

(No Model.)

2 Sheets—Sheet 1.

E. B. MACMILLAN.
RAILWAY CAR.

No. 459,896.

Patented Sept. 22, 1891.

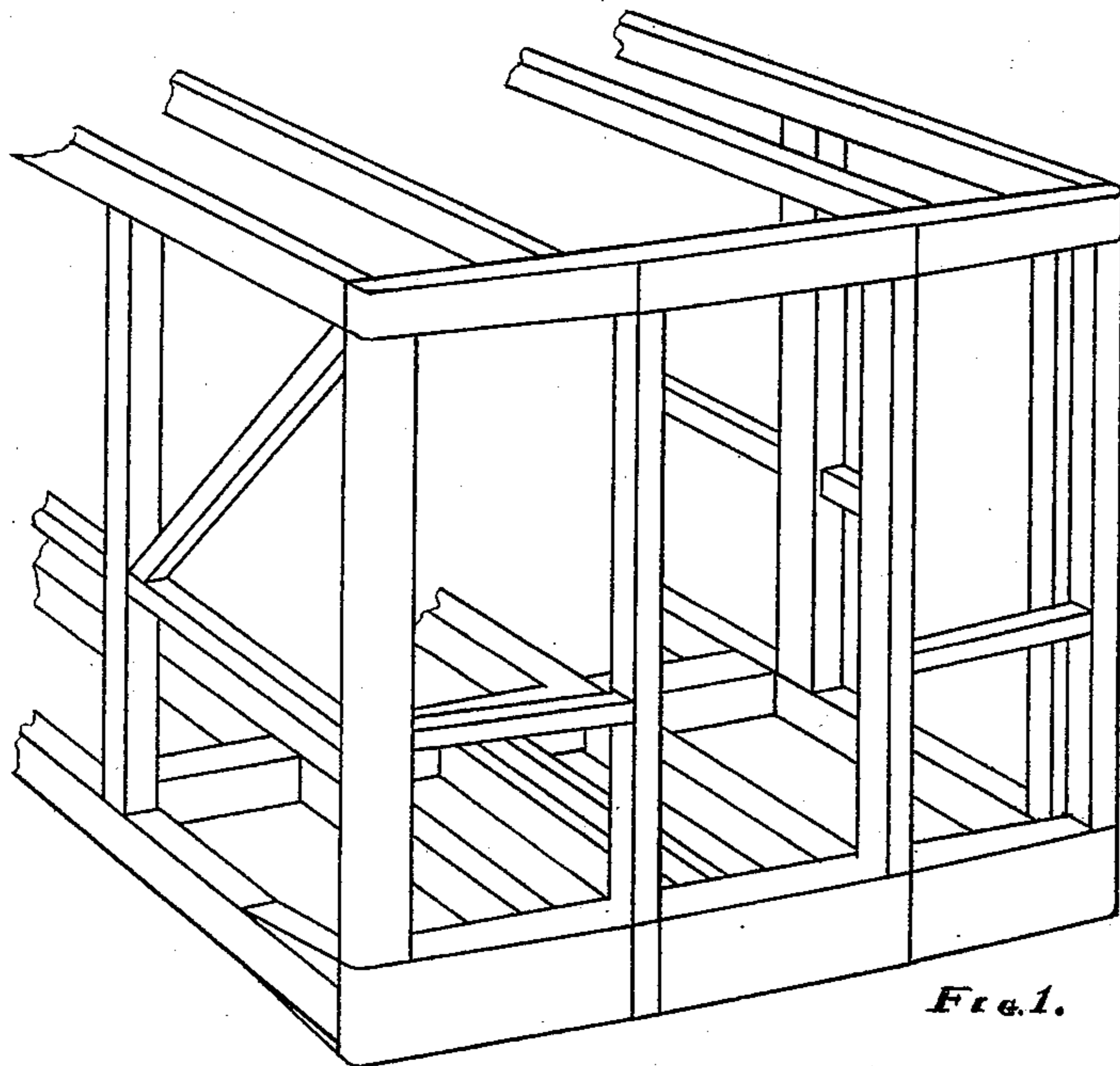


Fig. 1.

