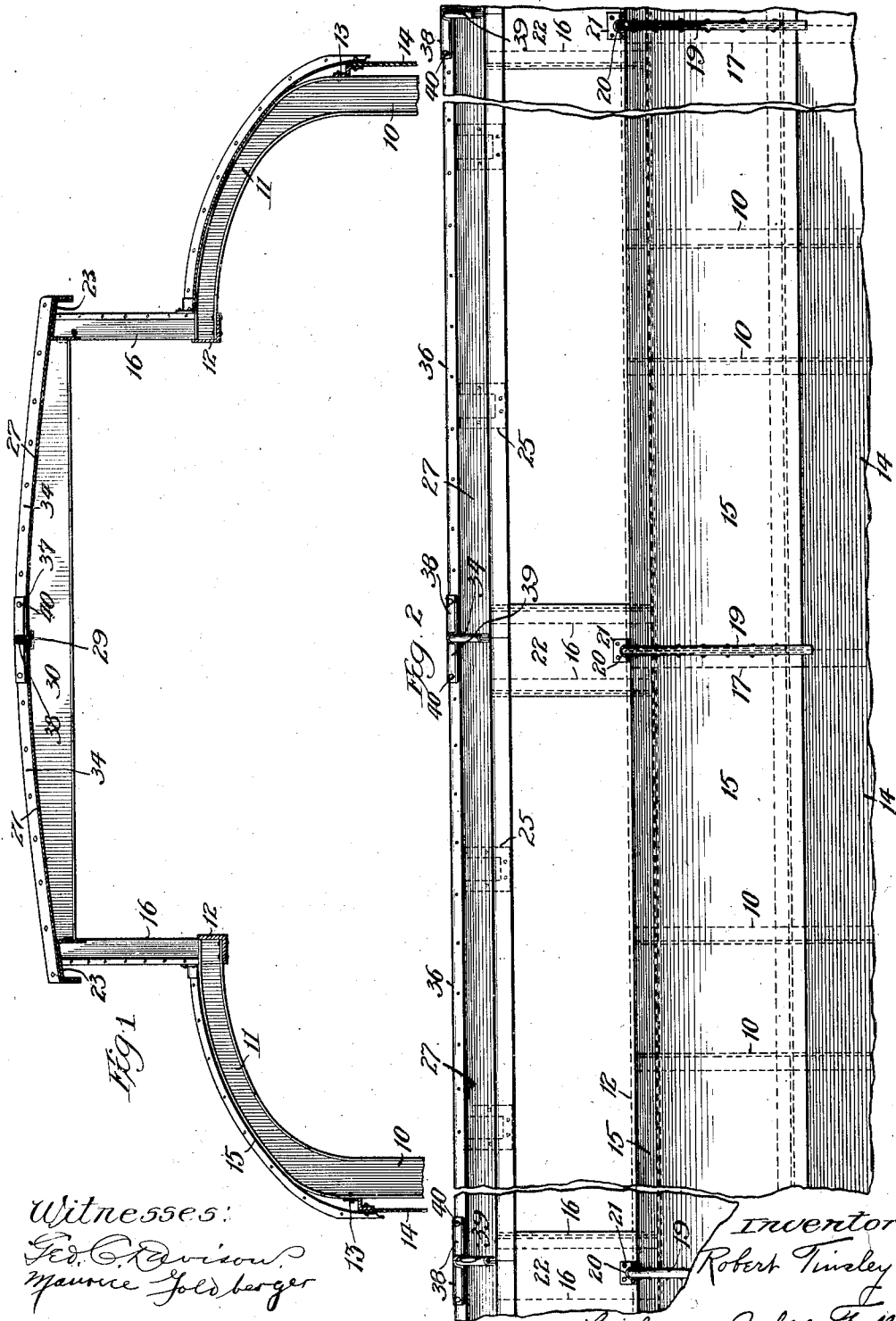


R. TINSLEY.
CAR ROOF CONSTRUCTION.
APPLICATION FILED DEC. 3, 1909.

Patented Nov. 7, 1911.

3 SHEETS-SHEET 1.

1,007,754.



