

G. C. BOLLER, C. H. BLEMER & S. K. CLEMENT.

ADJUSTABLE CAR BRACE FOR CARS.

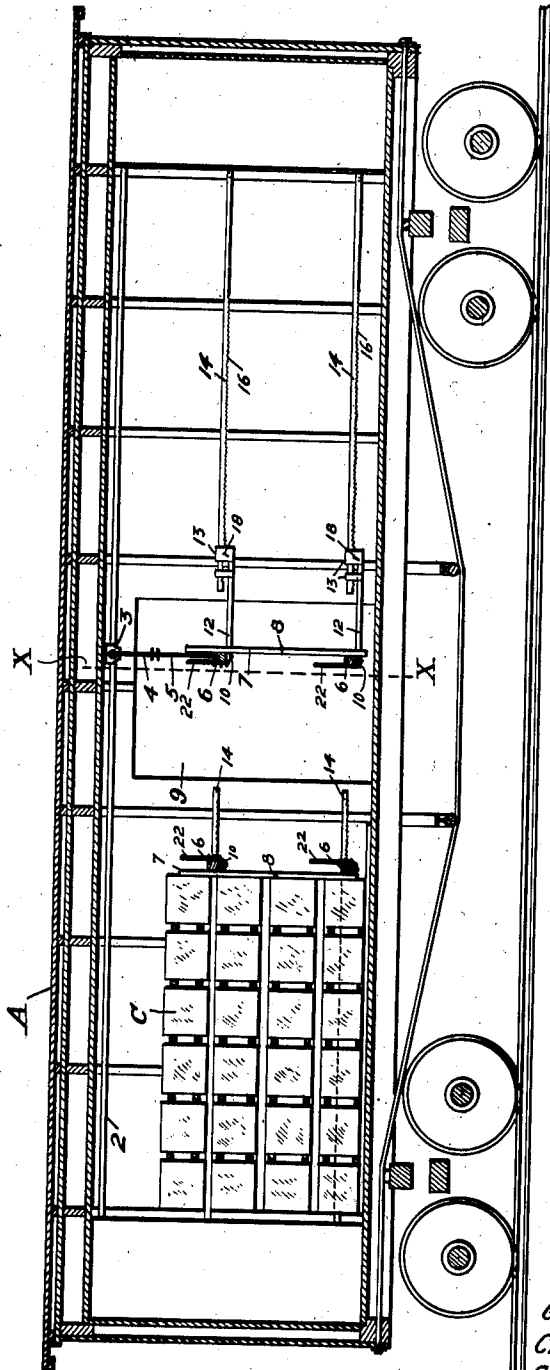
APPLICATION FILED AUG. 1, 1911.

1,049,655.

Patented Jan. 7, 1913.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

C. S. Boller

J. N. Huring

Inventors:

George C. Boller,

Chas. H. Blemer,

Styles K. Clement

By *Geo. H. Huring*

Atty.

G. C. BOLLER, C. H. BLEMER & S. K. CLEMENT.

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3 SHEETS-SHEET 2.

