

J. DAVENPORT.  
RAILROAD CAR.

No. 23,333.

Patented Mar. 22, 1859.

Fig: 3.

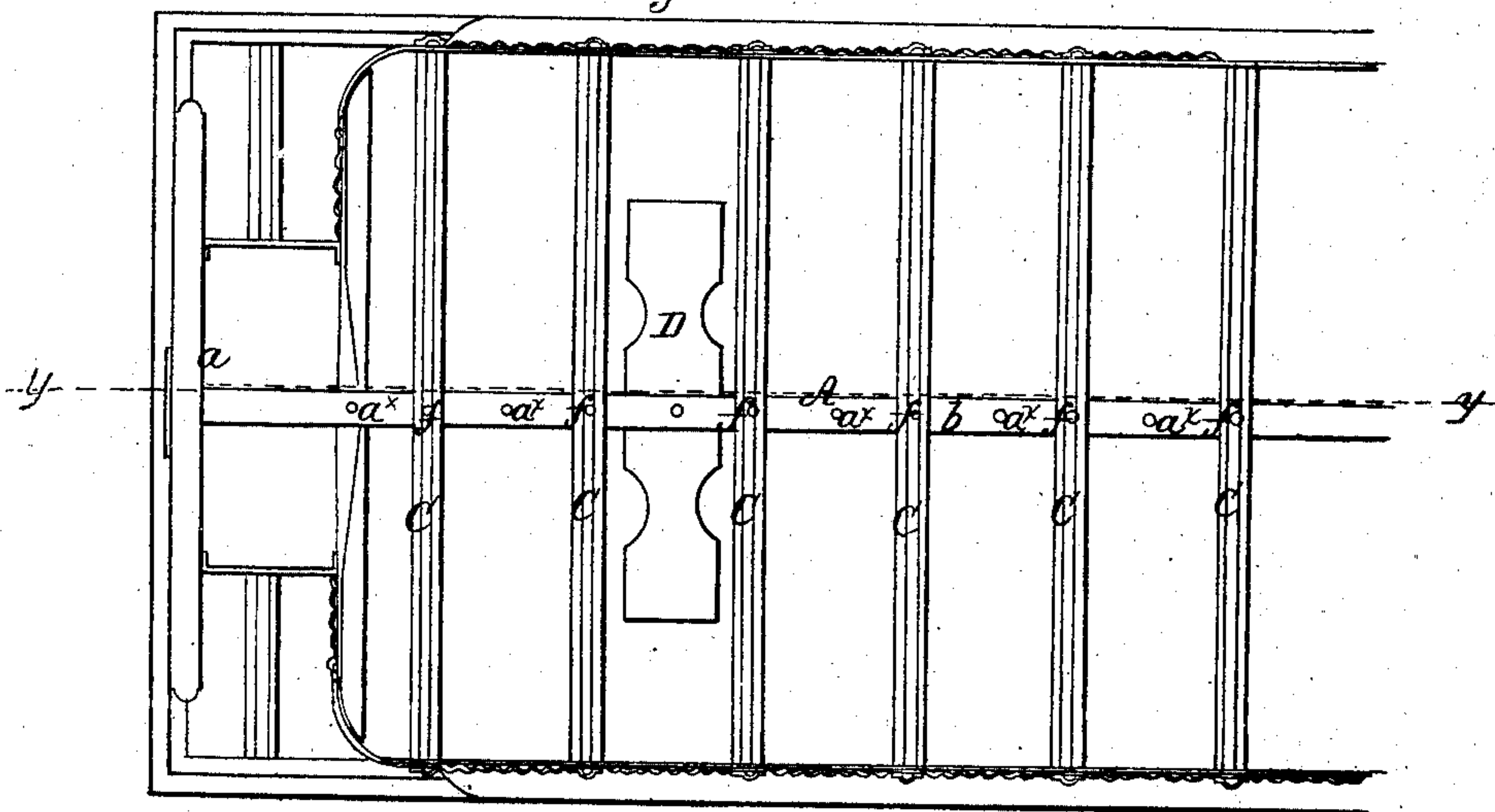


Fig: 2.

