No. 793,763. PATENTED JULY 4, 1905.

W. P. BETTENDORF.

CAR TRUCK.

APPLICATION FILED MAR. 21, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

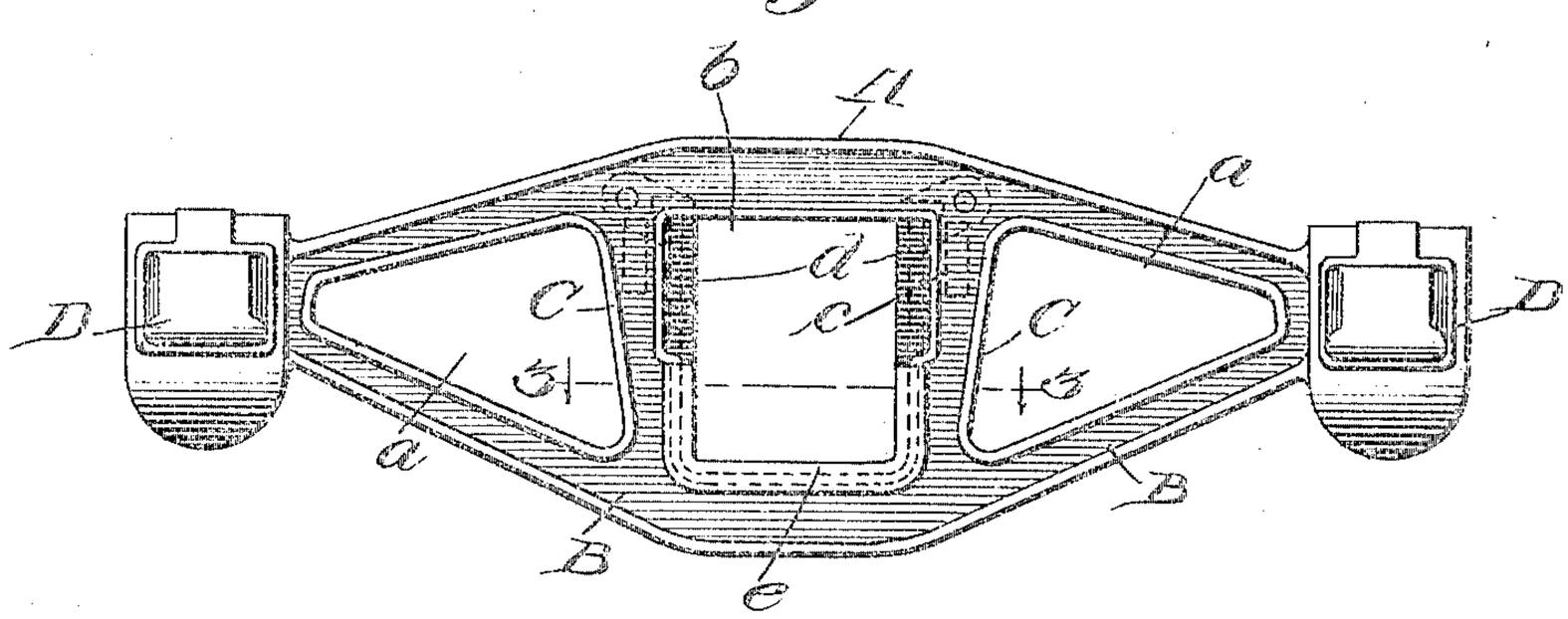


Fig. 2.

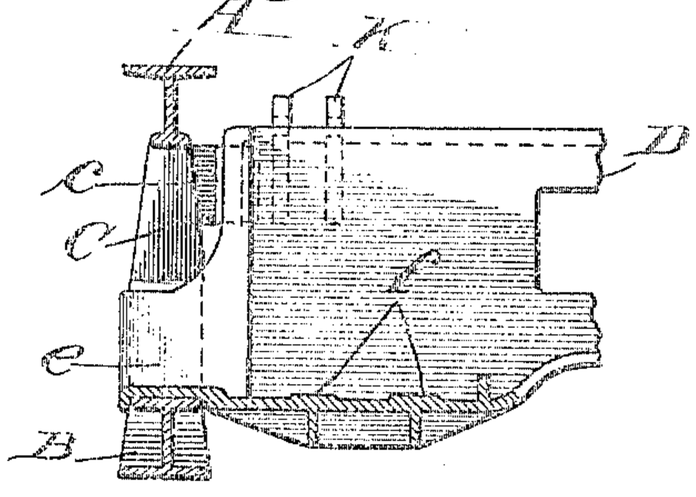


Fig. 4.