Witnesses:
Ed. C. Davison
Maurice Goldberger

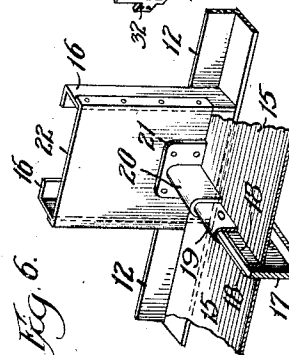
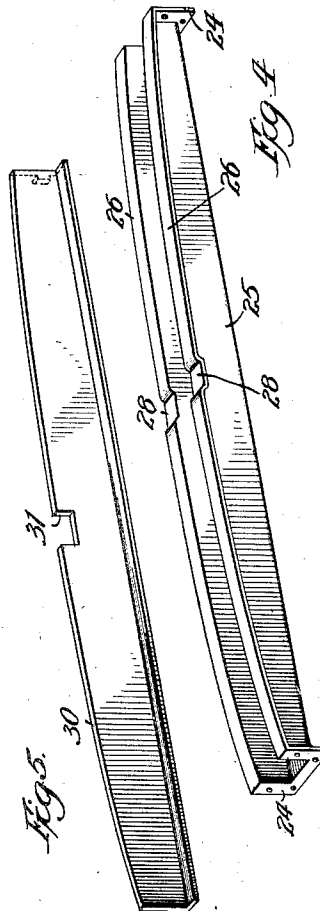
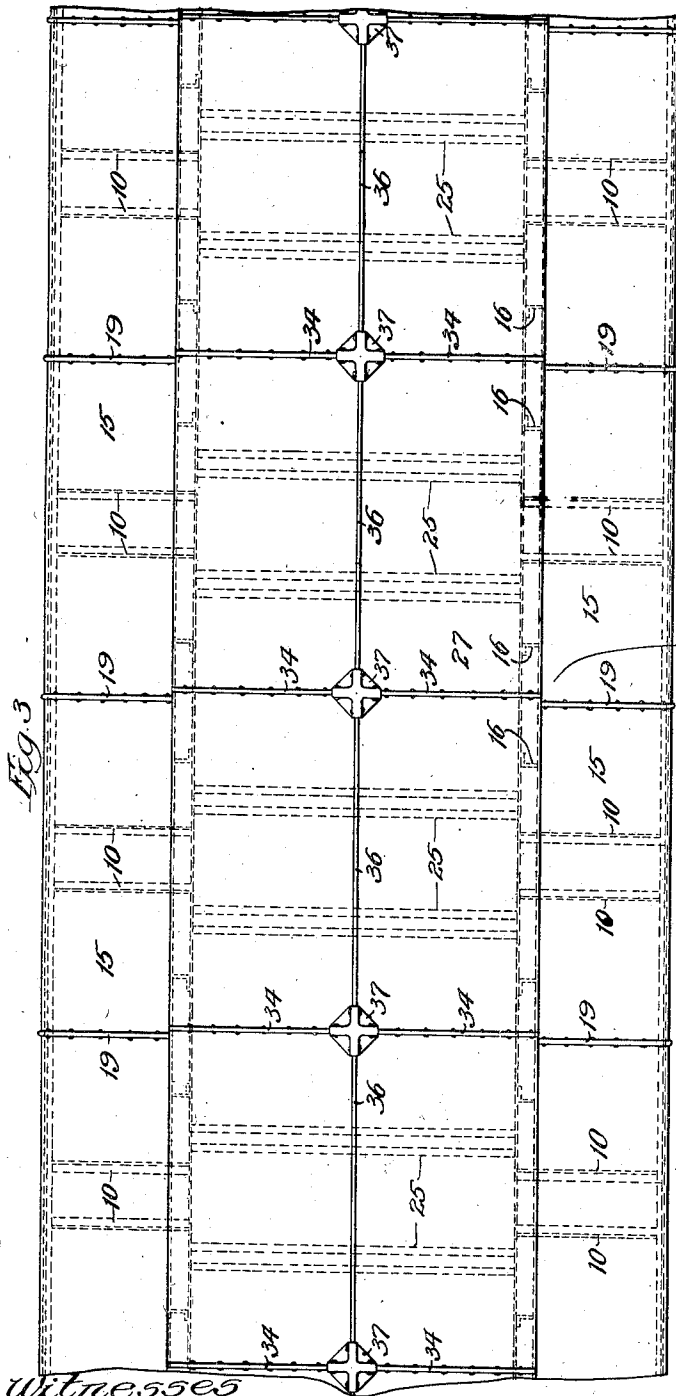
Inventor:
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By Luthicum Bell & Fuller
Attys

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3 SHEETS—SHEET 2.

