No. 778,841. PATENTED JAN. 3, 1905.

W. P. BETTENDORF.

CAR TRUCK.

APPLICATION FILED MAR. 21, 1904.

Fig. 1.

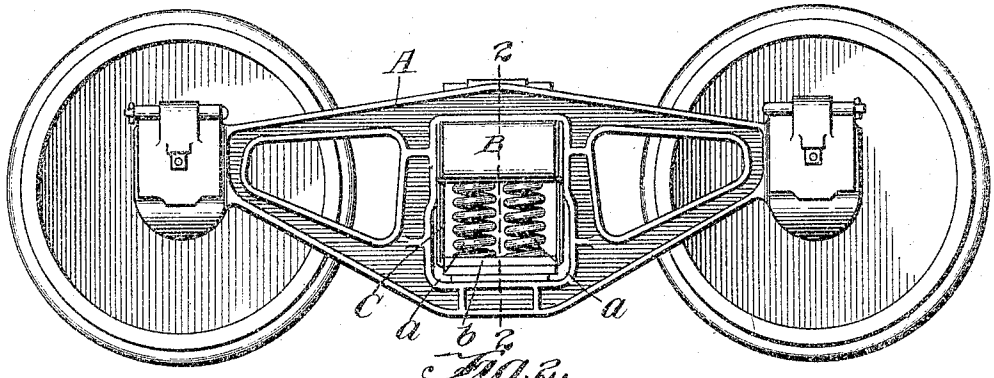


Fig. 2.

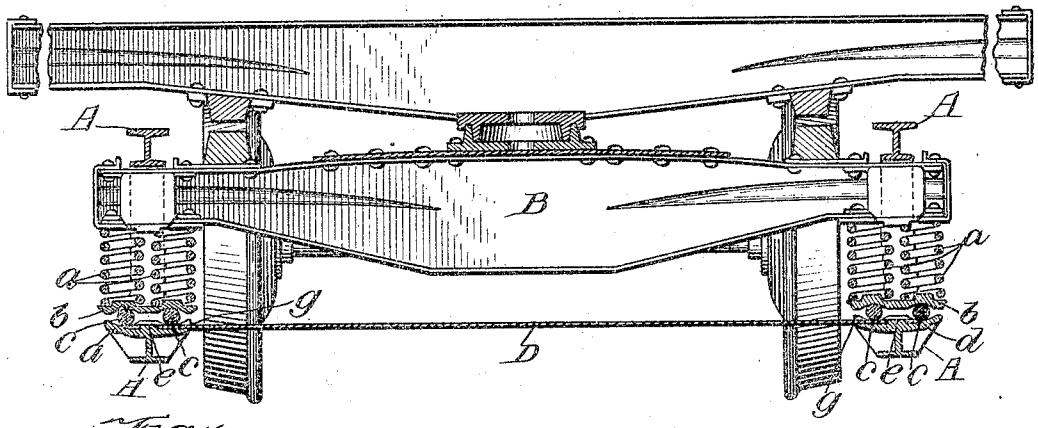
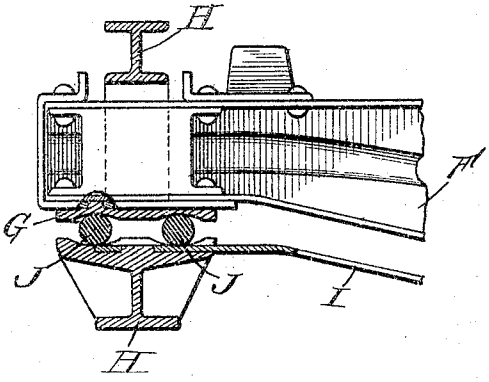
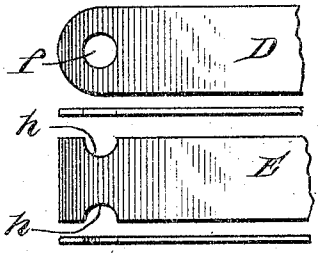


Fig. 3.

Fig. 4.





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No. 778,841. Patented January 3, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 778,841, dated January 3, 1905.

Application filed March 21, 1904. Serial No. 199,082.

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.

The object and purpose of my invention is to simplify the construction of "swing-motion" car-trucks and to avoid the necessity of riveting the ends of the spring-planks to the side frames of car-trucks, whether used in connection with swing-motion trucks or otherwise, and make it an easy matter either to install said planks in place or remove the same. 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 a car-truck embodying my invention. Fig. 2 is a transverse vertical section taken on dotted line 2 2, Fig. 1. Fig. 3 is a similar section, on an enlarged scale, of one side of a car-truck with the wheels omitted, embodying a modification of my invention. Fig. 4 is a detail view showing plans and edge views of the end portions of two forms of spring-planks.