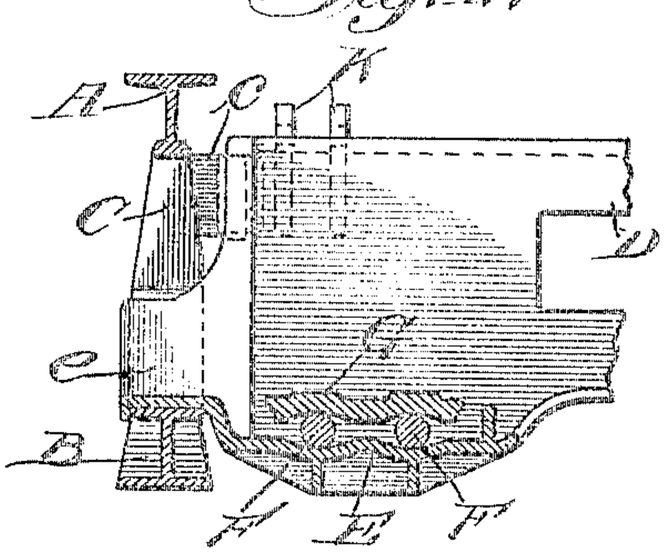
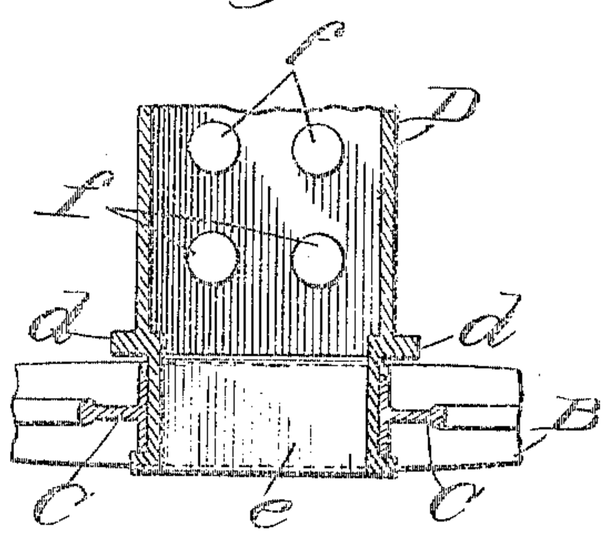


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 5.

