Jan. 21, 1936. K. J. TOBIN ET AL 2,028,574

RAILWAY FREIGHT CAR CONSTRUCTION

Filed Feb. 1, 1932 2 Sheets-Sheet 1

FIG. -1

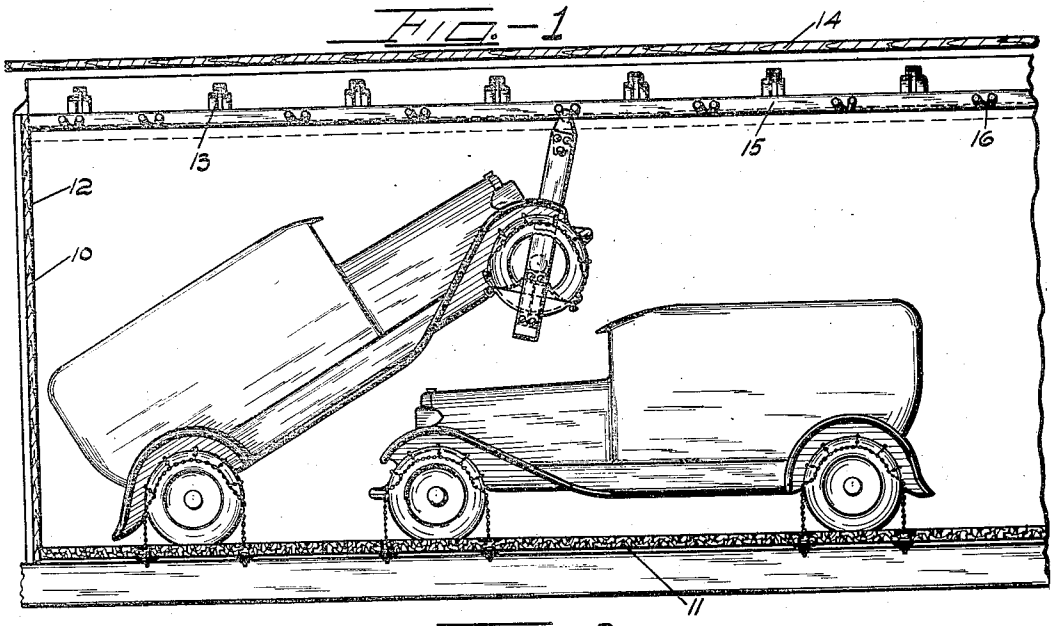
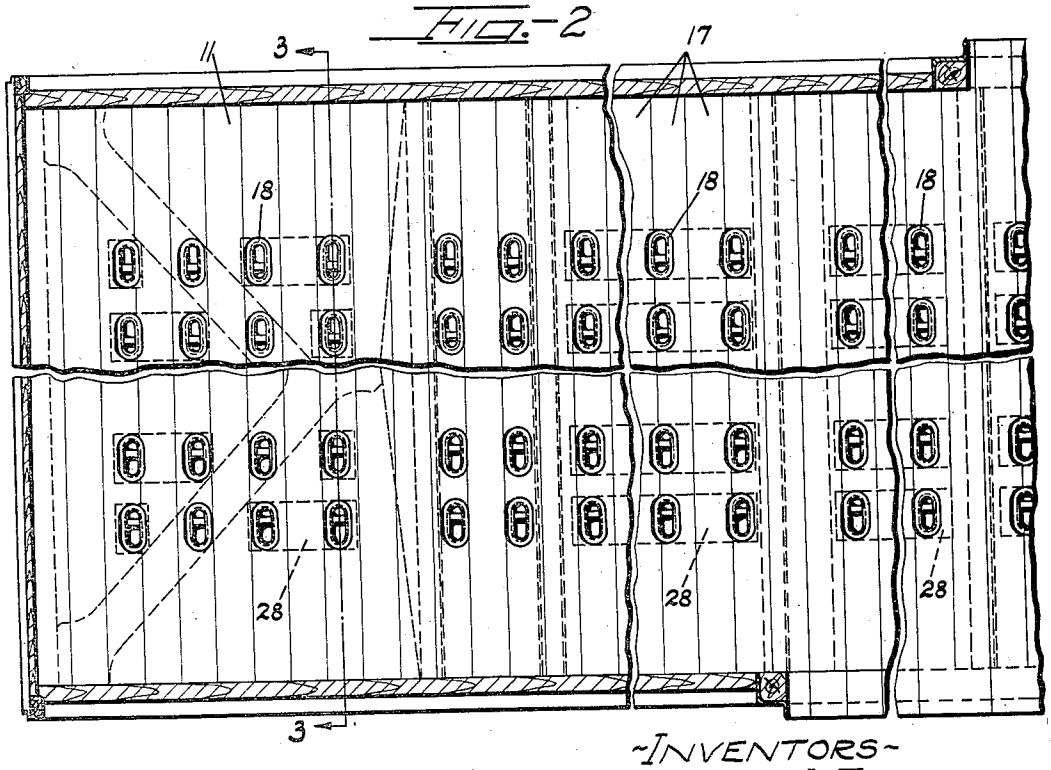


