Nov. 10, 1936. C. D. BONSALL 2,060,164

FLOOR PROTECTION FOR RAILWAY CARS

Original Filed April 3, 1936 2 Sheets-Sheet 1

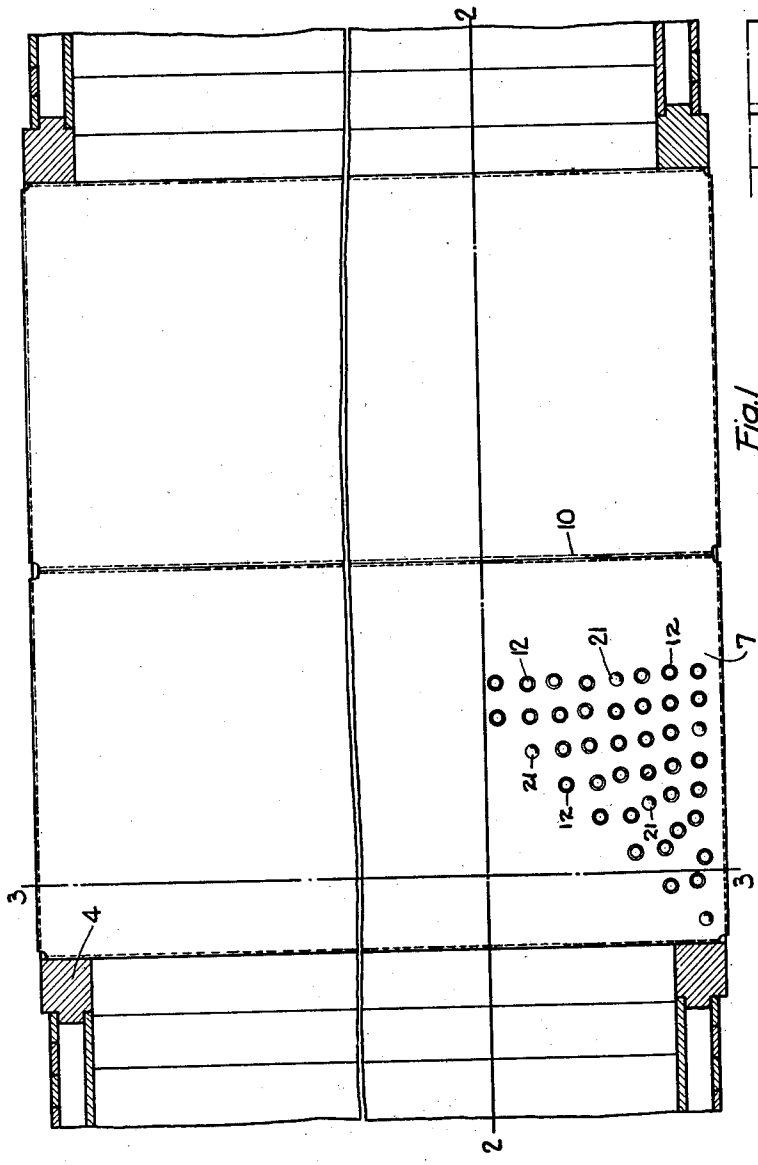


Fig.1

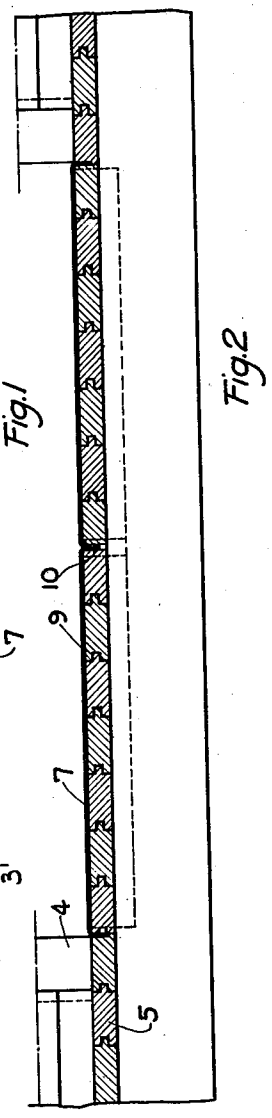


Fig.2

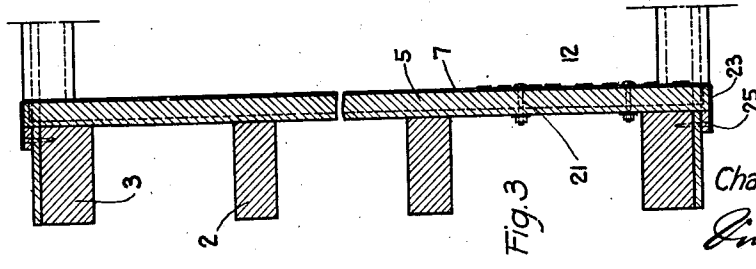


Fig.3

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FLOOR PROTECTION FOR RAILWAY CARS

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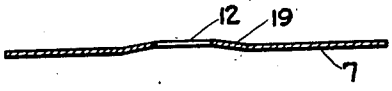


Fig. 4

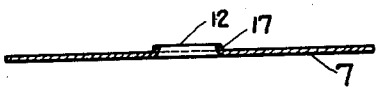


Fig. 5

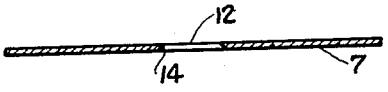


Fig. 6

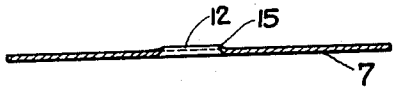


Fig. 7

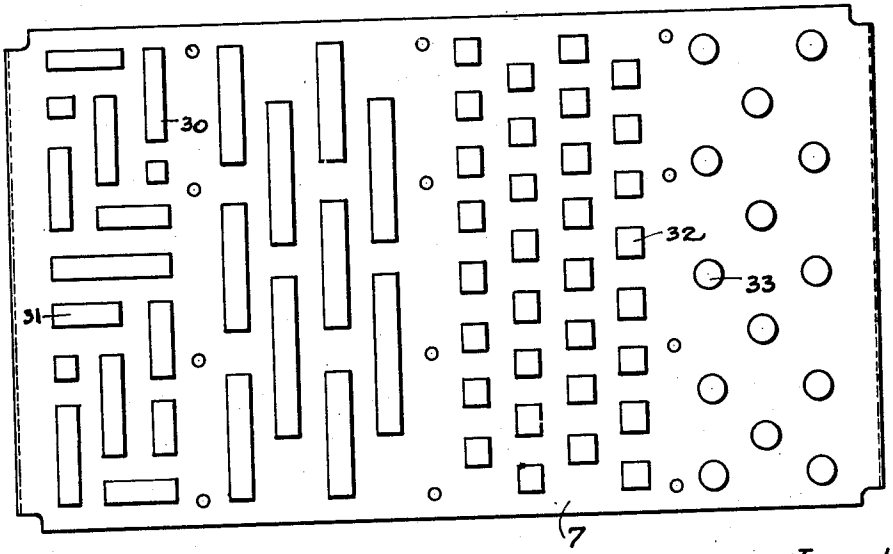


Fig. 8

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UNITED STATES PATENT OFFICE

2,060,164

FLOOR PROTECTION FOR RAILWAY CARS

Charles David Bonsall, Pittsburgh, Pa.

Application April 3, 1936, Serial No. 72,531
Renewed July 31, 1936

7 Claims. (Cl. 105—422)

The invention relates to railway freight cars of the house or roofed type and has for its object to provide means for protecting the wooden floors now in general use in such type of equipment, which means will not interfere with the securing of blocking to the wooden flooring, to which the lading is secured.

Another object is to protect the wooden flooring with a metallic sheathing which is perforated so that the car lading may be secured to the flooring through the apertures, which apertures are preferably formed to provide anti-skidding means to prevent the trainmen from slipping.

The floors of railway cars are subjected to a great deal of abuse by nails and spikes being driven into them when attaching blocking to them, and also by trucking the lading into the car and by dragging pieces of lading from one part of the car to another.

That portion of the car between the opposite side wall doorways is given the most abuse by lading being hauled through the car (by truck or otherwise) to an adjacent car. However, my improved floor protection may be applied over the entire area of the floor if desired.