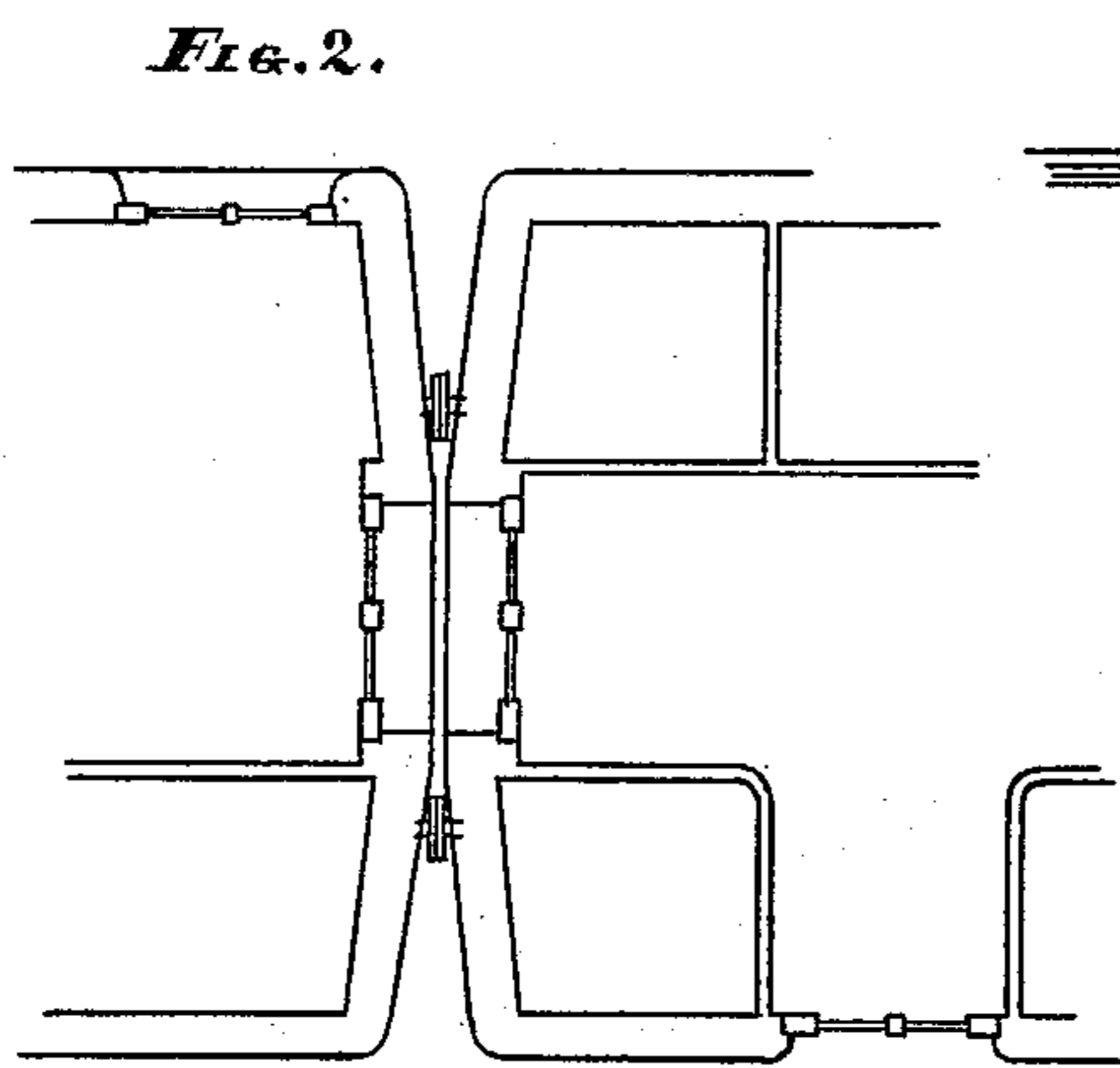


Fig. 2.

