(No Model.) 2 Sheets—Sheet 1.

J. F. BATCHELOR.

FREIGHT CAR.

No. 347,553. Patented Aug. 17, 1886.

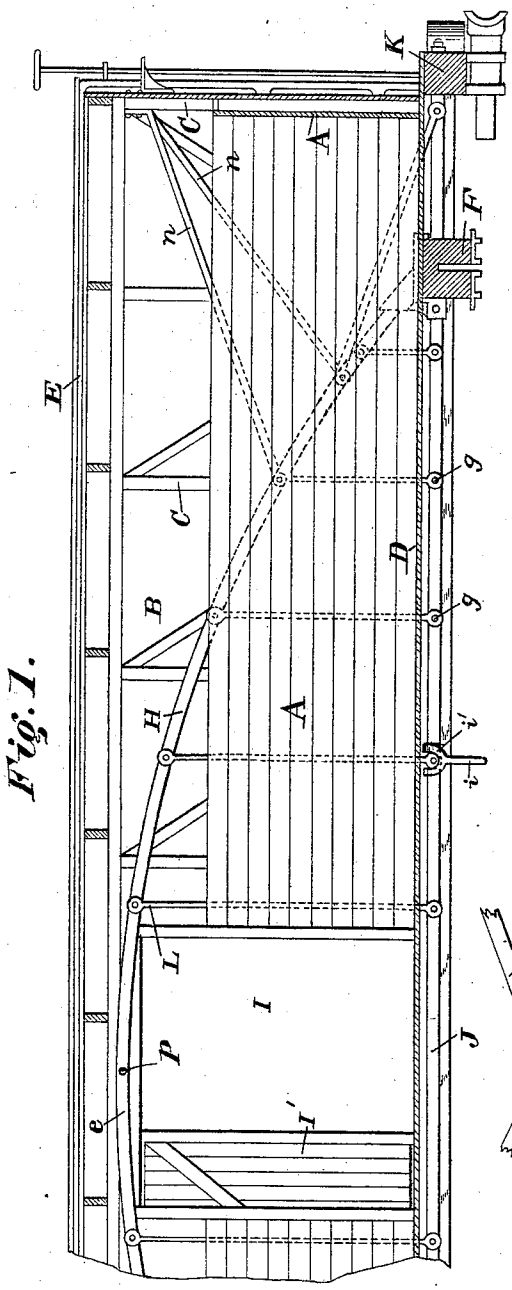


Fig. 1.

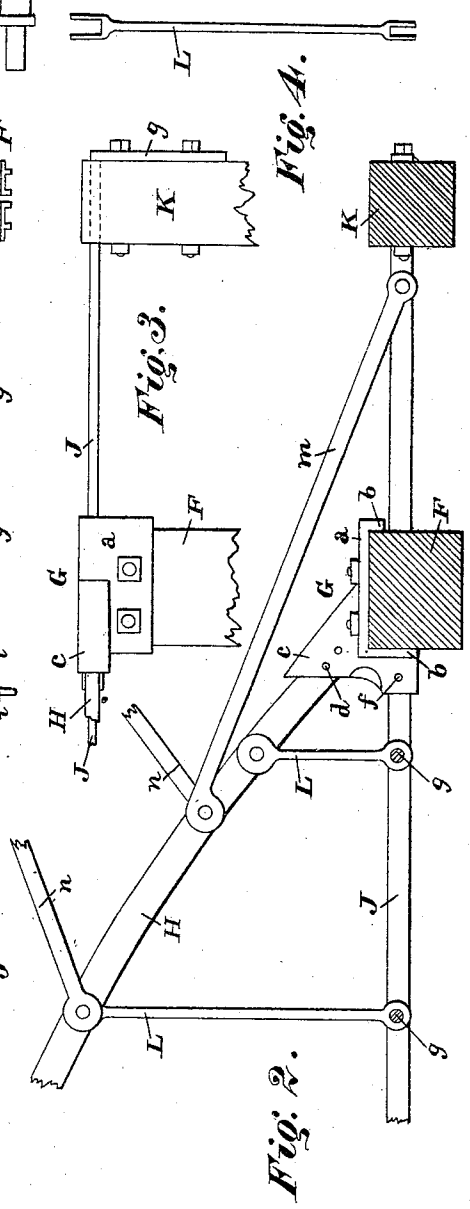


Fig. 4.

