

J. E. TESSEYMAN.

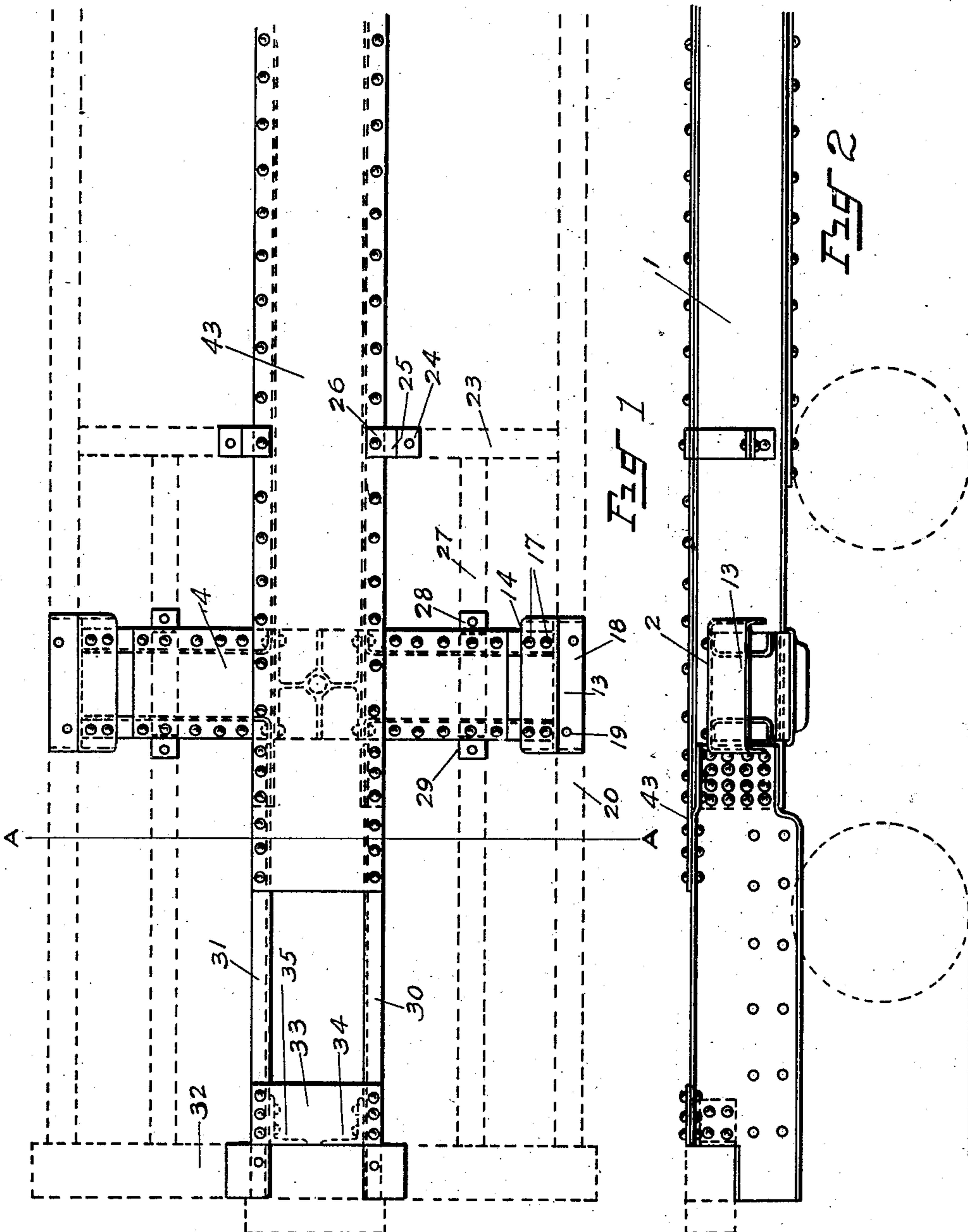
CAR UNDERFRAME.

APPLICATION FILED JAN. 25, 1909.

933,005.

Patented Aug. 31, 1909.

3 SHEETS—SHEET 1.



WITNESSES:

Ray B. Smith

A. Rager

John E. Tesseyman INVENTOR.