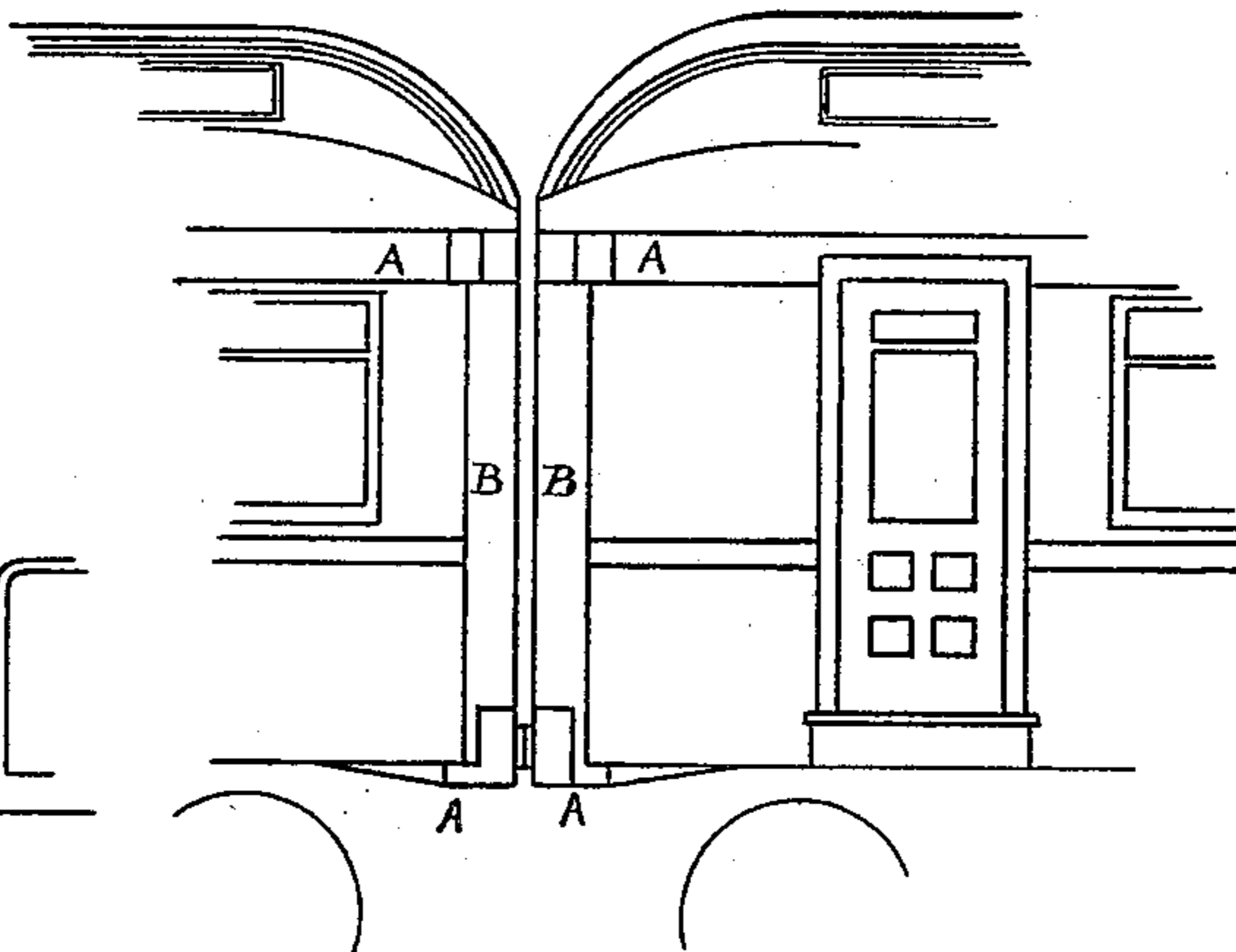


Fig. 3.