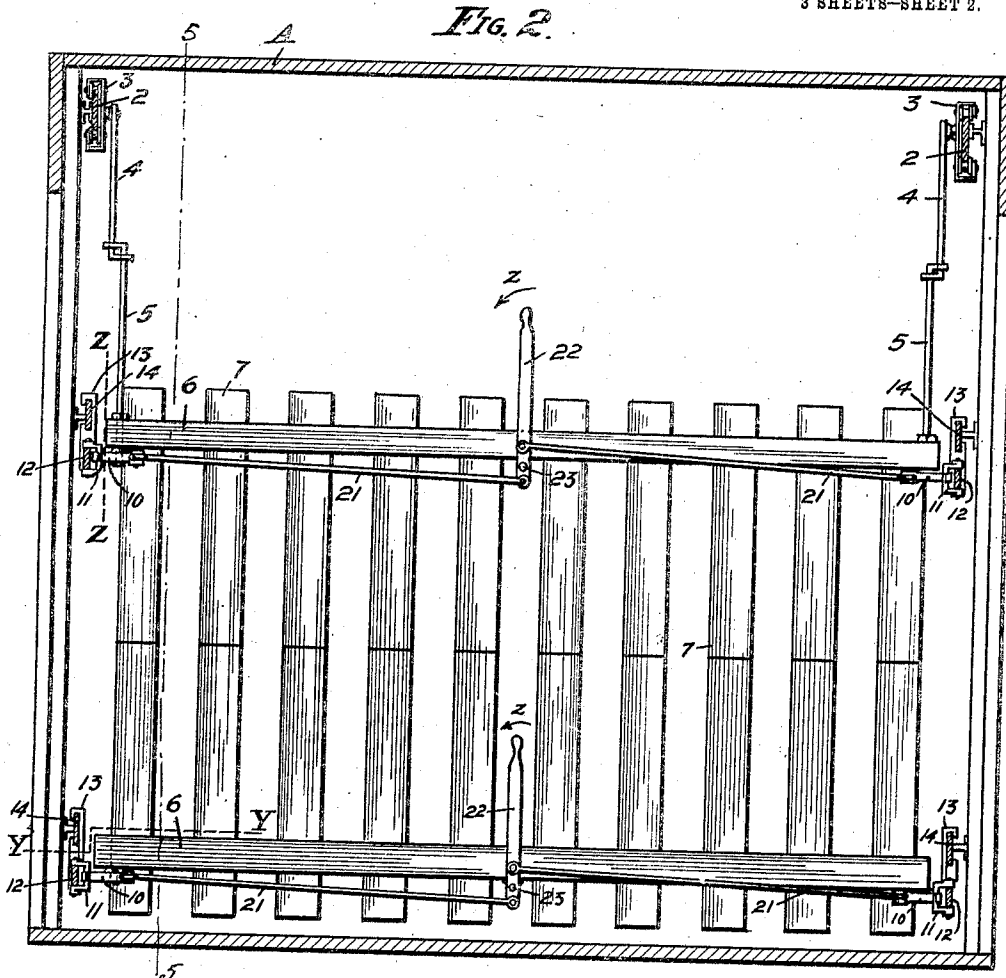
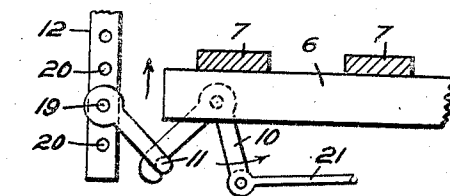


Fig. 3.

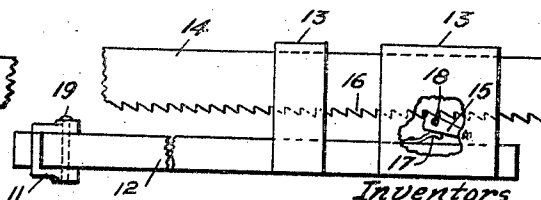


Witnesses:

R. S. Berry

J. H. Herring

Fig. 4.



Inventors

George C. Boller

Chas. H. Blemer

Styles K. Clement

By *L. H. Strong*

Att'y.

G. C. BOLLER, C. H. BLEMER & S. K. CLEMENT.

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3 SHEETS-SHEET 3.

Fig. 5.

