No. 785,781. PATENTED MAR. 28, 1905.

W. B. WAGGONER.

CAR CONSTRUCTION.

APPLICATION FILED OCT. 12, 1904.

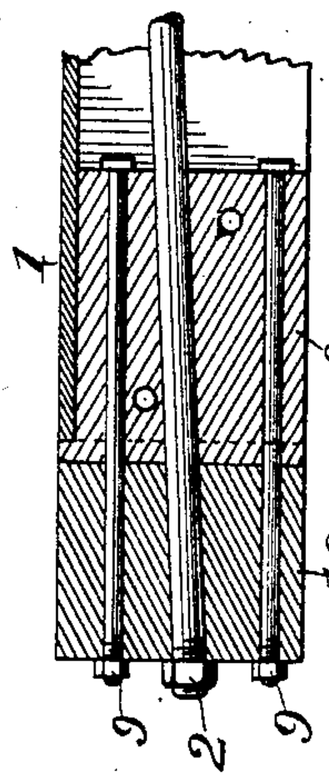

Fig. 5.

Fig. 1.

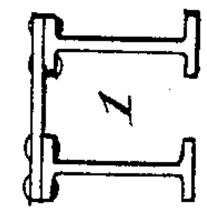

Fig. 12.

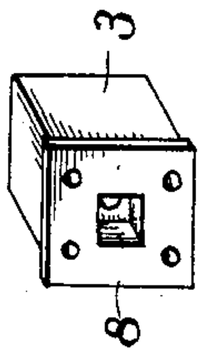

Fig. 4.

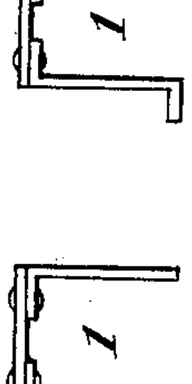

Fig. 9.

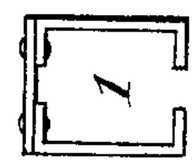

Fig. 10.

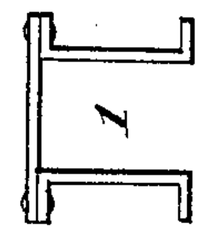

Fig. 11.

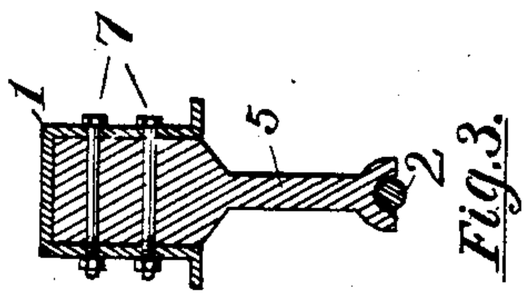

Fig. 3.

Fig. 8.

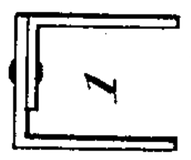

Fig. 7

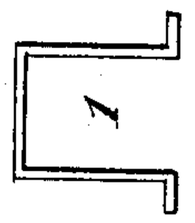

Fig. 6.

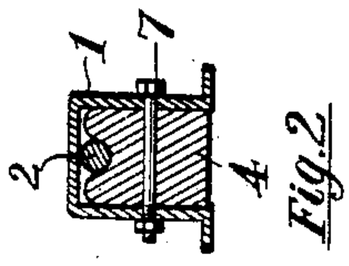

Fig. 2

Witnesses

Georgiana Chace

Palmer A. Jones.

Inventor

William B. Waggoner

By Luther V. Moulton

Attorney

No. 785,781. Patented March 28, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM B. WAGGONER, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO WILLIAM S. BIDLE AND GEORGE L. WEISS, OF CLEVELAND, OHIO.

CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 785,781, dated March 28, 1905.

Application filed October 12, 1904. Serial No. 228,111.

To all whom it may concern:

Be it known that I, WILLIAM B. WAGGONER, 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 Construction; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in car construction, and more particularly to the sill of a car; and its object is to provide a simple and strong device and one adapted to be made from the usual forms of commercial bar or beam iron and to provide the device with various new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My device consists, essentially, of a beam or sill in channel form, either integral or made up of other forms riveted together, suitable end blocks, saddle-blocks, and struts inserted in the sill and secured therein, and a truss-rod suitably arranged in connection therewith, as will more fully appear by reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of a device embodying my invention; Fig. 2, a tranverse section of the same on the line 2 2 of Fig. 1; Fig. 3, the same on the line 3 3 of Fig. 1; Fig. 4, a perspective detail of one end block enlarged; Fig. 5, an enlarged detail in vertical section, showing a method of attaching the transverse end sills, shown on an enlarged scale; and Figs. 6 to 12, inclusive, various modified constructions of the channel beam or sill.