Witnesses,

H. Hays Jr.
Charles E. Tetley.

Inventor,

Ernest D. Macmillan.
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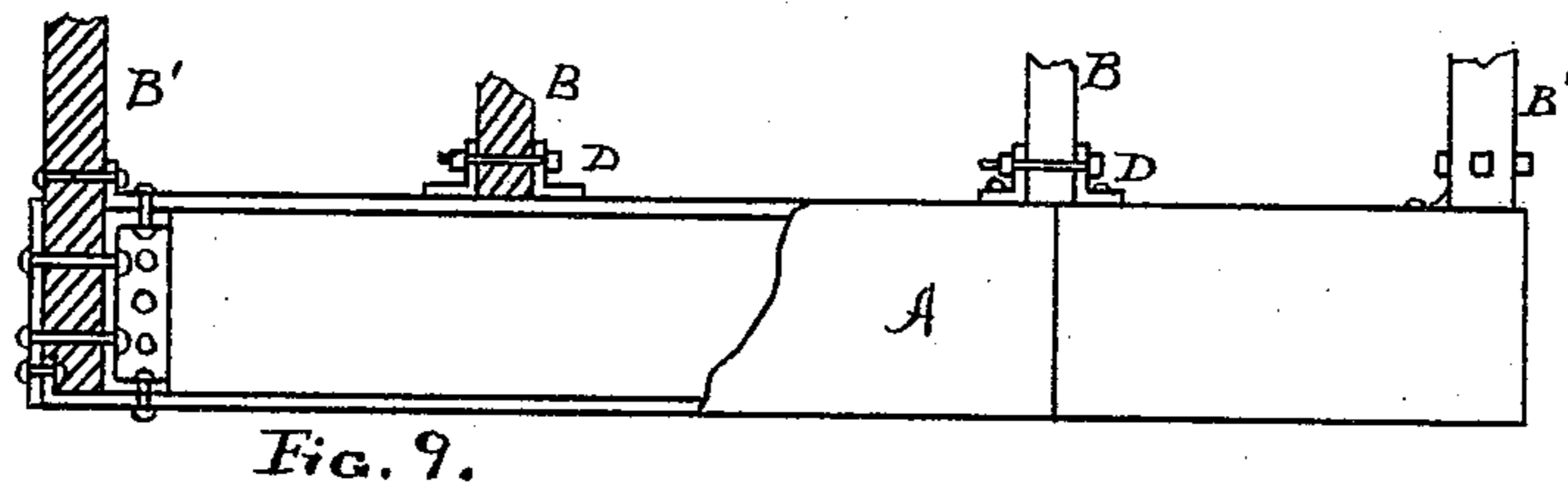