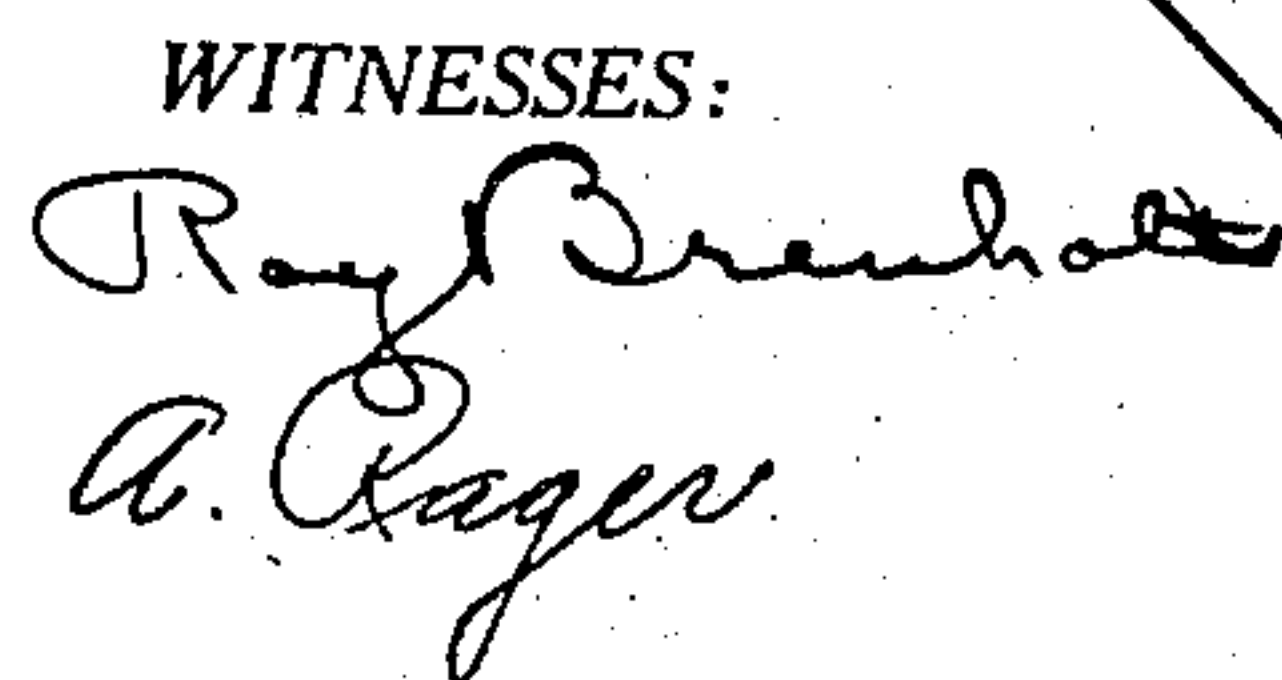
BY

Geo. W. R. Smith ATTORNEY.

CAR UNDERFRAME.

933,005.

3 SHEETS—SHEET 2.



John E. Tesseyman
INVENTOR.

