T. DUNBAR.

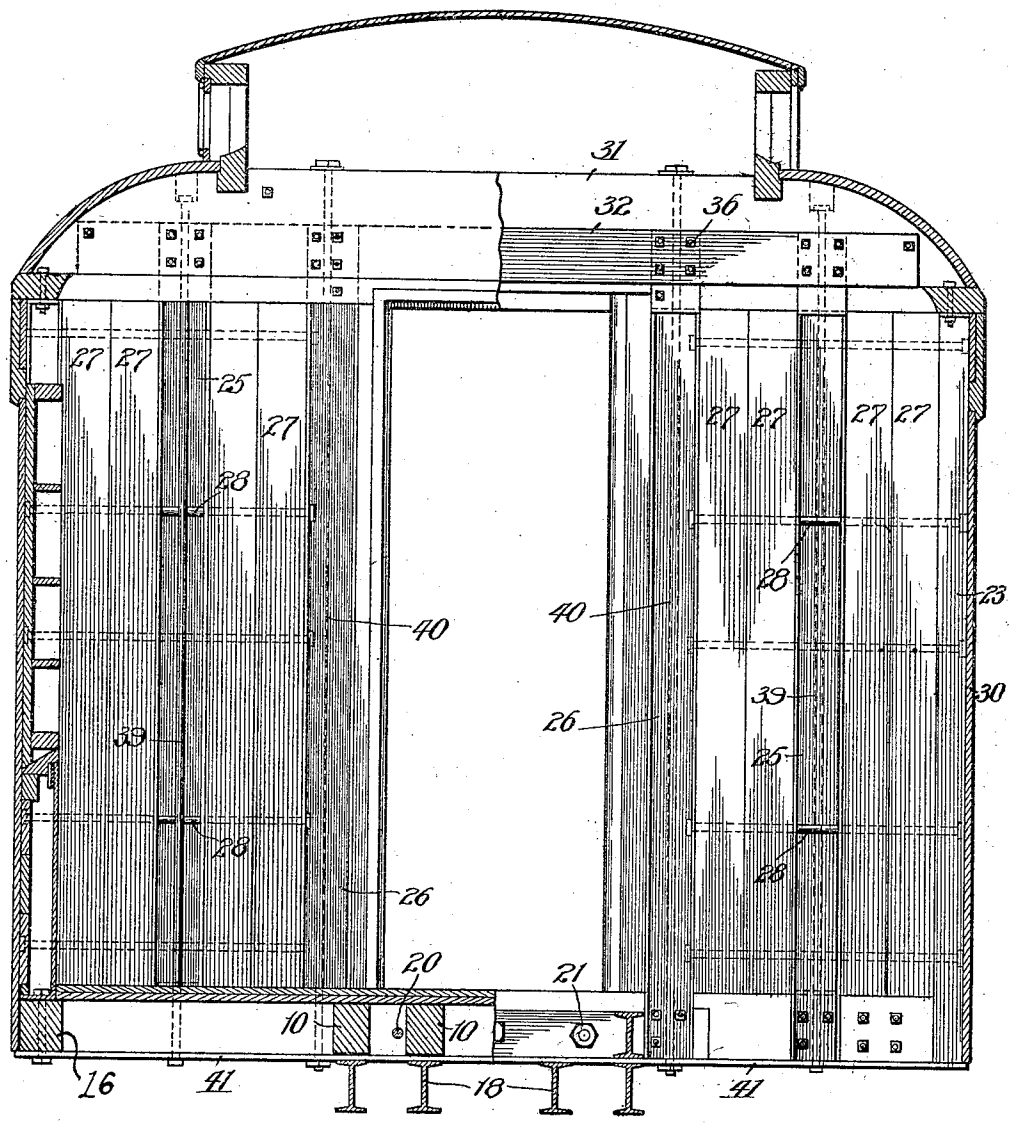
ANTITELESCOPING CONSTRUCTION FOR CARS.

APPLICATION FILED DEC. 27, 1909.

