

E. POSSON.
CAR ROOF.

APPLICATION FILED DEC. 20, 1907.

966,595.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

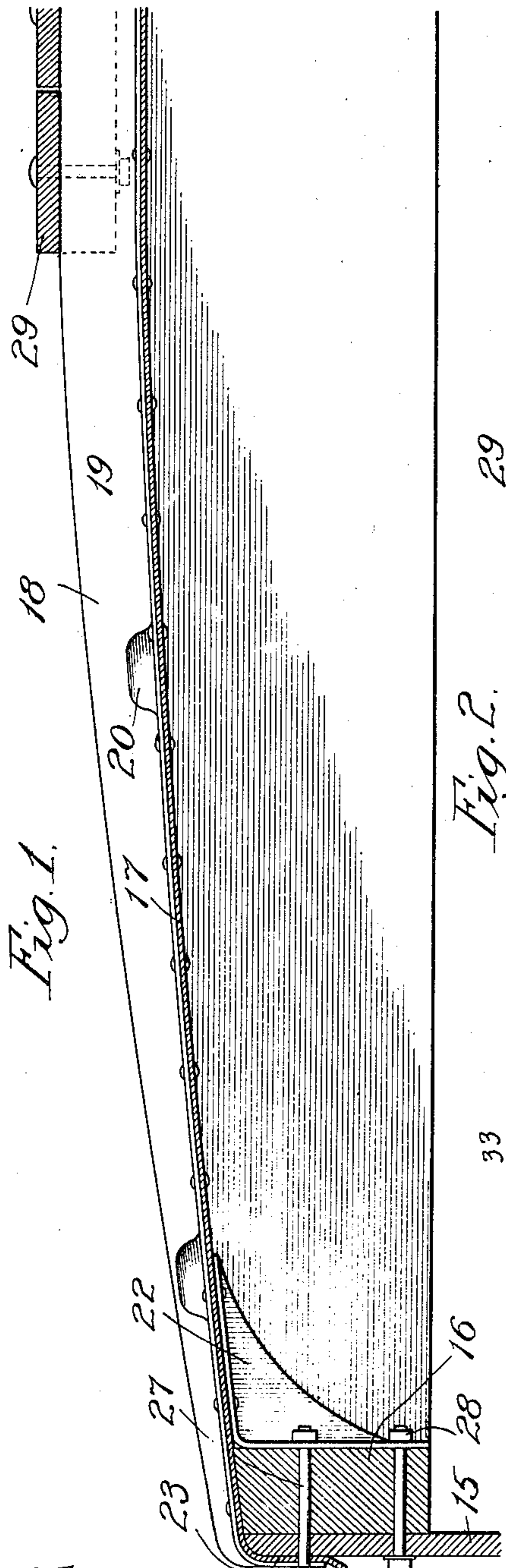


Fig. 1.

