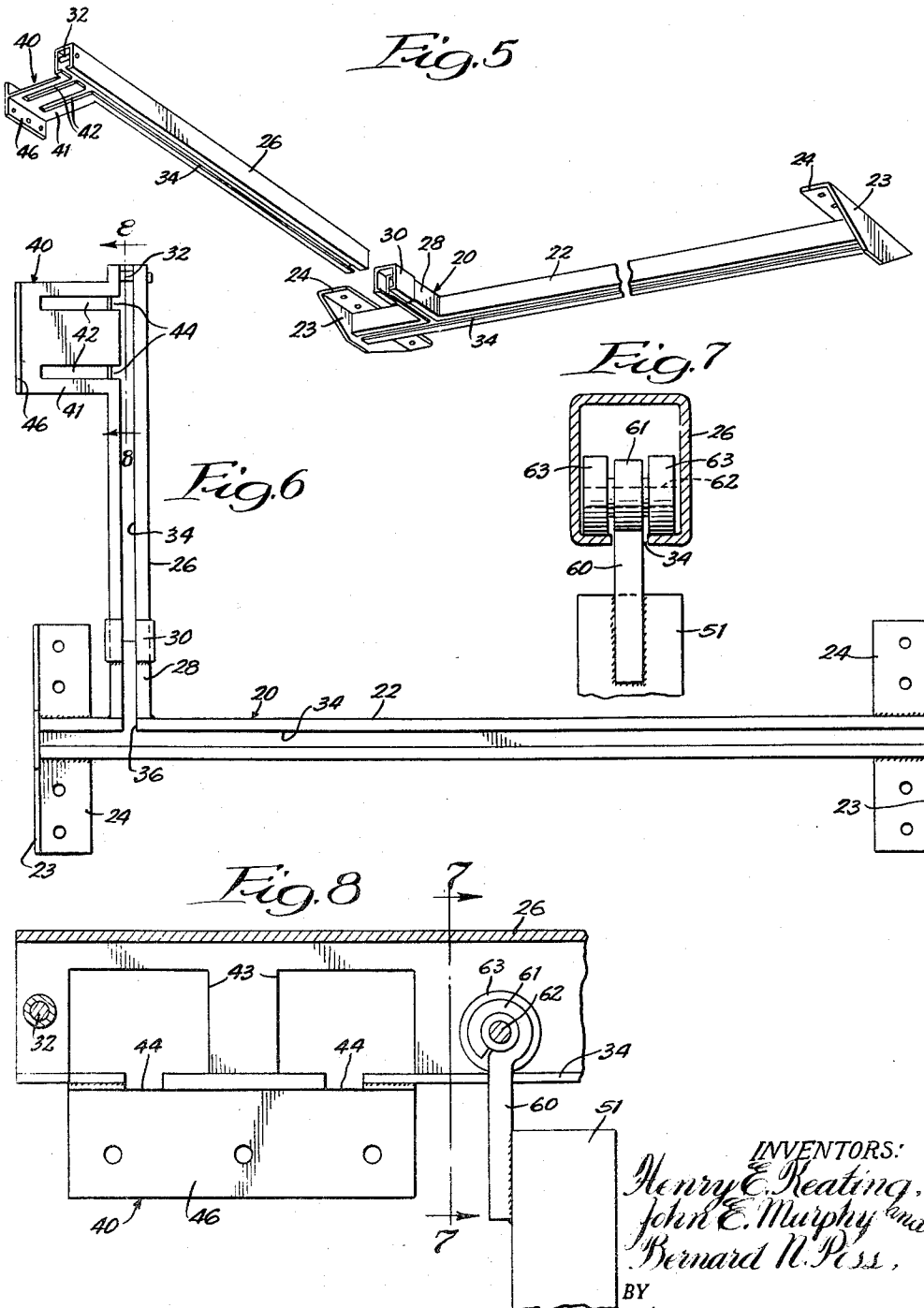
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3 Sheets-Sheet 2