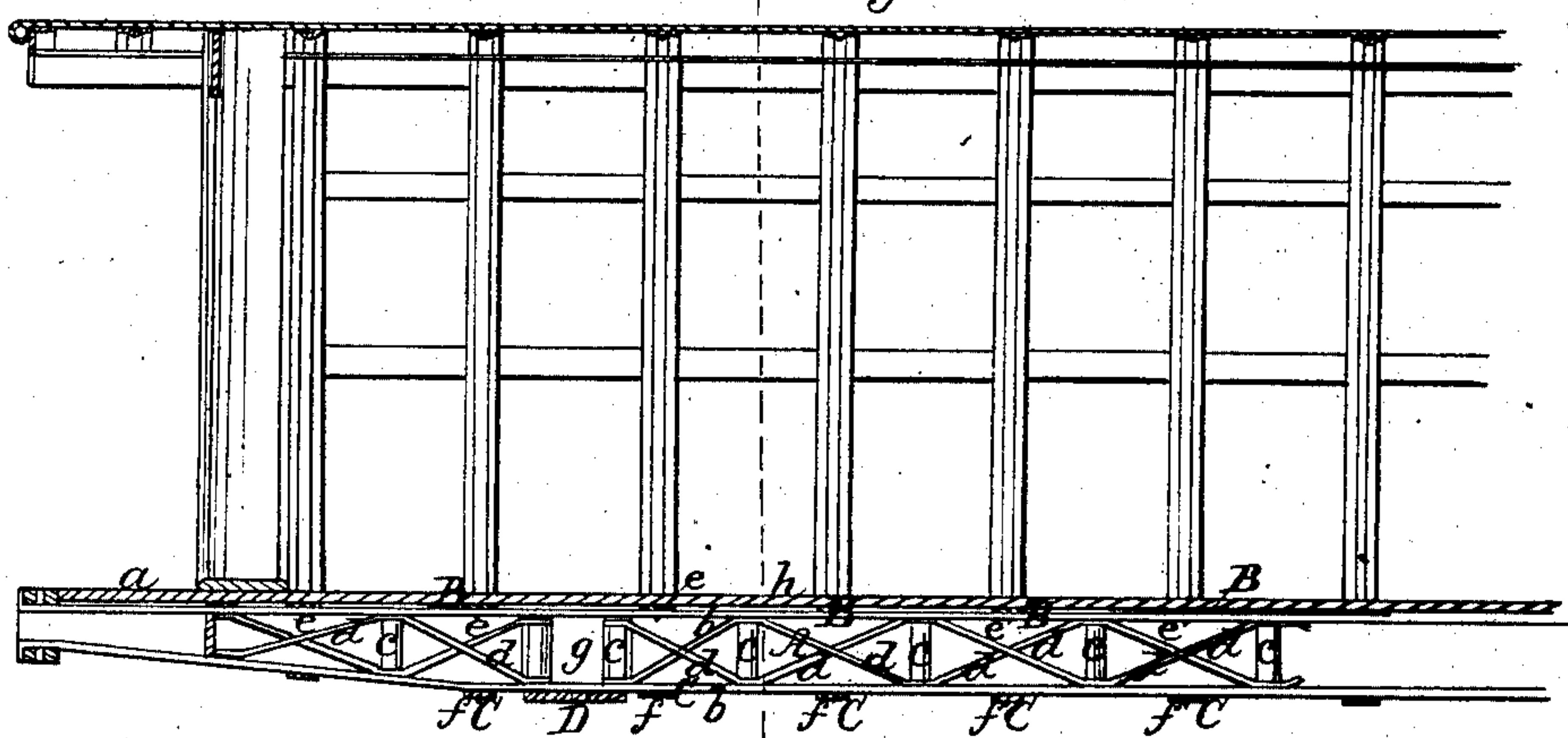