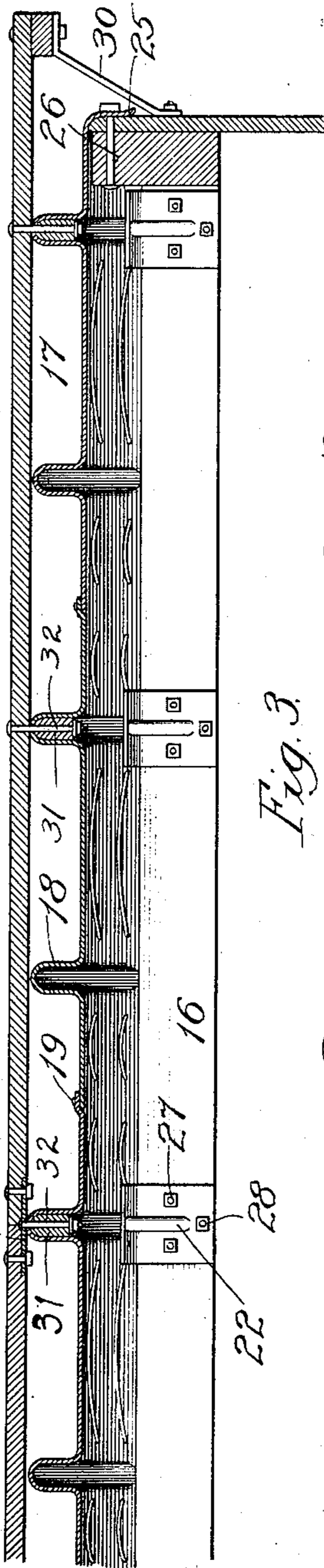


Fig. 2.



Fig. 3.

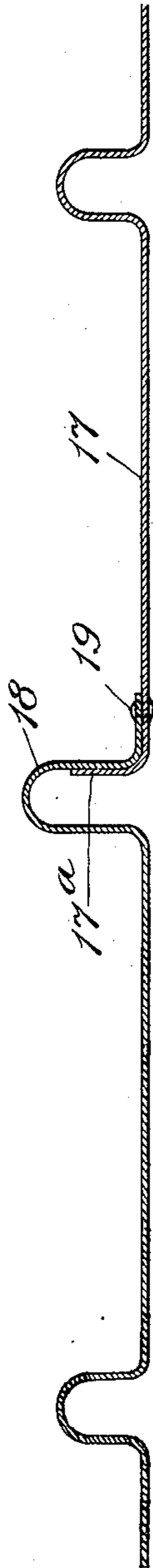


Fig. 4.

Witnesses:

John Enders
Chas. H. Buell.

Inventor:

Edward Posson.

By Sheridan & Wilkinson,
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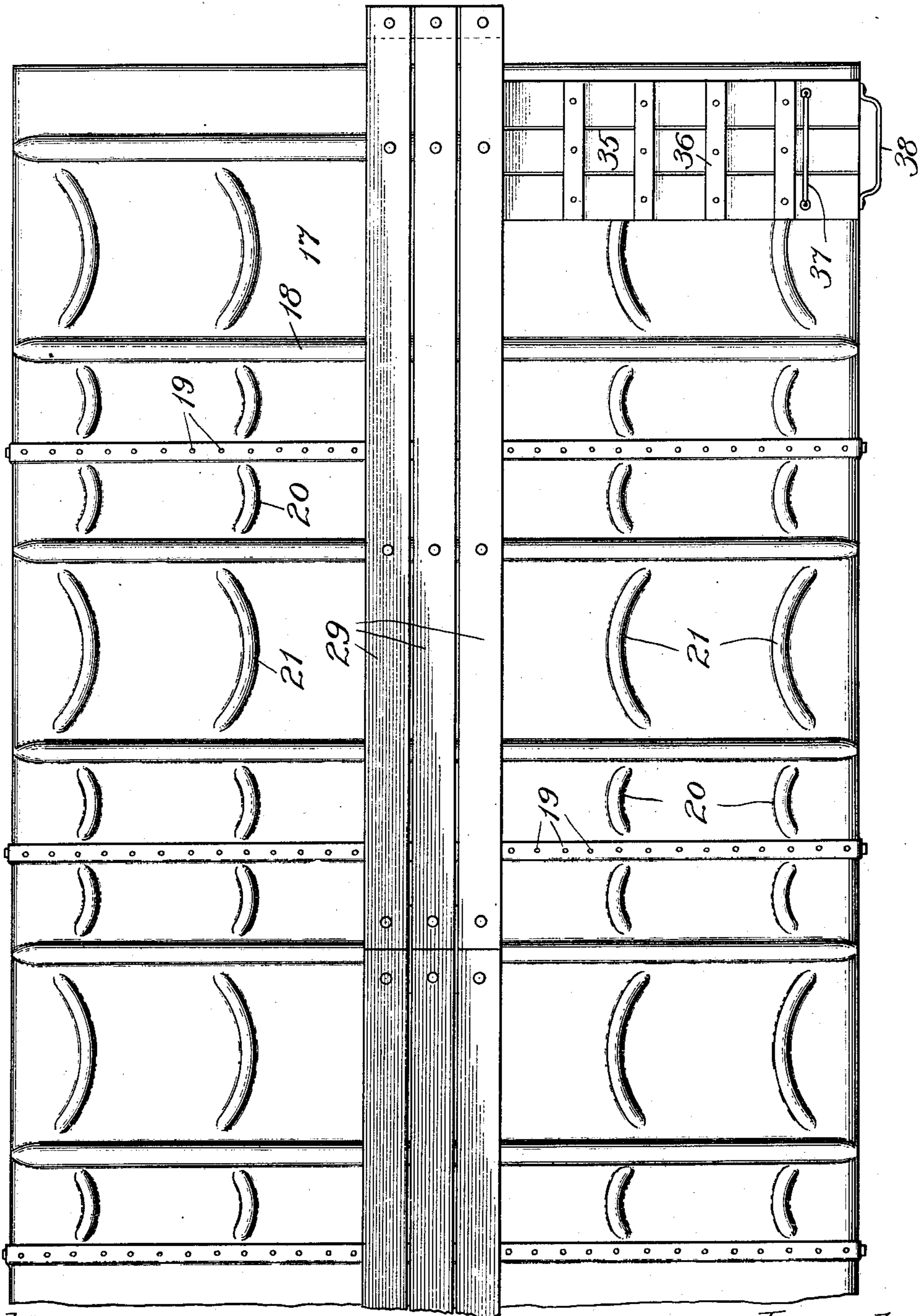
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2 SHEETS—SHEET 2.