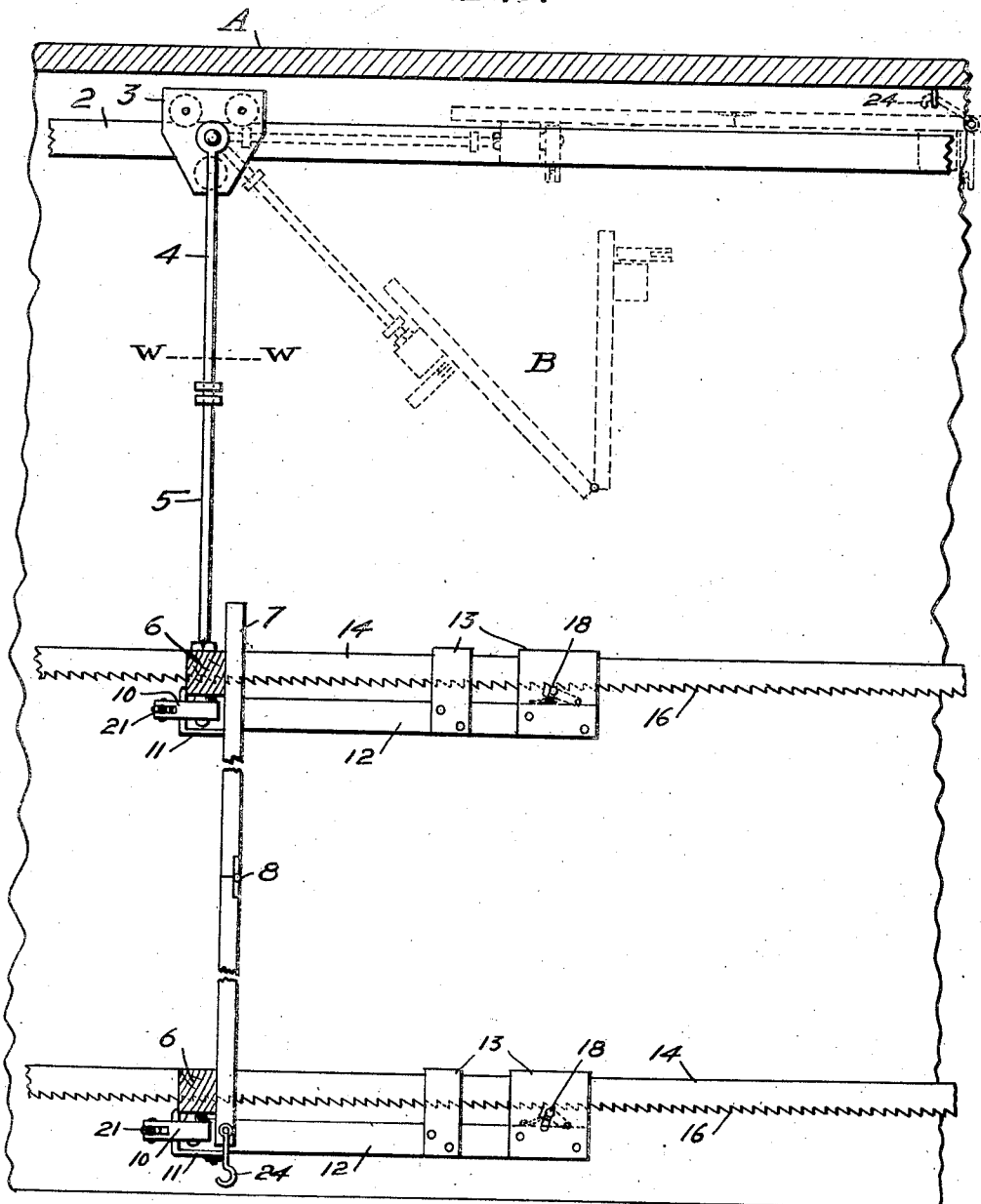
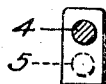


Fig. 6.



Witnesses;

R. S. Boller
J. H. Herring

Inventors;

George C. Boller,
Chas. H. Blemer,
Styles K. Clement,
By *Geo. H. Strong,*
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE C. BOLLER, CHARLES H. BLEMER, AND STYLES K. CLEMENT, OF LOOMIS, CALIFORNIA, ASSIGNORS OF ONE-FOURTH TO GEORGE W. BISBEE, OF NEWCASTLE, CALIFORNIA.