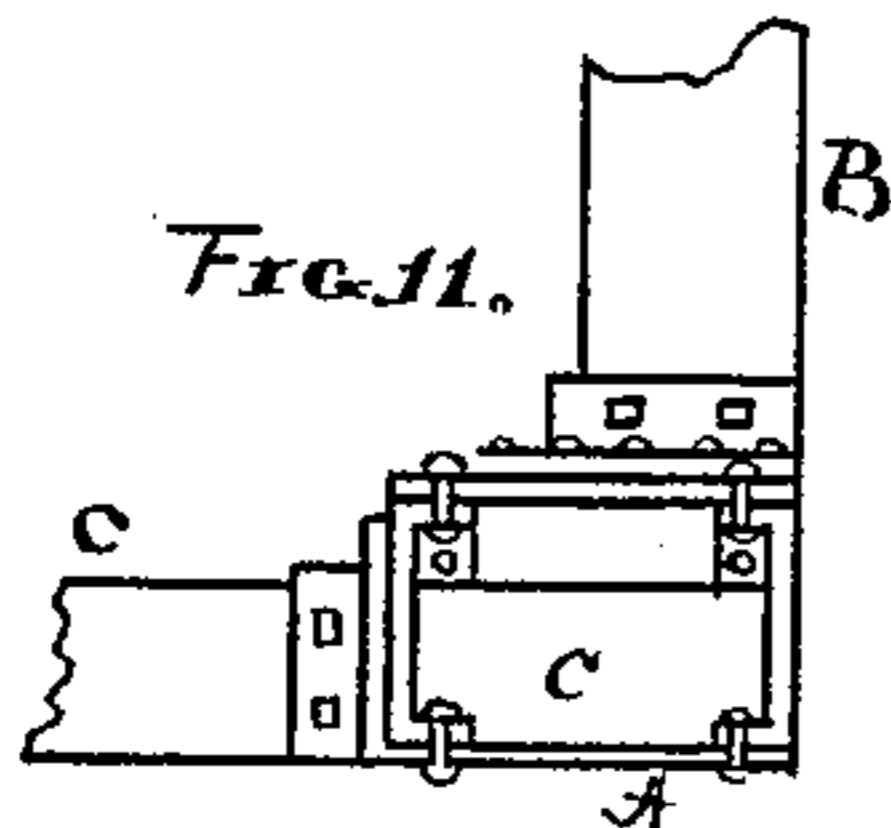
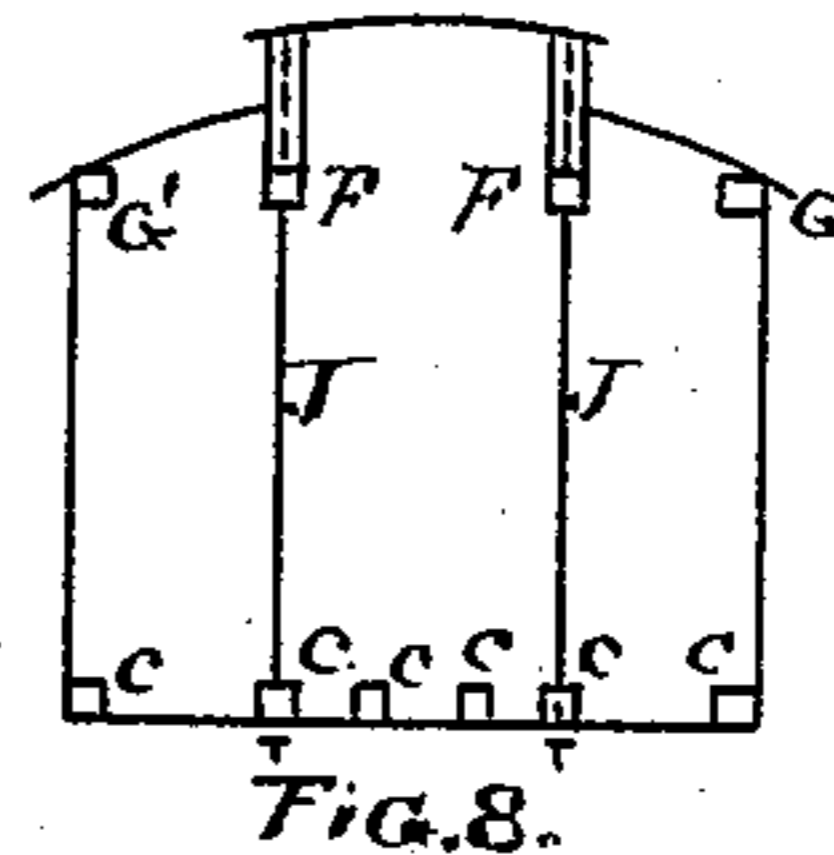
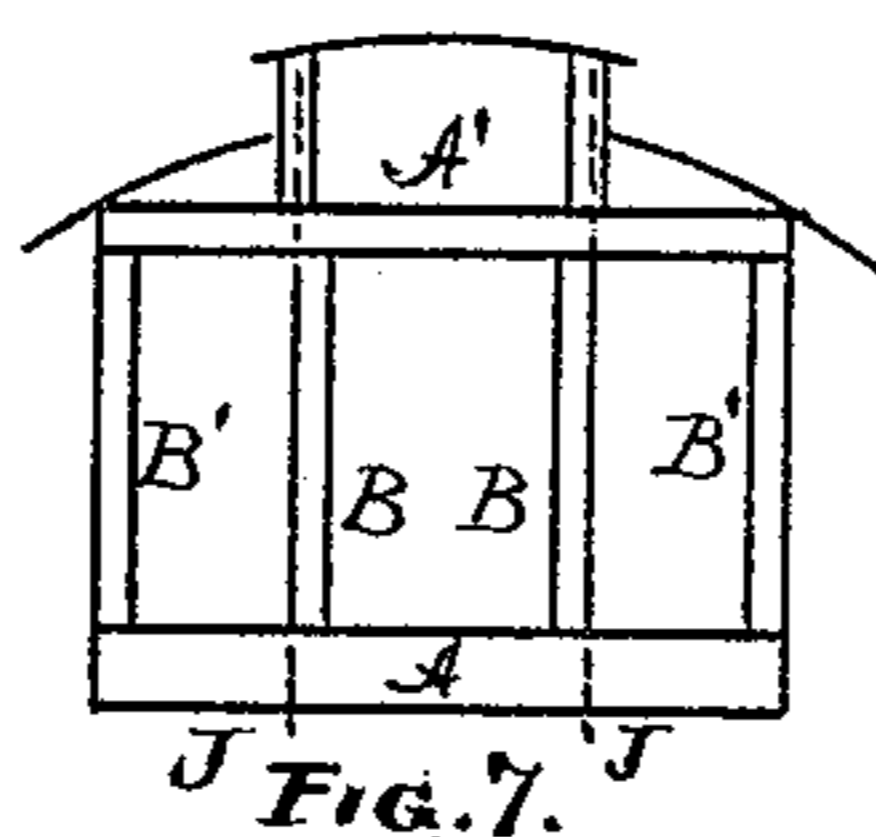
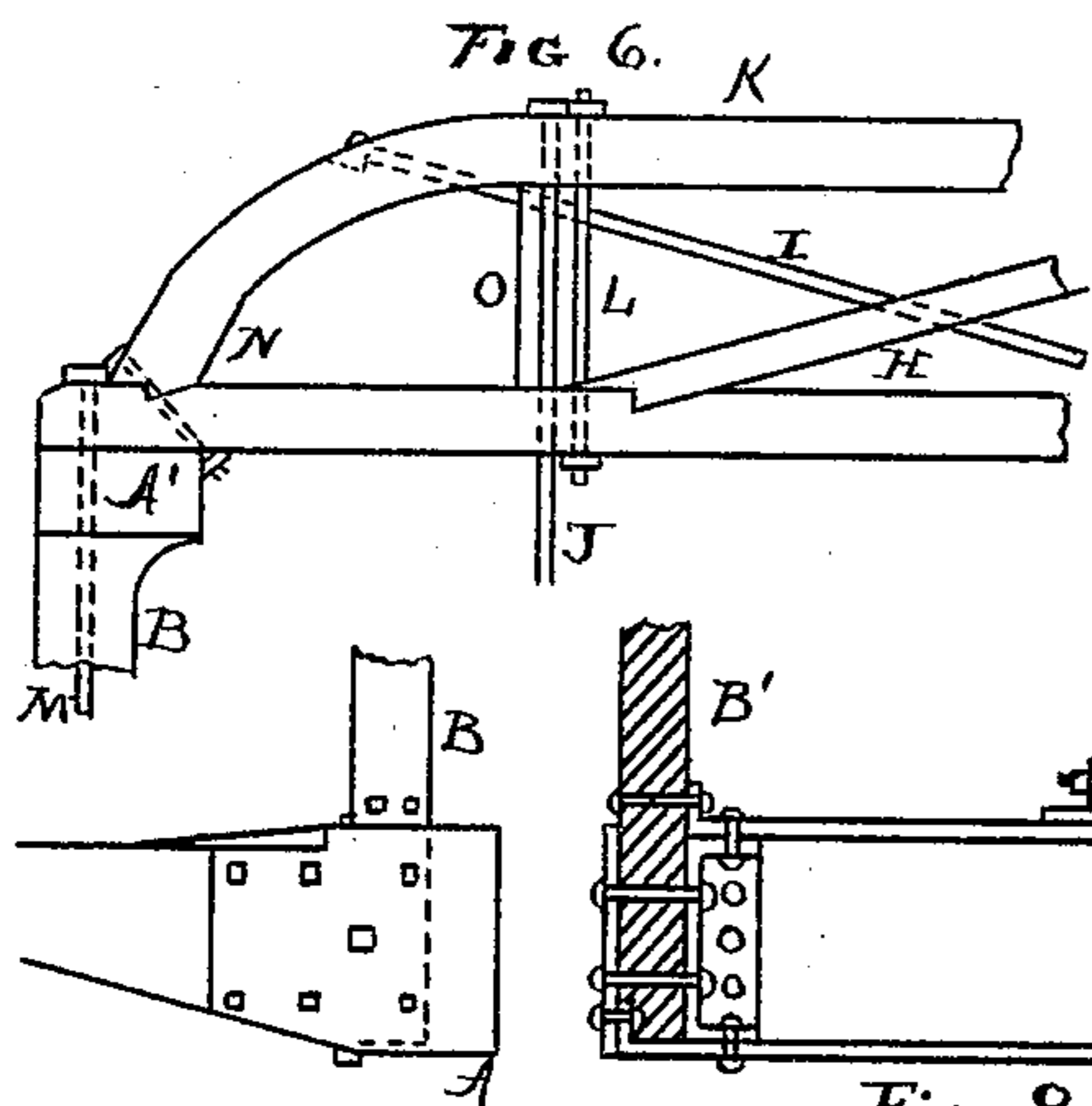