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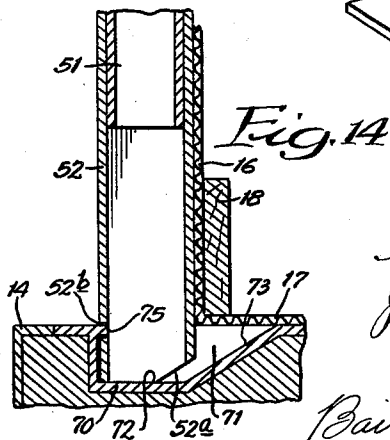
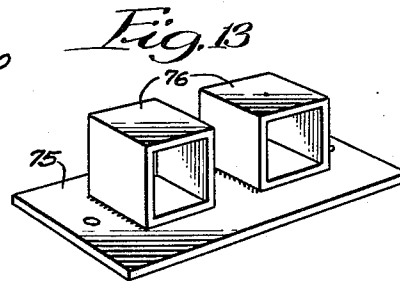
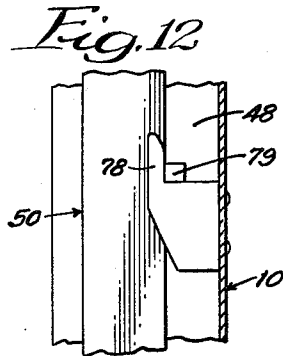
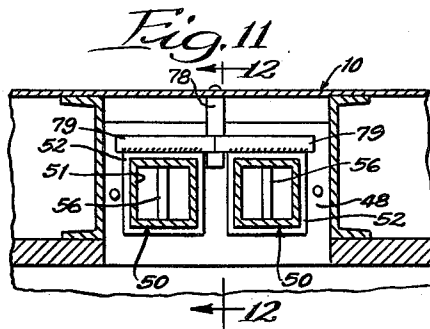
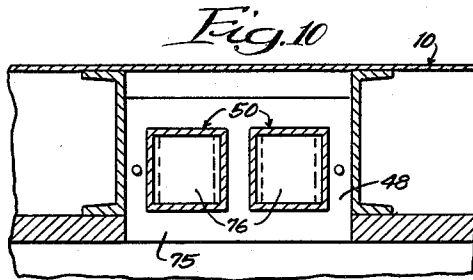
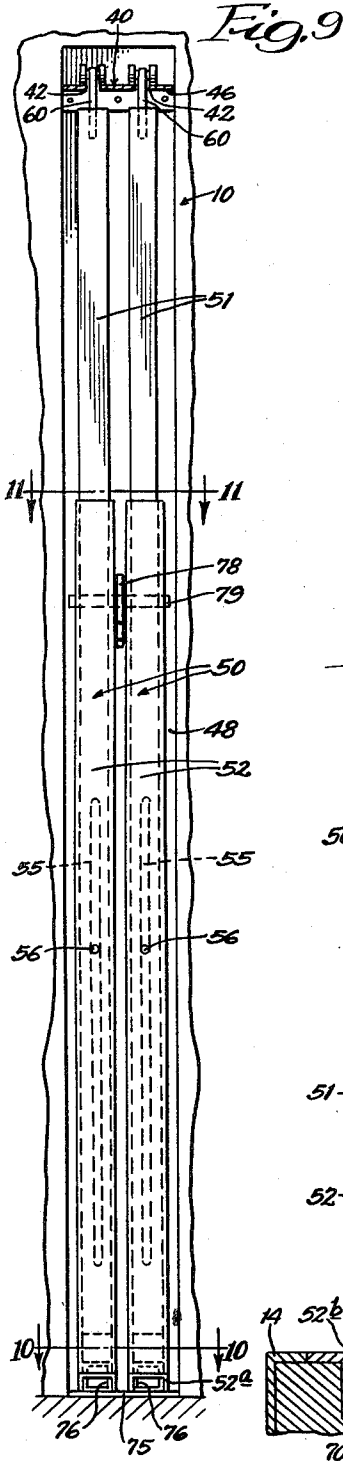
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3 Sheets-Sheet 3



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2,932,262

REINFORCING STRUCTURES FOR TEMPORARY BARRICADES FOR DOORS OF BOXCARS AND GRAIN CARS**Henry E. Keating, Westchester, and John E. Murphy and Bernard N. Poss, Aurora, Ill.**

Application May 9, 1955, Serial No. 506,846

11 Claims. (Cl. 105—369)

The present invention relates to improvements in reinforcing structures for temporary barricades, sometimes referred to as inner doors, for the door openings of box cars and the like, used for handling grain or other bulk-type commodities.

Such barricades are usually positioned across the door openings, against the inner face of the door frame, to confine the contents in the car. Normally the barricades extend from the floor to within a short distance from the top of the door opening, so as to permit checking, inspecting, or sampling of the grain or other material in the car.

