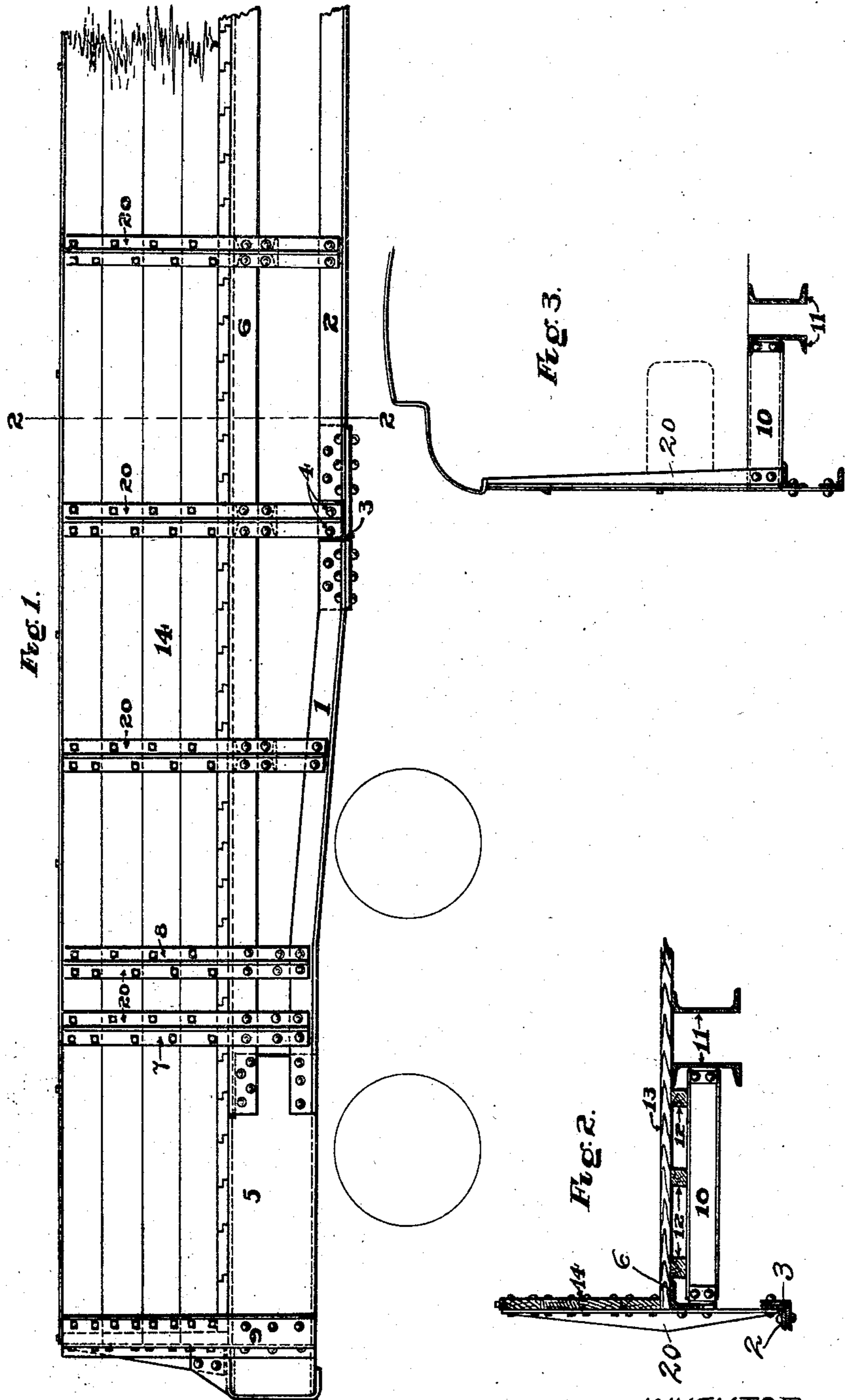


No. 842,869.

PATENTED FEB. 5, 1907.

E. I. DODDS.  
CAR CONSTRUCTION.

APPLICATION FILED MAR. 27, 1906.



WITNESSES:-  
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# UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF AVALON, PENNSYLVANIA, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## CAR CONSTRUCTION.

No. 842,869.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed March 27, 1905. Serial No. 252,391.

*To all whom it may concern:*

Be it known that I, ETHAN I. DODDS, a citizen of the United States, and a resident of Avalon, county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Car Construction, of which the following is a specification.