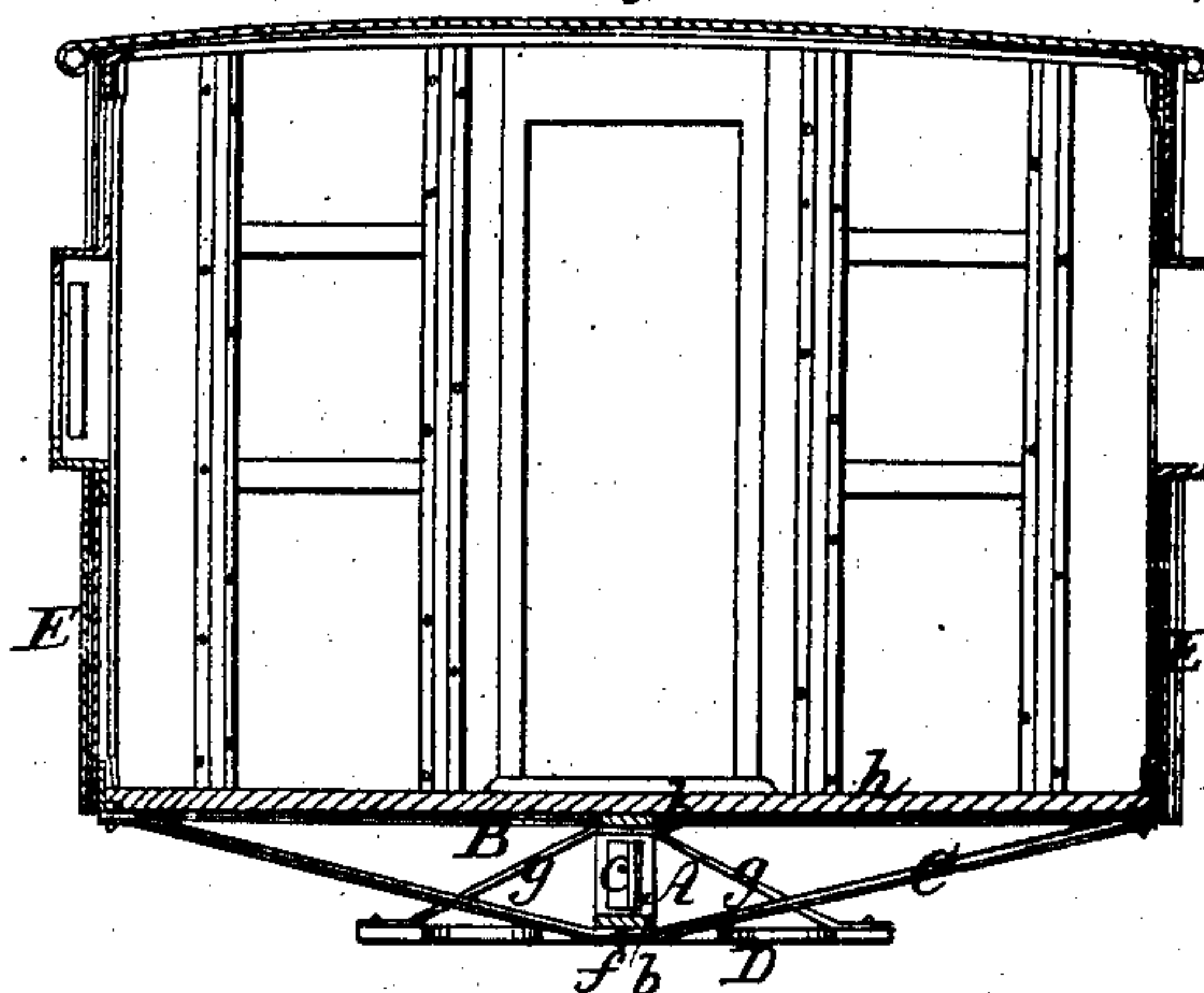


