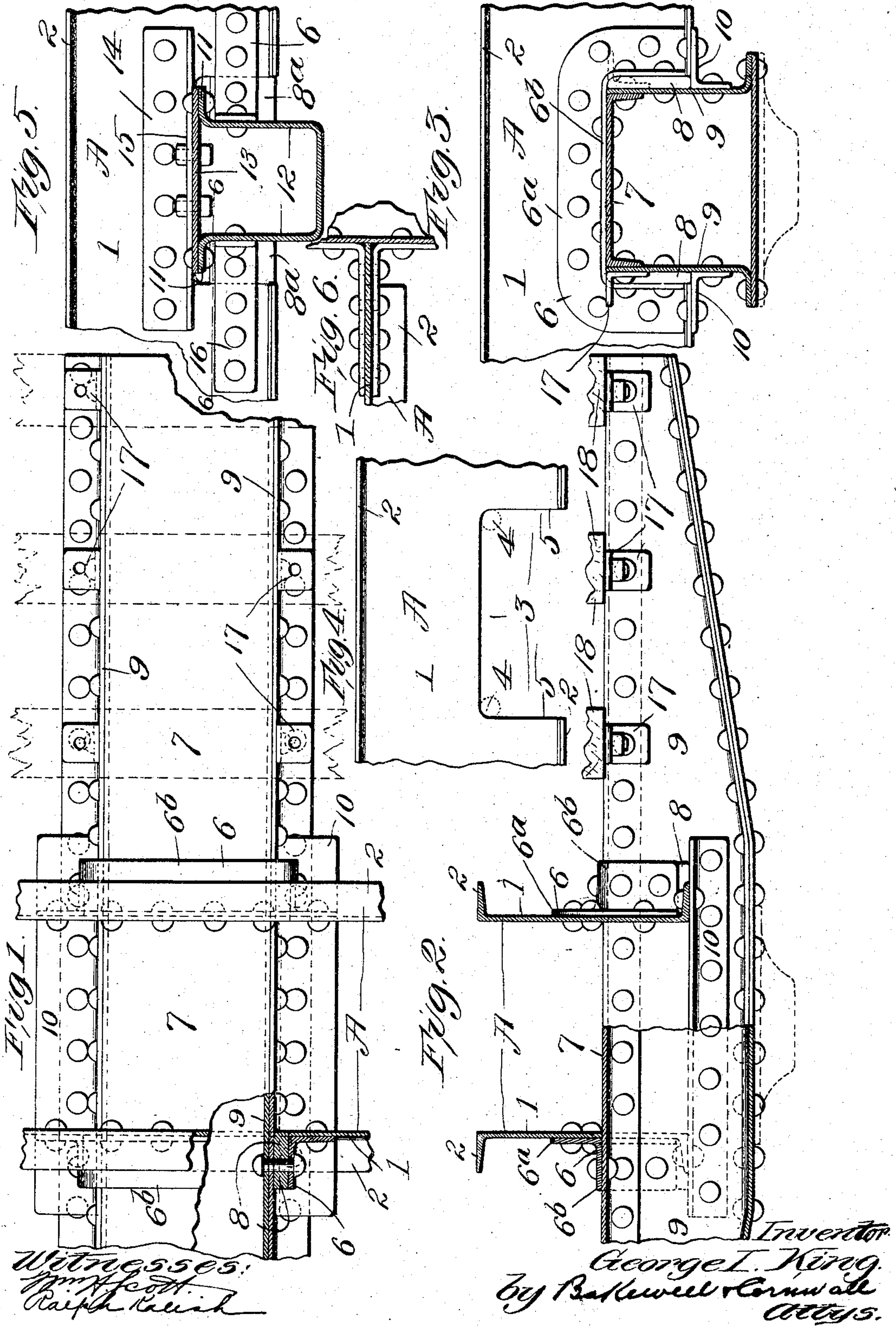


No. 782,610.

PATENTED FEB. 14, 1905.