Like numerals refer to like parts in all of the figures.

In the accompanying drawings, 1 represents the sill proper of a car, having the form of a channel bar or beam and with its open side arranged downward. Said sill is made either integral, as in Fig. 6, or of any of the various forms of commercial bar riveted together, as suggested in Figs. 7 to 12, inclusive.

2 represents the truss-rod, provided with the usual turnbuckle 6 near the middle and having its ends secured in the end blocks 3, provided with a suitable flange 8 to engage the end of the channel-bar, as indicated in Fig. 4. The truss-rods are further supported upon saddle-blocks 4, inserted in the sill 1 at a distance from its respective ends. From these saddle-blocks the truss-rod extends downward and inward toward the middle to pass under downwardly-projecting struts 5, secured in the sill 1 at their upper ends and extending downward therefrom, being spaced apart a suitable distance and properly located to support the middle portion of the sill. These saddle-blocks, end blocks, and struts are all secured within the sill by means of suitable bolts 7, as indicated in Figs. 2 and 3. To attach a cross-sill 10 at each end, suitable bolts 9 extend through the end blocks 3 and through said sill 10, and the truss-rod 2 may also be extended through the same, as indicated in Fig. 5, to further assist in securing the same in place.

By the construction shown I am able to provide a very strong and desirable sill construction for cars and at the same time readily utilize the various forms of merchant-iron as found in the market, some forms of which as so used are indicated in Figs. 7 to 12, in which Fig. 7 shows a sill made of two angle-bars riveted together. Fig. 8 shows two angle-bars and a plate. Fig. 9 shows two **Z**-bars and a plate; Figs. 10 and 11, two different arrangements of two channel-bars and a plate, and Fig. 12 two **I**-bars and a plate.

It is obvious that various other forms of commercial iron may be used to make this sill.

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

1. A hollow car-sill made of metal, castings secured in the ends of the sill, and a truss-rod running from end to end of the sill, the ends of the truss-rod being secured in the castings.

2. A hollow car-sill made of metal and of a box or trough shape and comprising channel, angle, **Z** bars or **I**-beams, with a truss-rod arranged partially within the interior of the sill and extending from end to end thereof, cast-

ings fixed in each end of the sill, to which castings the truss-rod is secured, and struts engaged by the truss-rod to support the middle of the sill.

3. A car-sill made of metal and having a box or trough shape, a casting fixed in each end of the sill, a truss-rod extending partially within the interior of the sill and from end to end thereof, and saddle-blocks and struts engaging the rod.

4. A car-sill in the form of a channel-bar, and having its open side downward, blocks secured in the sill near its ends, struts secured in the sill near its middle, a truss-rod secured in the end blocks and engaging the lower ends of the struts, and a turnbuckle in the truss-rod.

5. A car-sill in the form of a channel-bar and having its open side downward, blocks secured in the ends of the sill, flanges on the blocks and engaging the ends of the sill, a truss-rod secured in the blocks and struts secured in the sill and engaging the truss-rod.

6. A car-sill having the form of a channel-bar, and arranged with its open side downward, end blocks, saddle-blocks and struts secured in the sill and a truss-rod secured in the end blocks and extending over the saddle-blocks and under the struts.

7. A car-sill having the form of a channel-bar and arranged with its open side downward, end blocks secured in the sill and having flanges engaging the ends of the sill, saddle-blocks secured in the sill and at a distance from the ends thereof, struts secured in the sill near the middle thereof and spaced apart, and a truss-rod secured in the end blocks and extending over the saddle-blocks and under the struts.

8. The combination of a longitudinal car-sill having the form of a channel-bar, end blocks in the sill, a cross-sill abutting against the end blocks and bolted thereto, and a truss-rod extending through the cross-sill and end blocks.

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

WILLIAM B. WAGGONER.

Witnesses:
F. E. FRENCH,
JOHN GUTHRIDGE.