D. H. DOTTERER.

Car Truck.

No. 49,510. Patented Aug. 22, 1865.

Fig. 1.

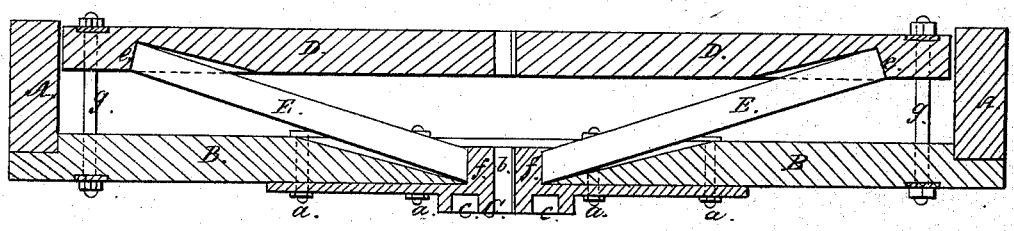


Fig. 2.

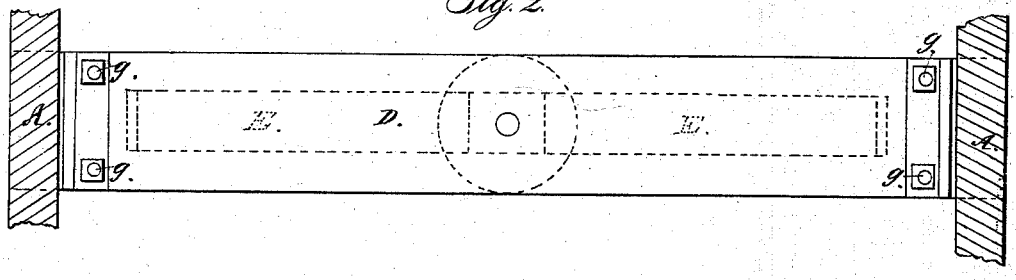
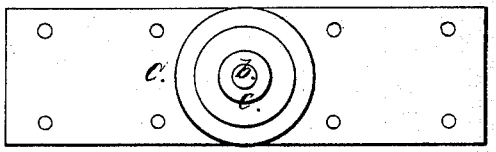


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

DAVIS H. DOTTERER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY-CAR TRUCKS.

Specification forming part of Letters Patent No. **49,510**, dated August 22, 1865.

To all whom it may concern:

Be it known that I, DAVIS H. DOTTERER, of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in the Construction of Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, Sheet 1, is a longitudinal section through one-half of a car-body, taken in a vertical plane through its center. Fig. 2, Sheet 1, is a section through Fig. 1, taken through its front end, as indicated by the course of red line *x x*. Fig. 3, Sheet 1, is an elevation of one end of my improved car-body. Fig. 4, Sheet 1, is a vertical transverse section through the car-body, as indicated by red line *y y*, Fig. 2. Fig. 5, Sheet 2, shows the manner of connecting two sections of a car-body together, and also the manner of constructing the sides. Fig. 6 shows the connecting-links which are used for connecting together the two sections of a car-body. Fig. 7 shows a mode of stiffening the sills of my car-body. Fig. 8 shows the connecting-links of Figs. 5 and 6.

Similar letters of reference indicate corresponding parts in the several figures of both sheets.

This invention relates to a new and improved mode of building railroad-car bodies, whereby I obtain great strength and durability, combined with lightness and portability.

One object of my invention is to construct the sides and ends of a car-body of successive layers or strips of wood of any required width and thickness, cemented and bolted together in such manner that the full strength of the material is preserved and the usual mode of framing by means of mortises and tenons obviated, as will be hereinafter described.

Another object of my invention is to stiffen and strengthen the sides and ends of my car-body by the employment of tubes, through which the clamping-bolts are passed, said tubes and bolts being inclosed within the sides of the body and recessed into the sills and capping portions, as will be hereinafter described.