G. I. KING.
METALLIC CAR CONSTRUCTION.
APPLICATION FILED DEC. 26, 1902.



UNITED STATES PATENT OFFICE.

GEORGE I. KING, OF MIDDLETOWN, PENNSYLVANIA.

METALLIC-CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 782,610, dated February 14, 1905.

Application filed December 26, 1902. Serial No. 136,706.

To all whom it may concern:

Be it known that I, GEORGE I. KING, a citizen of the United States, residing at Middletown, county of Dauphin, State of Pennsylvania, have invented a certain new and useful Improvement in Metallic-Car Construction, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view, partly broken away. Fig. 2 is a side elevation, partly in section. Fig. 3 is a sectional view of Fig. 2 on line 3 3. Fig. 4 is a fragmentary view of a portion of one of the center sills. Fig. 5 is a sectional elevation of a modification, and Fig. 6 is a sectional view on the line 6 6 of Fig. 5.

This invention relates to improvement in metallic-car construction, particularly with relation to the point of connection of the body-bolsters or transoms and the center sills; and it consists in features of novelty relating thereto, all as hereinafter more fully described, and specifically pointed out in the claims.

The object of the invention is to so unite the several cooperating parts as to maintain the standard height of a car wherein the invention is embodied and provide therefor such firm connection that the finished car will be of greater strength and equally as capacious as others of less strength wherein the invention is not used.

Referring to the drawings, A indicates the center sills, which are represented as channels with webs 1 and whose flanges 2 are oppositely disposed. As shown in Fig. 4, an angular or other suitably-formed opening 3 is formed in the lower portion of said sills, preferably by forming at the corners 4 thereof round openings, from whence to the lower line of said sills and across the intervening portion of the same between said holes the metal is removed, leaving the curved corners 4, straight top edge, and side edges 5, as shown therein. This opening is provided for the purpose of permitting the center sill to be located relatively as low as is requisite in car construction if

the draft-gear is to be attached thereto and at the same time permit of using deep center sills of greater strength than have been heretofore used, which center sills in this construction instead of resting on the transoms, as heretofore, partially surround the same, as best shown in Fig. 3. Serving the double purpose of strengthening said sills at the cut-away portion and as a connecting means between the sills and transoms are angles 6, the portion 6^a whereof is riveted to the webs 1 of the sills, and the portion 6^b is riveted to the cover-plate 7 of the transoms and through the filler-blocks 8 to the vertical webs thereof, said filler-blocks 8 being located, as shown, for the purpose of permitting a less abrupt bend of the angles 6 than if such filler-blocks were not employed, while the angles 10, bolted to the web of the bolster and to the lower flange 2 of the sill, also serve to unite such parts and support said filler-blocks.

In the modification shown in Fig. 5 the sill is cut away in the same manner and a modified form of body-bolster is used, in which lateral flanges 11 project from the web portion 12 thereof, while a cover-plate 13, equal in width with said flanges, is secured thereupon, thereby leaving a comparatively greater space between the web of the bolster and the vertical edge of the web 1 of the sill. In this construction an angle is riveted through the flange 14 to the web 1 of the sill and through the companion flange 15 to the cover-plate 13 and the flanges 11 of the modified bolster. Straps 16 are connected to the webs 1 of the sills and to the filler-blocks 8^a and also to the webs 12 of the said bolster, whereby the parts are securely held in position against displacement, the said sill being properly reinforced at its cut-away portion thereby.

Secured to the upper portion of the bolster are angles 17, over which rest the side sills and intermediate sills, and where wood sills 18 are used thereat they are secured in position by bolts passing through said sills and angles.

I am aware that minor changes in the construction, arrangement, and combination of these several parts of my invention may be made

and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A sill formed of commercially-rolled channel members with recessed seat, and a bolster in said seat; substantially as described.

2. A sill formed of commercially-rolled channel members with recessed seat, a bolster held in said seat, and means for connecting said sill and bolster; substantially as described.

3. A sill formed of commercially-rolled channel members with recessed seat in its under side, a bolster held in said seat, and means for connecting said sill and bolster; substantially as described.

