

C. B. HUTCHINS.
RAILWAY CAR.

No. 484,593.

Patented Oct. 18, 1892.

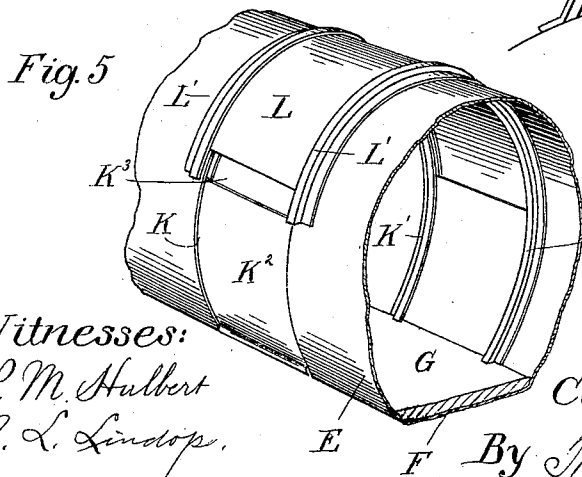
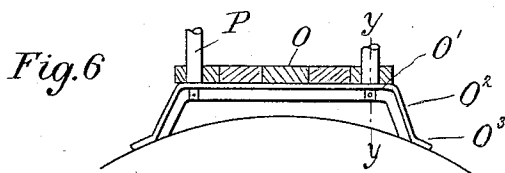
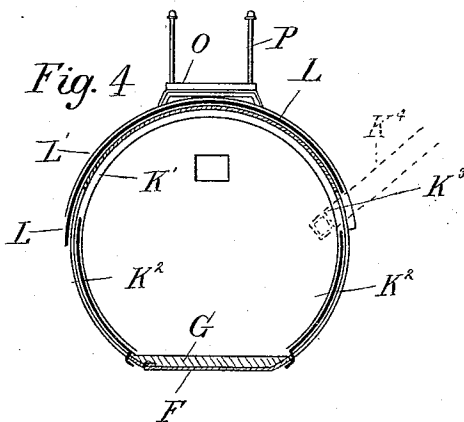
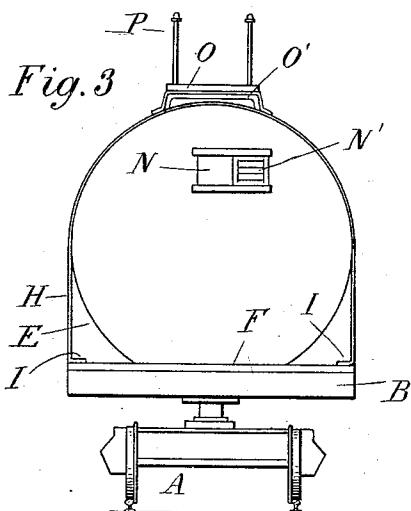
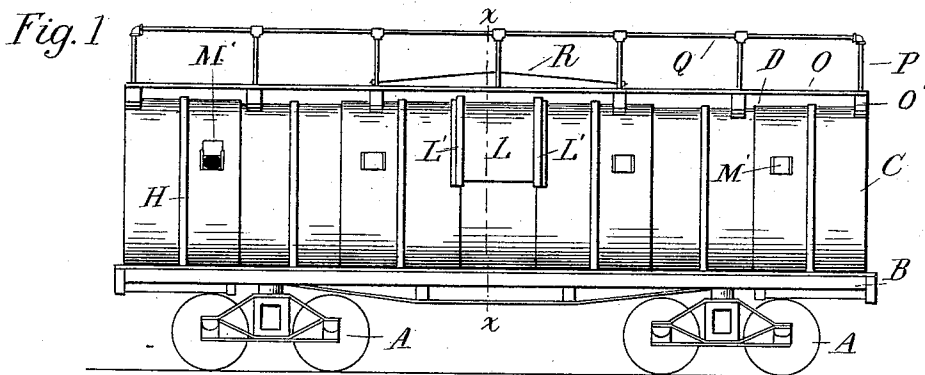
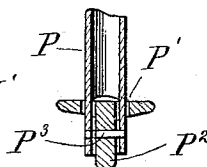


Fig. 7



Witnesses:

P. M. Hulbert
N. L. Lindop.

Inventor:

Carleton B. Hutchins

By *W. A. Sprague*
Attys.

(No Model.)