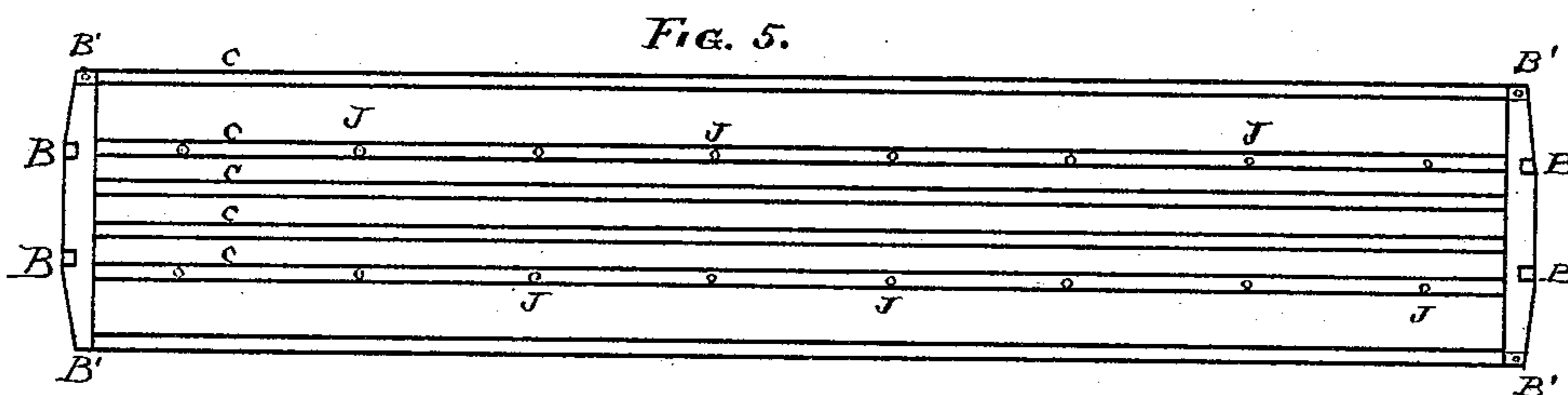
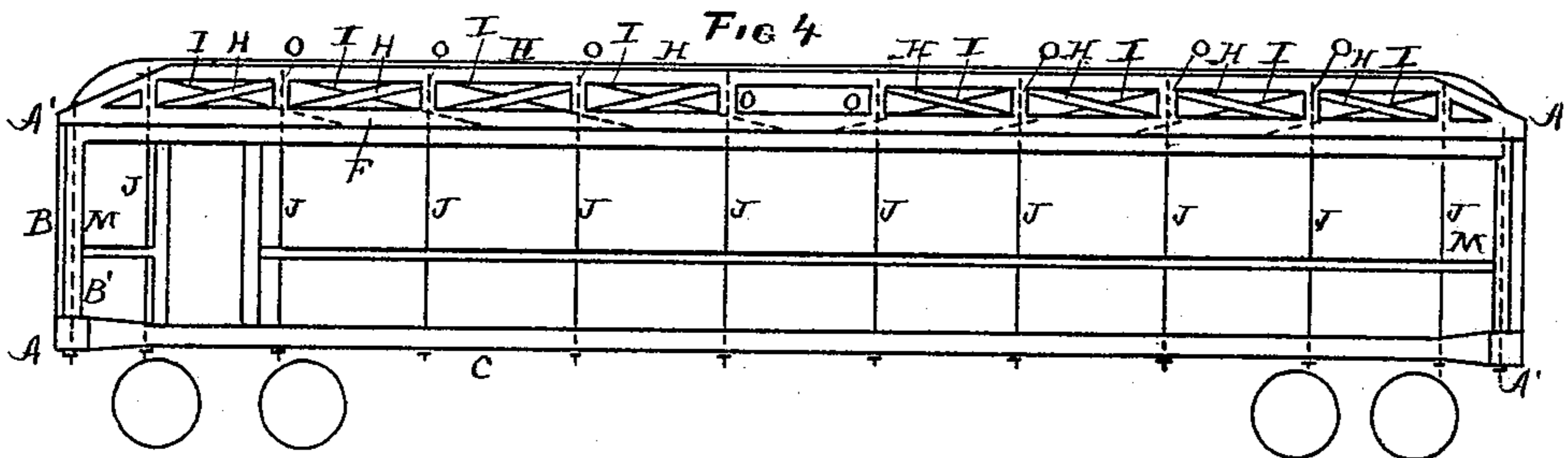
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2 Sheets—Sheet 2.