The practice, for many years, has been to provide temporary barricades, or inner doors, of an expendable character. Such barricades are usually made up of an assembly of paper board panels, or a single paper board panel, and sometimes are composed of a plurality of super-imposed boards of inexpensive lumber.

Such paper board panels or wood boards are usually secured to the inside face of the door-frame posts, such as by nailing. Sometimes the panels or boards are reinforced by the use of metal strapping, positioned across the door opening, in front of the barricade panels. It is highly desired that the material forming the barricades be of an expendable nature, because they are usually destroyed in the process of discharging the contents from the car, and because such barricades frequently become lost or stolen. When the barricade is formed of paper board panels, it is the usual practice to further reinforce the panels by employing wood boards, positioned across the bottom and the top edges of the panels, and secured to the door-frame posts.

When a box car is loaded with grain or other bulk material, such barricades are subjected to relatively high pressures which cause the barricades to bulge outwardly, through the door opening into contact with the weather, or storm door, when it is in closed position. Frequently, in the normal movement of the cars in switchyards or along the right of way, the barricades become ruptured and result in loss of some of the contents from the car. Sometimes a barricade, when mulged outwardly in direct contact with the storm door, is ruptured by opening the storm door, such as during inspection of the contents of the car.

Loss of grain and other bulk material from box cars, for the reasons above indicated, results in substantial damage claims being filed against the railroad. In recent years railroads have been greatly concerned over the large financial loss suffered as the result of such claims, and it has been the desire of the railroads to take all necessary and reasonable steps to modify barricade constructions with a view to reducing claim losses.

One of the objects of the present invention is to provide novel reinforcing structures for temporary barricades of box cars which greatly reduces inadvertent rupturing of the barricades, and which structure is characterized by the provision of over-head track means, to-

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gether with an upright reinforcement, provided with roller means at its upper end mounted for movement along the track means to and from an operative position.

Another object is to provide a novel reinforcing structure of the character indicated wherein the track means include a transverse portion, interconnecting the sides of the box car, adjacent the upper ends of the frames of a pair of aligned door openings, in a manner so that said track portion assumes a substantial part of the load and strain exerted by the bulk material in the car against the temporary barricades.

A further object is to provide novel reinforcing structures for temporary barricades for a pair of door openings, positioned in opposite sides of the box car, and wherein the reinforcing structure includes novel track means, carried in the upper part of the car, together with a pair of upright reinforcements, adapted for movement along the track means for placement in operative position in the respective door openings, immediately in front of the location of the temporary barricades, extending across the inner face of the door frames, and the reinforcements also being movable along the track means to a storage position at one side of one of the door openings.

Other objects and advantages of this invention will be apparent from the following description, taken in connection with the accompanying drawings in which:

Figure 1 is a fragmentary, perspective view of the interior of a box car, provided with the novel reinforcing structure embodying the present invention, including a pair of upright reinforcements in storage position, at one side of the frame of one of the door openings of the car.

Figure 2 is a view similar to Figure 1, showing one of the reinforcements in process of being moved to an operative position.

Figure 3 is a view similar to Figure 1, showing one of the reinforcements positioned in operative relation, in one of the door openings, and with the other reinforcement in process of being operatively positioned in the other door opening.

Figure 4 is a view similar to Figure 1, showing both of the reinforcements positioned operatively in the aligned door openings in the opposite sides of the car, together with a temporary barricade mounted across one of the door openings, against the inner face of the door frame.

Figure 5 is a perspective view of the track means constituting a part of the reinforcing structure embodying the present invention.

Figure 6 is a bottom plan view of the track means seen in Figure 5 of the drawings.

Figure 7 is a vertical view, part in section and part in elevation, taken through a portion of the track means, at a plane substantially as indicated at line 7—7 on Figure 8.

Figure 8 is a view, part in section and part in elevation, through the track means, showing one of the upright reinforcements mounted in operative relation, and taken at a plane substantially as indicated at line 8—8 on Figure 6.

Figure 9 is a fragmentary elevational view of one of the side walls of the car, adjacent a door opening, showing a storage recess, together with a pair of reinforcements in storage position in the recess.

Figures 10 and 11 are transverse, sectional views through the storage recess in the wall of the car, taken substantially as indicated at lines 10—10 and 11—11, respectively, on Figure 9.

