Dec. 24, 1940. M. L. ROWE 2,226,020

CAR WALL ANCHORAGE FOR CARGO BINDERS

Original Filed April 9, 1936 2 Sheets-Sheet 1

Fig. 1.

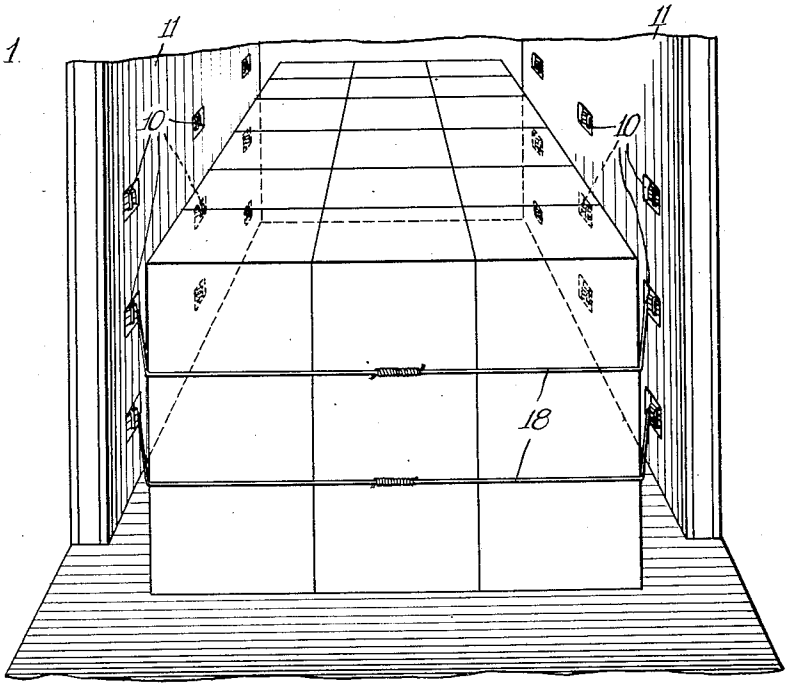
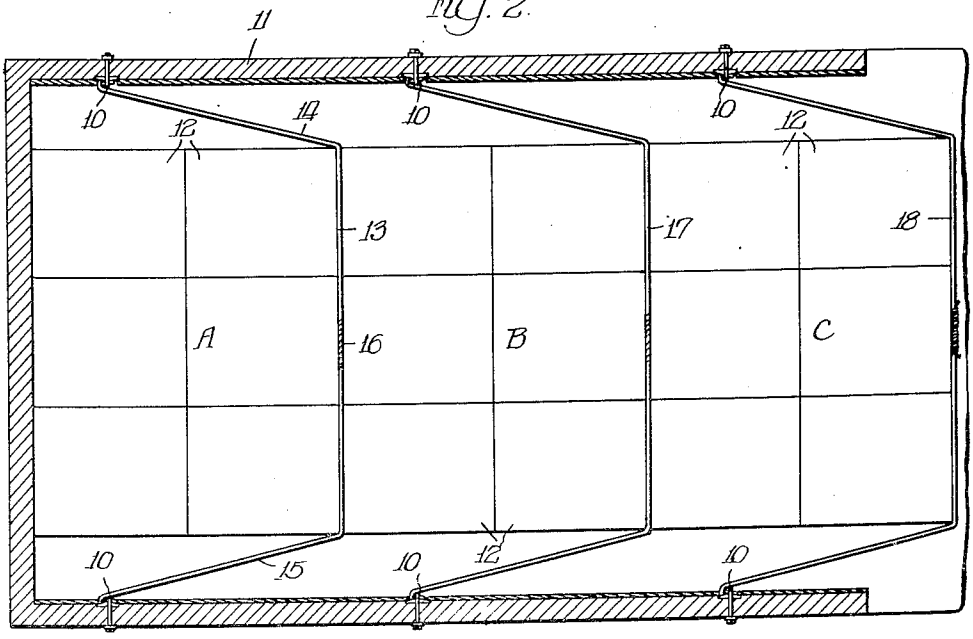


Fig. 2.



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Fig. 3.