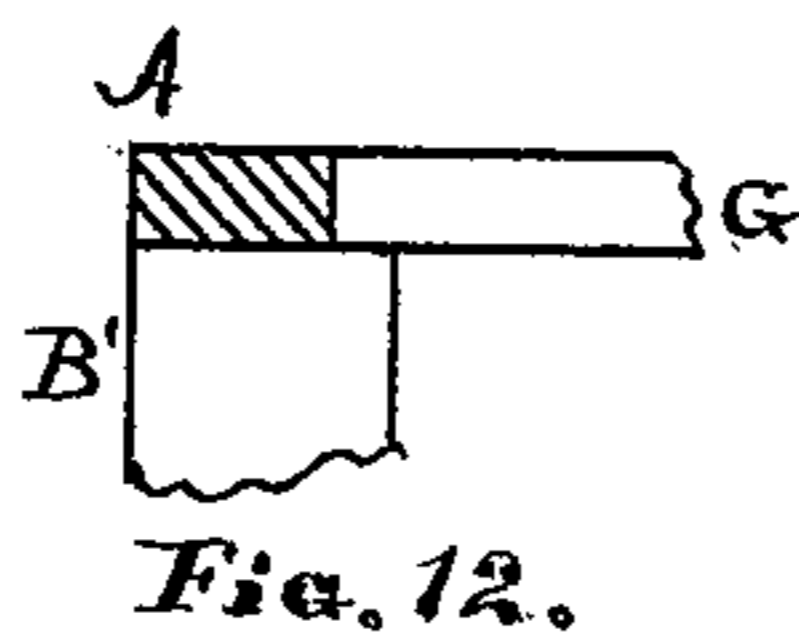
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H. H. H. H.
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Inventor,
E. B. Macmillan