Figure 12 is a fragmentary, vertical sectional view through the storage recess, taken substantially as indicated at line 12—12, on Figure 11.

Figure 13 is a perspective view of a mounting fixture

disposed in the bottom of the storage recess, formed for receiving the lower ends of the reinforcements for assisting in confining them in the storage recess.

Figure 14 is an enlarged vertical sectional view, taken transversely through the car door opening, and showing the lower portion of a reinforcement in operative position, in front of a temporary barricade.

The present invention embodies certain novel and important improvements in reinforcing structures disclosed in our co-pending applications, Serial No. 448,528, filed August 9, 1954, issued as Patent No. 2,783,508, dated March 5, 1957, and Serial No. 501,976 filed April 18, 1955, issued as Patent No. 2,827,960 dated March 25, 1958.

The reinforcing structure of the present invention is shown in connection with a conventional box car or freight car, indicated generally at 10, having a pair of door openings, 11, in opposite side walls thereof, with the openings located in transverse alignment. The door openings are defined by conventional frames, indicated generally at 12, made up of suitable timbers and/or metal structural members, such as shown in our issued Patent No. 2,827,960. The bottom of the door opening is defined by the floor of the car together with a sill, 14, in the form of an angle-iron, surrounding the outer edge of the floor portion of the car, at the door opening, for purposes of reinforcement, and for accommodating wear. It is to be understood that a conventional weather, or storm door, not shown, is mounted on the exterior of the sides of the car and is adapted for normally closing the door openings 11.

When a box car is employed for hauling grain or other bulk commodities, the major portion of the door opening, from the bottom up, is usually closed by a temporary expendable barricade, or inner door, indicated generally at 16. As above stated, such barricades are usually made up of inexpensive materials, such as a plurality of overlapping panels of heavy paper board, or a single panel of heavy paper board, or the barricades may be made up of a plurality of inexpensive wood boards. When barricades are made essentially of paper board, the lower edge thereof is usually formed so as to provide an inwardly extended flap, 17, adapted to be seated directly on the floor of the car, as seen in Figures 4 and 14 of the drawings. When paper board barricades are employed, they are usually reinforced by a wood board 18, positioned against the inner surface of the barricade, adjacent the floor, and another board 19, is positioned adjacent the upper edge of the barricade, with the ends of the boards secured to the side posts of the door frame. Sometimes paper board barricades are reinforced by suitable metal straps, extending across the door opening, and secured to the sides of the door frame.

The reinforcing structure of the present invention comprises a novel form and arrangement of track means, indicated generally at 20, mounted in the upper portion of the car, as clearly seen in Figures 1 to 4 of the drawings. The track means includes a main transverse portion 22, connected, at opposite ends, such as by welding, to mounting brackets 23, in a manner to close off the ends of the track portion 22. The brackets 23, each have a horizontally extending mounting flange 24 for attachment to the under surface of the top frame members of the door openings. If such frame members are formed of wood, the brackets are secured in place by screws or bolts, and if the top frame member is formed of metal, the brackets are secured in place by bolts or by welding. The track means also includes a portion 26, extending generally lengthwise of the car, preferably but not necessarily, disposed adjacent one of the sides of the car. A stub track portion, 28, is welded to the transverse portion 22, and is provided at its free end with a coupler 30, for the reception of one end of the track portion 26, to position the latter in alignment with the

stub portion 28. When said end of the track portion 26 is mounted in the coupler 30, it may be secured thereto by suitable screws or welding. The opposite end of the track portion 26 is blocked off by a bolt or pin 32, for purposes hereinafter described.

The track portions 22, 26 and 28 are made of metal of rectangular or box like form in cross section, as clearly seen in Figure 7 of the drawings, with the bottom walls thereof being formed with elongated slots or channelways 34, extending the entire length of each of the track portions 22, 26 and 28, as may be seen in Figure 6 of the drawings. Adjacent the connection of the stub portion 28 to the transverse portion 22, the bottom adjacent flange of track portion 22 is cut away as indicated at 36, so as to provide open communication between the channelways 34 of the transverse portion 22 and the stub portion 28 of the track, for the purpose of permitting a carrier as hereinafter described, to be moved along the track portions 26, 28 and 22 in either direction.