4. A sill with recessed seat, a bolster, and a connector therebetween partially surrounding the bolster and secured to the web of the sill and the web of the bolster; substantially as described.

5. A sill, a bolster, and a connector therebetween secured to the web of the bolster and the flange of the sill; substantially as described.

6. A sill, a bolster, and connectors therebetween secured, respectively, to the webs of the sill and webs of the bolster and to the web of the bolster and flange of the sill; substantially as described.

7. A sill, a bolster, and a connector therebetween secured to the web of the sill and the flange of the bolster; substantially as described.

8. A sill with a recessed seat formed of commercially-rolled channel members with their flanges oppositely disposed, a bolster therein, and means partially surrounding said bolster for connecting said bolster with the web of said sill; substantially as described.

9. A sill formed of commercially-rolled channels with recessed seat in its lower portion, a bolster, and means for connecting said sill and said bolster; substantially as described.

10. A sill with recessed seat, a bolster, and means for connecting the web of said sill with the webs of said bolster; substantially as described.

11. A sill with recessed seat, a bolster, and means for connecting the flange of said sill with the webs of said bolster; substantially as described.

12. A sill with recessed seat, a bolster, and means for connecting the web of said sill with the flange of said bolster; substantially as described.

13. A sill with recessed seat, a bolster with a cover-plate, and means for connecting the web of the sill with the cover-plate of said bolster; substantially as described.

14. A sill with a bolster-seat therein, a bolster with a cover-plate and lateral flanges, and means for connecting the web of the sill with

said cover-plate and lateral flanges; substantially as described.

15. A sill, a bolster, and a connector partially surrounding said bolster between the web of said sill and said bolster; substantially as described.

16. A recessed sill formed of channels, a bolster in said recess, and a connector between the flange of said sill and said bolster; substantially as described.

17. A sill, a bolster, a filler-block, and means for uniting said sill, bolster, and filler-block; substantially as described.

18. A sill with a recess therein, a bolster, a filler-block, and means for uniting said sill, bolster, and filler-block; substantially as described.

19. A sill, a bolster, a filler-block between said members, and a connector inclosing said filler-block and connected to the sill and bolster; substantially as described.

20. A sill, a bolster, a filler-block between said sill and the web of said bolster, and an angle connected to the webs of said sill and bolster and inclosing said filler-block; substantially as described.

21. A sill, a bolster, a filler-block, and a plurality of connectors secured, respectively, to the web and flange of said sill and with the web of said bolster inclosing said filler-block; substantially as described.

22. A sill, a bolster, a filler-block connected to the web of said bolster, and a connector between said filler-block and said sill; substantially as described.

23. A sill, a bolster, an angular connector between the web of the sill and the web of the bolster, and a filler-block between said connector and the web of the bolster; substantially as described.

24. A sill cut away at its under portion, a bolster partially inclosed by said sill, and means partially surrounding said bolster and riveted thereto for securing the same together; substantially as described.

25. The combination of an interlocked sill and bolster, in which the bolster is secured within a cut-away portion of the sill, and a bracket riveted to said sill and to said bolster; substantially as described.

26. Underframing for cars comprising, in combination, longitudinal metal sills, a metal bolster let into and secured to the sills, and a reinforcing and attaching plate secured to the sill and the top of the bolster; substantially as described.

27. In an underframe for cars, in combination, a bolster comprising top and bottom plates and side plates rigidly secured together, and sills recessed to receive the bolster, the bolster and sills being secured together; substantially as described.

28. In an underframe for cars, in combination, a bolster comprising top and bottom

plates and side plates rigidly secured together,
sills recessed to receive the bolster, the bol-
ster and sills being secured together, and
plates secured to the side faces of the sills and
5 the top of the bolster; substantially as de-
scribed.

In testimony whereof I hereunto affix my

signature, in the presence of two witnesses,
this 17th day of December, 1902.

GEORGE I. KING.

Witnesses:

WM. A. CROLL,
JOHN H. FRANK.