July 16, 1946. G. G. GILPIN 2,404,284

RAILWAY CAR ROOF WALK

Filed June 16, 1943 2 Sheets-Sheet 1

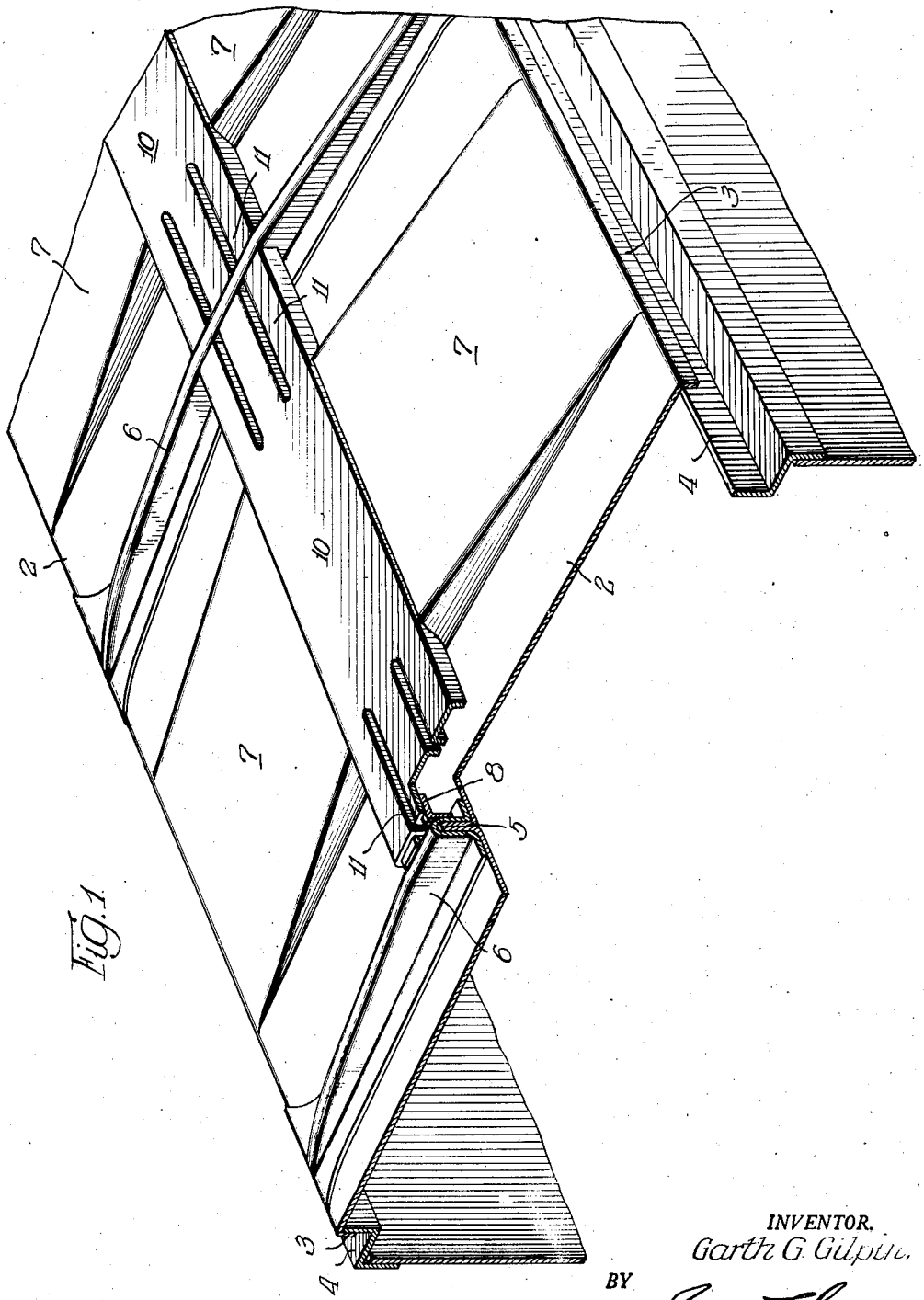



Fig. 1

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RAILWAY CAR ROOF WALK

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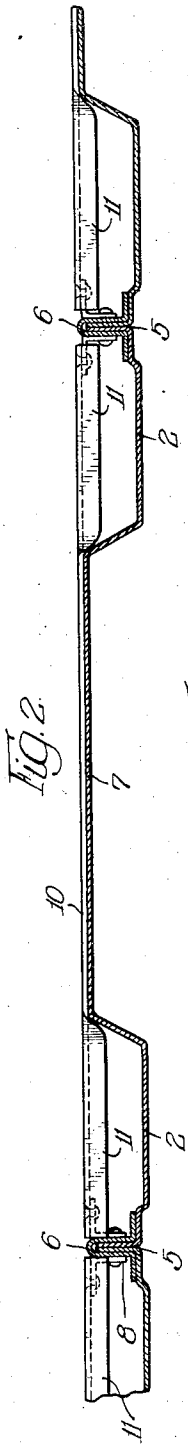



Fig. 2.




Fig. 3.

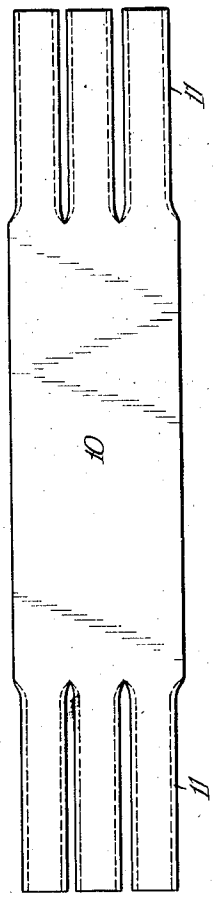



Fig. 4.

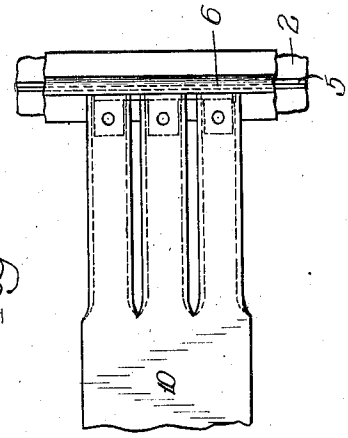



Fig. 5.

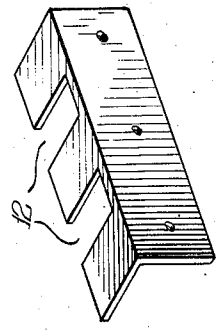



Fig. 7.

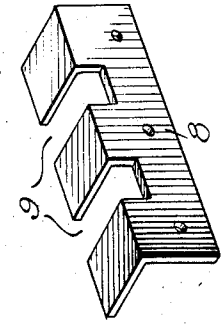



Fig. 6.

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2,404,284

# UNITED STATES PATENT OFFICE

2,404,284

## RAILWAY CAR ROOF WALK

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Application June 16, 1943, Serial No. 491,255

8 Claims. (Cl. 105—457)

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My invention relates to car roofs, and more particularly to a metal walk construction for a car roof of the type wherein the roof sheets are adapted and arranged to form a roof having alternating flat-topped panels and flat-bottom channels connected by rigid upstanding seams located in the channels. The principal object of the present invention is to devise a strong and durable, simple and economical lightweight metal car walk construction that can be quickly and easily applied to roofs of the above type and that will add little or nothing to the height of the car, thus permitting the car roof to be positioned as high as practicable above the rails within the clearance lines established by the railroads and so as to provide a maximum loading capacity for the car.

Other objects and advantages of the invention will appear in the following description thereof.

Referring now to the accompanying drawings, forming part of this application, and wherein like reference characters indicate like parts:

Fig. 1 is a broken perspective view of part of a car roof illustrating the application of my improved walk thereto.

Fig. 2 is a longitudinal section through a portion of a car roof adjacent the walk showing one form of saddle at one seam cap and another form of saddle at the other seam cap.

Fig. 3 is a side elevation of one of the walk members.