Adjacent the free end of the track portion 26, is a reinforcement support means, indicated generally at 40, in the form of a bracket, including a substantially horizontally extending shelf portion 41, provided with a pair of elongated, spaced apart, slots 42, which are closed at one end, while the opposite ends are in open communication and registration with openings 43 formed in the adjacent side wall and with slots 44 in the adjacent bottom flange of the track portion 26, as seen in Figures 6 and 8 of the drawings. The opposite edge of the support means 40 is formed with mounting flanges 46, for attachment by screws, or bolts, or by welding, to the inner surface of the side wall of the car, in a vertical storage recess 48, formed in the side wall, at one side of one of the door openings 11.

As may be seen in Figures 1 to 4 and 9 to 11, the storage recess 48 extends from the floor of the car to adjacent the ceiling thereof, and serves to provide a place for storing temporarily, a pair of upright reinforcements, indicated generally at 50, which are movable along the track means to an operative position, in each of the respective door openings 11, at a location immediately in front of the plane to be occupied by the temporary barricade 16, when it is thereafter installed across the inner face of the frame of the door openings.

The reinforcements 50 are each composed of a pair of elongated, tubular members, 51 and 52, dimensioned and arranged for telescoping one within the other. The two members 51 and 52 being telescopically interconnected, makes it possible to conveniently adjust one of the members relatively to the other in process of storing in the storage recess 48, or in mounting in an operative position in the door openings 11, and permits a accommodation of the usual range of variations in height of the door openings for different types and sizes of box cars. The upper member 51, of each reinforcement, is provided in opposite side walls with aligned, upwardly extending, elongated slots, 55, and the corresponding side walls of the lower members 52 have press fitted therein the ends of a pin 56, which extends through the slots 55, so as to permit a limited amount of telescopic movement of the members 51 and 52, relatively to each other.

Secured to the outer face of each upper member 51, of the respective reinforcements, adjacent the upper end, such as by welding, is a carrier, including a hanger bracket 60, the upper free end of which terminates in a substantially closed loop 61. The closed loop 61, surrounds an axle or pin 62, on the outer ends of which are journaled rollers, 63. By virtue of the roller and hanger construction the reinforcements 51 are adapted to be suitably supported in the track portions of the track means, as clearly seen in Figures 7 and 8 of the drawings. As may be seen in Figure 7 of the drawings, the hanger 60, extends freely through the channelway 34, of the track portions, with the rollers 63 seated upon the flanges, at opposite sides of the channelway of

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the track portions, and thereby provides a roller support for the reinforcements. When the reinforcements are mounted in operative relation to the track portions, the bolt or pin 32 is secured in place, in the free end of the track portion 26, to prevent unauthorized removal of the reinforcements from the track means. The reinforcements may be first moved along the track portion 26, so that their roller supporting structures enter the transverse track portion 22, and the reinforcements are then rotated 90° to properly position the rollers on the flanges of track portion 22, so that the reinforcement may then be moved along said transverse portion 22, into operative relation, in either of the door openings 11. It is to be understood that in moving the reinforcements to an operative position, the reinforcement is positioned so that the roller support structure is located on the leading face, so that in an operative position in the door opening the rollers 63 substantially abut the vertical flange of the supporting bracket 23, at the end of the transverse track portion, and thereby serves to limit outward movement of the upper end of the reinforcement beyond its normal upright position.

In moving the reinforcements to operative position, such movement is readily accommodated by slightly raising the lower member 52, of the reinforcement with respect to the member 51. By reason of the pivoted support of the upper end of the reinforcement, such movement may be made by use of small physical effort.

When the reinforcements are in upright operative position, in the door opening 11, as seen in Figure 4 of the drawings, the lower end of the lower member 52 is adapted to be releasably secured in a latch plate 70, recessed in the floor of the car and with respect to the sill 14, as clearly seen in Figures 1 and 14 of the drawings. The latch plate is preferably formed as a casting and includes a main recess 71, for accommodating the lower end of the member 51. Said recess is provided with a bottom wall 72, against which the lower member 52 of the reinforcement normally seats, and said bottom wall continues in an upwardly and inwardly inclined cam surface 73. The bottom rear corner of the member 52 is chamfered, as indicated at 52^a, to correspond substantially to the inclined cam surface 73, of the latch plate. The top wall of the latch plate is formed with an inwardly extending tongue, 75, extending over the recess, 71, for interlocking engagement in a transverse notch or opening 52^b, formed in the front wall of the lower end of the lower member 52, so as to preclude upward movement of the lower member 52 of the reinforcement, while at the same time the latch plate serves to preclude outward movement of the lower end of the reinforcement, about the pivot axis of the roller mounting carried at the upper end thereof. When the reinforcement is in operative position, as seen in Figures 4 and 14, and the temporary barricade 16 is in place, it will be apparent that when bulk material is introduced into the car it will cause pressure to be exerted against the barricade, which pressure is transmitted directly to the reinforcement, and the reinforcement thereby serves to reinforce the barricade and limit outward bulging thereof, as well as precluding possible contact with the weather door of the car.