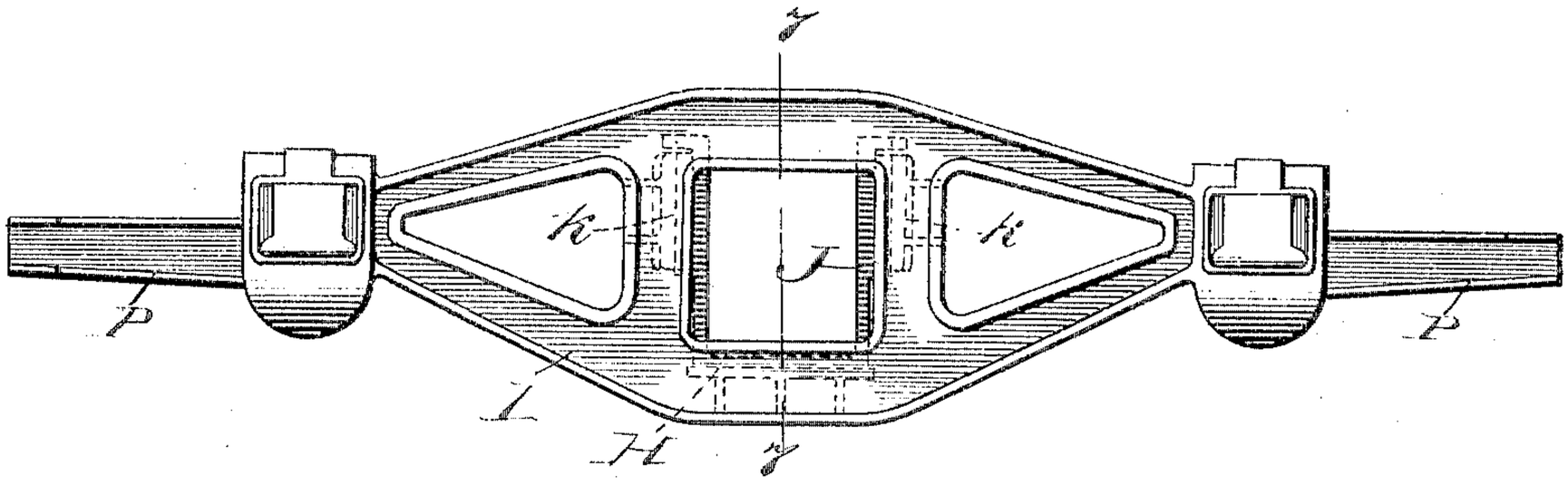


Fig. 6.

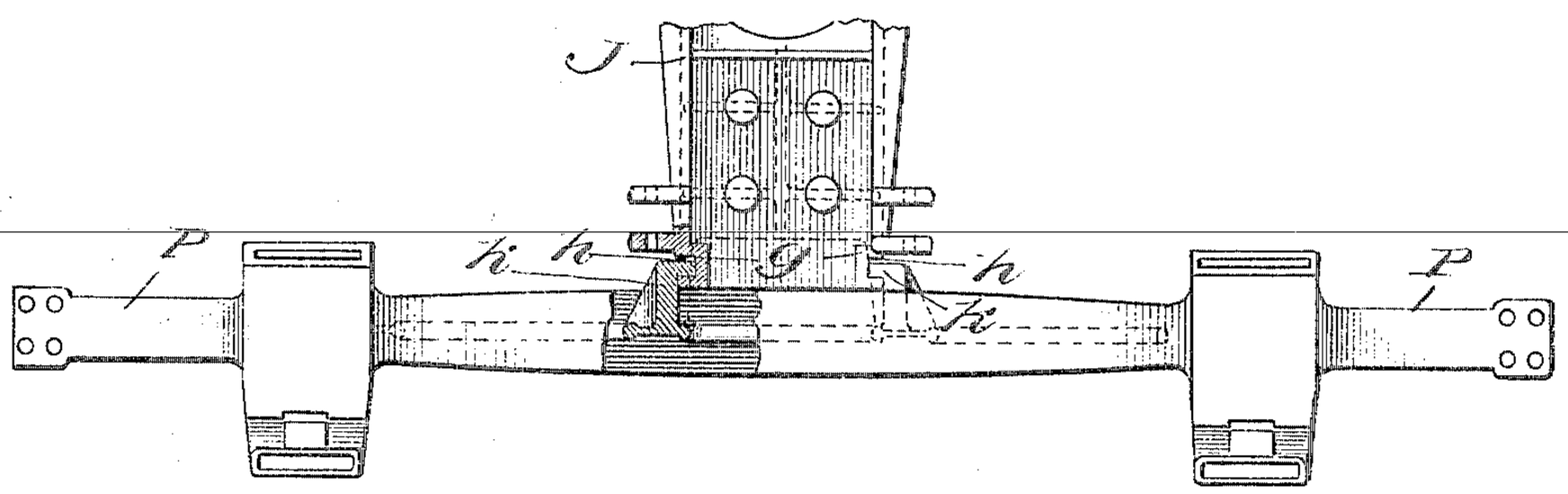
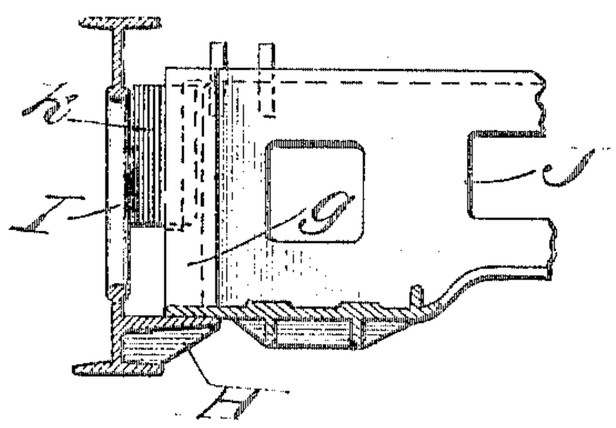


