

T. M. MULLEN.

Railway Car.

No. 27,734.

Patented Apr. 3, 1860.

Fig. 1.

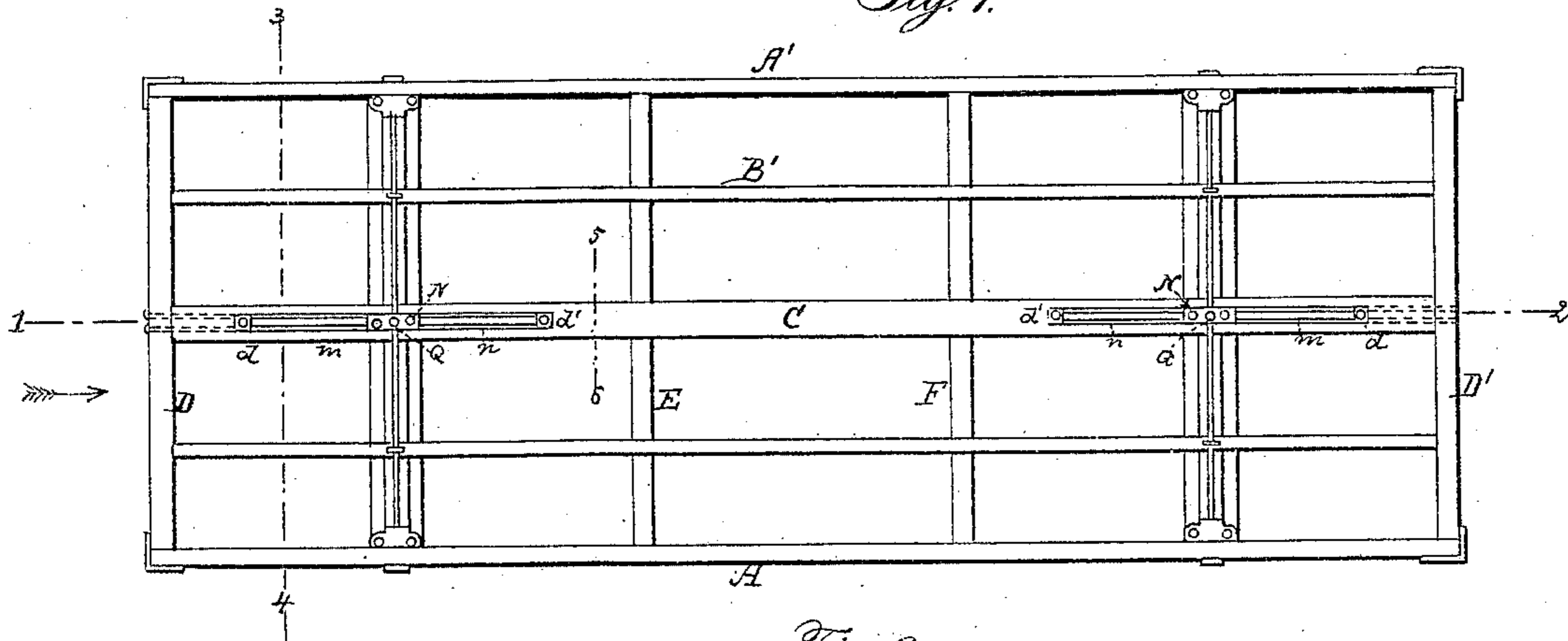


Fig. 2.

