(No Model.) 3 Sheets—Sheet 1.

W. BORNER.

RAILWAY FREIGHT CAR.

No. 421,379. Patented Feb. 18, 1890.

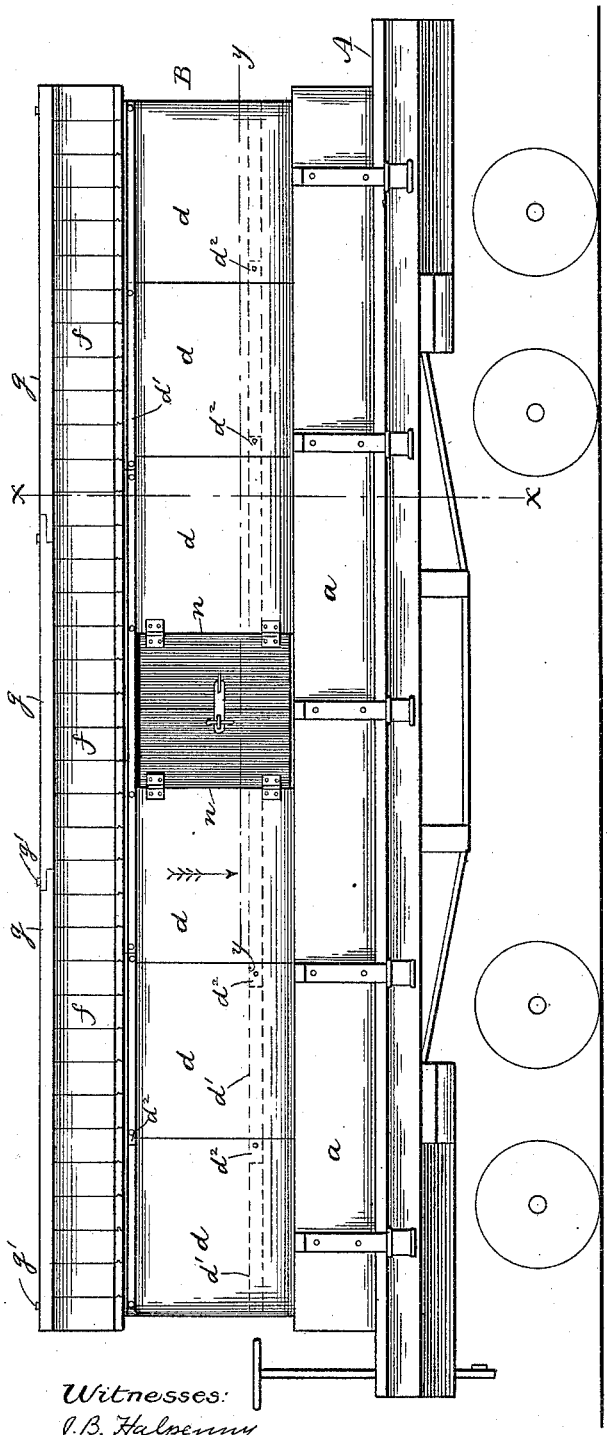

FIG. 1.

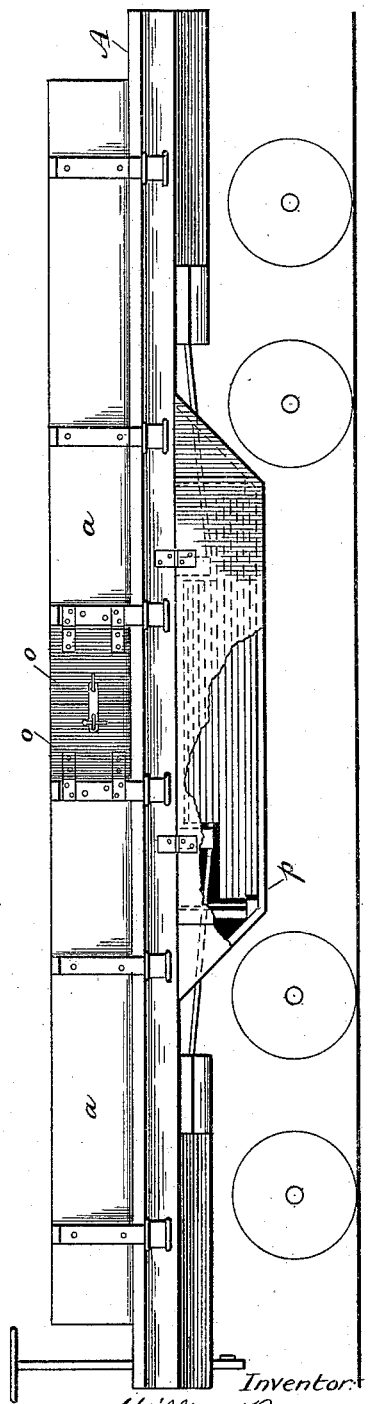

FIG. 2.