Fig. 7.



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No. 793,763. Patented July 4, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 793,763, dated July 4, 1905.

Application filed March 21, 1904. Serial No. 199,083.

To all whom it may concern:

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Car-Trucks, of which the following is a full, clear, and exact description.

My invention relates to that class of railway-car trucks known as "swing-motion" trucks and "rigid-bolster" trucks and to trucks of a similar character in which the ends of the truck-bolster do not extend into or through openings in the side frames and have their movements controlled by engagement with the vertical edges of said openings.

The object of the invention is to dispense with the multitude of parts of which heretofore the side frames and the attachments thereof were made, to make them all integral in one piece, including the means for locking the ends of the transom thereto, and to otherwise cheapen, simplify, and improve the construction of the same and the cross members of the truck. This I accomplish by the means hereinafter fully described, and as particularly pointed out in the claims.

In the drawings, Figure 1 is a side view of the parts of a car-truck embodying my invention. Fig. 2 is a transverse vertical central section therethrough. Fig. 3 is a horizontal section taken on dotted line 3 3, Fig. 1, looking in the direction indicated by the arrows. Fig. 4 is a sectional view, similar to that shown in Fig. 2, of a slightly-modified construction of my invention. Fig. 5 is a side view of the parts of a car-truck embodying a modified construction of my invention. Fig. 6 is a plan view of the same with part of the transom and also part of the upper flange and web of the side frame broken away. Fig. 7 is a transverse vertical section taken on dotted line 7 7, Fig. 5.

In the drawings, A represents the upper arch of the side frame of my improved truck; B, the inverted arch of the same; C C, parallel king-posts, and D D the journal-boxes. The side frames, including all of these parts, are made of one piece of metal, and it is immaterial whether they are manufactured of cast-steel, pressed steel, or otherwise, although cast-steel is preferred.

The journal-boxes D D may be of any desired construction, although I prefer to make them correspond to the requirements of the type known as the "Master Car-Builders' journal-boxes," excepting that they are not removable. They can be provided with any suitable cover.

In order to reduce the weight of the side frames, triangular-shaped openings *a a* are made therein between the upper and lower arches and the parallel columns C, and I prefer to make an opening *b* therein between said columns, although any or all of these openings may be dispensed with.

Projecting inward from the upper portion of the columns C on each side of the central opening are vertically-elongated lugs *c c*, the inner edges of which are flanged transversely toward each other. The side frames are connected by a transom D, which is preferably channel-shaped, has the upper edges of its side walls flanged laterally, and has portions of its bottom and side walls cut away to reduce its weight. The edges of the ends of the side walls of this transom are provided with laterally-projecting flanges *d d*, which when the transom is lowered into its relative position during the operation of assembling the parts of the car-truck are caught and have interlocking engagement with the flanged edges of lugs *c*. If desired, the flanges of the upper edges and of the end edges of the side walls of the transom may merge into one another, and in this event the downward movement of the transom would be arrested when the upper end of lugs *c* came in contact with the flanges of the upper edges of the sides of the transom, and thus support said transom. I prefer, however, to supply a support for the ends of the transom in addition to that given by lugs *c*. This I accomplish by providing the ends of the transom with channel-shaped extensions *e*, that are preferably slightly less in width and in depth than the transom ends, so as to provide an outer transverse shoulder. The edges of the openings *b* of the side frames are