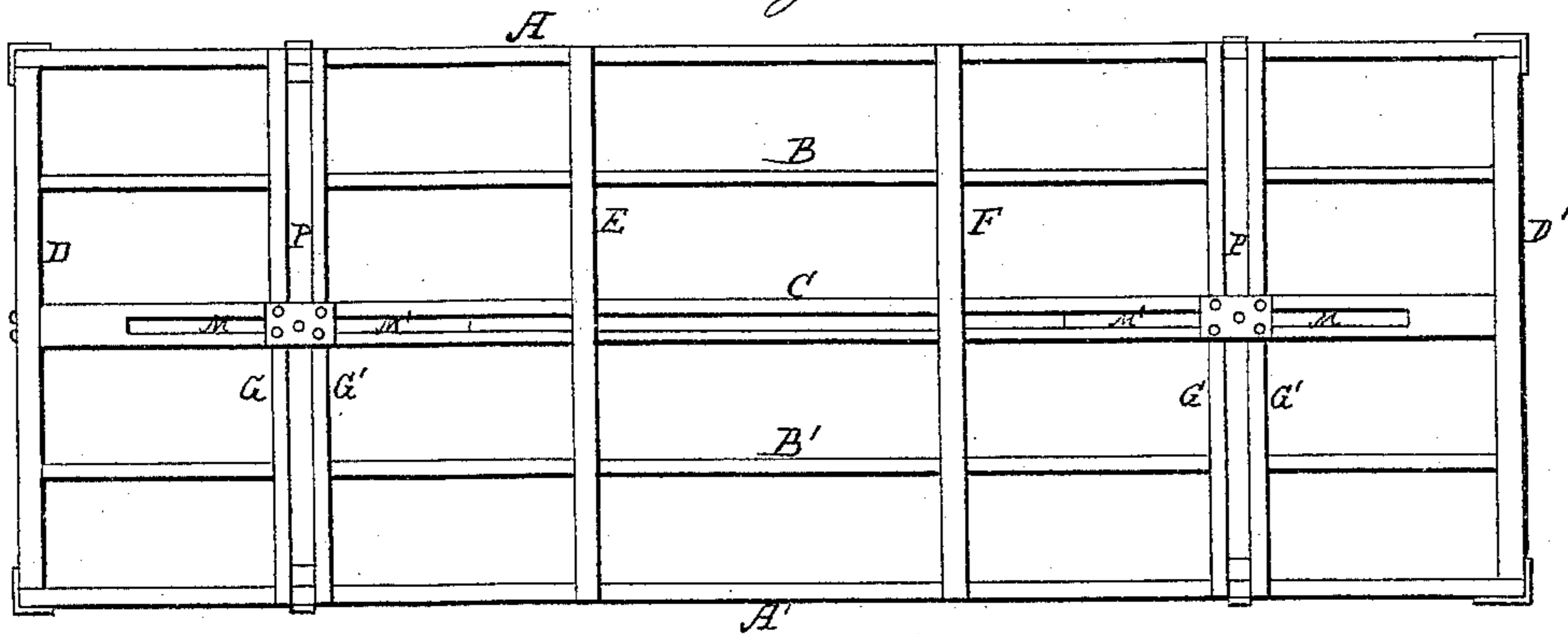


Fig. 3.

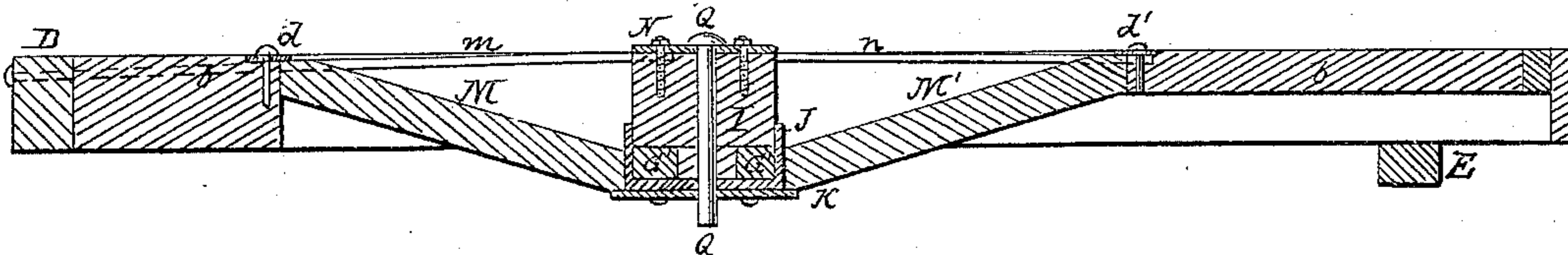


Fig. 4.