FIG. -2

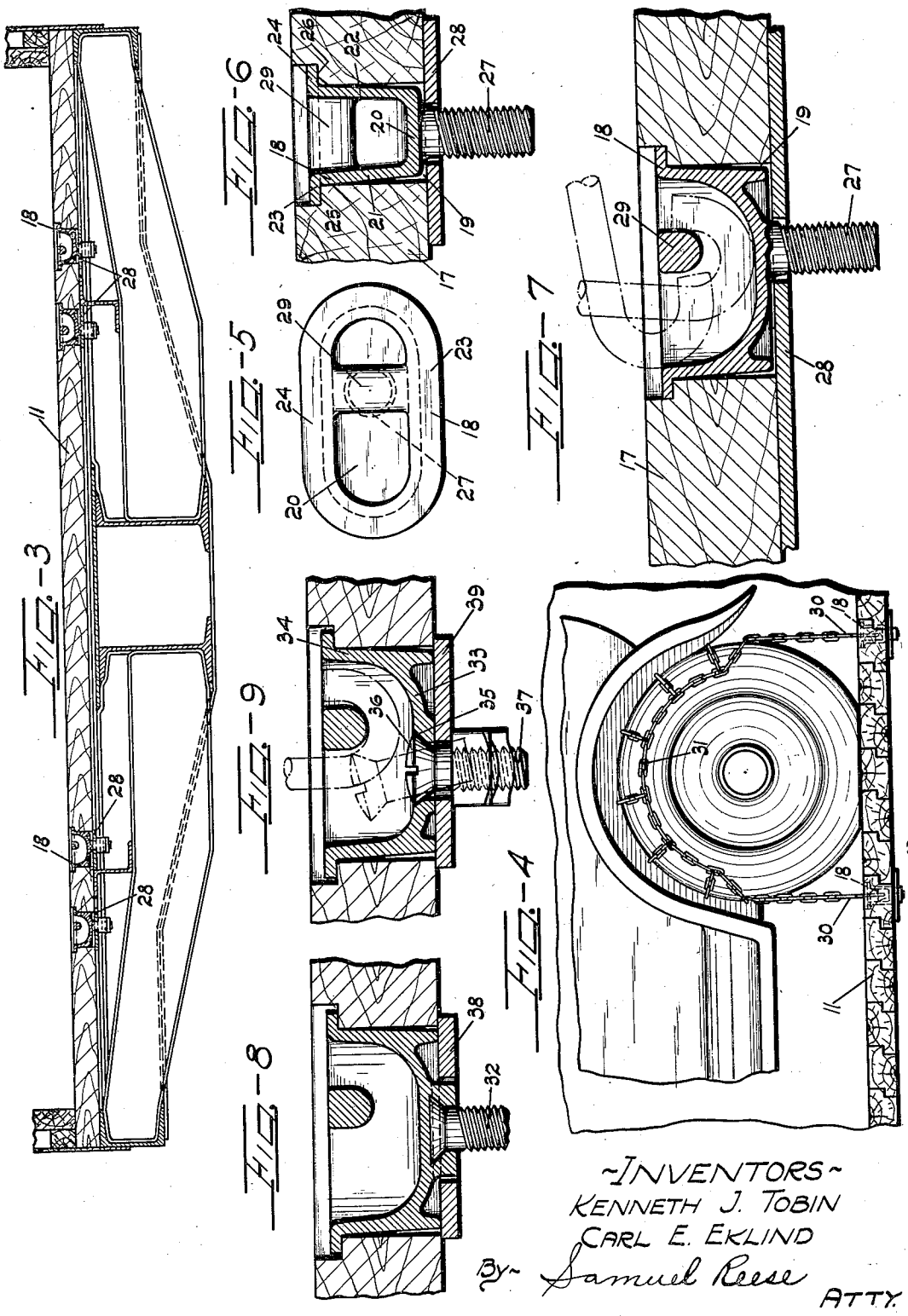


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RAILWAY FREIGHT CAR CONSTRUCTION

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7 Claims. (Cl. 105—368)

This invention relates to railway freight cars and concerns itself essentially with the floor construction for said cars.