When the reinforcements 50, are not to be used, they may be conveniently stored in the storage recess 48, formed in the side wall of the car. For this purpose the reinforcements are moved along the track portions, as above referred to, until they are brought into registration with the support 40, and more particularly, the slots 42, at which time the reinforcements are rotated 90° to position the roller supports 60, 63, in registration with the openings 43 of track portion 26, and slots 42, and the reinforcements are then moved transversely into the storage recess 48, with the roller head assembly resting on top of the support 40, to support the upper members 51 of the reinforcements.

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To assist in confining the reinforcements in place within the storage recess 48, we provide a fixture, 75, adapted to be secured on the floor of the car in said recess. Said fixture is provided with a pair of rectangular-type confining members, 76, preferably formed of tubular stock, with the openings extending generally horizontally as seen in Figure 13. The members 76 are of a size for accommodating thereover the lower ends of the lower tubular members 52 of the reinforcements, and thus tend to maintain the reinforcements in upright position in the storage recess. The purpose of the open form of the members 76, is so that bulk material, handled in the car, can be readily removed from the storage recess.

The reinforcements are further confined in proper position within the recess by a hook member, 78, secured to the side walls of the car, within the storage recess, as seen in Figures 9, 11 and 12. Mounted on each of the forward faces of the lower members 52 of the reinforcements, is a horizontally extending abutment, 79, which projects slightly beyond the side thereof, as clearly seen in Figures 9 and 11 of the drawings. These abutments are so located that when the reinforcements are properly positioned in the storage recess, the lower members 52 may be raised slightly so that one of the projecting ends of the abutments 79 seat in latching relation with respect to the hook member 78, and thereby positively confine the reinforcements in place in storage position. In order to move one of the reinforcements out of the recess, it is merely necessary to raise the lower member 52 a slight amount to disengage its abutment 79 from the hook member 78, and simultaneously disengage the lower end of said member from a confining member 76, in the bottom of the recess. The reinforcement may then be moved transversely of the car, with the rollers 62, rolling across the upper surface of the support 40, until the support hanger 60 of the reinforcement, registers with the channelway 34 of the track portion 26. The reinforcement may then be rotated 90° to properly position the rollers within the track portion 26, as seen in Figures 7 and 8, so that the reinforcement can be shifted along the track until the rollers at the upper end of the reinforcement, enter the transverse track portion 22, at which time the reinforcement is again rotated 90°, to properly position the roller support in said track portion and permit movement of the reinforcement toward either end of the track portion 22, for positioning in one of the car door openings 11.

When grain cars and the like are positioned or "spotted" for discharging the contents thereof, such as in a grain elevator, there is usually provided suitable unloading mechanism, a portion of which is first moved into contact with the outer face of the reinforcement, adjacent the lower end thereof. Such movement effects inward movement of the reinforcement and causes the lower member 51 to cam up the incline 73 of the latch plate while at the same time exerting an inward force on the temporary barricade, 16, for effecting partial rupture of the barricade. Such movement of the reinforcement causes the lower member 52 to telescope upwardly with respect to the upper member 51, until the lower member is out of latching relation to the latch plate 70. Rupturing of the barricade 16, permits the bulk material in the car to flow out of the bottom and sides of the door opening 11. After this partial rupture of the barricade and discharge of a portion of the contents of the car, the entire car is usually tilted sidewise against the unloading mechanism, into engagement with the abutment 79 of the reinforcement member. During such tilting movement of the car, the reinforcement remains in abutting relation to the contacting portion of the unloading mechanism and the reinforcement tends to remain vertical. However, in effect, the reinforcement assumes a position further within the car, a substantial distance inwardly of the door opening of the car. The unloader mechanism is then actuated against the abutment 79, in

a manner to raise the lower member 52 a slight amount, and thereby effecting complete rupture of the barricade 16, to permit the bulk material to flow freely through the car door opening. Such movement of the reinforcement against the barricade, particularly when the barricade is made essentially of paper board, results in the barricade tending to wrap around the reinforcement, and thus the barricade is confined in place and is not too apt to fall into the unloading mechanism, and thus prevents clogging of the unloading mechanism. After complete rupture of the barricade, the car is then tipped end-to-end, to effect a complete discharge of all bulk material from the car.