ADJUSTABLE CAR-BRACE FOR CARS.

1,049,655.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed August 1, 1911. Serial No. 641,705.

To all whom it may concern:

Be it known that we, GEORGE C. BOLLER, CHARLES H. BLEMER, and STYLES K. CLEMENT, citizens of the United States, residing at Loomis, in the county of Placer and State of California, have invented new and useful Improvements in Adjustable Car-Braces for Cars, of which the following is a specification.

10 This invention relates to an adjustable bulkhead for cars, and particularly pertains to a bulkhead or partition for refrigerator cars for retaining stacked fruit boxes, crates, and the like, in position therein.

15 It is the object of this invention to provide a bulkhead for cars, which is so constructed and arranged that it may be adjusted to any desired position in the car against a stack of fruit boxes, crates, and the like, to prevent shifting of the latter when the car is being moved from place to place.

20 Another object is to provide an adjustable bulkhead for cars, which is adapted to be swung into a horizontal position against the roof of the car when it is desired to use the car for shipping such freight as does not require the employment of the bulkhead.

25 Another object is to provide a structure of the above character, which is simple in construction, efficient in operation, strong and durable, and which can be readily installed in most refrigerator or freight cars now generally in use.

30 Further objects, together with the advantages derived by the use of this invention, will be disclosed in the following specification.

35 The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

40 Figure 1 is a longitudinal section of a refrigerator car, showing the invention as applied. Fig. 2 is an enlarged vertical section on the line X—X Fig. 1, showing the bulkhead in front elevation. Fig. 3 is a detail section on the line Y—Y Fig. 2. Fig. 4 is a detail section on the line Z—Z of Fig. 2. Fig. 5 is an enlarged vertical section on the line 5—5 of Fig. 2, showing in dotted lines several positions assumed by the bulkhead. Fig. 6 is a section on the line W—W of Fig. 5.

45 In the drawings, A represents a refriger-

ator car, of any suitable construction, and 2 indicates the rails of an overhead track, mounted within the car adjacent the ceiling thereof, on which rails carriages 3 are adapted to travel lengthwise of the car.

60 Pivotaly mounted on each of the carriages 3 is a hanging rod 4, the free end of which is bent at right angles and is perforated to form an eye through which a second rod 5 passes. The upper end of the rod 5 is also bent at right angles and is provided with a perforation through which the rod 4 passes. The rods 4 and 5 thus form telescoping members or hangers, on the outer ends of which is carried a bulkhead comprised of a pair of 70 parallel spaced timbers 6, which are horizontally disposed and extend crosswise of the car A approximately the full width thereof, and on which timbers a series of vertical slats 7 are arranged.

75 The rods 5 are engaged with the upper timber 6, adjacent to the outer ends thereof, and support the bulkhead clear of the floor of the car when the bulkhead is suspended in a normal vertical position. The slats 7 are divided about midway of their length and the two portions thus formed are connected together by means of hinges 8 in such manner that the lower section of the bulkhead can be folded against the back of the upper section, as indicated in dotted lines at B in Fig. 5, so as to admit of the bulkhead being swung upward or downward on the pivotal mounting of the rods 4 and clear the tiers of crates or boxes stacked adjacent to the back of the bulkhead. The telescoping hangers 4—5 permit of the bulkhead being moved upwardly or downwardly so that it may be readily disposed in or removed from the front of the stacked crates. Any number of these bulkheads may be suspended from the overhead track in a car A as may be found desirable, two being shown in this case, one on each side of the entrance doors or openings 9 provided in the sides of the 100 car.

Means are provided for locking the bulkheads in their vertical positions to the inner sides of the car at any point throughout the length thereof and for forcing them rearwardly against the stacks of crates to firmly bind the latter against movement. This means is here shown as consisting of horizontally disposed bell-crank levers 10, pivotally mounted on the outer ends of the tim- 110

bers 6, which levers form dogs, and are adapted to be engaged with, and disengaged from, clevises 11, as later described.