In the drawings, A represents the side frames of a car-truck, which are, including the journal-boxes, preferably cast or otherwise made in one piece or body of metal, substantially as described and illustrated in Letters Patent of the United States granted to me October 6, 1903, No. 740,617. This construction, however, is not essential, as the commoner forms of side frames now in extensive use can, if desired, be employed. The ends of the bolsters B extend into and preferably through the central opening C in each of the side frames, whose lower portions are preferably wider than the upper portions thereof, and said ends are supported by springs *a a*, whose lower ends are seated and supported on the spring-seat *b*. The under sides of these spring-seats are provided with two parallel transverse concave channels and rest upon two rollers *c c*, which latter are seated on the widened sill *d* of the opening C. This sill *d* is provided with concave channels corresponding to and opposite the channels in the under side of the spring-seat and is also depressed so as to leave in relief a central boss *e*. The ends of the spring-plank D, connecting these side frames, are preferably rounded and provided with an opening *f* therein, which when the plank is being secured in position is slipped over the central boss *e* and rests snugly in the depressed surface of the sill *d*, which depressed surface corresponds in area and shape to the end of the plank resting thereon. Now the rollers *c c* rest on and roll back and forth over the end of the spring-plank and keep it in place, and these rollers are themselves retained in place by transverse ridges *g g*, arising from the said sills at right angles to the rollers, that have their upper edges, in which the ends of the rollers rest, concaved.

The spring-plank D, hereinbefore described, is illustrated in the two uppermost views in Fig. 4. The spring-plank E (shown in the lowermost views of this figure) embodies a modified construction of spring-plank D, inasmuch as its ends are made square, and instead of an opening similar to *f* recesses *h h* are made in its opposite side edges near its end. When spring-plank E is employed, the depressed seats therefor in the sills of the central openings of the side frames are changed to correspond thereto.

In Fig. 3 of the drawings I show a modified construction of my invention. In this modification the springs *a a* are dispensed with and the bolster F has a bearing-plate G secured direct to the under side of its end portions, and the under surface of this plate is provided with two parallel transverse concavities. The sill of the central opening of the side frames H of this modified construction is the same as that illustrated in the first two figures of the drawings, and the spring-planks I thereof may be like either spring-planks E or D, (illustrated in Fig. 4,) and rollers J J are introduced between the bolster and sill and support the former.

If desired, the roller-side-bearing feature of my invention, either as shown in the first two figures of the drawings or in Fig. 3, could

be dispensed with and the springs supporting the ends of the bolster and the spring-seat (providing one was employed) could rest upon the sill of the central opening of the side frame and hold the spring-plank in position. All such changes I desire to have considered as part of my invention.

What I claim as new is—

1. A car-truck comprising side frames, each having an opening therein mediate their ends, that have depressed seats in their sills for the ends of the spring-plank; and said spring-plank, the ends of which rest and are seated in the depressions of said sills and are removably interlocked therewith.

2. A car-truck comprising side frames, each having an opening therein mediate their ends that have depressed seats in their sills for the ends of the spring-plank, which depressed seats have within the area lying between the sides of said plank, portions in relief; and said spring-plank, the ends of which rest in said depressed seats and have portions thereof removed to accommodate the projection of the said relief portions of the depressed seats in the sills of the side frame.

3. A car-truck comprising side frames, each having an opening therein mediate their ends, the sills of which are widened and provided with depressed seats for the ends of the spring-plank and have a boss arising from the central portion; and said spring-plank having its ends resting in said depressed seats and provided with an opening therein up into which said boss projects.

4. A car-truck comprising side frames, each having an opening therein mediate their ends, that have depressed seats in their sills for the ends of the spring-plank; said spring-plank, the ends of which rest and are seated in the depressions of said sills and are removably interlocked therewith; and a suitable truck-bolster the weight of whose ends is disposed above and keeps the ends of said spring-plank interlocked with said sills.

5. A car-truck comprising side frames, each having an opening therein mediate their ends that have depressed seats in their sills for the ends of the spring-plank, which depressed seats have within the area lying between the sides of said plank, portions in relief; said spring-plank, the ends of which rest in said depressed seats and have portions thereof removed to accommodate the projection of the said relief portions of the depressed seats in the sills of the side frame; and a suitable truck-bolster the weight of whose ends is disposed above and keeps the ends of said spring-plank interlocked with the sills.

6. A car-truck comprising side frames, each having an opening therein mediate their ends, the sills of which are widened and provided with depressed seats for the ends of the spring-plank and have a boss arising from the central portion; said spring-plank having its ends resting in said depressed seats and provided with an opening therein up into which said boss projects; and a suitable truck-bolster the weight of whose ends is disposed above and keeps the ends of said spring-plank interlocked with said sills.