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Inventor:
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his attys.

(No Model.) 3 Sheets—Sheet 2.

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RAILWAY FREIGHT CAR.

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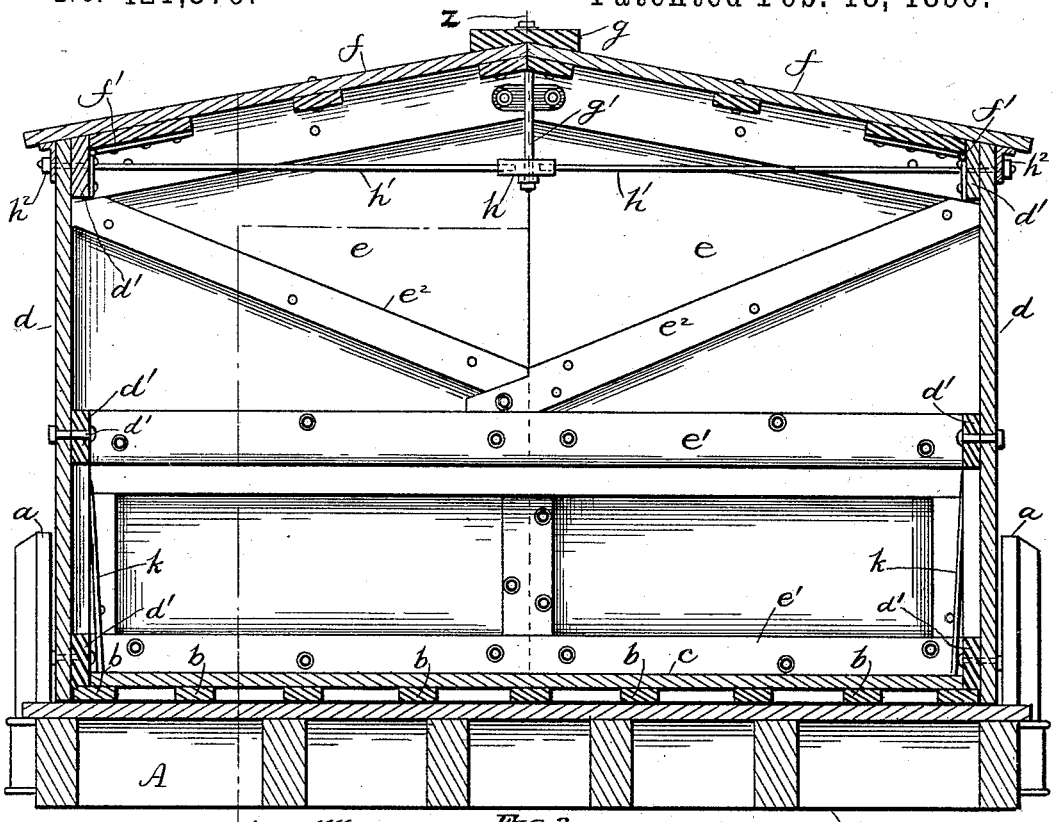

FIG. 3.