956,799. **Patented May 3, 1910.**

3 SHEETS—SHEET 1.

Fig. 1



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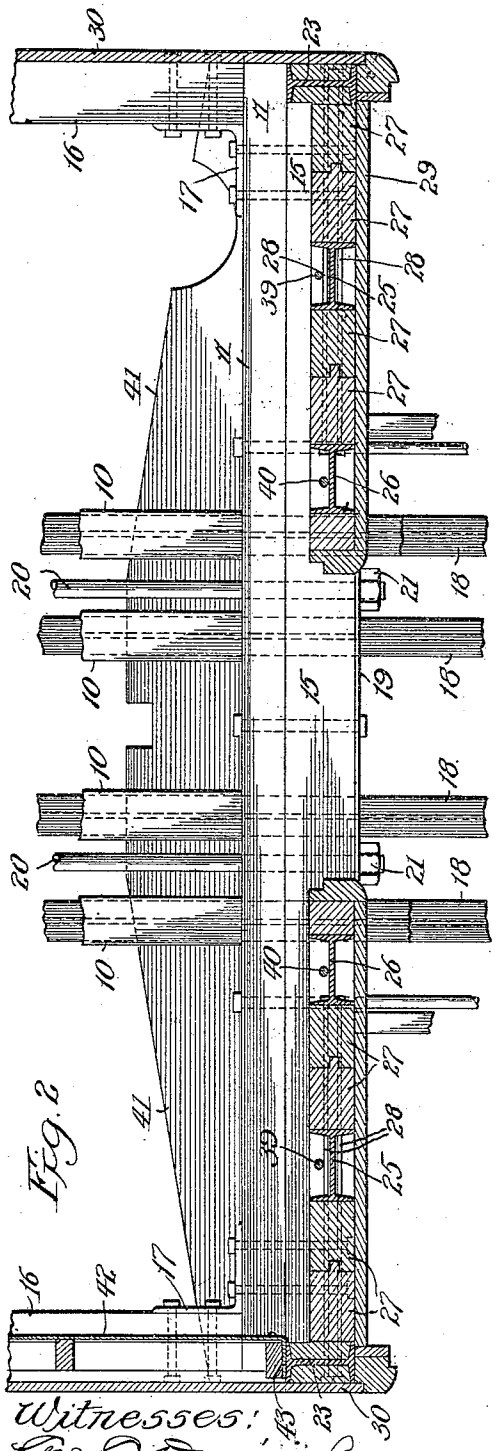

Fig. 2.

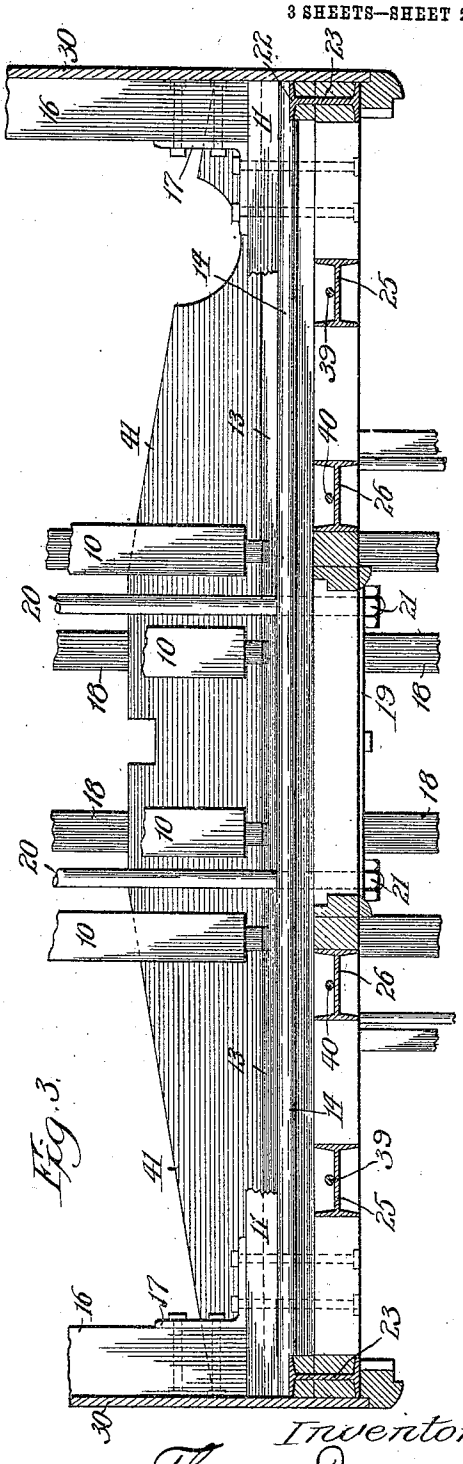

Fig. 3.

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3 SHEETS—SHEET 3.