It will be apparent that by virtue of the present invention our novel reinforcing structure substantially eliminates inadvertent rupture of temporary barricades, due to excessive loads or pressures thereagainst, and also eliminates possible damage to the barricade as frequently caused by it being bulged outwardly into contact with the conventional storm door of the car. The structure is such that when it is attached in place in the box car it is a permanent part of the car and cannot be readily disassembled, and hence inadvertent loss or theft of parts is reduced to a practical minimum.

Although we have herein shown and described a preferred embodiment of our invention, manifestly it is capable of modification and rearrangement of parts, without departing from the spirit and scope thereof. We do not, therefor, wish to be understood as limiting this invention to the precise embodiment herein disclosed, except as we may be so limited by the appended claims.

We claim:

1. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached to the interior of the car adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion and the other end being rigidly attached to the interior of the car, adjacent one side of the door frame, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on said track means to provide a movable support for the upper end of the reinforcement and permitting bodily movement of the reinforcement to an upright, operative position in the door opening, adjacent the attaching end of said transverse track portion, forwardly of the plane of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, and means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, to a storage position, adjacent the said other end of said track portion in close proximity to the side wall of the car, at one side of the door frame.

2. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached to the interior of the car adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion and the other end

being rigidly attached to the interior of the car, adjacent one side of the door frame, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on said track means to provide a movable support for the upper end of the reinforcement and permitting bodily movement of the reinforcement to an upright, operative position in the door opening, adjacent the attaching end of said transverse track portion, forwardly of the plane of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, and means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, to a storage position in said storage recess.

3. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached to the interior of the car adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of said elongated portion of the track means, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on said track means to provide a movable support for the upper end of the reinforcement and permitting bodily movement of the reinforcement to an upright, operative position in the door opening, adjacent the attaching end of said transverse track portion, forwardly of the plane of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, and means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, and onto said support means for supporting said reinforcement in the storage recess.

4. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached to the interior of the car adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of said elongated portion of the track means, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on said track means to provide a movable support for the upper end of the reinforcement and permitting bodily movement of the reinforcement to an upright, operative position in the door opening, adjacent the attaching end of said transverse track portion, forwardly of the plane

of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, and onto said support means for supporting said reinforcement in the storage recess, and means in the bottom of said recess, for engaging the lower end of the reinforcement for confining the latter in storage position.

5. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached to the interior of the car adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of said elongated portion of the track means, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on said track means to provide a movable support for the upper end of the reinforcement and permitting bodily movement of the reinforcement to an upright, operative position in the door opening, adjacent the attaching end of said transverse track portion, forwardly of the plane of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, and onto said support means for supporting said reinforcement in the storage recess, and cooperating latch means on the reinforcement and on an upright wall of the recess for confining the reinforcement in storage position in the recess.

6. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached to the interior of the car adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of said elongated portion of the track means, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on said track means to provide a movable support for the upper end of the reinforcement and permitting bodily movement of the reinforcement to an upright, operative position in the door opening, adjacent the attaching end of said transverse track portion, forwardly of the plane of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the

reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, and onto said support means for supporting said reinforcement in the storage recess, a transverse abutment on the reinforcement, intermediate its length, and a hook member on the wall of the recess for cooperative engagement with said abutment member to confine said reinforcement in storage position in the recess.

7. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of the elongated portion of the track means, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on the track means to provide a movable support for the upper end of the reinforcement for bodily movement to an operative position, in the door opening, with the roller means positioned adjacent the attaching end portion of the transverse track portion, forwardly of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, said reinforcement comprising a pair of cooperating, telescopically associated elongated members, and means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, and onto said support means, to position the reinforcement in said storage recess.