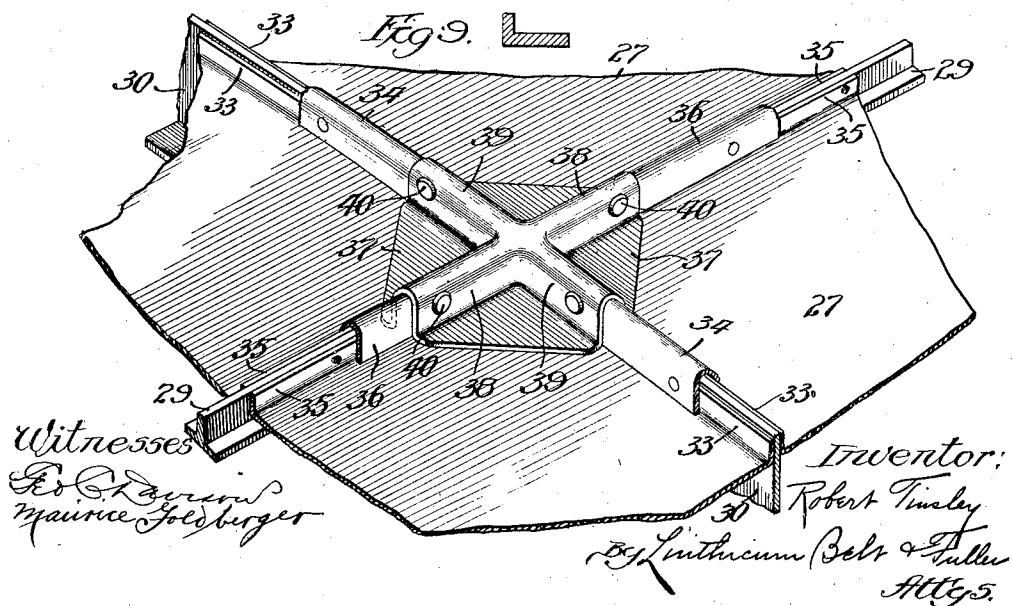
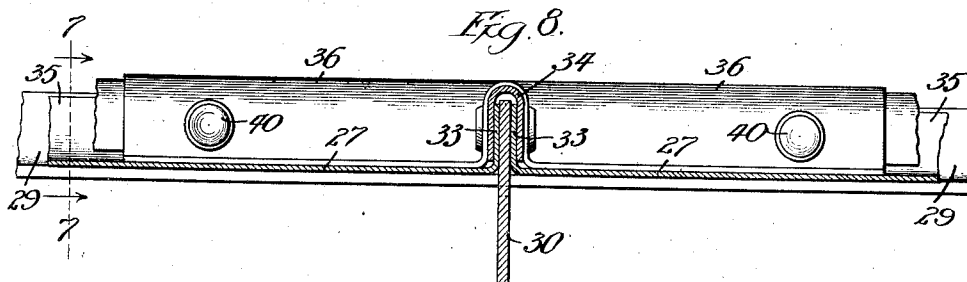
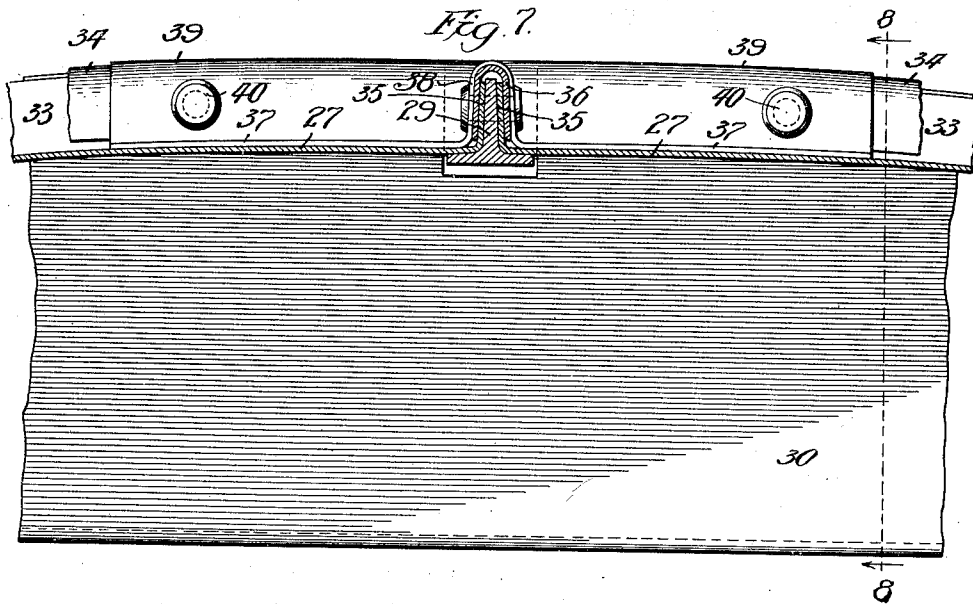


Witnesses
Ed. Chavious
Marion Goldberger.