It is an object of this invention to provide floors for freight cars whereby automobiles and other bulky lading such as machinery may be fastened to said floors to prevent shifting of such lading during transit.

A further object is to provide freight cars having floors to which bulky lading such as automobiles may be secured against shifting during transit, said floors being constructed so as not to impair the general utility of the cars for shipment of other commodities.

A further object is to provide freight cars having floors to which bulky lading such as automobiles may be secured to prevent shifting during transit, said floors being free of obstacles extending above the floor.

Another object is to provide freight cars having floors including a plurality of inserts or anchors to which fastening means for automobiles and other bulky lading may be secured.

A further object is to provide freight cars having floors formed with a plurality of inserts which lie below the surface of the floor.

Another object is to provide inserts or anchors applicable to the floors of freight cars and presenting structure to which fastening means may be attached to maintain bulky lading against shifting during transit in said cars.

Other objects will become apparent as the description of the invention proceeds.

In the drawings:

Figure 1 is a partial longitudinal sectional view through a freight car embodying the invention.

Figure 2 is a fragmentary plan with parts in section showing the novel floor construction of the invention.

Figure 3 is an enlarged transverse section taken on line 3—3 of Figure 2.

Figure 4 is a partial elevation of a floor to which inserts or anchors of the present invention have been applied, illustrating attachment of an automobile fastening device to said inserts.

Figure 5 is a plan view of one form of insert or anchor.

Figure 6 is a transverse section through the insert shown in Figure 5, illustrating its position in the floor and the mode of attachment to the floor.

Figure 7 is a longitudinal section through the insert and adjacent floor board, illustrating the manner of attachment of fastening means to the insert.

Figure 8 is a sectional view corresponding to Figure 7 of a modified form of the insert.

Figure 9 is a sectional view corresponding to Figure 7 of a further modified form of insert.

In the drawings the numeral 10 designates generally a railway freight car of the house car type having a floor 11 constructed in accordance with the present invention. It is to be understood that the type of freight car shown is for purposes of illustration only and that the invention is applicable as well to flat and gondola freight cars. The freight car illustrated has the customary end 12, a roof structure embodying carlines 13 and a running board 14, as well as side plates 15 to which stirrups 16 may be secured. The stirrups may be utilized in the positioning and maintenance of an automobile in inclined position as indicated in Figure 1 of the drawings. The automobile is so maintained by means of supports adapted to receive and secure the elevated wheels of the automobile through attachment of said supports to one of the stirrups. The particular construction of the supports forms no part of the present invention but will constitute the subject matter of a separate application.

With reference to Figures 2, 3, 6 and 7 of the drawings there is illustrated a floor construction comprising floor boards 17 and a plurality of inserts or anchors 18 secured to said boards. These anchors, as clearly shown in Figures 6 and 7 of the drawings, are preferably positioned within conforming openings 19 provided in the floor so as to lie below the upper surface thereof. The inserts or anchors illustrated in the figures of the drawing noted above preferably take the form of a casting substantially channel shaped in transverse section. They comprise a web or base portion 20 which connects upstanding walls 21 and 22. From these walls oppositely extending substantially horizontal flanges 23 and 24 project. These flanges as clearly illustrated in Figure 6 of the drawings are adapted to be seated upon shoulders 25 and 26 formed in the floor and communicating with the openings 19. It is apparent that by this engagement the anchors 18 are prevented from falling through the openings 19 where such openings as illustrated extend entirely through the floor. The anchors are provided with threaded shanks 27 extending from the web or base portion 20 oppositely from the walls 21 and 22. The shanks 27 are adapted to extend through openings provided in plate members 28 lying in abutting engagement with the underside of the floor and to be secured to said plate members by means of nuts threaded thereon. It is apparent that other means than that described may be employed to secure the anchors against upward movement relative to the floor. The shanks instead of being threaded may be upset so as to provide in effect a rivet head engaging the plate members 28 or, if desired, the shank may be provided with an opening through which cotter pins may

extend to secure the anchors to the plate members. The walls 21 and 22 of the anchors are joined by means of a connecting wall 29 spaced above the web 20 and offset from the transverse center line of the anchor. By this arrangement of the connecting wall 29 engagement therewith of a hook member 30 provided at the end of an automobile fastening device 31 may more readily be effected. The relationship assumed between the hook member and the anchor in order to effect operative engagement therebetween is clearly illustrated in Figure 7 of the drawings in which the hook member is shown in dot and dash lines. It may be noted that the shank 27 lies vertically below the connecting wall 29.