In the drawings:

Fig. 1 shows a floor plan of part of a railway box car equipped with my floor protection.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a section on line 3—3 of Fig. 1.

Figs. 4, 5, 6 and 7 show modifications of the apertures in the metallic sheathing.

Fig. 8 shows one of the sheathing units with various configurations of apertures.

In the form of my invention illustrated, the usual parts of the car are shown, such as the center sills 2, side sills 3, door posts 4 and wooden flooring 5. The wooden floor 5 usually comprises a plurality of wooden shiplapped or tongued and grooved boards extending laterally of the car which are secured directly or indirectly to the center sills 2, side sills 3 and floor stringers (if used).

My metallic sheathing 7 overlies the floor boards 5 and preferably comprises a plurality of inverted channel sections each comprising a web portion 9 resting upon the wooden floor 5 and depending side stiffening flanges 10. These flanges 10 are imbedded in the wooden floor 5 preferably between the floor boards. These side flanges 10 strengthen the sheathing 7 and prevent the edges from curling up. The metallic sheathing 7 is provided with a plurality of apertures 12 of any desired shape or spacing so that blocking or lading may be secured to the wooden flooring 5 through the metallic sheathing 7.

As the through trucking, i. e., trucking through the car to adjacent cars, causes considerable damage to the wooden floors, I prefer to arrange a pair of parallel inverted channel sections to accommodate the wheels of a truck and to provide a relatively thin metallic plate therebetween.

The ends of the metallic sheathing plates are preferably turned downwardly to form end flanges 23 which are secured (25) to the side sills. These end flanges 23 hold the sheathing in place independently of the wooden flooring and protect the ends of the wooden floor boards. The sheathing provides an integral threshold.

The apertures 12 are preferably dispersed over substantially the entire area of the web portion 9 and may be of any shape or arrangement, such for instance, as shown at 30, 31, 32 and 33 in Fig. 8.

The apertures 12 preferably have upwardly converging sides 14, as shown in Fig. 6, which are preferably flared upwardly, as shown in Fig. 7, to form a burr 15. Fig. 5 shows a construction wherein the edges 17 of the apertures are flared upwardly. Fig. 4 shows the sheathing formed with a plurality of embossments 19 each provided with an aperture 12 therein. Any one of these constructions provide anti-slipping means for the metallic sheathing.

The means 21 for securing the sheathing 7 to the flooring 5 (or the car structure) are also preferably dispersed over substantially the entire area of the web portion 9 to prevent the sheathing from buckling and hold it flat against the wooden flooring, and furthermore, to compensate for the strength lost in the metallic sheathing due to perforating.

The accompanying drawings illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof, within the scope of the claims, will occur to persons skilled in the art.

I claim:

1. In a railway car having a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion being provided with a plurality of apertures so that car lading may be

secured to said flooring through said apertures.

2. In a railway car having spaced apart side sills, a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion being provided with a plurality of apertures so that car lading may be secured to said flooring through said apertures, the ends of said web portions being bent downwardly to form end flanges which protect the ends of the boards, said end flanges being secured to the side sills to retain the sheathing in place.

3. In a railway car having a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion formed with a plurality of embossments each having an aperture therein so that car lading may be secured to said flooring through said apertures.

4. In a railway car having a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion being provided with a plurality of apertures so that car lading may be secured to said flooring through said apertures, said apertures having upwardly converging sides to provide anti-slipping means.

5. In a railway car having a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion being provided with a plurality of apertures so that car lading may be secured to said flooring through said apertures, said apertures having upwardly converging sides with the upper edge thereof flared upwardly to provide anti-slipping means.

6. In a railway car having a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion being provided with a plurality of apertures so that car lading may be secured to said flooring through said apertures, said apertures being dispersed over substantially the entire area of the web portion.

7. In a railway car having a door opening on each side of the car and a wooden flooring comprising a plurality of boards extending between said doorways, a metallic sheathing comprising a web portion resting upon said floor and formed with depending stiffening flanges at the side margins thereof which are imbedded in said boards, said web portion being provided with a plurality of apertures so that car lading may be secured to said flooring through said apertures, said apertures being dispersed over substantially the entire area of the web portion, and means to secure the web portion to the sheathing dispersed over substantially the entire area thereof between said apertures.

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