Inventor:
Robert Tinsley
By Luitlincum Belt & Fuller
Attys

1,007,754.

3 SHEETS—SHEET 3.



UNITED STATES PATENT OFFICE.

ROBERT TINSLEY, OF PULLMAN, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CAR-ROOF CONSTRUCTION.

1,007,754.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed December 3, 1909. Serial No. 531,156.

To all whom it may concern:

Be it known that I, ROBERT TINSLEY, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Roof Construction, of which the following is a specification.

The present invention concerns improvements in railway car body constructions, and pertains more particularly or especially to the roof constructions, its leading aim and object being a metallic roof structure of simple design, economical to manufacture, rain and weather proof, and which will not have a tendency to open up the seams due to contraction and expansion of the parts, or due to any strains to which they may be subjected.

Other features of novelty and improvement will be made apparent from the following detailed description of a desirable embodiment of the invention, which has been illustrated in the accompanying drawings, forming a part of this specification, and throughout the various views of which like reference characters refer to the same parts.

In these drawings—Figure 1 is a vertical cross-section through the top portion of the car, certain parts being omitted for clearness of illustration; Fig. 2 is a fragmentary side elevation of the construction shown in Fig. 1; Fig. 3 is a fragmentary plan view of a portion of the car roof; Fig. 4 is a perspective view of one of the loose carlines; Fig. 5 is a perspective view of one of the roof carlines secured to the roof plates; Fig. 6 is a perspective detail of a portion of the lower deck; Fig. 7 is a fragmentary cross-section through the roof or upper deck on line 7—7 of Fig. 8; Fig. 8 is a cross-section on line 8—8 of Fig. 7; and Fig. 9 is a fragmentary perspective view of the top central portion of the roof.

In this particular embodiment of the invention it will be apparent from a consideration of Fig. 1 that the side upright pressed sheet-metal channel posts 10, 10 have their upper ends 11, 11 somewhat reduced in depth and curved or bent inwardly to form the carlines for the lower deck or roof portion of the car structure, the inner ends of such carlines being connected together by the pair of longitudinal angle deck sills 12, 12 to which the flanges of such carlines may be riveted. Just below the

curved carline portions 11 of such posts, the latter on each side of the car are connected together by longitudinal Z-bars 13 whose inner flanges are riveted to the outer flanges of the posts, while the outer flanges of the former constitute convenient means for the attachment of the metallic side sheathing 14, and also for the curved metal plates 15 forming the lower deck or roof. The upper deck or top roof portion of this car structure is supported on short upright posts 16 which have their lower ends suitably fastened to the deck sills 12, and the combined side posts and carlines 17 which are fastened at the places of the transverse curved joints or seams of the deck plates have their vertical flanges extended upwardly beyond the top curved surface of the lower deck or roof, as is clearly shown in Fig. 6. The roof plates 15 have upturned flanges 18 disposed against the opposite sides of the upper portion of the vertical flange of the combined post and carline 17, and in order to unite such parts and form a weather-tight joint I provide a hollow cap strip 19 which fits over the carline and the two flanges and is riveted thereto at intervals, as is clearly illustrated. It will be observed that this joint or seam follows the curve of the deck and assists rather than hinders the proper shedding of the rain therefrom. At its top end each of these lower deck upstanding seams is covered by a pressed metal member having a hollow rib 20 accommodating the carline, the two flanges 18, and the covering strip 19, such member also having a flange or plate portion 21 riveted or otherwise desirably secured to the outside finish plate 22 between the lower and upper decks.