8. The combination of a box car having a side wall provided with a door opening defined by a door frame for the reception of an expendable barricade removably mounted against the inner face of the frame, across the door opening, track means mounted adjacent the top of the interior of the car and comprising a portion extending transversely of the car and rigidly attached adjacent the top of the door frame, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with said transverse portion, the side wall of the car being formed to provide an upright storage recess, adjacent one side of the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of the elongated portion of the track means, an upright reinforcement, roller means carried on the upper end of the reinforcement and mounted on the track means to provide a movable support for the upper end of the reinforcement for bodily movement to an operative position, in the door opening, with the roller means positioned adjacent the attaching end portion of the transverse track portion, forwardly of the inner face of the door frame, said roller means permitting rotation of the reinforcement about an axis parallel to the main plane of the door opening, said reinforcement comprising a pair of cooperating, telescopically associated elongated members, and means for releasably securing the lower end of the reinforcement in the door opening to preclude outward movement of the reinforcement through the door opening, said reinforcement being movable along said portion of the track means, extending lengthwise of the car, and onto said support means, to position the reinforcement in said

storage recess, said securing means comprising a latch plate carried on the floor of the car, in said door opening, said plate having an inwardly and upwardly inclined cam surface, and the lower member of the reinforcement having a cooperating inclined surface, whereby the application of pressure to the outer face of the reinforcement causes telescopic movement of the lower member relative to the upper member and disengagement from the latch plate, for rupturing the barricade.

9. The combination of a box car having a pair of side walls provided with aligned door openings defined by door frames for the reception of expendable barricades removably mounted against the inner faces of the door frames, across the door openings, track means mounted adjacent the top of the interior of the car and comprising a portion extending across the car and attached at opposite ends to the tops of the door frames, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with the transverse portion, one of the side walls of the car being formed to provide an upright storage recess adjacent the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of track portion extending lengthwise of the car, a pair of upright reinforcements, roller means carried on the upper end of each reinforcement and mounted on the track means to provide a movable support for the upper end of the reinforcements for bodily movement of the reinforcements along the elongated track portion onto the transverse track portion for disposing them in operative position in the respective door openings, forwardly of the inner faces of the door frames, and means for releasably securing the lower end of each reinforcement in its respective door opening to preclude outward movement thereof through said door openings; said reinforcements being movable along the transverse track portion and the elongated portion for positioning the roller means on the support means for supporting the reinforcements in said storage recess.

10. The combination of a box car having a pair of side walls provided with aligned door openings defined by door frames for the reception of expendable barricades removably mounted against the inner faces of the door frames, across the door openings, track means mounted adjacent the top of the interior of the car and comprising a portion extending across the car and attached at opposite ends to the tops of the door frames, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with the transverse portion, one of the side walls of the car being formed to provide an upright storage recess adjacent the door frame, support means mounted in the upper end of the recess and operatively connected to the other end of track portion extending lengthwise of the car, a pair

of upright reinforcements, roller means carried on the upper end of each reinforcement and mounted on the track means to provide a movable support for the upper end of the reinforcements for bodily movement of the reinforcements along the elongated track portion onto the transverse track portion for disposing them in operative position in the respective door openings, forwardly of the inner faces of the door frames, and means for releasably securing the lower end of each reinforcement in its respective door opening to preclude outward movement thereof through said door openings, said reinforcements being movable along the transverse track portion and the elongated portion for positioning the roller means on the support means for supporting the reinforcements in said storage recess, said track means being in the form of a tube having a slot in the underside thereof for receiving the roller means therein, and the support means providing a generally horizontal supporting surface with a pair of slots in communication with the slot in the end of the elongated portion of the track means.

11. The combination of a box car having a pair of side walls provided with aligned door openings defined by door frames for the reception of expendable barricades removably mounted against the inner faces of the door frames, across the door openings, track means mounted adjacent the top of the interior of the car and comprising a portion extending across the car and attached at opposite ends to the tops of the door frames, said track means also comprising an elongated portion mounted adjacent the top of the interior of the car and having one end connected to and in communication with the transverse portion, a pair of upright reinforcements, roller means carried on the upper end of each reinforcement and mounted on the track means to provide a movable support for the upper end of the reinforcements for bodily movement of the reinforcements along the elongated track portion onto the transverse track portion for disposing them in operative position in the respective door openings, forwardly of the inner faces of the door frames, and means for releasably securing the lower end of each reinforcement in its respective door opening to preclude outward movement thereof through said door openings, said reinforcements being movable along the transverse track portion and the elongated portion to a storage position at one side of one of the door openings.

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