The clevises 11 are each adjustably mounted on the outer ends of horizontally disposed brackets 12, mounted on carriages 13, which are slidably mounted on tracks 14 provided on the walls of the car A for that purpose. The tracks 14 are arranged on the inner face of the side walls of the car adjacent to the ends of the timbers 6 on the bulkhead; one set of tracks 14 being disposed near the floor of the car and the other set arranged approximately midway between the floor and the ceiling thereof, as shown in Figs. 2 and 5 respectively.

The carriage 13 is designed to be rigidly retained against forward movement on the track 14 by means of a pawl 15 mounted thereon, which pawl engages ratchet teeth 16 formed on the track 14; a spring 17 normally retaining the pawl 15 in engagement with the teeth 16, as shown in Fig. 4. A pin 18 on the pawl 15 extends outwardly therefrom and is provided as a means for manually releasing the pawl from engagement with the ratchet so as to admit the carriage 13 being moved in a forward direction on the tracks 14.

Each of the clevises 11 is adjusted on its respective bracket 12 by means of a pin 19, which is adapted to pass through the clevis 11 and any one of a series of perforations 20 formed in the brackets 12. Pivotally connected to each bell-crank lever 10 is a connecting-rod 21, which extends toward the center of the bulkhead parallel to the timbers 6, as shown in Fig. 2, the ends of the rods 21 connecting with lever handles 22 above and below the pivotal center 23 thereof, as shown in Fig. 2.

In the operation of the invention a series of tiers or stacks of fruit boxes, crates, and the like, are loaded in the car A and are arranged therein in the usual manner, illustrated at C in Fig. 1. The tiers of boxes are arranged in rows extending laterally across the car A and longitudinally thereof. When the desired number of stacks have been placed in one end of the car the bulkhead is positioned against the face of the outermost tier, as shown in Fig. 1, the bulkhead being moved to the desired position by means of the carriages 3 on the overhead rails 2.

The carriages 13 are adjusted on the tracks 14 so as to dispose the clevises 11 on the brackets 12 in engageable relation with the bell-crank levers 10 mounted on the timber 6 of the bulkhead. The bell-crank levers 10 are then engaged with the clevises 11, as shown in Fig. 3, whereupon the lever handles 22 are rocked in the direction of the arrows *a* in Fig. 2, which action exerts a pull upon the connecting-rods 21, which in

turn pull upon the bell-crank levers 10 in such manner as to cause the bulkhead to move rearward a short distance and thereby bear tightly against the stacked boxes and securely retain them against movement.

When it is desired to remove the bulkhead from in front of the stacked boxes, the levers 22 are restored to the vertical position which releases the tension on the rods 21 and the levers 10 so that the clevises 11 can be released from the latter. The bulkhead is then moved upward on the hanging rod 4 and its lower section is folded upward against the back of the upper portion thereof so that the bulkhead may be swung over the top of the uppermost boxes in the stack, in which position it is retained by means of a hook 24, which is engaged with an eye, or other engaging member, on the ceiling or walls of the car. If there is sufficient clear space in front of the stacked boxes, the bulkhead may be swung forwardly on the pivotal mounting of the hanger 4 and be supported against the ceiling of the car by the hook 24, or a similar device.

By the use of this invention the car A may be loaded with boxes, crates, or the like, for any desired portion of its length and the boxes held securely against movement by clamping the bulkhead thereagainst, as described. This enables the shipper to load a fraction of a carload, and admits of portions of the shipment being delivered at various points; the bulkhead being swung against the ceiling of the car to admit of the removal of the desired part of the shipment and then restored in its clamping position against the outermost tier of the remainder of the load.