Fig. 4

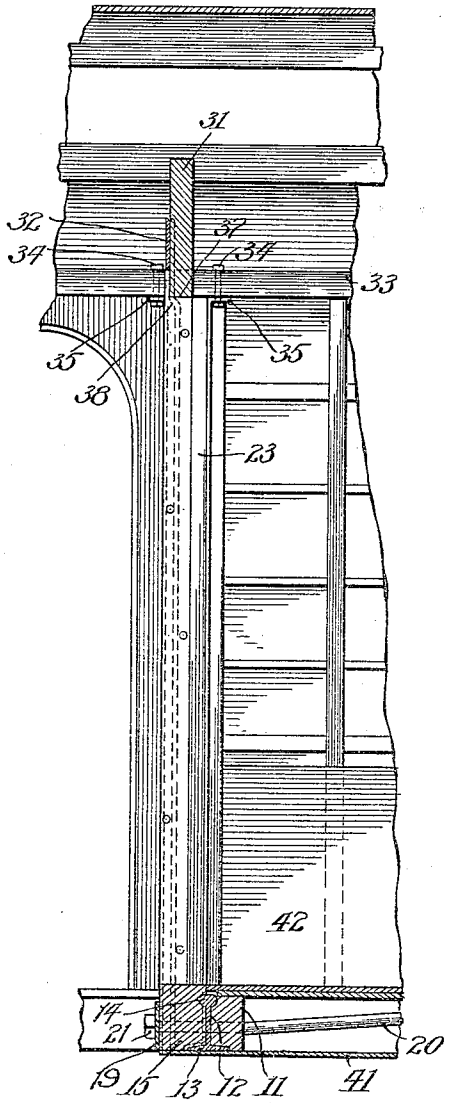


Fig. 5

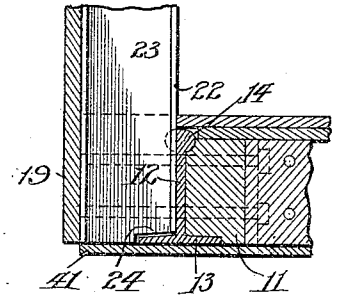
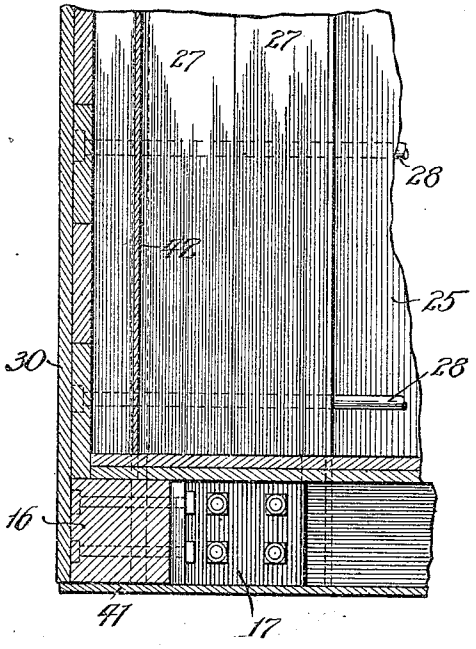


Fig. 6



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UNITED STATES PATENT OFFICE.

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ANTITELESCOPING CONSTRUCTION FOR CARS.

956,799. Specification of Letters Patent. **Patented May 3, 1910.**

Application filed December 27, 1909. Serial No. 534,942.

To all whom it may concern:

Be it known that I, THOMAS DUNBAR, 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 Antitelescoping Constructions for Cars, of which the following is a specification.

The construction of the end walls of cars in such a manner as to prevent or minimize the possibility of the telescoping of the car in case of accident constitutes one of the principal aims and purposes of this invention.

In accordance with this invention, I propose to build the car end-walls so strong, by suitable metallic reinforcements, that they will be able to withstand excessive strains and blows without breaking down, thereby constituting an antitelescoping construction.

In the accompanying drawings, which form a part of this application, I have illustrated a preferred and desirable embodiment of the invention, and, in these drawings, like reference characters refer to the same parts throughout the various views.

In the drawings,—Figure 1 represents in one part the outer face of the car end-wall in elevation, and in the other half of such figure I have illustrated the same parts as viewed from the inside of the car. Fig. 2 is a horizontal section through the end wall and portions of the side walls, the bracing plate being omitted at one side; Fig. 3 is a horizontal section similar to Fig. 2, with some of the parts omitted or broken away to more clearly illustrate the details of construction; Fig. 4 is a fragmentary vertical section through the end wall of the car adjacent to one of the upright I-beam posts; Fig. 5 is a vertical section through the end sill and a portion of the end wall adjacent to one of the corners of the car; and Fig. 6 is a fragmentary, vertical cross-section through the car, viewing the end wall from the inside of the car.

By reference to these drawings, it will be observed that the car underframe includes the usual spaced center sills 10, 10 suitably mortised into the end sill, whose construction comprises both wooden and metallic members. This end sill includes an inner wooden beam 11 fitted on its front face to a bulb beam 12 having flanges 13 along its lower edge similar to an I-beam, and having along its top edge a longitudinal bulb or enlargement 14. At the outer side of said reinforcing bulb beam another wooden beam or wooden fillers 15 are employed, the parts being suitably bolted together as indicated. The side sills 16 are of the usual and customary wooden construction, being secured at their ends against the inner surface of the reinforced end sill by means of angle brackets 17 bolted to both the side and end sills, as shown. The underframe construction includes also the metallic I-beam sub-sills 18, which may be of any other cross-sectional shape, if desired. At the center of the car end-wall, the outer face of the end sill is supplied with a metallic plate 19, through which and the end sill itself the truss rods 20 extend and have applied to their protruding ends the usual nuts 21. At its terminal portions and toward the end of the car, the bulb-beam 12, constituting the metallic reinforcement for the end sill, has the bulb cut away on one side of the web at 22, whereby to permit the inner face of the corner I-beam posts 23 to bear against the outer face of the bulb-beam web, as is clearly indicated in Fig. 5, the feet or lower ends of such corner posts being cut away or omitted at 24 for the accommodation of the outer, lower flange of the bulb-beam.