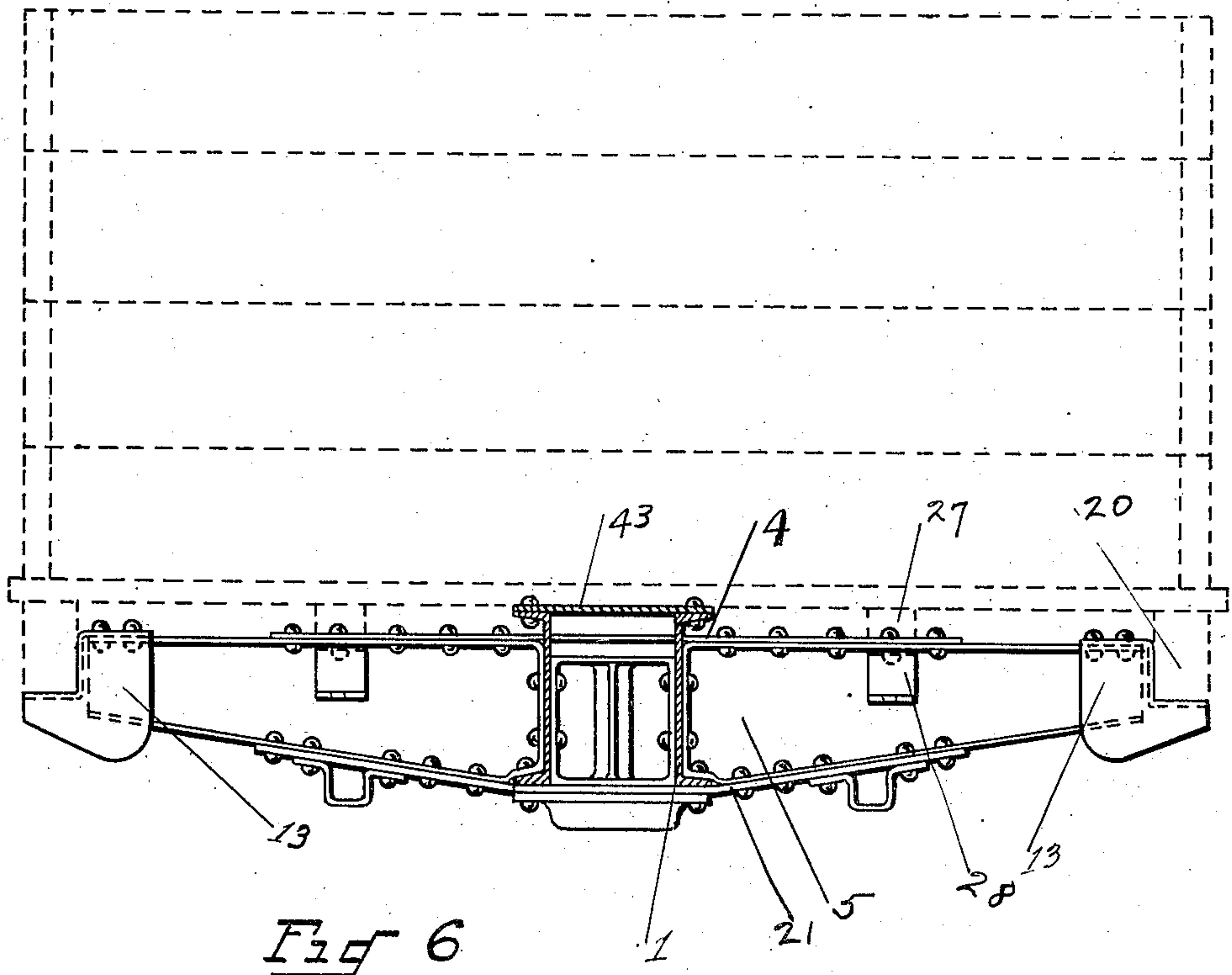
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Geo. W. Rightmire
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WITNESSES:
Ray Beulah
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John E. Tesseyman
INVENTOR.

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UNITED STATES PATENT OFFICE.

JOHN E. TESSEYMAN, OF COLUMBUS, OHIO, ASSIGNOR TO THE RALSTON STEEL CAR COMPANY,
OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

CAR-UNDERFRAME.

933,005.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed January 25, 1909. Serial No. 473,956.

To all whom it may concern:

Be it known that I, JOHN E. TESSEYMAN, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Underframes, of which the following is a specification.

My invention relates to improvements in the underframes of cars and is especially adapted to cars which are in need of repairing, whereby a steel construction at the bolster and center sill and draft sill may be put into a car underframe, retaining therein the wooden furring strips, end sill, and side sills. To accomplish this purpose it is necessary to provide connections between the furring strips and the metallic structure introduced, and also to provide improved means for seating the wooden side sills and end sills and bracing the same. By repairing a car with wooden parts in its underframe by the use of metallic parts as noted, much of the old car can be retained and when adapted to the steel members introduced will last for a long time. On account of the height of the old truck, it is apparent that the bottom line of the center sill can not be lowered into an alinement with the lower edge of the draft channels, and would maintain the usual distance from the center line of draft to the bottom of the draft channels, this distance being a standard height; consequently it is essential to position the lower edge of the draft channels below the plane of the lower center sill flanges. The construction herein set forth is not primarily intended to be used in the original construction of a car, but has its chief application in repairing of old cars containing wooden members in their underframes, and it is in this matter of repairing that my improvements hereinafter described find their chief use. It is apparent that my improvement may be embodied in new cars also, and I do not intend to limit myself to the use thereof in making repairs.