By arranging a bulkhead and its attachments on each side of the car door 9 each end of the car may be packed and unpacked independent of the other, and by providing the arms 12 and carriages 13 the former will act as side rails and extensions to the track 14, which admits of the boxes, crates, etc., being stacked in front of the door openings 9; the arms 12 being adapted to extend beyond the edge of the door openings, as shown in Fig. 1.

Having thus described our invention what we claim and desire to secure by Letters Patent, is—

1. The combination with a car, of an overhead track therein, a bulkhead suspended from said track and adapted to travel thereon, and means for locking the bulkhead against movement, said means including bell-crank levers on the bulkhead and clevises on the car engaged by the levers.

2. The combination with a car, of overhead tracks therein, carriages adapted to travel on said tracks, a bulkhead suspended from said carriages to travel therewith, and

means for locking the bulkhead against movement, said means including bell-crank levers on the bulkhead and clevises on the car engaged by the levers.

5 3. The combination with a car, of overhead tracks therein, carriages movable on said tracks, a bulkhead pivotally suspended from said carriages, and means for locking the bulkhead against movement, said means
10 including bell-crank levers on the bulkhead and clevises on the car engaged by the levers.

4. The combination with a car, of overhead tracks therein, carriages movable on said tracks, telescoping hangers pivoted to
15 said carriages, a bulkhead extending crosswise of the car carried by said hangers, and means for locking the bulkhead against movement.

5. The combination with a car, of tracks
20 along the upper sides of the car, carriages movable on said tracks, telescoping hangers pivoted to said carriages, a bulkhead extending crosswise of the car carried by said hangers, tracks on the lower sides of the car,
25 and means for attaching the bulkhead to said lower tracks to lock it against movement.

6. The combination with a car, of tracks
30 along the upper sides of the car, carriages movable on said tracks, telescoping hangers pivoted to said carriages, a bulkhead extending crosswise of the car carried by said hangers, tracks on the lower sides of the car, carriages movable on said lower tracks,
35 and means for engaging the bulkhead with said last named carriages.

7. The combination with a car, of tracks
40 along the upper sides of the car, carriages movable on said tracks, telescoping hangers pivoted to said carriages, a bulkhead extending crosswise of the car carried by said hangers, tracks on the lower sides of the car, carriages movable on said lower tracks, means for engaging the bulkhead with said
45 last named carriages, and means for locking the last named carriages against movement on their respective tracks.

8. The combination with a car, of tracks
50 along the upper sides of the car, carriages movable on said tracks, telescoping hangers pivoted to said carriages, a bulkhead ex-

tending crosswise of the car carried by said hangers, tracks, on the lower sides of the car, carriages movable on said second-named tracks, means for engaging the bulkhead
55 with said last named carriages, and means for locking the last named carriages against movement on their respective tracks, said means including a pawl on each carriage and ratchet teeth on the tracks. 60

9. An adjustable bulkhead for cars, consisting of a frame extending laterally across the car, means for movably supporting said frame, means for clamping the frame
65 against stacked materials in the car, said means including bell-crank levers on the frame and pivoted clevises on the car engaged by said levers, and means for locking the frame against movement in its clamped position. 70

10. An adjustable bulkhead for cars, consisting of a frame extending laterally across the car, means for movably supporting said frame, means for clamping the frame
75 against stacked materials in the car, means for locking the frame against movement in its clamped position, said frame being formed of sections hinged together, whereby the sections may be folded one relatively to the other, said sections being foldable
80 against the ceiling of the car and attached thereto.

11. An adjustable bulkhead for cars, consisting of a frame extending laterally across the car, carriages from which the frame is
85 pivotally suspended, tracks on which said carriages are adapted to travel, dogs on said frame, adjustable members on the car for engaging said dogs, and means for actuating said dogs to clamp the frame against
90 stacked articles in the car and retain the frame against movement.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

GEORGE C. BOLLER.
CHAS. H. BLEMER.
STYLES K. CLEMENT.

Witnesses:

J. SADDLER,
S. KOHNER.