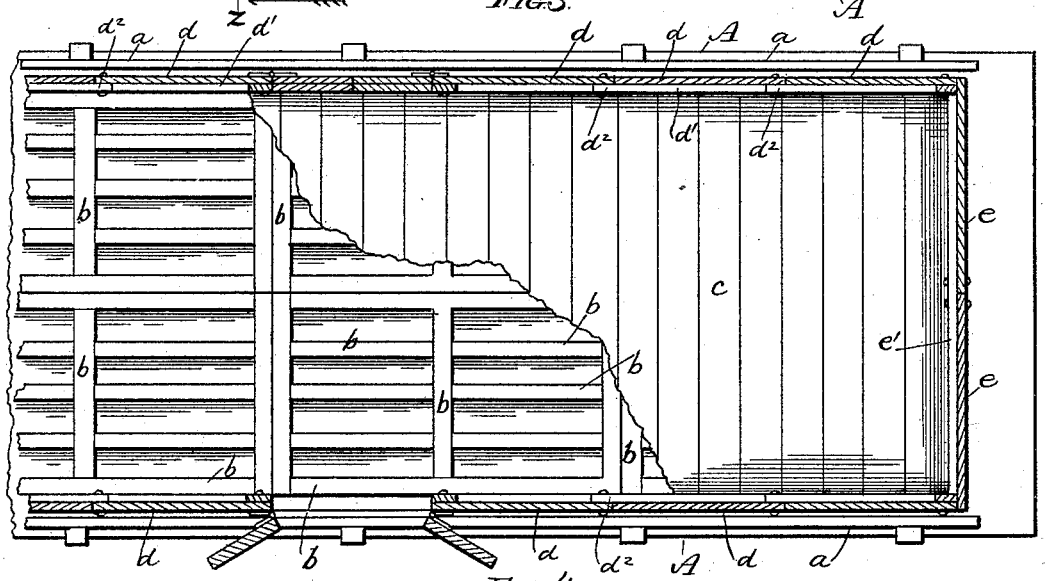

FIG. 4.

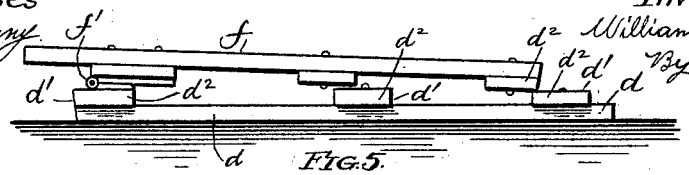

FIG. 5.

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(No Model.) 3 Sheets—Sheet 3.

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RAILWAY FREIGHT CAR.

No. 421,379. Patented Feb. 18, 1890.

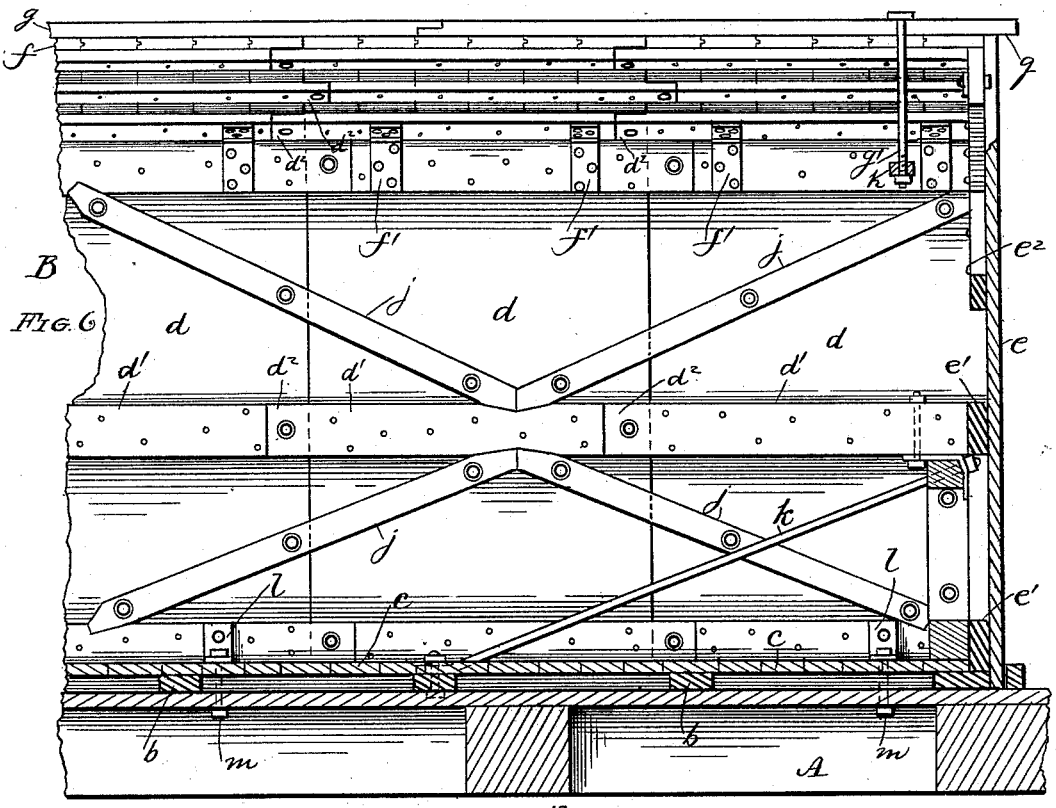

FIG. 6.