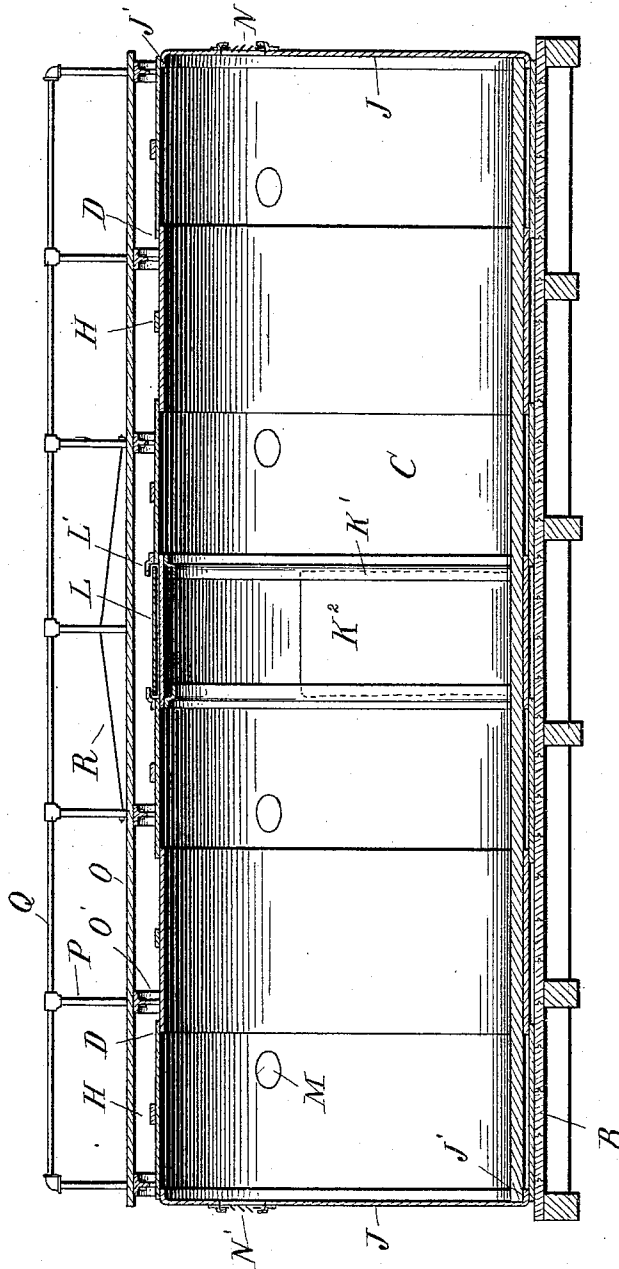
2 Sheets—Sheet 2.

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Fig. 2



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UNITED STATES PATENT OFFICE.

CARLETON B. HUTCHINS, OF DETROIT, MICHIGAN.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 484,593, dated October 18, 1892.

Application filed March 25, 1892. Serial No. 426,412. (No model.)

To all whom it may concern:

Be it known that I, CARLETON B. HUTCHINS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Railway-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in railway-cars; and the invention consists in the peculiar construction of a car especially designed for freight purposes, constructed in tubular form of sheet metal, whereby I obtain a light but strong body of large carrying capacity, all as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of my improved car. Fig. 2 is a vertical central longitudinal section through the body thereof. Fig. 3 is an end elevation thereof. Fig. 4 is a cross-section on line *xx*, Fig. 1, the lower doors being closed. Fig. 5 is a detached perspective view illustrating the construction and arrangement of the doors. Fig. 6 is an enlarged elevation of one of the platform-supports. Fig. 7 is a cross-section thereof on line *yy* in Fig. 6.

In the present state of the art cars are constructed mostly of wood, rectangular in cross-section, having a roof built thereon, with cross-timbers within the car and suitable doors at the sides. For use in transporting oil tank-cars are used, in the form of a boiler, with suitable inlet and outlet apertures for the oil.

So far as I am aware, no car has ever been built for general freight purposes made of sheet metal in tubular form, of a single shell having the bottom formed by a chord, and secured to a car-platform. To obtain such a car with a minimum of material and a maximum of strength and carrying capacity, I construct it as follows.

A are the trucks, of any suitable construction, and B is the platform supported upon the trucks. Centrally upon this platform is mounted my car-body, which is in tubular form, made of sheets of metal C, overlapping each other and riveted together at D. These sheets have overlapping ends secured together, forming a tubular portion E and a securing or platform portion F, this platform portion being formed in the line of a chord of the

transverse circular body and this securing portion F resting upon the platform and being bolted thereto. Within the body is a false bottom or platform G, of wood, which takes up the wear of handling material in the car and prevents damage to the plates forming the body. It will be observed by the inspection of Fig. 2 that the overlapping portions of the plates form strengthening-ribs, starting at the base of the plates, passing entirely around the car-body, and which serve to materially strengthen the body against any interior or exterior strains.

H are a series of metallic securing-straps passing over the body centrally of each plate and riveted thereto, extending vertically from the center at the side to the outer edge of the platform and having the inwardly-extending feet I, which are bolted or otherwise secured to the platform. These straps hold the body firmly to the platform and prevent any possibility of displacement even in case of accident, and being arranged centrally of the plates and riveted thereto they form an intermediate series of stiffening-ribs for the car-body to resist exterior or interior strain. This arrangement of overlapping joints with the straps riveted intermediate of the plates enables me to employ much lighter material than would otherwise be possible.

