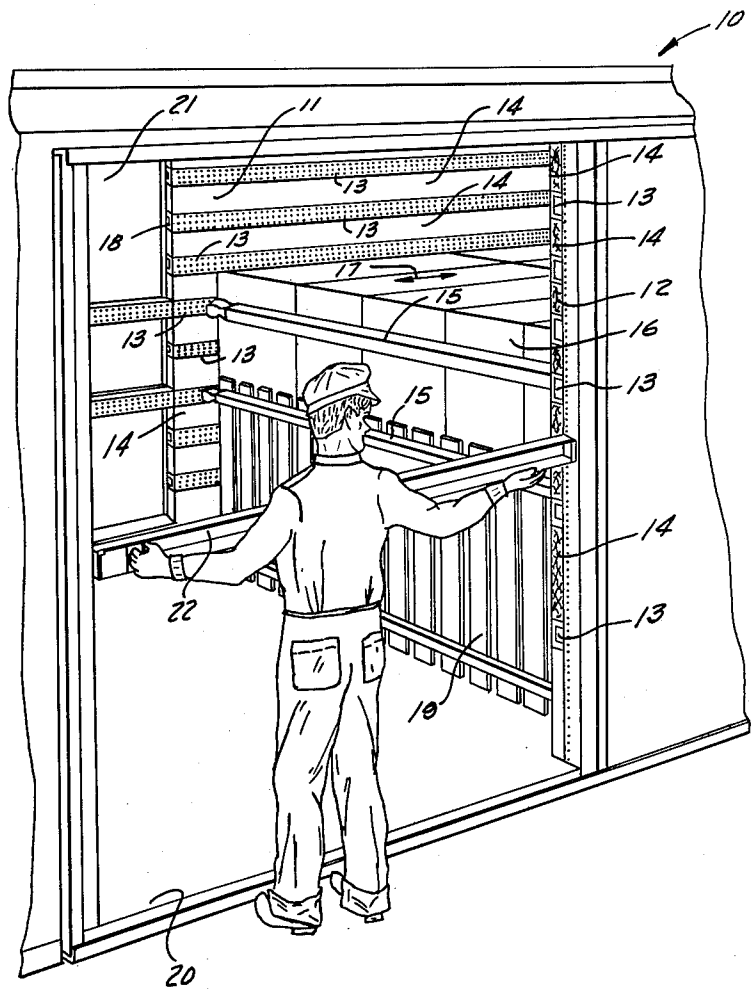
Nov. 13, 1962 R. C. SCHROEDER ETAL 3,063,387