The top ends of the upper posts 16 have associated therewith the longitudinal inverted pressed sheet-metal channels 23, to which are attached the flanged ends 24 of the top deck channel carlines 25, the top edges of whose sides have outstanding flanges 26 on which the roof plates 27 rest, such carlines being depressed at their central portions at 28 for the accommodation of a longitudinal bar 29 disposed centrally of the car and extending from one end to the other thereof. These channel carlines 25 are suitably spaced apart and are not riveted or otherwise directly connected to the roof or deck plates 27. The top deck carlines 30 beneath and associated with the transverse seams or

joints of the upper deck plates are of angle
 form in cross-section, are cut away at their
 centers at 31 for the reception of the longi-
 tudinal bar 29, and have a laterally-turned
 5 ear 32 at each end for the attachment of the
 carline to the channels 23 or the posts 16.
 It is to be understood that both styles of
 top deck carlines are of greater depth at
 the center than at the ends, such reduction
 10 in depth being graduated, as clearly indi-
 cated, whereby to give to the deck or roof
 the proper transverse form or curvature.
 The vertical flanges or plate portions of the
 angle carlines 30 extend upwardly between
 15 the adjacent edges of the plates 27, such
 edges being upturned to provide flanges 33
 lying on opposite sides of each of such angle
 carlines, and these three parts are connected
 together and protected by an inverted chan-
 20 nel cap strip 34 which is riveted to the parts
 housed within it at intervals for the proper
 and efficient securing together of these mem-
 bers. The longitudinal edges of such roof
 or deck plates 27 are also provided with up-
 25 wardly-bent flanges 35 disposed on opposite
 sides of the vertical plate portion of the in-
 verted longitudinal T-bar 29, and such
 joints are covered by inverted channel longi-
 tudinal cap strips 36 which receive within
 30 their hollow interiors the flanges 35 and the
 portion of the bar 29 between them, such
 cap strips being riveted to these parts, as is
 clearly illustrated. In order to form a tight
 joint at the junctions of these angularly-
 35 disposed seams or joints at the center of the
 car roof, I provide each of such junctions
 with a pressed sheet-metal cap plate 37 bent
 or pressed so as to have two hollow ribs 38
 and 39 intersecting at right angles to one
 40 another and adapted to accommodate the
 adjacent portions of the cap strips 34 and
 36 and the parts housed within the latter,
 rivets 40 being employed to extend through
 all of such parts, as is clearly indicated in
 45 Figs. 7, 8 and 9. Also, as I have illustrated,
 the main portion of the cap plate 37 rests
 directly on the tops of the deck plates 27 so
 that at the intersections of these joints or
 seams on the top deck or roof of the car a
 50 construction is employed which effectively
 prevents leakage and securely holds the
 parts together.

Whereas I have herein set forth one par-
 ticular embodiment of this invention, I wish
 55 to have it understood that the invention is
 susceptible of a considerable number of em-

bodiments and that it is not limited to the
 exact and precise structural details herein
 shown and described. Some of the impor-
 tant features of this invention are the con- 60
 struction of a metal car roof in which a
 part only of the carlines are directly at-
 tached thereto; which permits the roof to
 contract and expand readily without strain
 upon any seams; which may decrease the 65
 amount of work in constructing a car of this
 kind; and in addition facilitates the re-
 moval of one of the roof plates if the same
 becomes injured or damaged. Another fea-
 ture of the invention is the construction of a 70
 car of this type having upstanding roof
 seams disposed in the general direction of
 the shedding of the water and the housing
 or fastening of a part of the carlines in the
 joints or seams between adjacent roof plates. 75
 These with other features of novelty and
 improvement will doubtless be readily ap-
 parent to those skilled in this art.

If desired the cap plates 37 may be made
 of copper, brass, or other suitable metal 80
 brazed or welded in place, being effectively
 secured or fastened to the parts which they
 cover and protect. In such case the show-
 ing or illustration would differ from that
 presented only in the omission of the riv- 85
 ets 40.

I claim:

In a railway car roof construction, the
 combination of channel carlines of substan-
 tial width, other carlines having vertically- 90
 disposed plate portions extending above the
 top surface of the channel carlines an
 amount substantially equaling the depth of
 the roof seams for the roof plates, a ridge
 pole supported on said carlines and having 95
 a vertical rib, metal roof plates disposed be-
 tween said plate carlines and resting upon
 and unattached to the tops of said channel
 carlines, said roof plates having upstand-
 ing flanges disposed on opposite sides of the 100
 plate portions of said other carlines and on
 opposite sides of the vertical rib of said
 ridge pole, and inverted U-shaped cap strips
 covering and protecting the flanges of said
 roof plates, the intermediate parts of the 105
 plate carlines and the rib of the ridge pole,
 substantially as described.

ROBERT TINSLEY.

Witnesses:

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 ERNEST A. BACKLIN.