Fig: 1.



Witnesses;  
Thos Williams  
Chas Russell

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# UNITED STATES PATENT OFFICE.

JOSEPH DAVENPORT, OF MASSILLON, OHIO, ASSIGNOR TO HIMSELF AND C. M. RUSSELL.

## IRON RAILROAD-CAR.

Specification of Letters Patent No. 23,333, dated March 22, 1859.

*To all whom it may concern:*

Be it known that I, JOSEPH DAVENPORT, of Massillon, in the county of Stark and State of Ohio, have invented a new and useful  
5 Improvement in the Construction of Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of  
10 this specification, in which—

Figure 1, is a transverse vertical section of my invention, taken in the line  $x, x$ , Fig. 2. Fig. 2, is a longitudinal vertical section of ditto, taken in the line  $y, y$ , Fig. 3. Fig.  
15 3, is an inverted plan of ditto.

Similar letters of reference, in each of the several figures, indicate corresponding parts.

The nature of my invention consists in the combination with a rail road car platform or bottom, of a laterally and longitudinally supporting truss brace which consists of a four sided frame with side ledges, a series of transverse ties and transverse diagonal braces, a central longitudinal skeleton or open diagonally braced girder or  
20 beam and bearing plates or shoes, all as hereinafter described, whereby the platform is confined from lateral and longitudinal play and supported or braced in such a manner throughout, that there is no possible  
30 chance of its being deflected at the center.

It has long been a very serious objection in freight cars &c. that they weigh down or give at or near the center of their length.  
35 It also has been long considered a desideratum to have cars made of iron, but in order to do so, the platform requires to be capable of sustaining the extra weight of metal over wood and unless they are braced they cannot do this, and if they are braced it is very  
40 essential that the bracing should be very light and yet strong and effective. The plan I have adopted I think meets all the requirements in the construction of passenger  
45 and freight cars as it is very strong, light and effective.

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

50 A, represents a girder or beam which extends longitudinally the whole length of the car including the platforms  $a$ , one of which is shown in Figs. 2 and 3. This girder or beam is formed of two wrought metal bars

$b, b$ , placed one over the other in nearly the same plane and connected by stanchions  $c$ , which are also of wrought iron, the ends of the stanchions having tenons formed on them which pass through the bars and are riveted on the outer sides of the bars, as  
55 shown at  $\alpha$ , Fig. 3. The stanchions  $c$ , are braced by diagonal braces  $d$ , throughout the whole length of the girder, said braces being placed between the bars  $b, b$ , and owing to being connected, pass alternately over and  
60 under the stanchions  $c$ , as shown plainly in Fig. 2. This girder or beam A, is placed directly under the center of the bottom of the car, as shown in Figs. 1, and 3, being attached to the parts  $t, t$ , of the inclosing  
65 frame, and transverse braces B, are placed thereon and secured to its upper bar  $b$ , by rivets or bolts  $e$ , at their centers. The ends of the bars B, are attached to the ends of bars C, being secured at their center by  
70 rivets or bolts  $f$ , to the lower bar  $b$ , of the girder A, and by each of their ends to the parts  $s, s$ , of the inclosing frame.

To the lower bar  $b$  of the girder or beam, a cross plate D, is attached by bolts and secured in proper positions by braces  $g$ , the  
80 lower ends of the braces being attached to the outer ends of the plate D, and the upper ends attached to the upper bar  $b$ , of the girder as shown clearly in Fig. 1.

85 The bars B, are secured to the upper bar  $b$ , of the girder at suitable distances apart, and the flooring plank  $h$ , are attached to the bars B.

From the above description, it will be seen  
90 that each transverse bar B, is supported at its ends by a bar C, both bars B, C, being attached to the girder A, which is made of the requisite strength with a small weight of metal in consequence of its construction,  
95 to wit; the bars  $b, b$ , connected by the stanchions  $c$ , and cross bars  $d$ , which serve as braces to support the stanchions in proper position.

The girder or beam A, not only supports  
100 the bars B, C, but it strengthens or stiffens the whole car as its sides E, are directly connected with the ends of the bars B, C, and as the girder is below the flooring, it may be of requisite dimensions to insure  
105 strength without being an encumbrance or monopolizing space required for other purposes.

What I claim as my invention and desire to secure by Letters Patent, is—

The combination with the platform or bottom of a rail road car of a laterally and  
5 longitudinally supporting truss brace, when said brace consists of a four sided frame *s, s, t, t*, a series of transverse ties *B*, and transverse diagonal braces *C, C*, a central

longitudinal skeleton or diagonally braced girder *A, c, d, b, b*, and bearing plates or shoes *D, D, g, g*; substantially as and for the purposes set forth. 10

JOSEPH DAVENPORT.

Witnesses:

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TH. H. RUSSELL.