Fig. 4 is a plan view of a walk member.

Fig. 5 is a fragmental view showing in plan the end of a walk member and its application to a walk saddle and seam.

Figure 6 is a perspective view of the preferred form of saddle.

Figure 7 is a perspective view of a modified form of saddle.

In the drawings the invention is illustrated as applied to an all metal car roof which comprises a plurality of roof sheets 2 extending between the opposite side walls of the car, the outer ends of said sheets being downwardly flanged, as at 3, and rigidly secured to the side plates 4 of the car. The side edges of said roof sheets 2 are provided with upstanding flanges 5, which flanges 5 of adjacent sheets abut one another forming a seam, which seams are straddled by an overlapping inverted U-shaped seam-cap illustrated at 6, the sides of which are secured in any desired manner to said flanges, thus forming a carline. Between the seams each roof sheet is provided with a longitudinal central upwardly extending flat-topped panel 7 which is of slightly less depth than

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the seam-caps, as will be apparent from Fig. 1. The panels are the deepest at the longitudinal center of the car and decrease in depth progressively from said center toward the eaves of the car where they merge into the flanges 3.

Rigidly secured to either side of each seam cap at the longitudinal center of the car is a walk saddle 8, (Fig. 6), which is of angle shape, the vertical flange of which is secured to the side of a seam cap so that the top of the horizontal flange is in a plane with the upper surface of the panels 7 of the roof sheets. The saddles are provided with transverse cut-out slots 9, which, in the form shown in Fig. 6, extend around the corner of the saddle.

Longitudinally aligned metal walk members 10 are provided to extend between the seam caps, each of which members comprises a flat metal sheet of a thickness substantially equal to the difference between the depth of the panels 7 and the top of the seam cap 6 so that when placed upon the panel 7, transversely thereof, with the ends of said members supported upon the saddles 6, the upper surface of the walk members and top of the seam-caps, all along the car, will be in the same plane, with no projections on said surface, and thus such construction of walk complies with the Safety Appliance Acts of the Interstate Commerce Commission.

The ends of the walk members 10 are provided with spaced longitudinally extending slits, the sides of which slits are turned downwardly forming flanges 11, which flanges or ribs reinforce the ends of the walk members where they span the space between the seam caps and the panel 7. The sides of the walk members are also turned downwardly forming similar flanges at the sides of the ends of the members. The flanges formed at the slits are spaced so as to extend within the cut-out slots 9 of the saddles, and the side flanges are spaced so as to overlap the ends of the saddles, in which position the walk members are secured in any desired manner to said saddles.

The flanges in the ends of the walk members are extended inwardly from the ends of the members a distance equal to the width of that area of the roof sheets between the seam flange and the panel 7 to adequately reinforce said members where they span said area.

Before the members are applied to the roof, the upper surface of the panels are first given a heavy coat of paint or car cement and then the members are applied, thus sealing said members to said panels and preventing moisture collecting by capillary action thereunder.

While I have specified that the walk members are of metal, it is obvious that they could be constructed of plywood, plastics, or separate wooden boards without departing from the spirit of the invention. In the case of metal members being used, the upper surface thereof would be roughened or knurled somewhat, and in the case of a wooden board being used, the upper surface would be left rough, so that in either event the car walk would have anti-slip qualities.

Either in lieu of or in addition to the provision of a coat of paint or car cement on the panels under the walk members, for the purpose of preventing moisture collecting thereunder, the sides of said members may be welded to said panels and thus more positively secure against water entering between the panels and walk members.

In those cases wherein it may not be necessary for the ends of the walk members to extend up to and abut the seam caps, as is the case where the preferred form of saddle is used, the modified form of saddle, illustrated in Fig. 7, may be employed. The only difference between this modification and that illustrated in Fig. 6 is that the slots 12 do not extend around the corner of the angle shaped saddle, and thus when the flanges 11 of the walk members are applied therein, the end of the walk member, obviously, can extend only to the depth of the slot. This of course would space the ends of the walk members from the seam caps slightly more than would be the case where the saddle shown in Fig. 6 is employed.