DOORWAY RAIL ASSEMBLY

Filed Nov. 20, 1957 2 Sheets-Sheet 1

FIG. 1



INVENTORS
ROBERT C. SCHROEDER
BY DAVID D. WOOD

SMITH, WILSON, LEWIS & MCRAE

Nov. 13, 1962 R. C. SCHROEDER ETAL 3,063,387

DOORWAY RAIL ASSEMBLY

Filed Nov. 20, 1957 2 Sheets-Sheet 2

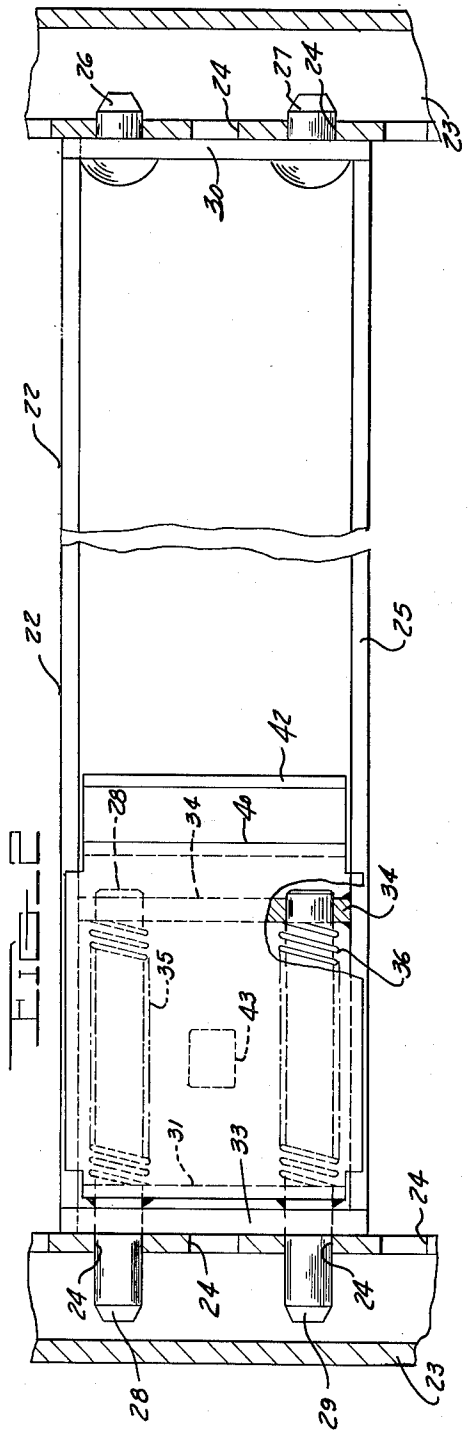


FIG. 2

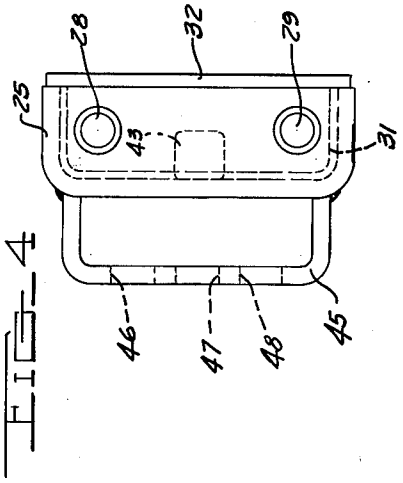


FIG. 4

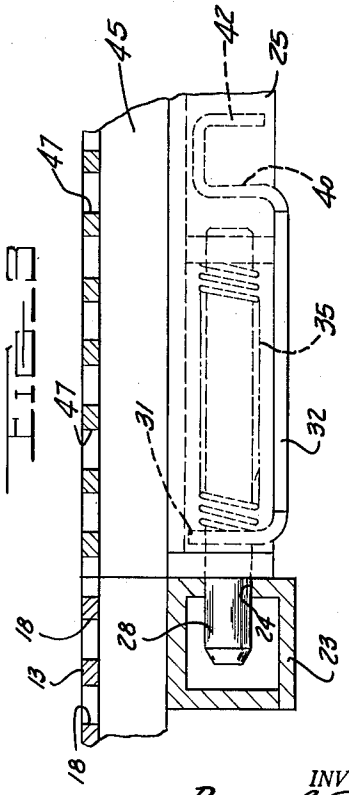


FIG. 3

INVENTORS
ROBERT C. SCHROEDER
DAVID D. WOOD

BY

SMITH, WILSON, LEWIS & McRAE

United States Patent Office 3,063,387 Patented Nov. 13, 1962

3,063,387
DOORWAY RAIL ASSEMBLY

Robert C. Schroeder, 5 Raymond Court, Dearborn, Mich., and David D. Wood, 398 Sheldon Ave., Plymouth, Mich.

Filed Nov. 20, 1957, Ser. No. 697,596
2 Claims. (Cl. 105—369)

This invention relates to a rail assembly useful for positionment across the doorway of a freight storage compartment, as for example the doorway of a railroad freight car.

In the bracing of freight within railroad freight cars it is customary to removably position a number of high-strength cross members across the car. These cross members cooperate with flat bulkheads and deckboards to brace the freight against longitudinal shifting, particularly when the freight car comes to an abrupt stop.

The cross members are usually supported at their opposite ends in horizontal rails, which extend along the freight car side walls. It is desirable that the entire space within the freight car be utilizable for storing freight, and it therefore becomes necessary to extend cross members across the space between the two freight car doors. To support these cross members it is necessary to provide rails in each of the freight car doorways.

Objects of the present invention are to provide a doorway rail assembly wherein:

(1) the rail assembly is removable from a point outside of the doorway, thereby avoiding the necessity of removing part of the freight before obtaining access to the rail assembly.

(2) the rail assembly cooperates with the doorway members in such manner that the rail assembly does not project into the storage compartment to any greater extent than the adjacent rails, thereby maintaining the size of the storage compartment as large as possible, and

(3) the rail assembly is of fairly low cost construction, and is easily installed and removed by a single workman.

Other objections of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification where in like reference characters designate corresponding parts in the several views.

In the drawings:

FIG. 1 is a prespective view of a railroad freight car, with a rail assembly of the present invention being installed by a workman.

FIG. 2 is a front elevational view of the FIG. 1 rail assembly in the installed position, with the doorway members being shown in section for illustration purposes.

FIG. 3 is a top plan view of the FIG. 2 structure, with certain parts being sectioned for illustration purposes.