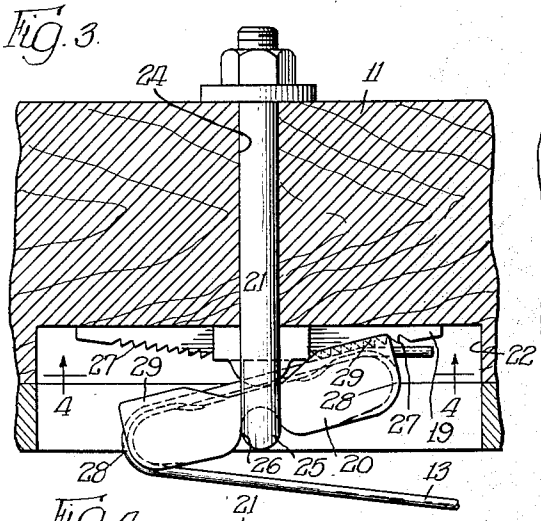


Fig. 5.

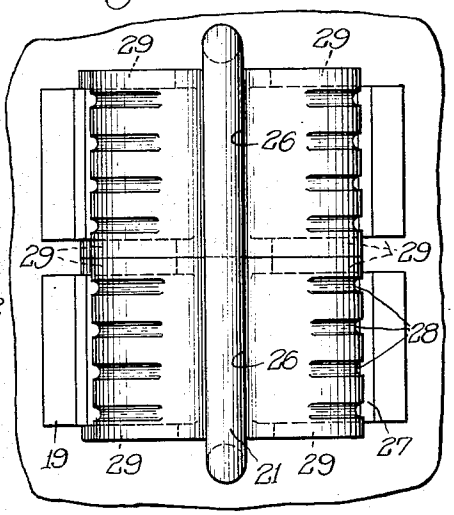


Fig. 4

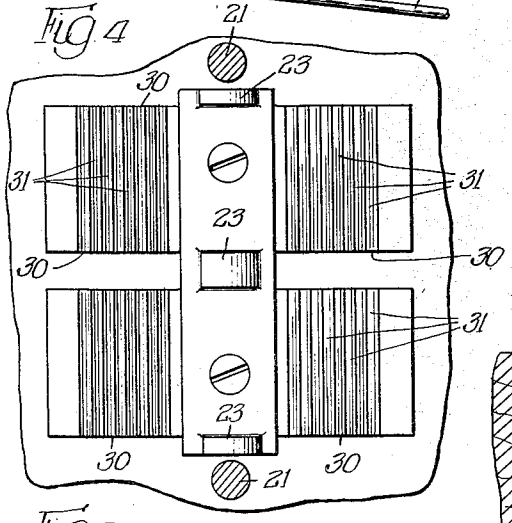


Fig. 6.

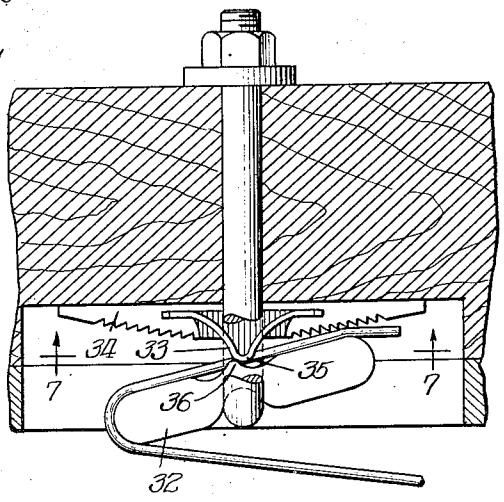
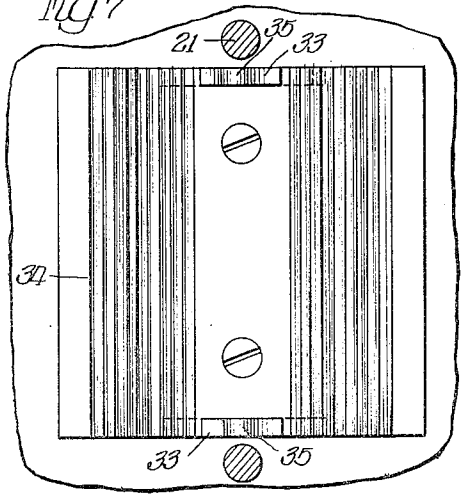


Fig. 7



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UNITED STATES PATENT OFFICE

2,226,020

CAR WALL ANCHORAGE FOR CARGO BINDERS

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Original application April 9, 1936, Serial No. 73,396. Divided and this application July 28, 1939, Serial No. 286,948

3 Claims. (Cl. 24—133)

This invention has to do with the shipment of boxes, barrels and other merchandise containers in railway cars, and is particularly concerned with the means employed for preventing the objects from moving about in the car during transit.

