

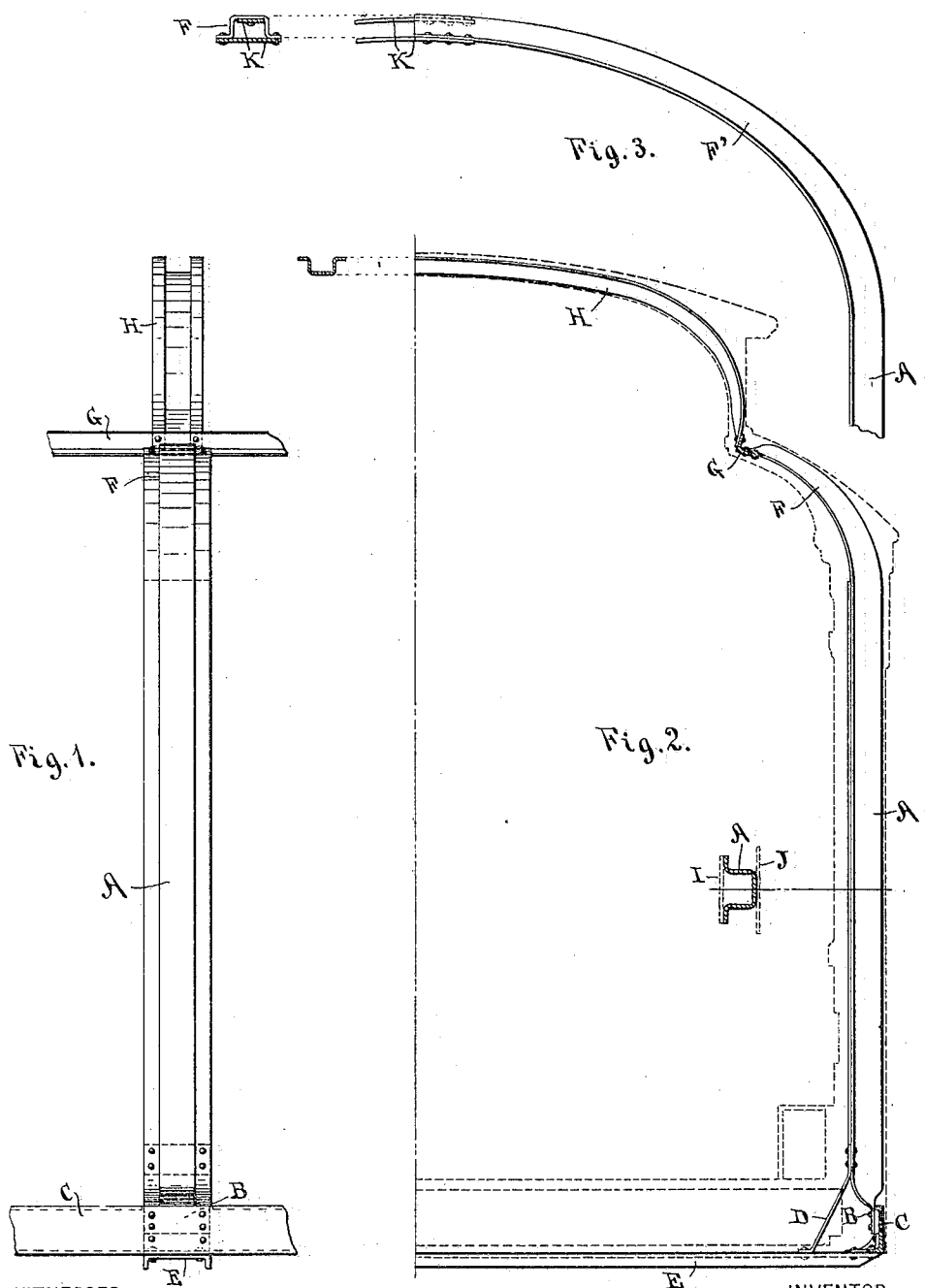
No. 809,920.

PATENTED JAN. 9, 1906.

W. F. KIESEL, JR.

POST AND CARLINE FOR RAILWAY CAR FRAMES.

APPLICATION FILED JUNE 27, 1905.



WITNESSES

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WILLIAM F. KIESEL, JR., OF ALTOONA, PENNSYLVANIA.

POST AND CARLINE FOR RAILWAY-CAR FRAMES.

No. 809,920

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed June 27, 1905. Serial No. 267,224.

To all whom it may concern:

Be it known that I, WILLIAM F. KIESEL, JR., a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Posts and Carlines for Railway-Car Frames, of which the following is a specification.

This invention relates to improvements in the posts and carlines employed in the framework of railway-cars and applies more particularly to posts and carlines for car-frames of all-steel construction.

My object is to provide an all-steel post and carline which for the same weight of material will give greater strength than is present in these frame members as heretofore constructed.

A further object is to combine with the post a cantaliver-arm, which may either form a carline for the lower deck of the car-roof, being joined to a separate upper-deck carline, or be carried over to the center of the car and joined to a similar carline rising from the post at the opposite side, where the car is to be of single-deck construction.

Other features of novelty will be herein-after described, and pointed out more particularly in the claims.