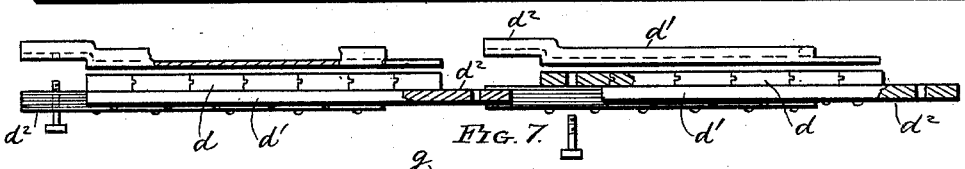

FIG. 7.

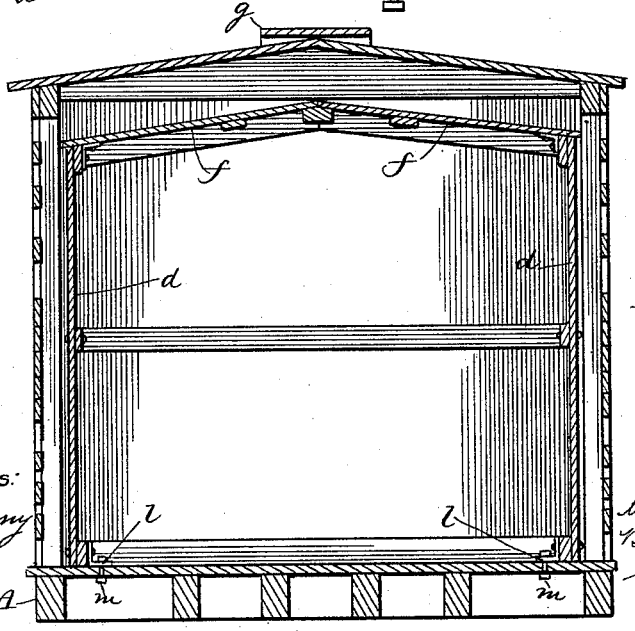

FIG. 8.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM BORNER, OF CHICAGO, ILLINOIS.

RAILWAY FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 421,379, dated February 18, 1890.

Application filed December 21, 1889. Serial No. 334,480. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BORNER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of an ordinary open or "gondola" car, showing the features of my invention, consisting of a removable supplemental body applied thereto as it appears when ready for use. Fig. 2 is a like side view showing the body removed, folded, and stored for transit. Fig. 3 is a sectional view taken upon the line $x\,x$, Fig. 1. Fig. 4 is a sectional plan view of a detail taken upon the line $y\,y$, Fig. 1. Fig. 5 is a detail view of a section of the top and side when folded for transportation. Fig. 6 is a sectional view, in detail, taken upon the line $z\,z$, Fig. 3, viewed in the direction of the arrow there shown. Fig. 7 is a top view, in detail, of two sections of one of the sides of the car-body, showing the manner in which they are attached to each other; and Fig. 8 is a transverse vertical sectional view of an ordinary stock-car having my improvement applied thereto.

Like letters of reference in the different figures indicate corresponding parts.

Great loss, expense, and inconvenience have heretofore been entailed upon railway companies in the use of gondola, stock, and other open cars, for the reason that they are not suitable for the transportation of freight that will not bear exposure to the elements. For this reason most of the cars are loaded only while going in one direction and are drawn back empty. The object of my invention is to overcome this objection and to so construct a supplemental body for gondola, stock, and other open cars that it may be placed upon and attached to said cars when desired, or removed therefrom, folded in sections, and stored compactly in a suitable compartment beneath the car and carried therewith in one or another form at all times, thereby enabling the car to be loaded in both directions, and to be employed for various grades of freight, all of which is hereinafter more particularly described and claimed.