The invention embodied in this application comprises the method of splicing the draft sill to the center sill, improvements in bolster construction, means for supporting and attaching the furring strips to the metallic members, and constructions for seating the side sill and the end sill and reinforcing the same.

In the drawings which are hereto attached and hereby made a part of this specification,

Figure 1 is an upper plan view of one of the car underframes; Fig. 2 is a side view of a center sill and draft sill connected thereto; Fig. 3 is a perspective of a draft sill and center sill and a bolster in place thereon; Fig. 4 is a detail of the bracket used for mounting the furring strip; Fig. 5 is a detail of the angle back-stop for the end sill; Fig. 6 is a section through a car having my improvements therein taken through the underframe along the line A—A of Fig. 1.

Referring to the drawings in which the same numeral indicates the same part throughout, 1 is a center sill which is pierced at 2 to receive the top cover plate 4 of the bolster construction; the bolster is made up preferably of the pair of diaphragms 5 and 6 spaced apart back to back on each side of the center sill, to which they are secured at their inner ends at 7, the flange 8 on the diaphragms being continuous around the upper, inner and lower edges thereof, and being appropriately curved at 9 to fit snugly over the lower flange 10 of the center sill. At the outer end each of the bolster diaphragms is left open as clearly appears at 12. Seated upon the outer ends of the diaphragms is a Z-plate 13, adapted to have one of its flanges 14 resting upon the upper flanges 15 16 of the diaphragms and secured thereto by bolts or rivets as shown at 17; the lower flange 18 of the Z-plate 13 is provided with holes 19, and forms the seat for the side sill member 20, which is secured by means of appropriate bolts to the seat 18. The bolster is provided with a lower cover plate 21 which extends beneath the center sill and is appropriately secured to the lower flange 22 of the diaphragm and also to the lower flange 10 of the center sill; it will be understood that the construction of the bolster on the opposite side of the other center sill is the same as that shown in Fig. 3, and is not further described for that reason.

In Fig. 1 is shown a furring strip 23 extending from the center sill to the side sill; it is appropriately secured in the side sill, and at its inner end is mounted upon the lower flange 24 of the Z-plate 25, and is appropriately secured thereto; the Z-plate is suspended by its upper flange 26 from the center sill. The furring strip 27 extends from the furring strip 23 to the end sill 12

32, being gained out at the point where it crosses the bolster, so as to bring the upper surface of the furring strip into the proper horizontal plane; at the point where the furring strip 27 is cut for application to the bolster it is weakened, and to provide a support at this point, the Z-plates 28 and 29 on opposite sides of the bolster are used, the lower flange of the Z-plate underlying the lower surface of the furring strip and the upper flange thereof being secured upon the bolster, and as appears in Fig. 3, to the upper flange of the diaphragm. Thus the Z-plate is made to fit the cut-out in the furring strip, and gives adequate support thereto. The outer end of the furring strip 27 is appropriately secured in the end sill 32.

Draft sills 30 and 31 are provided having their outer ends sheared vertically and bent laterally to form seats as shown at 31^a for the end sill 32. A top binding plate 33 is secured to the upper flanges of the draft sills, and its outer edge preferably is placed flush with the ends of the draft sills at the points where the same have been sheared. To act as back-stops and supports for the end sill, I provide the angle plates 34 and 35, which are riveted or otherwise secured to the inner faces of the draft sill webs, and present a broad surface for engagement with the end sill.