J are the ends of the car, having inwardly-extending flanges J' riveted to the ends of the plates.

The doors I preferably form centrally of the car, and to this end I cut away the central plate to form apertures K, extending up a suitable height to allow easy ingress of the trainmen. On each side of this central plate upon the inside are arranged the flanged guide-strips K', between which and the inner edge of the plate slidingly engage the segmental circular doors K², one on each side. These doors are preferably of sufficient length to partly fill the doorways K, leaving an aperture K³, through which, if desired, a grain-chute K⁴ may be inserted without the necessity of opening the door. I preferably arrange, however, means for closing these apertures K³, and this may usually consist of the sliding semicircular door L upon the outside of the car, engaging with its edges beneath the guide strips L', (shown in Fig. 2.)

this door being of sufficient length to normally close both apertures K^3 , and so constructed that it may be slid to either side to open the door. If desired, however, two small

5 doors may be employed for the apertures K^3 .

At suitable points along the car I arrange apertures M, provided with sliding doors M' , which afford ventilation or which may be used for inserting testing-instruments to test
10 the quality of the grain at various points. The ends are provided with apertures N, having sliding or hinged doors N' , preferably of sufficient size to allow the ingress of a trainman and for ventilating. The arrangement of
15 these apertures and their size may be left entirely with the car-builder and in accordance with the work to which the car is to be applied, the construction which I have shown in that particular being specially designed
20 for grain-cars.

The run-board O is preferably supported upon cross-bars O' of T metal, having the leg O^2 and securing-feet O^3 , as shown in Fig. 6, the cross-bars being secured to the shell of the car by riveting, bolting, or otherwise. I
25 preferably arrange railings on either side of the run-board, for in case a trainman should step from the run-board to the sharp inclined side of the car he would easily lose his footing, and the railing would prevent such
30 accidents. This railing I preferably make of the pipe-standards P, bifurcated at its lower end, the bifurcations entering the slots P' in the cross-bars formed on either side
35 of the stem P^2 and secured in position by means of the cross-bolt or rivet P^3 , passing through the bifurcations of the standard and through the stem, as shown in Fig. 7. The standards are united at the top by means of
40 longitudinal railings Q. The central portion of the run-board cannot readily be supported from the shell on account of the doors, and I therefore truss it by means of a truss-rod R, passing at its ends through the standards on
45 opposite sides of this section and passing through the central section to form the strut.

What I claim as my invention is—

1. In a railway-car, the combination of a platform and a cylindrical metal body thereon,
50 having its base flat and formed as a chord, and means for securing it to the platform, substantially as described.

2. In a railway-car, the combination of a platform and a cylindrical metal body composed of connected sheets bent to form a cylinder with the base formed as a chord, of end
55 plates secured to the body and means for securing it to the platform, substantially as described.

3. In a railway-car, the combination of a platform, a cylindrical metal body composed of overlapping sheets riveted together in

seams around the body, bent to form a base in the shape of a chord, and means to secure the body to the platform, substantially as described.
65

4. In a railway-car, the combination of a platform, a cylindrical metal body secured thereon, having apertures extending up from the platform, and circumferentially-sliding
70 segmental doors for said apertures, substantially as described.

5. In a railway-car, the combination of a platform, a cylindrical metal body secured thereon, having segmental-shaped doorways
75 at opposite sides, guides beside the doors, circumferentially-sliding doors for closing the lower part of the doorway, and independent means for closing the upper part of the doorway, substantially as described.
80

6. In a railway-car, the combination of a body composed of overlapping metal sheets riveted together in seams around the body and bent at the sides by cutting away a sheet
85 from the base upward, guides inside the body beside the doorway, segmental doors sliding in the ways, partially closing said doorways, and the sliding door L, sliding in outer guides
90 extending over the top of the car and of a length to normally overlap the top of the lower doors, substantially as described.

7. In a railway-car, the combination, with the cylindrical body, of the cross-bars O' , legs O^2 , and securing-flanges O^3 , and the run-boards on the cross-bars, substantially as described.
95

8. In a railway-car, the combination, with the cylindrical body, of the T-shaped cross-bars bent to form legs O^2 at the ends and the securing-flanges O^3 , formed by cutting off the
100 stem of the T-bar and bending the head in line with the car-body, substantially as described.

9. In a railway-car, the combination, with the cylindrical body, of the T-metal cross-bars secured at the top, supporting the run-board
105 and having apertures at each end on opposite sides of the stem of the T, standards bifurcated at their lower ends, engaging said apertures, a bolt or rivet passing through the bifurcations of the standard and the stem, and
110 connecting railings between the standards, substantially as described.

10. A freight-car consisting of a truck, a horizontal cylindrical metal body having a flat base, means for securing the body to the
115 truck, and a reinforcement for the inner face of the flat base, substantially as described.

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

CARLETON B. HUTCHINS.

Witnesses:

JAMES WHITEMORE,
M. B. O'DOHERTY.