Heretofore it has been the practice, in loading a car, either to block the objects against all movement by the use of wooden braces, or else bind the objects together into one or more large units which can shift longitudinally of the car under the more severe shocks and impacts. This last mentioned method, commonly known as the floating unit load, possesses many advantages over the rigid blocking method, but it is not always applicable and this is particularly true where less than carload lots of merchandise are shipped in a so-called pool car with the various lots having to be unloaded from the car at different times and places.

To meet this situation and still avoid the high material and labor expenses involved in blocking, some shippers have used metal binders in the form of either wire or flat strap to secure the several lots separately in position, and have nailed the ends of the binders to the walls of the car, but this practice is objected to by the railroads because of the injury caused to the walls of the car by the repeated driving in of the nails and the injury caused to subsequently loaded merchandise by nails and pieces of binder left projecting from the walls.

The object of the present invention is to provide an anchoring means of new and improved construction and arrangement which will allow metal binders to be applied easily and quickly to the walls of a car in tensioned position against the objects stowed in the car and allow the binders to be removed just as easily and quickly, all without injuring the walls in any way and without leaving any nails or other protruding members which might injure subsequently stowed merchandise.

The anchoring means consists of a plurality of specially designed binder-clamping devices which are located at intervals along the walls of the car, and are preferably set back into recesses in the walls flush with the usual sheathing. These devices will permit the metal binders to be readily inserted and clamped therein and will hold the binders securely against withdrawal regardless of the degree to which the binders are tensioned against the merchandise.

This application is a division of my copending application filed April 9, 1936, under Serial No. 73,396. Patent No. 2,170,913 granted August 29, 1939.

While the foregoing statements are indicative in a general way of the nature of the invention, other more specific objects and advantages will be apparent to those skilled in the art upon a full understanding of the construction and arrangement of the anchoring means within the car and the way in which the anchoring means are manipulated to clamp or release the binders.

A preferred embodiment of the invention is presented herein for the purpose of exemplification, together with a slightly modified form thereof, but it will of course be appreciated that the invention is susceptible of embodiment in other structurally modified forms coming equally within the scope of the appended claims.

In the accompanying drawings:

Fig. 1 is a perspective view of the interior of one end of a railway car, showing the car loaded with objects and the objects secured in position by means of metal binders fastened to the walls of the car by the anchoring means of the invention;

Fig. 2 is a horizontal section through the same end of the car, showing the way in which several less than carload lots of merchandise are separately secured in position;

Fig. 3 is a top view of one of the binder fastening devices, showing the way in which the same is attached to the wall;

Fig. 4 is a vertical section through the device, taken on the line 4—4 of Fig. 3, showing the serrated and slotted character of the base plate;

Fig. 5 is a face view of the device;

Fig. 6 is a view, corresponding to Fig. 3, showing the addition of spring indexing means for maintaining the clamping plate in either position into which rocked; and

Fig. 7 is a vertical section, taken on the line 7—7 of Fig. 6, showing the way in which the indexing springs are mounted in the base plate.

As will be observed in Figs. 1 and 2 of the drawings, a number of the binder fastening devices 10 are permanently mounted on the side walls 11 of the car. The devices are arranged at intervals longitudinally of the car, in opposed pairs, and also in vertical series. The sheathing on the inside of the car is cut away at the locations of the devices in order that the latter will be substatntially flush with the side walls and not project to such an extent as to interfere in any way with loading. The objects 12 to be transported in the car are stowed as shown. If

three less than carload lots, A, B and C, are to be transported, for instance, the last lot A to be bound securely in position by means of one or unloaded is stowed in the end of the car and more binders 13. Each of the binders 13 is in two sections 14 and 15. To apply the binders 13, the ends of the sections 14 and 15 are inserted in the first pair of fastening devices 10, which devices will thereupon hold the ends firmly against withdrawal. The other ends of the sections 14 and 15 are then brought together and tied or otherwise secured under tension at 16, by means of any suitable binder tensioning and fastening device. After the lot A has been stowed in this manner the lots B and C are similarly stowed, employing the tensioned binders 17 and 18. To remove the lot C at its destination, it is merely necessary to cut the binders 18. This will release the objects in the lot C without in any way disturbing the objects in the lots A and B. The lot B can thereafter be removed at its destination without disturbing the lot A.