Fig. 5



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UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF CHICAGO, ILLINOIS.

CAR-ROOF.

966,595.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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To all whom it may concern:

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification.

The object of my invention is to provide a new and improved roof for box cars, more particularly a roof of sheet metal supported by the side walls of the car.

My invention also resides in certain details of construction, as will be made apparent in the following specification and claims taken in connection with the appended drawings.

Referring to these drawings—Figure 1 is a section of my roof taken transversely to the length of the car. Fig. 2 is a central vertical longitudinal section. Fig. 3 is a longitudinal section showing a structural detail on an enlarged scale. Fig. 4 shows a modification of Fig. 3. Fig. 5 is a top plan view of my improved car roof.

The side wall of the car is represented by the reference numeral 15. A plate 16 extends horizontally along the upper edge of the side wall and is attached thereto. The roof 17 consists of sheet metal reaching across continuously from one side wall to the other. Ribs or corrugations 18 are struck up in the roof 17 in order to strengthen it. These ribs 18 extend across the car, their ends resting on the side walls thereof. The several plates which together make up the car roof 17 extend continuously across from one side wall to the other, but have transverse joints or seams between them secured by means of rivets 19. In the modification shown in Fig. 3, the arrangement is such that the seam 19 is approximately midway between two consecutive strengthening ribs 18. In the modification shown in Fig. 4, the seam is close to one of said strengthening ribs and the adjacent sheet metal plate 17 has its edge turned up into the rib 18, thus guarding against any possibility for water to get through the seam into the interior of the car.

In addition to the transverse strengthening or supporting ribs 18, which have been described, I provide short longitudinally extending ribs 20 and 21 arranged between the transverse ribs 18. As clearly shown in Fig. 5 these longitudinal ribs 20 and 21 are slightly curved, the position being such that

the convex side of each is toward the center of the car.