In the system of car construction which I have devised and which is shown and described in a number of applications for United States Letters Patent a recurrent feature is that of making the parts easy of repair and replacement in case of injury or distortion from any cause. This inventive idea is applied in certain of my inventions to the car sides and the car ends, as fully set forth in my applications filed on the 18th day of June, 1904, and bearing the Serial Nos. 213,139 and 213,140.

The present invention relates to a novel construction of the car-sills, particularly the side and center sills, whereby an injured sill can be more readily repaired or replaced than is at present the case. This is partly due to the fact that the sill herein disclosed is made up of several parts, not less than three in number, so that the entire sill does not in many cases need to be treated in a furnace for the purpose of straightening it or otherwise restoring it to its original condition, while a wholly-disabled member of the sill can be replaced without requiring an excessive amount of unriveting and riveting. Moreover, irrespective of the advantages named the sill which I disclose herein is originally easy of construction, while at the same time it serves when in position as an efficient member of the car construction, well suited to its normal purposes.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a car-body having my invention applied thereto. Fig. 2 is a partial transverse section taken on line 2 2 in Fig. 1; and Fig. 3 is a transverse section of a passenger-car, illustrating a modification.

Referring more particularly to the drawings, 1 and 2 are angular tension members of a side sill for a railway-car, the same being formed in three parts, two of which are shown in Fig. 1. The parts 1 and 2 are joined by an angular butt-strap 3, placed underneath their adjacent ends, while the butt-strap it-

self or the ends of the members 1 and 2 are joined by rivets (shown at 4) to one of the T-shaped side stakes 20 20, utilized in the construction of the car side. The part 2 is the central element of the tension member of the side sill, while the part 1 is extended as a continuation of the side sill toward the end of the car. In being thus extended the part 1 passes by the body-bolster and is connected at its end to a subsill 5 of channel cross-section.

The parts 1, 2, and 3 may be regarded as forming the tension member of the side sill, while the compression member thereof is constituted by an angular piece of metal 6, running lengthwise of the car, secured to the several side stakes thereof and, like the tension member 1, passing beyond the body-bolster and secured to the subsill 5. It will be seen that the members 1 and 2 are secured to all the side stakes along which the said members pass. These side stakes form the support of the wooden or metallic sides of the car, as the case may be. I prefer to place a side stake at each end of the body-bolster, as shown at 7 and 8, while at the corners I may use a U-shaped member, as appears at 9.

At 10 are shown flying transoms, which may be of channel or other cross-section. They extend transversely from the sides of the car to the center sills 11 11, and they may either be flush with the top of the center sills to receive metallic floor plates or sheets, as illustrated in Fig. 3, or they may support stringers 12 12, as shown in Fig. 2, the upper sides of the said stringers being flush with the tops of the center sills to receive wooden floor-sheets 13 13, which may be spiked to the said stringers. The side and end walls of the car may also be of wood secured by any suitable means to the side stakes, or they may be of metal, as preferred. Wooden side walls are shown in Figs. 1 and 2 at 14 14. If desired, end sills may be employed.

It will be seen that the structure herein described provides a car-sill which is in itself adequately suited to the purposes of such structural elements of car construction. It will also be seen that in case of accident to the sill the parts thereof can be readily disassembled, straightened, and reassembled, or if a portion of the sill is broken beyond repair another part can easily be substituted or inserted in its place.

This patent is intended to embrace only so much of the disclosure made herein as is covered by the claims.

I claim as my invention—

1. A side sill for railway-cars whose central portion is composed solely of an upper longitudinal compression-bar and a lower longitudinal sectional tension-bar in combination with side stakes extending above said compression-bar to which both of said bars are directly fastened, substantially as described.

2. In a car, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic side stakes or members uniting the said tension and compression members, substantially as described.

3. In a car, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic T-shaped side stakes or members uniting the said tension and compression members, said T-shaped members projecting above the said

compression member and wooden or metallic car sides supported by the said stakes or T-shaped members, substantially as described.

4. In a car, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic T-shaped side stakes or members uniting the said tension and compression members, all in combination with subsills extending to the ends of the car, substantially as described.

5. In a car having wooden sides, floors and ends, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic T-shaped side stakes or members uniting the said tension and compression members, substantially as described.

Signed at Chicago, in the county of Cook and State of Illinois, this 20th day of March, A. D. 1905.

ETHAN I. DODDS.

Witnesses:

SAMUEL N. POND,

FREDERICK C. GOODWIN.