As will be observed in Figs. 3, 4 and 5, each of the binder fastening devices 10 includes a base plate 19, two clamping plates 20 and a U-bolt 21. The base plate 19 is fastened to the side wall 11 of the car in a recess 22 formed in the latter, and the clamping plates 20 are positioned opposite the base plate, one above the other, against rounded projections 23 at the top, middle and bottom of the center of the base plate. The U-bolt 21 is mounted in apertures 24 in the studding of the side wall, with the center connecting section 25 of the bolt in grooves 26 in the backs of the clamping plates 20, in which position it provides a pivotal mounting for the clamping plates 20 with respect to the base plate 19. The ends of the base plate 19 are serrated at 27 in order to grip the end of the binder 13, and the opposed ends of the clamping plates 20 are rounded and grooved at 28 to properly position and bend the binder without producing any abrupt formation therein which might act to fracture the binder under extremely high tensions.

The two clamping plates 20 make a double fastener out of the device, enabling one device to grip two binders at the same time, but it will of course be appreciated that in a simplified form of the device but one clamping plate would be used. The clamping plates 20 are preferably provided along their upper and lower edges with flanges 29 which project into correspondingly shaped cut away portions 30 of the base plate. These flanges do not interfere in any way with the gripping action of the clamping plates 20, but they prevent the gripped ends of the binders from moving either up or down beyond the ends of the serrations 31 on the base plate.

The binder, whether it be a round wire or a flat strap, can be inserted between the plates from either side, and after it has been inserted and bent around the end of the clamping plate 20 in the manner shown in Fig. 3, any tension applied to the binder will cause the end of the binder between the plates to be securely gripped and held against withdrawal.

In the modification which is shown in Figs. 6 and 7 a single clamping plate 32 is employed and the plate is held by the yielding resistance of a spring 33 in either gripping position into which rocked. The pressure of the spring 33 is sufficient to hold the end of the binder frictionally between the clamping plate 32 and the base plate 34 if any slack should develop in the binder. The spring 33 is provided with a projecting nose portion 35 which bears against either one side or the other of a projection 36 on the clamping plate, with a biasing action.

I claim:

1. A metal binder fastening device for application to the side wall of a freight car, consisting of a base plate which is adapted to be attached to the side wall and is provided with symmetrical sides, and a clamping plate which is pivotally mounted at its center on the base plate and is provided with symmetrical ends, whereby to grip a binder between either of its ends and the base plate when the binder is trained about its other end, said device permitting the binder to be gripped when inserted between the plates from either end.

2. A metal binder fastening device for application to the side wall of a freight car, consisting of a base plate which is adapted to be attached to the side wall and is provided with symmetrical sides, a clamping plate which is pivotally mounted intermediate its ends on the base plate and is provided with symmetrical ends, whereby to grip a binder between one of its ends and the base plate when the binder is trained about its other end, said device permitting the binder to be gripped when inserted between the plates from either end, and means for maintaining the clamping plate in gripping engagement with the binder after the clamping plate has been rocked in either direction on the base plate into such engagement.

3. A metal binder fastening device for application to the side wall of a freight car, consisting of a base plate which is provided with oppositely beveled transversely serrated ends and is adapted to be attached to the side wall, a clamping plate which is positioned opposite the base plate and is provided with rounded and grooved ends in front of the beveled ends of the base plate for pivotal movement in either direction into generally parallel relation thereto, and a U-shaped bolt which engages with the back of the clamping plate at the center of the latter and is adapted to be secured within the side wall in such position as to provide a pivotal mounting for the clamping plate with respect to the base plate, whereby a binder inserted between either of the ends of the clamping plate and the base plate and trained around the other end of the clamping plate and tensioned will be gripped between the plates.

MARTIN L. ROWE.