At each side of the center doorway in the car end-wall, I provide a pair of upright I-beam posts 25 and 26 disposed with their webs arranged transversely of the car, it being noticed that the corner posts 25 are arranged at right angles to these intermediate posts. Such strengthening posts 25 and 26 extend down to the bottom of the end sill so that any strains or thrusts imposed thereon will necessarily have to be borne by the strengthened end-sill, and between such metallic posts I use the matched or tongued and grooved planks 27, 27, which are suitably held in place by the transverse tie rods or bolts 28, 28, which extend not only through these vertical planks, but also through the various posts. Other spaces of the end wall are suitably filled in with wooden members, and the end walls, as well as the sides of the car, are provided with suitable finish 29 and 30.

Near the top the car is provided with a wooden face carline 31 having secured to its outer surface a metallic strengthening or reinforcing plate 32 bolted thereto. At the sides

of the car, the longitudinal beams or plates 33 are secured to the top ends of the posts 23 by means of bolts 34 extended through the beams and through the lateral ears 35, 35 of the flanges of the posts 23 on which the parts 33 rest, it being understood that the webs of the posts 23 are cut off at the top and the flanges bent laterally to provide the brackets or ears 35, as is indicated in Figs. 1 and 4.

The upper ends of the metallic posts 25 and 26 are secured to the end or face carline 31 by being bolted thereto at 36, it being understood, as is illustrated in Fig. 4, that the flanges of these intermediate posts are cut off at 37 just below the carline 31, and that the webs are offset outwardly at 38 so that their top protruding ends will be disposed directly back of the plates 32, to which they are bolted, as well as to the main wooden portion of the carline. In this manner a secure, rigid and strong connection is obtained between the upper ends of these various posts and the upper framework. The parts of the end wall are fastened together vertically by the long bolts 39 and 40 disposed vertically and passing through the various parts to maintain the same in proper assembled relation.

Below the center sills and secured to the various parts, a horizontal brace plate 41, tapered at both ends as indicated in Figs. 2 and 3, is employed, such plate extending outwardly beneath the end and side sills, as is clearly illustrated, and by being connected to the parts of the structure this plate acts as a stiffening and reinforcing brace, as will be readily understood. Also to stiffen and brace this end wall, each side of the car, inside thereof, is provided with a longitudinal plate 42 disposed on edge, connected to the various posts of the side wall, and at the end of the car having its end turned outwardly to provide a flange 43 disposed just inside and bearing against the inner face of the adjacent corner post 23. These longitudinal brace plates, which may be of any suitable length, act, as will be readily understood, to assist in strengthening the end wall and in holding the same in proper vertical position in case of accident or extreme pressure against the outer face of such wall.

Whereas I have herein indicated only a single embodiment of this invention, I wish to have it understood that the invention is susceptible of a variety of embodiments and that many minor changes may be made in the construction set forth herein in detail without departure from the substance and essence of the invention and without the sacrifice of any of its substantial benefits, the main object being the production of a car end-wall and associated parts of such construction as to render the car practically safe against telescoping in case of emergency.

I claim:

1. In a construction of the character described, the combination of a wooden end-sill having metallic reinforcement, a wooden face carline, a metal plate secured to the latter, I-beam posts secured to said sill and having their webs extended at the tops and fastened to said plate, and planks disposed between said posts, substantially as described.

2. In a construction of the character described, the combination of a wooden end-sill reinforced by a metallic bulb-beam, the bulb of which is cut away at its ends on one side, and metallic corner posts bearing against the web of said bulb-beam at such cut-away portions, the car end-wall being composed of said corner posts, intermediate metallic posts, and planks between such posts, substantially as described.

3. In a construction of the character described, the combination of a wooden end-sill having associated therewith a reinforcing metallic bulb-beam, the bulb of which is cut away on one side at the ends of said beam, a face carline, a metal reinforcing plate secured to said carline, metal corner posts bearing against the web of said bulb-beam at the places where the bulb is omitted, intermediate metallic upright posts secured to said end sill and having their webs extended at their tops and fastened to said face carline and its reinforcing plate, substantially as described.

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