UNITED STATES PATENT OFFICE.

EVERETT B. MACMILLAN, OF CHICAGO, ILLINOIS.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 459,896, dated September 22, 1891.

Application filed November 28, 1890. Serial No. 372,966. (No model.)

To all whom it may concern:

Be it known that I, EVERETT B. MACMILLAN, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Cars, of which the following is a specification.

My invention relates to cars in which the car-body is so constructed that end platforms are dispensed with and the ends of the cars in juxtaposition act as buffers each to the other.

The object and purpose of my invention are to provide a car so built that in case of collision or other accident the cars will not telescope one with the other; and I attain this object by the device shown in the accompanying drawings, in which—

Figure 1 is an elevation of the end of the car-frame. Fig. 2 is a plan of the floor of two cars in juxtaposition. Fig. 3 is an elevation of the ends of two cars coupled in a train. Fig. 4 is a sectional view of the framing of the car, showing the roof-trussing. Fig. 5 is a plan view of the car, showing the continuous longitudinal beams. Fig. 6 is an enlarged view of the framing of the top and end of the car. Fig. 7 is a sectional view of the end of the car. Fig. 8 is a sectional view of the car, showing the suspension-rods for supporting the floor-beams. Fig. 9 is an end and sectional view of the end truss or buffer-beam of the car. Fig. 10 is a plan and sectional view of the end truss or buffer-beam of the car. Fig. 11 is a sectional view of the buffer-beam, showing the position of the longitudinal and vertical beams. Fig. 12 is a sectional view of the buffer-beams A', showing the top of the post B and timber C.

Similar letters refer to similar parts throughout the several views.

Heretofore cars for railways have been made with a platform extending between the two adjacent cars, which has many objectionable features. I build a car that obviates the necessity of a platform in the manner following: I make the lower frame of the car of a series of longitudinal timbers C, extending from end to end of the car and seated in a buffer-beam A at each end of the car. The exterior longitudinal timbers C are rested in a socket in the ends of the buffer-beam A and rest against the foot of the corner-post B' of the

car, and the central longitudinal timbers C are rested in sockets in the buffer-beam A in the center of the system of longitudinal timbers C. The timbers C extend through the interior to the exterior plate of the buffer-beam A, being held by an angle-brace at the corners; but in the outer set of longitudinal timbers C of the central system the interior and exterior plates of the buffer-beam A are braced by angle-plates extending from the interior to the exterior plates. The buffer-beam A is made of a piece of solid timber or the plates of metal secured together by rivets, as indicated.

On the top plate of the buffer-beam A are made the sockets D for retaining the ends of the posts B and B', which are placed flush with the outer side of the buffer-beam A and support the buffer-beam A'. A tie-bolt M extends vertically through the end of the lower truss-timber F, the buffer-beam A', and the buffer-beam A to secure them together. On the top of the posts B and B' is a second buffer-beam A', and in shape it resembles the buffer-beam A. The two outside longitudinal timbers G are held by a suitable socket on the top of the post B' and abut against the upper buffer-beam A'. The central series of timbers F form the base-timber of the roof-truss for sustaining the body of the car and giving rigidity to the frame. The longitudinal truss is formed of the base-timber F, supported upon the ends of the posts B and B' and secured by the tie-bolt M. The longitudinal roof-truss is made of suitable material consisting of a longitudinal base-timber F and an upper longitudinal beam K, having angular ends descending to and being footed in the base-timber F and secured to the said base-timber F by mortise and the tie-bolt N. At convenient points extending between the base timber F and the upper longitudinal beams K are placed vertical posts O, through which pass the suspension-rods J, extending down to and through the floor-timbers C, and are secured by a nut. Between the vertical posts O are diagonal braces H and the diagonal tie-bolt I. It will be noted that the braces extend in the diagonal direction, so as to brace the truss and car from the center to the ends each way.

Having thus described the parts of my in-

vention, I now proceed to explain the method of operating the same. The parts of the frame are put together, as indicated by their construction, in such manner that the upper and
5 lower buffer-beams of the car shall be on the extreme ends of the car and be so related to each other that both the upper and lower buffer-beams will resist the thrust from the car next in juxtaposition and the entire body
10 of the car be so braced and constructed that the shock imparted to the end of a car will be transmitted through and resisted by the entire body of the car, thus effectually preventing telescoping of the cars.

15 I am aware that railway-cars are not a new invention, and I therefore lay no claim to a car in the broad sense; but

What I do claim, and desire to secure by Letters Patent, is—

20 1. In a car, the combination of an upper and lower buffer-beam for receiving the shock on the end of a car with a frame composed of longitudinal timbers, and a roof-truss for sustaining the floor by a system of vertical rods,

all substantially as and for the purpose set forth and described. 25

2. In a car, the combination of a roof-truss for suspending the floor of the car, composed of longitudinal and vertical timbers, with diagonal braces, and the means for suspending
30 the floor to the said roof-truss, all substantially as and for the purpose set forth.

3. In a car without platforms, the combination of a floor-frame composed of continuous longitudinal timbers held in sockets in the
35 cross buffer-timbers at the ends of the car with an upper series of longitudinal timbers and sustaining-trusses, with the means for supporting the said upper timbers, so that the impact of a blow shall be transmitted unin-
40 terruptedly throughout the entire car as a unit, all substantially as and for the purpose set forth and described.

EVERETT B. MACMILLAN.

In presence of—

H. HAUPT, Jr.,

CHARLES E. TETLEY.