I attain my object by forming and combining these frame members with other of the car-frame members, as illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved post and carline; Fig. 2, an end elevation showing a one-half section of a car-body in broken lines with my post and carline as positioned therein, and Fig. 3 a modification showing the post prolonged into a half-carline reaching to the center of the car.

Like letters of reference designate like parts in the several views.

A represents the post, which consists of a pressed-steel plate of U-shaped cross-section flattened at the base B, where it is riveted to the side sill C of the car. This side sill is of channel-steel, with the upper flange notched out partially to clear the outside of the post. A brace-plate D is riveted between the post and the horizontal cross-brace E, which extends from the under side of the side sill to the center sills of the car or across to the side sill upon the opposite side of the car. This cross-brace may be either a piece of channel-steel or of angle-bar construction.

At the top the post is arched over at F and

riveted to a longitudinal angle-bar G, which runs continuously along the car at a point between the lower-deck and the upper-deck sash-frame. This gives to the top of the posts a cantaliver construction, which supports the lower deck on each side of the car and also supports the upper deck, in conjunction with a pressed-steel carline of similar U-shaped section, but of smaller dimensions than the post, said carline being bent to form the arch of the roof and being riveted at the ends to the longitudinal angle-bars G between opposite posts. The ends of the posts and carlines are flattened down to give sufficient riveting-surface for attaching them to the longitudinal angle-bar. As so formed the central carline acts as a beam to support the upper deck and is supported in turn by the cantaliver extensions from the opposite posts. These cantaliver extensions, which form the lower-deck carlines, are preferably made in one piece with the posts, as herein illustrated, and in such manner that the maximum strength is obtained at the point where the post begins to bend to form the cantaliver, the depth of the U-bar being gradually drawn down as the cantaliver curves to its end. The cantaliver portions may, however, be made in separate pieces and united to the posts by riveted joints. The one-piece construction, however, is most desirable, as being both stronger and of lighter weight.

If desired, the post may be reinforced on the inside by a cover-plate I, riveted to the flanges, as indicated by broken lines in the sectional view of the post in Fig. 2, and the outside may also be reinforced by a cover-plate, as indicated by broken lines at J. Where a cover-plate I is used, the brace D will be formed as a continuation thereof.

In Fig. 3 I have shown a modification in which the post is curved over at F' to form one-half of the carline for a single-deck car with semicircular or semi-elliptical top, the cantalivers F' from opposite posts meeting at the center of the car and being united by suitable tie-plates, as indicated at K. In this construction the cantaliver is depended upon entirely for strength to support the deck or roof of the car. Instead of the short tie-plates K I may unite the cantalivers F' from opposite posts by the use of cover-plates, such as J and I in Fig. 2, said plates being extended from end to end of the combined posts and carlines or being attached to the carlines only between posts.

These combined posts and carlines will form the sole support of the deck superstructure of the car, and they will be of such dimensions in cross-section and spaced apart along the car sides at such distances as strength and stiffness in any given case may demand. By adopting the U-shaped section for the posts and carlines I provide, in effect, a box-girder, strong and yet light in weight, which passes through the superstructure of the car from side sill to side sill. I do not, however, wish to be understood as limiting myself to these U-bars in the construction of my one-piece posts and cantaliver-carlines.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-frame, the combination, with a shaped metal post, of a carline formed as an integral cantaliver extension from the upper end thereof, the cantaliver at its base being of dimensions equal in strength with the post and gradually diminishing, as to said dimensions, as it bends toward the center of the car.

2. The combination, in a car-frame, of a shaped metal post, a lower-deck carline joined to the post in the form of an integral tapering cantaliver extension thereof, and an upper-deck carline smaller in cross-section than the post joined at its ends to the carlines projecting from opposite posts.

3. The combination, in a car-frame, of a post and carline formed in one piece of steel of U-shaped cross-section, the sides thereof being reinforced by outturned flanges along the legs of the U.

4. The combination, in a car-frame, of a

post and carline formed in one piece of steel of U-shaped cross-section, the depth of the U being gradually decreased where the carline bends toward the center of the car.

5. The combination, in a car-frame, of a post and lower-deck carline formed in one piece of steel of U-shaped cross-section, the carline portion tapering to smaller dimensions at its inward end, and an upper-deck carline similar in cross-section but of smaller dimensions than the post joined at its ends to the carlines projecting from opposite posts.

6. The combination, in a car-frame, of a combined post and carline of steel pressed into U-shaped cross-section and a cover-plate riveted to the flanged side thereof.

7. The combination, in a car-frame, of a combined post and carline of steel pressed into U-shaped cross-section with inside and outside cover-plates riveted thereto.

8. The combination, in a steel car-frame, of channel side sills, posts of U-shaped cross-section riveted thereto at opposite sides of the car, lower-deck carlines formed by incurved extensions from said posts, longitudinal angle-bars riveted to the free ends of said carlines, and one-piece upper-deck carlines of U-shaped cross-section having their ends riveted to the longitudinal bars in line with the lower-deck carlines.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM F. KIESEL, JR.

Witnesses:

W. R. FORSTER,

U. S. DRAYER.