Fig. 3.

Fig. 2.

Witnesses:

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(No Model.) 2 Sheets—Sheet 2.

J. F. BATCHELOR.

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Fig. 6.

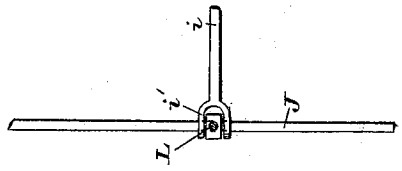
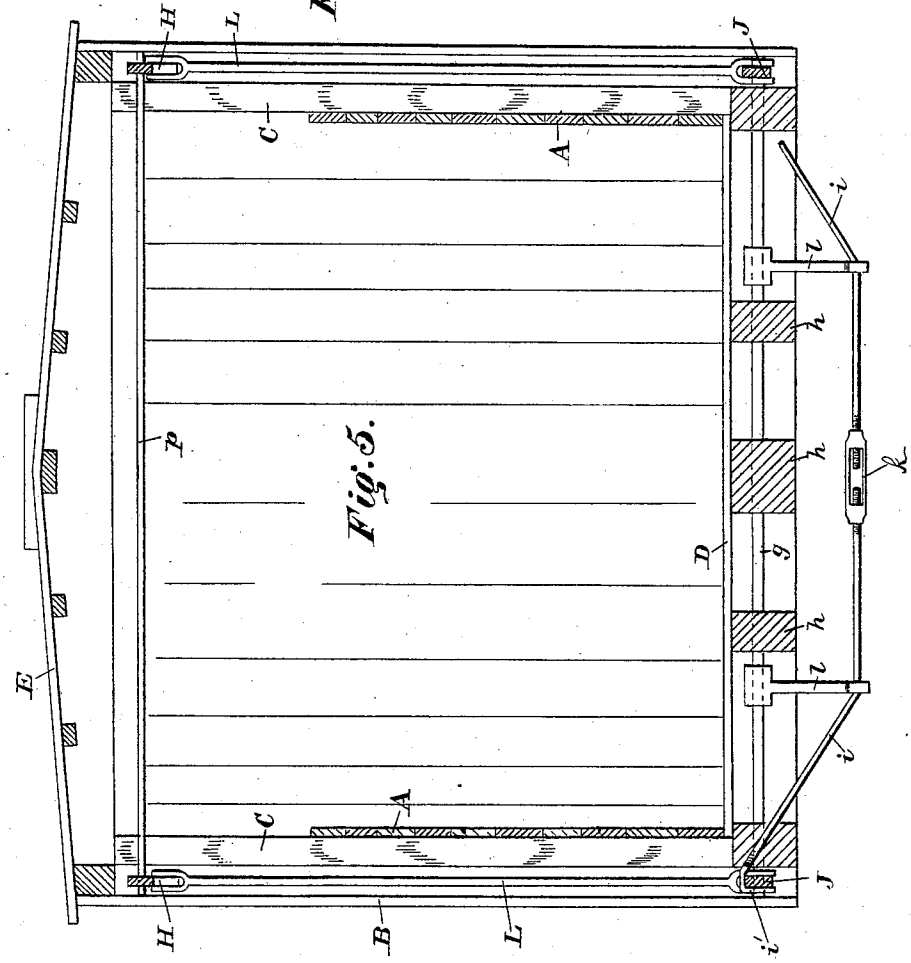


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH F. BATCHELOR, OF BALTIMORE, MARYLAND.

FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 347,553, dated August 17, 1886.

Application filed April 2, 1886. Serial No. 197,498. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH F. BATCHELOR, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Freight-Cars, of which the following is a specification.

My invention relates to an improved railroad freight-car of that class called "box-cars;" and the object of the invention is to provide for greater strength in the car-frame, to the end that cars of this description may be made longer and of greater capacity than those heretofore used.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a longitudinal vertical section of one-half of a car-body. Fig. 2 is a side view showing in detail one end of the arched truss. Fig. 3 is a top view of the truss base-plate, bolster, and front cross beam seen in Fig. 2. Fig. 4 is a view of one of the hanger-rods. Fig. 5 is a vertical cross-section of a box-car having the improvements. Fig. 6 is a top view in detail showing the suspension stay-bar *i* hooked over the bow-string bar J.

The letter A designates the inner wall or lining of a car; B, the outer wall; C, the upright studs of the frame between the walls; D, the floor; E, the roof; and F one of the bolsters. All these parts may be of the usual or well-known construction.