7. A car-truck comprising side frames having an opening therein mediate their ends that have depressed seats in their sills for the ends of the spring-plank; said spring-plank the ends of which rest and are seated in the depressions of said sills and removably interlock therewith, and a suitable swinging truck-bolster the weight of which is disposed above and confines the end of said plank.

8. A car-truck comprising side frames, each having an opening therein mediate their ends; spring-planks, the ends of which rest upon the sills of said openings; a truck-bolster; and bearing-rollers supporting the ends of said bolster and rest upon and interlock the plank with said sills.

9. A car-truck comprising side frames, each having an opening therein mediate their ends; spring-planks, the ends of which rest upon the sills of said openings; a truck-bolster; springs supporting the ends of said bolster; a suitable spring-seat; and roller-bearings under said spring-seat that rest upon and interlock the plank with said sills.

10. A car-truck comprising side frames, each having an opening therein mediate their ends; spring-planks, the ends of which rest upon the sills of said openings; a truck-bolster; springs supporting the ends of said bolster; a suitable spring-seat; and roller-bearings under said spring-seat that rest upon the ends of the plank above said sills and interlock the ends of said plank therewith.

11. A car-truck comprising side frames each having an opening therein mediate their ends, the lower portions of which are wider than the upper portions; spring-planks the ends of which rest upon the sills of said openings; a truck-bolster; and means for supporting and retaining said bolster in the upper narrower portion of said openings that rest upon the ends of said plank above said sill and interlock the same with the sills.

12. A car-truck comprising side frames each having an opening therein mediate their ends, the lower portions of which are wider than the upper portions; spring-planks the ends of which rest upon the sills of said openings; a truck-bolster; and springs for supporting and retaining said bolster in the upper narrower portion of said openings that rest upon the ends of said plank above said sill and interlock the same with the sills.

13. A car-truck comprising side frames having a central bolster-opening therein the upper surface of the sill of which is provided with raised portions, and a spring-plank the ends of which rest upon said sills and interlock with the raised portions thereof.

14. A car-truck comprising side frames having a central bolster-opening therein the upper surface of the sill of which is provided with raised portions mediate its ends, and a spring-plank the ends of which rest upon said sills and interlock with the raised portions thereof.

15. A car-truck comprising side frames having a central bolster-opening therein the upper surface of the widened sill of which is provided with raised portions several of which provide seats for the rollers of roller-bearings, a spring-plank the ends of which rest upon and interlock with said sills, bearing-rollers, spring-seats sustained thereby, bolster-springs and bolsters, substantially as hereinbefore described.

16. A car-truck comprising side frames, each having an opening therein mediate their ends that are provided with transverse ridges; spring-planks, the ends of which rest upon the sills of said openings; a truck-bolster; and bearing-rollers supporting the ends of said bolster and roll upon and interlock the plank with said sills.

17. A car-truck comprising side frames, each having an opening therein mediate their ends that are provided with transverse ridges; spring-planks, the ends of which rest upon the sills of said openings; a truck-bolster; springs supporting the ends of said bolster; a suitable spring-seat; and roller-bearings under said spring-seat that roll upon and interlock the plank with said sills.

18. A car-truck comprising side frames, each having an opening therein mediate their ends that are provided with transverse ridges; spring-planks, the ends of which rest upon the sills of said openings; a truck-bolster; springs supporting the ends of said bolster; a suitable spring-seat; and roller-bearings under said spring-seat that roll upon the ends of the plank above said sills and interlock the ends of said plank therewith.

19. A car-truck comprising side frames each having an opening therein mediate their ends that are provided with transverse ridges, the lower portions of which are wider than the upper portions; spring-planks the ends of which rest upon the sills of said openings; a truck-bolster; and means for supporting and retaining said bolster in the upper narrower portion of said openings that rest upon the ends of said plank above said sill and interlock the same with the sills.

20. A car-truck comprising side frames each having bolster-openings therein mediate their ends that are provided with integral transverse ridges thereon; a truck-bolster; and bearing-rollers supporting the ends of said bolster and have their ends resting and adapted to roll upon said ridges.

21. A car-truck comprising side frames each having bolster-openings therein mediate their ends that are provided with integral transverse concave ridges thereon; a truck-bolster; and bearing-rollers supporting the ends of said bolster and have their ends resting and adapted to roll upon said ridges.

22. A car-truck comprising side frames each having bolster-openings therein mediate their ends that are provided with integral transverse ridges thereon; a truck-bolster; springs supporting the same; spring-seats for said springs, and bearing-rollers under said spring-seats that rest and roll upon said ridges.

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

WILLIAM P. BETTENDORF.

Witnesses:
E. K. LUNDY,
FRANK D. THOMASON.