In order that the draft sill may be spliced to the center sill and retain the flanges on each at their point of junction for some distance, so that these flanges may overlap and add strength to the union, I compress vertically the inner end of each draft sill so that the top and bottom flanges 36 and 37 thereon are brought closer together and yet permitted to lie in a horizontal plane, parallel with the original plane of the flanges. This compression forms shoulders 38 and 39 as shown, and the end of the upper flange 40 of the center sill abuts against the shoulder 38, while the end of the lower flange 41 of the center sill abuts against the shoulder 39. This abutting relation is effective in taking up end stresses. The overlapping portions of the draft sill and center sill are thereupon securely riveted as shown at 42. The top cover plate 43 of the center sill is extended continuously transversely of the bolster and across the union of the center sill and draft sill and is securely riveted to both of these latter members through the openings shown at 44 and 45; reference to Fig. 2, will disclose the fact that the top cover plate 43 is not bent or in anywise distorted in passing over the line of union of the draft sill and the center sill for the apparent reason that the exposed portion of the upper flange of the draft sill lies in the same horizontal plane as the upper flange of the center sill.

The construction just described is adapted to the repair of cars, but has been so devised

that the wooden side sills and end sill and furring strips may be retained and utilized; at the same time the members inserted for repair purposes have been so constructed as to adapt themselves to the line of center draft, which was fixed when the old car was constructed, and also to the height of the truck and lower line of the center sill, which were fixed in the old car and which must be maintained therein, and to which accordingly all repairs must be adapted. My improvements herein described therefore render it possible to repair a car with metallic repair parts, at the same time utilizing the parts of the old wooden construction which are still available, and thereby providing a car whose period of usefulness is greatly extended.

I do not desire to confine myself to the specific construction of the parts herein disclosed and described, but desire to avail myself of all the changes which are within the scope of the appended claims.

What I claim is:

1. In a car underframe, a center sill, and a draft sill having its inner end compressed vertically and secured to said center sill.

2. In a car underframe, a center sill, a draft sill having its inner end compressed vertically and applied to said center sill by overlapping the same, and secured thereto.

3. In a car underframe, a center sill, a draft sill having its lower edge provided with a continuous flange and compressed vertically at its inner end and applied to said center sill by overlapping the same and being secured thereto.

4. In a car underframe, a center sill having an upper lateral flange, a draft sill having its upper flange arranged in a horizontal plane with the said flange of the center sill, said draft sill being compressed vertically at its inner end whereby said flanges are brought into overlapped relation at their ends, and a cover plate applied to the said center sill and draft sill and secured to the said flanges.

5. In a car underframe, center sills, draft sills applied thereto having their flanged surfaces compressed to be inserted between the flanges on said center sills to cause the upper flanged surfaces of said sills to lie in a continuous horizontal plane, and a cover plate applied to said center sill and draft sill channels.

6. In a car underframe, a center sill, a draft sill having a depression formed both in its upper and lower faces adjacent to its inner end to reduce the same for insertion between the flanges of the center sill, a shoulder formed on the draft sill against which the end of the center sill abuts, whereby the upper faces of said center sill and said draft sill are caused to lie in the same horizontal plane, means for securing said chan-

nels together, and a cover plate applied to said channels and secured thereto.

7. In a car underframe, a center sill, a draft sill reduced at its inner end by compressing the same for insertion between the flanges of said center sill, means for securing said sills together, whereby their exposed upper flanged surfaces lie in a horizontal plane, shoulders formed on the upper and lower surfaces of said draft sill against which the ends of the flanges on said center sill abut, and a cover plate adapted to be applied to the upper surfaces of said sills and secured thereto.

8. In a car underframe, a method of splicing draft sills to the center sills comprising the reduction of the inner end of the draft sill by vertically compressing the same, then inserting said reduced end between the flanges on said center sill to cause the exposed upper flanges of said sills to lie in the same horizontal plane, then securing said sills together through their overlapping parts, and applying a cover plate thereto.

9. In a car underframe having a center sill and a body bolster connected therewith,

a side sill, a Z-plate seat member mounted on said center sill and a furring strip secured at one end to said side sill and having its other end mounted on said seat member and secured thereto.

10. In a car underframe having a center sill, a body bolster and an end sill, a Z-plate seat member suspended from the upper face of said body bolster at each side thereof, a furring strip cut away throughout a portion of its length and applied to said bolster transversely and supported on said seat members.

11. In a car underframe, a center sill, a draft sill having its inner end compressed vertically and secured to said center sill and having its bottom flange located in a horizontal plane below the bottom flange of the center sill.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN E. TESSEYMAN.

Witnesses:

ANTON BECKER,
E. J. CULVER.