Referring to the drawings, A represents the body of an ordinary open car commonly known as a "gondola," and provided with the usual removable side-boards a. For the purpose of rendering said car suitable for the transportation of high-grade freight, I place therein a removable sectional supplemental body B, which consists, preferably, of a sectional bottom composed of a series of framed bars or racks b, arranged substantially as shown in Figs. 3 and 4, and placed loosely upon the bottom of the car. A floor c, either separate from said bars or attached thereto, is placed thereon. The sides of the car are formed of a series of sections d, rigidly attached thereto, one end of each cleat being arranged to overlap the adjacent section, as shown at d^2, Figs. 4, 6, and 7, to which it is attached by means of a bolt and nut. The ends of the car-body are, by preference, formed in two sections $e\,e$, bolted to cleats e', and diagonal braces e^2, as well as to the side sections d. The top of the said car-body is composed of sections $f\,f$, preferably hinged, respectively, to the sections d by means of hinges f', and meeting at the middle, from which they are caused to slant in opposite directions. A plank g, arranged to fit the roof, is placed over the crack formed by the meeting ends and secured by means of bolts g', extending downwardly to a metal plate h, Figs. 3 and 6, to which are attached horizontal cross-rods or ties h', which pass through the respective side sections and are secured by means of nuts h^2, thereby serving as a truss to hold said roof-section in place. The plank g serves not only as a protection against rain and snow, but as a wall as well.

The sides of the car are secured from longitudinal movement by means of wooden braces $j\,j$, and iron braces k, arranged as clearly shown in Fig. 6. Clips l, Figs. 6 and 8, are attached to the lower side cleats, and also secured to the bottom of the car-body A by means of a bolt m.

When my improved car-body is attached to the ordinary gondola-car as heretofore constructed, I provide doors $n\,n$, Fig. 1, at the respective sides above the side-boards a; but in new cars I prefer to provide doors $o\,o$, Fig. 2, in the side-boards, so that freight may not have to be lifted thereover. Upon remov-

ing the bolts by which the respective sections are attached to each other and to the car upon which it is placed, the whole may be folded compactly and stored in a suitable receptacle *p*, Fig. 2, beneath the car, when said car may be loaded with coal or other analogous freight. Upon a return-trip the sections may be placed in position, as described, and utilized as a box-car. The advantage of a secondary bottom raised upon the slats *b* is that rain dripping from the sides of the car between the side-boards *a* and the supplemental car-body may drain beneath said body, if necessary, without wetting the goods within. My improved supplemental car-body may be utilized upon stock-cars, when desired, by placing the same within said car, substantially as shown in Fig. 8. It is obvious that mechanical variations may be made in the manner of connecting and bracing the sections without departing from the essential features of my invention.

Having thus described my invention, I claim—

1. The combination, with an open freight-car, of a supplemental car-body having its sides, ends, and top, respectively, formed in a series of detachable rigid sections, means—such as bolts and nuts—for connecting said sections to each other, and detachable end and side braces, whereby said structure, when attached to a car, may be braced laterally and longitudinally, substantially as shown and described.

2. The combination, with an open freight-car, of a supplemental car-body having its sides, ends, top, and bottom, respectively, formed in a series of detachable rigid sections, means—such as bolts and nuts—for connecting said sections to each other, and detachable end and side braces, substantially as shown and described.

3. The combination, with an open freight-car, of a supplemental car-body having its sides, ends, top, and bottom, respectively, formed in a series of detachable rigid sections, means—such as bolts and nuts—for connecting said sections to each other, detachable end and side braces, and a receptacle beneath the car for the reception of said sections, substantially as shown and described.

4. The combination, with an open freight-car, of a supplemental car-body consisting of the rigid sectional side pieces *d*, sectional end pieces *e*, sectional top pieces *f*, means for detachably connecting said sections to each other, lateral and longitudinal braces and tie-rods *h'*, all arranged and combined substantially as shown and described.

5. The combination, with an open freight-car, of a supplemental car-body consisting of the rigid sectional side pieces *d*, sectional end pieces *e*, sectional top pieces *f*, means for detachably connecting said sections to each other, lateral and longitudinal braces, tie-rods *h'*, and sectional floor-pieces *c*, with means for raising the same from the permanent floor of the car, substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 16th day of December, 1889.

WILLIAM BORNER.

Witnesses:
D. H. FLETCHER,
J. B. HALPENNY.