From the foregoing it is believed I have provided an improved railway car walk which will provide from one to two inches more inside clearance without increasing the outside clearance of the car; that it will be economical and easy to manufacture and apply to a car roof; and that it would be of light weight thereby correspondingly reducing the total weight of the car.

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.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. A walk for a car roof comprising flat topped raised panels with horizontal central portions alternating with depressed channels and upstanding seam constructions between the panels; said walk comprising a plurality of aligned members forming a continuous walk substantially between opposite ends of the car, each member extending between and secured to adjacent seam constructions and comprising a flat unflanged central part extending across and resting upon the horizontal portion of a panel, and opposite end parts each with depending marginal flanges spanning a channel and extending from a side of said panel to the adjacent seam construction, and a downwardly extending longitudinal rib between said marginal flanges to reinforce said end part and means secured to said seam constructions for supporting the ends of said members.

2. A walk for a car roof comprising a plurality of roof sheets extending transversely of the car with upstanding marginal seam constructions connecting adjacent sheets, and an upwardly projecting panel with a horizontal central portion in each sheet between said seam constructions; said walk comprising a plurality of alined members forming a continuous walk substantially between opposite ends of the car, each member extending between and secured to adjacent seam constructions and comprising a flat unflanged part extending across and resting upon the horizontal portion of a panel, and opposite end parts each with depending marginal flanges extending from a side of said panel to the adjacent seam construction, each of said end parts being formed with a longitudinal slit extending substantially from the end of the member to adjacent the roof sheet panel, and flanges formed in said members at the sides of said slit.



3. A structure as defined in claim 1 wherein said means comprises saddles each provided with a vertical arm connected to a seam construction and a horizontal arm supporting an end of said member, and wherein the horizontal arm is slotted for the reception of said flanges, said walk saddle supporting said walk member between said slot and the opposite margins of the walk member.

4. A railway car roof walk comprising a plurality of longitudinally aligned sections, each section comprising a metallic member having a flat central portion and end portions extending beyond said central portion, each end portion provided with downwardly turned marginal flanges and longitudinally extending slits each having downwardly turned edges forming flanges to reinforce said end portions, and means secured to a seam of said car roof and having cut out areas adapted to receive the flanged edges of said slits to support said walk member.

5. A walk for a railway car roof comprising a plurality of roof sheets having alternate raised panels and depressed portions, and upstanding seams connecting adjacent sheets, said walk comprising a plurality of longitudinally aligned sections, each section comprising a metallic member having a flat central portion adapted to rest upon a raised panel of said car roof, and end portions extending beyond said central portion and adapted to span a depressed portion of said car roof, each end portion provided with downwardly turned marginal flanges and longitudinally extending slits each having downwardly turned edges forming flanges to reinforce said end portions, and an angle member secured to a seam of said car roof and having cut out areas adapted to receive the flanged edges of said slits to support said walk member.

6. A walk for a railway car roof comprising a plurality of roof sheets having upstanding seams connecting adjacent sheets, said walk comprising a plurality of longitudinally aligned sections, each section comprising a metallic member having a flat central portion and end portions extending beyond said central portion, each end portion provided with downwardly turned marginal flanges and longitudinally extending slits each having downwardly turned edges forming flanges to reinforce said end portions, and an angle member secured to a seam of said car roof and having cut out areas adapted to receive the flanged edges of said slits to support said walk member.

7. A railway car roof walk comprising a plurality of longitudinally aligned sections, each section comprising a metallic member having a flat central portion and end portions extending beyond said central portion, each end portion provided with longitudinally extending slits each having downwardly turned edges forming flanges to reinforce said end portions, a saddle member having a vertical arm connected to a seam and

a horizontal arm supporting an end of said member, said horizontal arm having cut out areas adapted to receive the flanged edges of said slits to support said walk member between said slits and the opposite margins of the walk member.

8. An article of manufacture comprising an elongated metallic member of sheet material having a flat, unflanged central portion and end parts extending beyond said central portion, each end part having downwardly turned marginal flanges and a longitudinally extending slit having downwardly extending flanges at the edges of said slit to reinforce said end part.

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