I provide a cast or forged iron base-plate, G, having a horizontal part, *a*, to rest on top of the bolster F, and which is provided with two downward flanges, *b*, one at each side, which take on opposite sides of the bolster. By this construction the base-plate may be seated, like a saddle, on the bolster and bolted thereto. The base-plate has on top a socket, *c*, which opens at one side and receives the end of the iron arched truss-bar, H, which is secured therein by two rivets or bolts, *d*.

The car has, as usual, two bolsters, F, one above each truck. Only one bolster is here seen, because a part only of the car is shown. Each of the two bolsters on a car is to be provided with two of the base-plates G, one bolted at each end. The arched truss-bar H extends from one bolster to the other, as will be readily understood, and has each end resting firmly in one of the said base-plates G. The truss bar H describes an arch or curve having its ends seated on a plane even with the car-floor, and the highest part, *e*, at the center, or midway between the ends of the car, and just below the roof-eave. The doorway I is in the side of the car, as usual, and is located below the said highest part, *e*, of the arched truss-bar. The door I′ is mounted to slide as usual in this class of car.

A "cord" or bow-string bar, J, extends horizontally at each side of the car, and connects with the base-plates G by rivets or bolts *f*, and prevents the aforesaid two bolsters from spreading, and thereby maintains the arched truss-bar in position. This bar J passes the end of the bolster and the end of the front cross-beam, K, and is bent so that its end *g* takes position on the front side of the said cross-beam, where it is bolted.

Hanger-rods L connect the arched truss-bar H and the bow-string bar J, and cross-rods *g*, below the car-floor D, unite the bow-string bars on each side of the car-body. These cross-rods *g* serve as bolts to unite the hanger-rods L and bar J, and also pass through the wood stringers *h*, on which the floor is laid, and give stability to the whole structure.

One or more suspension-stay bars, *i*, extend crosswise below the car-bottom, and each end is bifurcated and forms two hooks, *i′*, which take over the bow-string bar J, one hook being at each side of a hanger-rod, L, as seen in Fig. 6. The stay-bar *i* has at its center a screw-buckle, *k*, and two posts, *l*, are placed between it and the cross-rod *g*.

A brace-rod, *m*, above the bolster has a downwardly-inclined position, and one end is bolted to the arched truss-bar H, and the other end to the bow-string bar J, near the front cross-beam, K. Two upwardly-inclined brace-rods, *n*, are bolted by one end to the truss-bar H, and by the other end to the upright stud C in the corner of the car. These brace-rods serve to give stiffness to the car-frame.

A top cross-rod, *p*, near the car-roof, extends across from one truss-bar H to the other, and by connecting the two keeps the car-sides from spreading.

Having described my invention, I claim and

desire to secure by Letters Patent of the United States—

1. A railroad-car having, in combination, the usual bolsters, F, base-plates G, secured to the bolster, arched truss-bars H, extending from one bolster to the other, and having each end attached to one of the said base-plates, and bow-string bars J, as set forth.

2. A railroad-car having, in combination, the usual bolsters, F, base-plates G, having flanges, and seated, like a saddle, on the bolsters, and provided with sockets, arched truss-bars H, having their ends resting in said sockets, and bow-string bars J, connected with the base-plates and passing through them and fastened to the front cross-beam of the car, as set forth.

3. A railroad-car having, in combination, side walls, a doorway, I, at the center of the side wall, and an arched truss-bar, H, having its ends seated on a plane even with the car-floor and curved above the doorway, as set forth.

4. A railroad car having, in combination, arched truss-bars H, bow-string bars J, wood floor-stringers *h*, and cross-rods *g*, extending from one bow-string bar to the other and passed through the said floor-stringers, as set forth.

5. A railroad-car having, in combination, arched truss-bars H, bow-string bars J, cross-rods *g*, extending from one bow-string bar to the other, suspension stay-bars *i*, having at each end a hook which takes over one of the bow string bars, and posts *l* between said stay-bar and cross-rod, as set forth.

6. A railroad-car having, in combination, arched truss-bars H, bow-string bars J, and downwardly and upwardly inclined brace-rods *m n*, bolted to the truss-bars, as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSEPH F. BATCHELOR.

Witnesses:
JOHN E. MORRIS,
JNO. T. MADDOX.