FIG. 4 is an end view of the FIG. 2 rail assembly.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

In the drawings there is shown a railroad freight car **10** having opposed side walls **11** and **12** on which are positioned horizontal channels or rails **13**, spaced apart by wooden rub boards **14**. A series of cross members **15** are positioned between opposed ones of rails **13** to brace freight **16** against longitudinal shifting in the arrow **17** direction. The structure of cross members **15** is fully

shown in copending application, Serial No. 564,445, filed February 9, 1956, but it is sufficient for present purposes to note that each end of each cross member **15** is provided with a latch and two pins which are insertable into circular openings **18** in the vertical web of the adjacent channel **13**. Each channel **13** is provided with three vertically spaced rows of openings **18** so as to permit adjustment of cross members **15** vertically as well as horizontally in the arrow **17** direction. With certain types of freight a bulkhead **19** may be provided between cross members **15** and the freight.

In order to fully utilize the space between doorways **20** and **21** for freight storage purposes it is necessary that cross members be extended between the doorways. To suitably support the opposite ends of these cross members there are provided a number of rail assemblies **22**, one of which is shown in a partially installed position in FIG. 1.

Each of the freight car doorways **20** and **21** is defined by two vertical uprights **23**, which are provided with a series of vertically space openings **24**. Rail assembly **22** includes a channel member **25**, which mounts four pins **26**, **27**, **28** and **29**. These pins extend into openings **24** to rigidly mount channel member **25** in position between the two vertical uprights **23**. Pins **26** and **27** preferably are fixedly mounted on a plate **30** rigidly secured to one end of channel **25**. Pins **28** and **29** are fixedly secured to the inturned flange **31** of a slide plate **32**. The left and right end portions of pins **28** and **29** slidably extend through circular openings in guide plates **33** and **34**, which are fixedly secured to channel **25**. Compression springs **35** and **36** are positioned between flange **31** and fixed plate **34** to urge the "pin-slide plate" assembly to its illustrated position wherein pins **28** and **29** project into selected ones of openings **24**. The right end of plate **32** is turned inwardly at **40**, and outwardly at **42** to form a manually graspable handle for easy movement of plate **32** against the action of springs **35** and **36**. A stop block **43** is fixedly carried by the web of channel **25** to limit rightward movement of plate **32**.

Channel **25** serves as a mounting structure for a second channel **45** which extends along the entire length of channel **25**. Channel **45** is provided with three vertically spaced rows of circular openings **46**, **47** and **48**, which accommodate the pins of cross members **15** in the same manner as openings **18** in channels **13**. The spacing between adjacent openings in each row (**46**, **47** or **48**) is preferably the same as the row spacing, whereby to permit rotary adjustment of the cross member **15** as more fully explained in the aforementioned copending application, Serial No. 564,445. In a usual installation the freight car doorways are each about eight feet wide, and the openings in channel **45** are spaced apart on one inch centers so as to provide a total of about two hundred eighty-eight openings in each channel. These openings allow vertical and lateral adjustment of the cross members **15** into snug engagement with varying size articles of freight.

Channel **45** does not unduly project into the freight car interior, and the entire assembly is easily removable from outside of the car. Additionally the mechanism employs a comparatively few number of parts, while providing a rigid structure which will adequately withstand the high stresses occurring during stop and go movement of the freight car.

We claim:

1. The combination comprising two horizontally spaced, vertically extending uprights defining a doorway for access to a freight storage space; a series of vertically spaced openings formed in said uprights; a first horizontal channel extending between said uprights with its web located in a vertical plane; two horizontally spaced vertical

guide plates within the channel extending at right angles to the web portion; a pair of pins slidably extending through said guide plates; a vertically extending slide plate having its upper and lower portions slidably engaging the edges of the channel flanges; one end of said slide plate being turned into the confines of the channel and fixedly securied to the pins; spring means urging the pin-slide plate assembly to a position wherein the pins are inserted into openings in one of the uprights; a second pair of pins projecting from an end of the channel into the openings in the other upright; a second horizontal channel carried on the first channel with its web located in spaced parallelism with the first channel web; and perforations spaced along the length of the second channel web for reception of pin elements projecting from horizontal freight-supporting cross members positioned at right angles to the channels.

2. The combination of claim 1 wherein a portion of the slide plate is turned inwardly into the first channel and then outwardly to form a handle for manually moving the slide plate against the action of the spring means.

References Cited in the file of this patent

UNITED STATES PATENTS

1,702,169	Norman	Feb. 12, 1929
2,091,869	McCurdy	Aug. 31, 1937
2,593,174	O'Dell	Apr. 15, 1952
2,747,520	Brown et al.	May 29, 1956
2,806,436	Johnston	Sept. 17, 1957
2,808,789	Stough	Oct. 8, 1957
2,857,856	Cronin	Oct. 28, 1958