flanged laterally, preferably in both directions, and the upper portion of this opening is made wider than the lower portion. Now the length of these extensions *e* is slightly greater than the width of the flanged sill and side edges of the lower portion of opening *b*, and the dimension of this lower portion of said opening is such that when said extension is inserted through the same and is seated on the sill thereof it will snugly fit in the said lower portion of said opening. The end edges of the extensions *e* are flanged laterally and when the parts of the truck are assembled lap against the outer edges of the flanges of opening *b* and prevent the withdrawal or longitudinal displacement of the transom. The height of the side walls of the extension *e* is preferably less than half that of the sides of the body of the transom, and when assembling the parts of the truck together the extensions are pushed through the upper portions of opening *b* of the side frame, where said opening is wide enough to permit the passage of the flanged end edges of the same, and then the said transom is lowered and the ends of the body of the transom interlock with lugs *c* at the same time the extensions are locked in openings *b* of the side frame.

In Figs. 2 and 3 the bottom of the end portions of the transom is shown to be built with centering-bosses *f f* for the support of the bolster-springs. In Fig. 4 the corresponding portion of the bottom of the transom is dropped farther than in Fig. 2 and is suitably constructed to provide a seat E for the bearing-rollers F, which support the plate G, on which the bolster-springs are seated.

In Figs. 5, 6, and 7 of the drawings I show a modified construction of my invention, in which extensions *e* of the transom are dispensed with and instead each side frame I is provided with an integral shelf or bracket H, which projects inward at about the center of length of the side frame, preferably below the plane of the sill of the central opening therein, (providing it has such an opening.) The vertical end edges *g g* of the side walls of the transom J are made thicker and are provided with vertical grooves *h h*, and the side frames are provided with lugs *k k*, that are similar to lugs *c* of the preferred form of my invention, as shown in the first four figures of the drawings, the flanged edges of which enter said grooves. The projection of the shelf or bracket H is such that when the lugs *k* interlock with the end edges of the side walls of the transom J and the transom is lowered to its proper position its ends will rest on the said shelf or bracket.

I prefer to provide the transoms shown in all the forms of my invention with parallel lugs K K, that project from each side of the transom next the upper edges of its side walls and adjacent to the ends thereof. The means for suspending the brake-beams are pivotally attached to these lugs K; but the latter may be dispensed with and other constructions or means resorted to for this purpose, if desired.

If desired, as shown in Figs. 5 and 6, the journal-boxes may be provided with horizontal arms P P, that constitute alining end extensions of the side frame and are cast or otherwise made in one body of metal therewith. These alining end extensions of the opposite side frame of the truck are used when it is intended to adapt my improvements for passenger-car trucks, and they are designed to be connected by suitable cross-bars, so as to make the regulation rectangular truck-frame for such cars when desired.

What I claim as new is—

1. A car-truck comprising a transom, and side frames consisting of an upper and lower arch-bar and guide-columns and made integral from end to end of one body of metal and having a transverse opening therethrough the sill of which is formed to provide a horizontally-disposed support upon which the ends of said transom which are less in height than said opening are removably retained.

2. A car-truck comprising a transom, and side frames consisting of an upper and lower arch-bar and guide-columns and made integral from end to end of one body of metal, having a transverse opening therethrough the sill of which forms a horizontally-disposed support upon which the ends of said transom which are less in height than said opening removably rest, and integral means adjacent to said support for locking the ends of said transom against transverse movement thereon.

3. A car-truck comprising a transom, side frames having journal-boxes made integral therewith of one body of metal, and having transverse perforations with the sides of which the ends of said transom which are less in height than said perforation interlock.

4. A car-truck comprising a transom, and side frames having journal-boxes made integral therewith of one body of metal and having transverse perforations with the sides of which the ends of said transom which are less in height than said perforation are removably retained.

5. A car-truck comprising a transom, and side frames having journal-boxes made integral therewith of one body of metal, having a transverse opening therethrough the sill of which forms a horizontal support upon which the ends of said transom which are less in height than said opening removably rest, and vertically-disposed integral means adjacent to said support for locking the ends of said transom thereon.