Two modified forms of inserts or anchors are illustrated in Figures 8 and 9 of the drawings. While the shank 27 shown in Figure 6 of the drawings is indicated as being cast integral with the anchor the modification illustrated in Figure 8 of the drawings utilizes a separate preformed bolt 32 molded into the anchor during the casting thereof.

In the modification illustrated in Figure 9 of the drawings the web or base portion 33 of the anchor 34 is provided with a countersunk opening 35 adapted to engage and retain the head 36 of a separate bolt 37. It is to be noted that plate members 38 and 39 engaging the undersurface of the floor are utilized with the modified anchors shown in Figures 8 and 9.

The mode of employment of the floor structure described above will become apparent from a consideration of Figure 4 of the drawings. In this figure there is illustrated a hold-down device formed of a plurality of chains adapted to engage over the tire casing of an automobile wheel. The hold-down device 31 is provided with the hook members 30 at its ends. When the automobile has been properly positioned within the freight car the tires of said automobile are deflated. After deflation the hold-down device is positioned around the tire as shown in Figure 4 of the drawings and the hook members 30 engaged in the manner illustrated in Figure 7 with the connecting walls 29 of adjacent inserts or anchors. After this engagement has been effected the tire is then inflated and the hold down device is held taut in its engagement with the tire casing. While the foregoing is directed to the preferred manner of securing an automobile in a freight car against shifting during transit it will be apparent that the invention is not limited thereto but that other take-up means may readily be utilized in securing the hold-down device 31 to the inserts or anchors. In other words, although one manner of the employment of the novel floor construction in securing an automobile against shifting in a freight car during transit has been described it is apparent that said floor construction is independent of the hold-down means employed or of the particular manner of engagement of such means with the article to be secured to the floor.

Numerous changes and modifications of the invention will be apparent to those skilled in the art. It is intended, therefore, that all such changes and modifications be comprehended within this invention, which is to be limited only by the scope of the claims appended hereto.

We claim:

1. In a railway car, the combination with a floor provided with a plurality of spaced openings, of anchoring devices seated in and closing said openings, means provided on said devices for limiting downward movement thereof, members engageable with the underside of the floor extending across said openings, and means carried by said devices for maintaining said members in engagement with said floor.

2. In a railway car, the combination with a floor provided with a plurality of spaced openings, of anchoring devices seated in and closing said openings, means provided on said devices for limiting downward movement thereof, and means supported by said devices engaging the underside of the floor and extending across said openings to fixedly secure said devices to said floor.

3. In a railway car, the combination with a floor provided with a plurality of spaced openings, of anchoring devices seated in and closing said openings, means provided on said devices for limiting downward movement thereof, shanks provided on said devices extending from said openings below the underside of the floor, plates engageable with the underside of said floor having apertures therein through which said shanks extend and means engaging said shanks and maintaining said plates against the floor for fixedly securing said devices to said floor.

4. In a railway car, the combination with a floor provided with a plurality of spaced openings, of anchoring devices seated in said openings, means provided on said devices for limiting downward movement thereof, said devices comprising a web, spaced walls extending upwardly from said web and a shank extending downwardly from said web, and means carried by said shank engaging the underside of the floor for securing said devices to said floor.

5. In a railway car, the combination with a floor provided with a plurality of spaced openings, of anchoring devices seated in said openings, means provided on said devices for limiting downward movement thereof, said devices comprising a web, spaced walls extending upwardly from said web, means spaced from said web connecting the upper ends of said walls and a shank extending downwardly from said web, and means carried by said shank engaging the underside of the floor for securing said devices to said floor.

6. An anchoring device for automobiles and the like adapted to be secured to the floor of a freight car, said device comprising a web, spaced walls extending from said web and defining therewith a portion substantially channel shaped in section, means spaced from said web connecting said walls and a threaded shank depending from said web for releasably securing said device to said floor.

7. In a railway car provided with a floor, a plurality of spaced elongated openings extending transversely of the car, elongated anchoring devices seated in said openings, means provided on said devices limiting downward movement of said devices, members engaging the underside of said floor and means carried by said devices for maintaining said members in floor engaging position.

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