At the tops of the side walls, brackets 22 are provided, each consisting of two parts at an angle with a rib connecting them. The brackets are placed immediately beneath the ribs 18 in the roof plates, and the U-shaped folds or ribs in the brackets are placed in registry with the ribs 18 in the roof sheets. The expansion and contraction of the roof sheets, due to the changes in temperature, is permitted by the ribs in the roof sheets, and the movement due to such expansion and contraction is not interfered with by the brackets by reason of the fact that the U-shaped folds therein are placed in registry with the ribs in the roof sheets. The lateral edges of the roof 17 are bent down over the side wall 15, as indicated by the reference numeral 23, and then the extreme edges 24 are bent out away from the car so as to divert water therefrom. The bolts 27 and 28 bind the edge of the roof 17 and the bracket 22 to the plate 16. The end edges of the roof are bent down over the end of the car, as indicated by the reference numeral 25, and attached by means of the bolts 26.

The running board 29 rests on the tops of the ribs 18. Certain of these ribs are provided with wooden filler blocks 31, and bolts 32 pass through these blocks, the tops of the ribs, and the running board 29, thus binding the latter down firmly. Where the ends of the boards are jointed they are underlaid by a plate 33 which is bolted to the running boards, and the plate in turn is bolted to the filler block 31. One of the advantages of securing the running-board to the upper part of the transverse ribs, as described, is to prevent the running-board from interfering with the expansion and contraction of the roof sheets due to temperature changes, or their movement due to strains upon the frame of the car. The upper central portion of the transverse ribs are neutral points, any movement of the car sheets taking place between the ribs and being permitted by the flexure of the metal at the sides of the ribs. The ribs, therefore, not only serve to impart the necessary strength to the roof sheets, but their upper parts form advantageous points of attachment for the rigid running-board.

A board 35 with cross cleats 36 and a hand-hold 37 is provided at each end of the car so as to permit the trainman to climb

from the ladder 38 on to the top of the car, and to the running board 29.

This car roof is supported solely by the side walls. No supporting framework extending across from one side wall to the other is used. The ribs 18 are ordinarily sufficient to give the roof the necessary strength to sustain a vertical load to which it is likely to be subjected. By the use of the longitudinal auxiliary ribs 20 and 21, I am enabled to space the transverse ribs 18 wider apart for the said auxiliary ribs serve to stiffen the roof between the transverse ribs. The auxiliary ribs 20 and 21 also serve another useful purpose, viz., to give the trainman greater security of footing in case he should intentionally or accidentally step off from the running board 29. It will be noted that the lateral edges of the roof are securely attached to the tops of the side walls so that the roof acts as a tie to hold the side walls from being pushed apart by the load. The transverse ribs or corrugations 18 supplemented by the longitudinal ribs 20 and 21 give a sufficient degree of elasticity to the roof so that it will not be broken or buckled by the strains to which it may be incident in service. I prefer to make the transverse ribs 18 of decreasing height toward the sides of the car and to make the longitudinal ribs 20 and 21 of lesser height. The curvature of the latter is designed to facilitate the drainage of water from the roof.

I claim:

1. In a car, side walls, plates, self supporting metal roof sheets extending continuously across said car, said roof sheets being formed with upwardly projecting ribs

extending from end to end thereof transversely of the car, brackets fitting the angle between said roof sheets and said plates, each of said brackets being formed with a downwardly projecting U-shaped rib extending between its side and top members, said brackets being so placed that the U-shaped ribs therein are in the planes of the transverse ribs in the roof sheets, rivets securing the top members of said brackets to the roof sheets and bolts passing through the side members of said brackets, the plates and side walls of the car.

2. In a car, side walls, metal roof sheets extending continuously across said car and sloping down to and secured to the side walls thereof, said sheets being formed with upwardly projecting ribs extending from end to end thereof transversely of the car, and a running board extending longitudinally of the car and resting directly upon and being secured to the upper neutral part of said transverse ribs.

3. In a car, side walls, metal roof sheets extending continuously across said car and sloping down to and secured to the side walls thereof, said sheets being formed with upwardly projecting ribs extending from end to end thereof transversely of the car, a running-board extending longitudinally of the car and resting on the upper neutral part of said transverse ribs, blocks inside of said ribs and beneath the running-board, and bolts passing through said running-board, the neutral part of said ribs and said blocks.

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Witnesses:

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