6. A car-truck comprising a transom, and side frames made integral from end to end of

one body of metal having a transverse opening therethrough the sill of which forms a horizontal support upon which the end portions of said transom rest, and having lugs projecting inward therefrom with which the ends of said transom interlock.

7. A car-truck comprising side frames, journal-boxes, and arms at each end extending in the same plane as the body of the side frame from said journal-boxes, said side frames, journal-boxes, and arms being made integral from end to end in one body of metal.

8. A car-truck comprising a transom, and side frames having journal-boxes made integral therewith of one body of metal and having lugs projecting inward therefrom with which the ends of said transom interlock.

9. A car-truck comprising a transom, and side frames having journal-boxes made integral therewith of one body of metal, having a transverse opening the sill of which forms a horizontal support upon which the end portions of said transom rest, and having lugs projecting inward therefrom with which the ends of said transom interlock.

10. A car-truck comprising side frames having an opening mediate its ends, and a transom, the ends of which are less in height than said opening, and terminate next the inner sides of said side frames, and have their ends extended and adapted to rest upon and interlock with the sills of said opening.

11. A car-truck comprising side frames made integral of one body of metal and provided with an opening mediate its ends, and a transom the ends of which are less in height than said opening, and terminate next the inner sides of said side frames and have end extensions that rest upon and interlock with the sills of said opening.

12. A car-truck comprising side frames having journal-boxes made integral therewith of one body of metal, and provided with an opening mediate its ends, and a transom the ends of which terminate next the inner sides of said side frames and have end extensions that rest upon and interlock with the sills of said openings.

13. A car-truck comprising side frames having an opening mediate its ends the upper portion of which is wider than the lower portion, and a transom the ends of which terminate next the inner sides of said side frames and have end extensions that rest upon and interlock with the sills and sides of said opening.

14. A car-truck comprising side frames made integral of one body of metal and provided with an opening mediate its ends the upper portion of which is wider than the lower portion, and a transom the ends of which terminate next the inner sides of said side frames and have end extensions that rest upon and interlock with the sills and sides of said opening.

15. A car-truck comprising side frames having journal-boxes made integral therewith of one body of metal, and provided with an opening mediate its ends the upper portion of which is wider than the lower portion, and a transom the ends of which terminate next the inner sides of said side frames and have end extensions that rest upon and interlock with the sills and sides of said openings.

16. A car-truck comprising side frames having an opening mediate its ends and lugs projecting from the inner sides thereof, and a transom the ends of which terminate next the inner sides of said side frames and interlock with said lugs, and are provided with end extensions that rest upon and interlock with the sills of said opening.

17. A car-truck comprising side frames having an opening mediate its ends and lugs projecting from the inner sides thereof, and a channeled transom the ends of which terminate next the inner sides of said side frames and have the vertical portions of the end edges thereof interlock with said lugs, and are provided with end extensions that rest upon and interlock with the sills of said opening.

18. A car-truck comprising side frames made integral of one body of metal having an opening mediate its ends and lugs projecting from the inner sides thereof, and a transom the ends of which terminate next the inner sides of said side frames and interlock with said lugs, and are provided with end extensions that rest upon and interlock with the sills of said opening.

19. A car-truck comprising side frames having journal-boxes made integral therewith of one body of metal having an opening mediate its ends and lugs projecting from the inner sides thereof, and a transom the ends of which terminate next the inner sides of said side frames, and interlock with said lugs, and are provided with end extensions that rest upon and interlock with the sills of said opening.

20. A car-truck comprising side frames made integral of one body of metal having an opening mediate its ends and lugs projecting from the inner sides thereof, and a transom the ends of which terminate next the inner sides of said side frames and have the vertical portions of the end edges thereof interlock with said lugs, and are provided with end extensions that rest upon and interlock with the sills of said opening.

In testimony whereof I have hereunto set my hand this 29th day of February, 1904.

WILLIAM P. BETTENDORF.

Witnesses:

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FRANK D. THOMASON.