Another object of my invention is to construct a railroad-car body of two or more sections, which are put together in such manner that should one end or section become injured it can be readily detached from the other end or section and a perfect section substituted in its stead, thus repairing an injured car in a comparatively short space of time, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the sill of the car-body, B the capping or pieces which form the base of the roof, and C the vertical sides of the body, the whole being firmly held together by wrought-iron bolts and tubes, as shown in Figs. 2, 4, and 5. The tubes *a a* are inserted through holes which are made through the narrow strips *b b* of which the main portion of the body is constructed, and through said tubes rods or bolts *c c c* are passed, receiving nuts *d d* on their ends, by means of which the strips *b b*, as well as the pieces A and B, are firmly clamped together. The tubes *a a* are intended to fit tightly in the wood, and to penetrate a short distance into the sill and capping-pieces, as shown in Fig. 5, Sheet 2.

The sides and ends C between the sills and capping are composed of successive layers or strips of wood sawed to the required width for the thickness of the sides C, and firmly secured together in one solid mass by water-proof glue and pins, nails, or screws previously to or simultaneously with the tightening up of the nuts on the ends of the rods *c c*.

The divisions C′ between the window-openings may be formed of one or more pieces of plank of the required thickness, and secured rigidly in their places by the bolts and tubes which pass through them, as represented in Fig. 5.

The car-body is so constructed as to separate in the middle at F, thus forming two sections, which are secured together by means of vertical bolts G, which pass through the ends of links *e e e e*, that are recessed into the surfaces of the layers or strips *b b b*, and confined in place between these strips during the operation of building up the sides. These links are of sufficient length, as shown in Figs. 5, 6, and 8, to receive four bolts, *c c c c*, through each section *e*, thus preventing them from be-

ing drawn out of their places by any amount of strain to which the car-body may be subjected. The ends of these links project from the ends of the sections of car-body and overlap each other, receiving through these lapped ends the coupling-bolts G, as shown in Figs. 5, 6, and 8. A great number of these links *e* may be used and inserted, as above stated, between every layer *b*, or between every other layer, as may be found desirable.

The sills A of the sections of a car-body are also made to separate, as shown in Fig. 7; and, if desirable, the cast-iron flanges *g g* may be used for stiffening the sills at their joints, in which case they may be secured to their respective sections by the bolts *c c* and secured together by the short bolts *i i*, receiving nuts on their ends, as shown. A contrivance somewhat similar to the cast-iron flanges *g g* may be applied on top of the capping-rails B B, for stiffening these portions at their junction and preventing a separation of the sections near the roof of the car-body.

The rafters K K, platforms H, cross-braces, and floorings are constructed and applied to my improved car-body in the usual manner. Provision should be made, however, for admitting of a separation of the sections of the body at their points of junction in fitting up and furnishing the body.

The tubes *a a* may be made of the common gas-tubing, cut of the proper length to enter the sills and capping, as above stated, and of sufficient diameter to receive the bolts *c c* loosely through them and to give lateral strength to the sides and ends of the car-body.

The object I have in so constructing the car-body that it can be separated into two sections or put together again at pleasure is twofold, viz: When one end of a car-body becomes considerably damaged, so as to render it useless, the car-body can be separated and quickly repaired by substituting a new section for the damaged one; and then, again, by making the car-body in detachable sections, as above described, I have great facility in the stowage and transportation of the sections either by land or water.

The sheet-metal covering *p* (shown in Figs. 3 and 4 applied to the outside surfaces of the sides and ends of the car-body) is intended to protect the wood from the action of the weather.

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

1. A car-body which is composed of successive horizontal layers or strips of wood secured one upon the other by means of cement and metal clamping-rods *c c*, substantially as described.

2. The use of tubes *a a*, in combination with the clamping-rods *c c* and a car-body, constructed substantially as described.

3. Constructing a car-body of two or more sections, put together in such manner that they can be separated at pleasure, substantially as described.

4. The method of applying the links *e e* to the ends of the sections of a car-body, substantially as described.

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