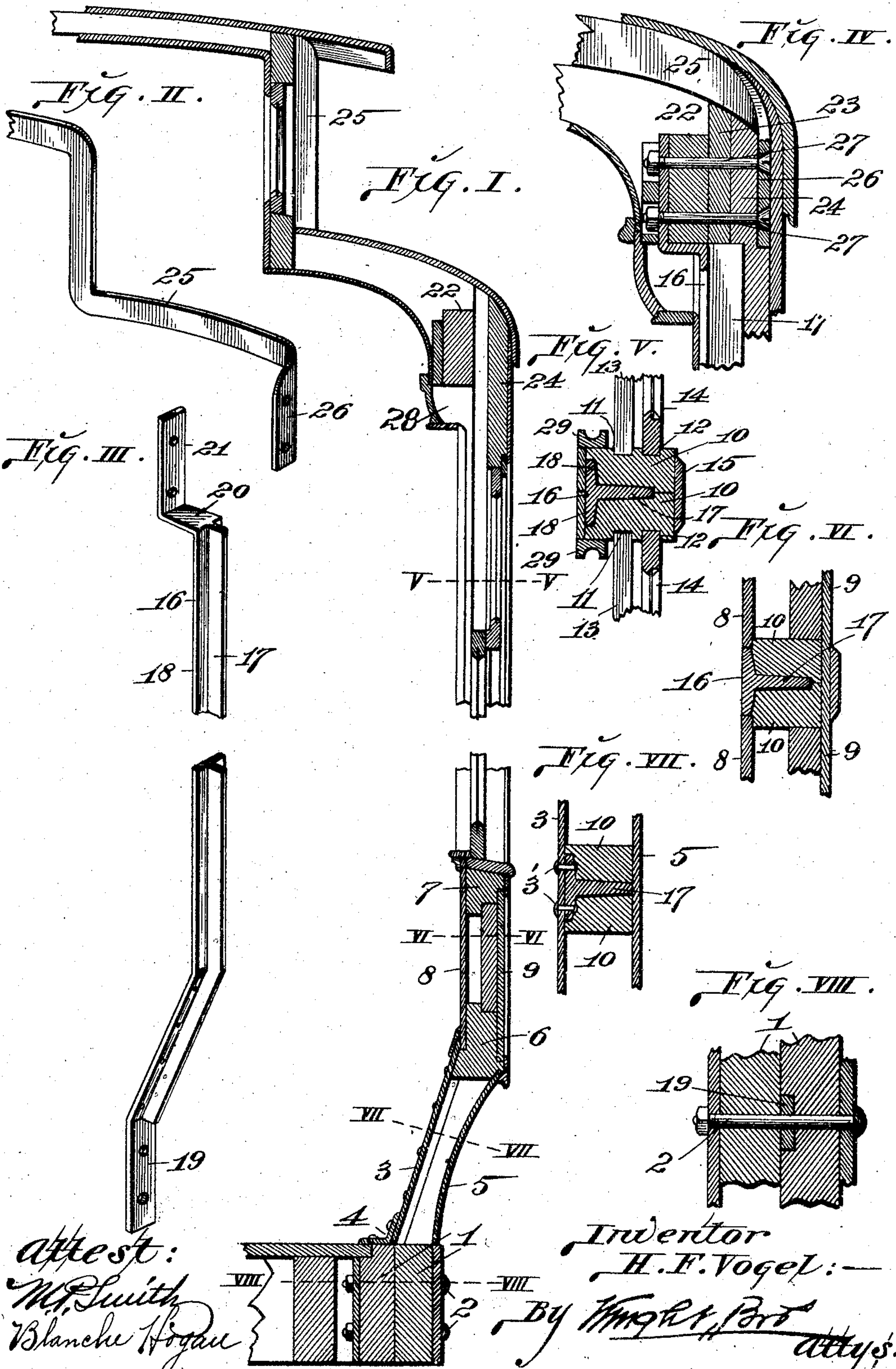


No. 780,841.

PATENTED JAN. 24, 1905.

H. F. VOGEL.  
CAR CONSTRUCTION.  
APPLICATION FILED JAN. 16, 1904.



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# UNITED STATES PATENT OFFICE.

HENRY F. VOGEL, OF ST. LOUIS, MISSOURI, ASSIGNOR TO ST. LOUIS CAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION.

## CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 780,841, dated January 24, 1905.

Application filed January 16, 1904. Serial No. 189,269.

*To all whom it may concern:*

Be it known that I, HENRY F. VOGEL, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Car Construction, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improvement in the construction of street-railway or other cars in which the wooden window-posts are reinforced by a metal post interposed between them and in which other novel features of construction are made use of to brace and tie the various parts of the car-framework.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a vertical section taken through one side of a car constructed in accordance with my improvement. Fig. II is a perspective view of one end of one of the carlines of the car. Fig. III is a perspective view of one of the metal reinforcing-posts. Fig. IV is an enlarged vertical section through the upper portion of one of the car sides. Fig. V is an enlarged horizontal section taken on line V V, Fig. I. Figs. VI, VII, and VIII are enlarged horizontal sections taken, respectively, on lines VI VI, VII VII, VIII VIII, Fig. I.

1 designates the two mating side sills of a car, which are united by tie-bolts 2. These sills are surmounted by an inner metal wainscot 3, that is tied to the inner sill 1 by an angle-rail 4 and an outer panel 5.

6 is a panel-rail located above the wainscot 3 and the panel 5, as seen in Fig. I. The metal wainscot and panel are secured to this panel-rail, and by reason of the wainscot being of metal the panel-rail is securely connected to the side sills of the car, due to the strength afforded by reason of making the wainscot of metal.

Above the panel-rail 6 is a window-sill rail 7, that with the panel-rail receives the application of an inside panel 8 and an outside panel 9.

10 designates a pair of mating window-posts,

each provided with grooves 11 and 12, that receive, respectively, lower and upper sashes 13 and 14. The mating posts 10 are united at their outer sides by vertical tie-strips 15, which serve to hold them assembled and also form exterior facings for the posts.

16 designates metal reinforcing-posts interposed between the mating wooden posts 10, each reinforcing-post having a web 17, that fits between the mating wooden posts and laterally-extending flanges 18, that occupy positions against the side faces of the wooden posts, being preferably set into said posts, as seen in Figs. V and VII. Each metal reinforcing-post is furnished at its lower end with a leg 19, that is seated between the side sills 1 and is apertured to receive the tie-bolts 2, that unite said sills. The upper end of the reinforcing-posts are bent at an angle to furnish shoulders 20, that are surmounted by apertured uprights 21.

22 designates timbers seated on the shoulders at the upper ends of the reinforcing-posts, and 23 are metal stringers seated on the webs of the reinforcing-posts, as seen in Fig. IV, these stringers extending longitudinally the full length of the car and serving to tie all of the reinforcing-posts together, due to the introduction of tie-bolts passing therethrough to be hereinafter more particularly referred to.

24 is a letter-board located against the metal stringer 23 and extending in line therewith.

25 designates metal carlines that extend transversely of the car and are bent to conform to the shape of the car-roof, each carline being provided with apertured ends 26. The angle ends of each carline are located in a vertical line corresponding to the positions of the upper ends of the metal reinforcing-rails 16.

27 designates tie-bolts, which pass through the angle ends of the carlines, the letter-board 24, the metal stringer 23, timber 22, and uprights 21 of the metal reinforcing-rails 16, thereby serving to bind said parts firmly together, so that all will be stayed by the metal stringer. It will therefore be seen that a very secure and stable connection is furnished between the upper ends of the entire series of

window-posts at the side of a car, while the lower ends of the entire series are bound together with equal efficiency by the metal wainscot 3, which, as shown in Fig. VII, is connected to each reinforcing-post by rivets 3' 5 passed through the wainscot and the flanges of the reinforcing-posts.

28 designates a box that serves as a receptacle for a window-curtain, and 29 designates 10 guide-strips in which the window-curtain is directed in raising and lowering it.

I claim as my invention—

1. In a car construction, the combination of window-posts, metal reinforcing-posts inter-

posed between said window-posts, and a metal 15 wainscot connected to the lower portions of the reinforcing-posts, substantially as set forth.

2. In a car construction, the combination of window-posts, metal reinforcing-posts interposed between said window-posts, a metal 20 stringer connected to the upper ends of said reinforcing-posts, and a metal wainscot connected to the lower portions of said reinforcing-posts, substantially as set forth.

HENRY F. VOGEL.

In presence of—

M. H. MURPHY,

A. DICKMANN.