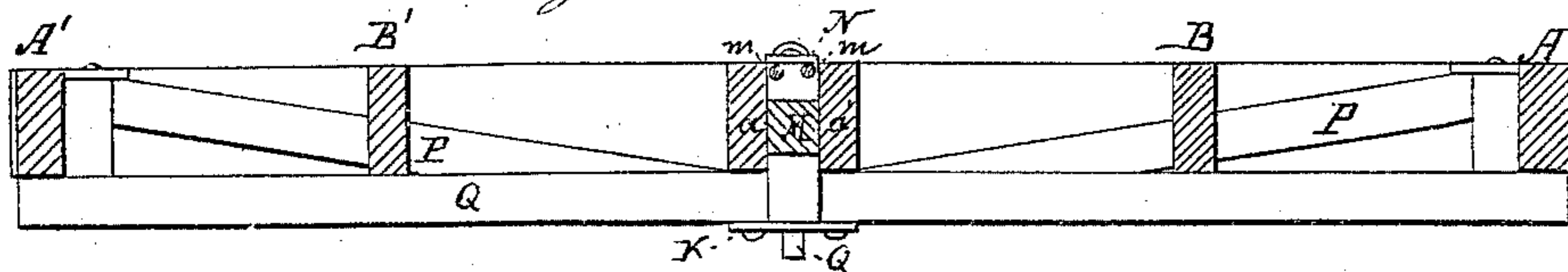
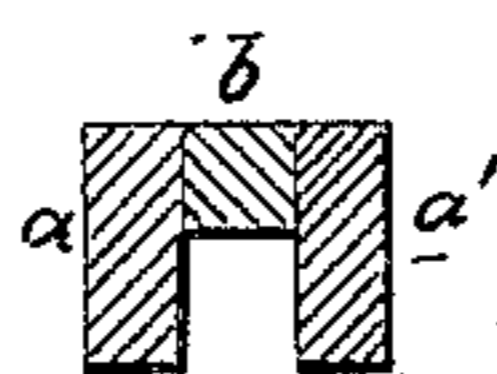


Fig. 5.



Witnesses:

Henry Howson
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Inventor:

Thomas M. Mullen

UNITED STATES PATENT OFFICE.

THOMAS M. MULLEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN THE FRAMING OF RAILROAD-CARS.

Specification forming part of Letters Patent No. 27,734, dated April 3, 1860.

To all whom it may concern:

Be it known that I, THOMAS M. MULLEN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in the construction of the frame-work of a railway-car; and my improvement consists in making the central longitudinal beam of the frame of two separate strips extending the whole length of the frame, with intervening packing-pieces between the said strips, and in applying to the beam thus constructed certain braces at the points where it rests on the trucks in the manner described herein-after, so that no piercing of the beam for the reception of the king-bolts is required, and so that it may be of increased strength at the points where rigidity is most needed.

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

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a plan view of the frame of a railway-car with my improvement; Fig. 2, an inverted plan view of the same; Fig. 3, a longitudinal section, drawn to an enlarged scale, of part of the frame on the line 1 2, Fig. 1; Fig. 4, a transverse section on the line 3 4, Fig. 1; and Fig. 5, a transverse section of the central beam of the frame.

Similar letters refer to similar parts throughout the several views.

The frame is composed of the two outer longitudinal beams A and A', the intermediate longitudinal beams B and B', and the main central longitudinal beam C, the whole being connected together by the end beams D and D', the intermediate beams E and F, and (at the two points where the frame rests on the truck) by the beams G and G'. The central longitudinal beam, a transverse section of which is shown at Fig. 5, consists of two separate strips *a* and *a'*, extending throughout the whole length of the frame, situated a short distance apart and connected together by the packing-pieces *b*. On each

side of the beams G and G' and at both ends of the frame the packing-pieces *b* are discontinued, leaving an open space between the two strips *a* and *a'*, as best observed on reference to Fig. 3. Into this open space a block I is introduced between the two strips, this block being of a length equal to the distance across the two transverse beams G and G', which are connected to the block by the plate J, the latter being confined to its place by a plate K, which is secured by suitable bolts to the beams G and G'.

Against the plate J and on the plate K rest the lower ends of the diagonal braces M and M', which are situated in the open space between the two strips *a* and *a'* of the central beam C, the upper ends bearing against the packing-pieces *b*, to which they are confined by suitable plates, the brace M by the plate *d* and the brace M' by the plate *d'*.

To the upper surface of the block I is secured a plate N, which serves to retain the ends of the stay-rod *m m* and *n n* fast hold of the said block I, into which they are let. The outer ends of the stay-rod *n n* are secured by the plate *d'*, and the outer ends of the tie-rod *m m* to the plate *d*, or the latter rods may be continued through the packing-piece *b* and through the beam D, to which they may be secured by suitable nuts. The king-bolt Q passes through the plate N, through the block I, between and free from contact with the two strips *a* and *a'*, between the transverse beams G and G', and through the plates J and K. The central beam is trussed and stayed at the opposite end of the frame in a similar manner. The two transverse beams G and G' are secured to the under side of the longitudinal beams of the frame, and between them are situated the diagonal braces P P, which serve to truss the frame transversely at the points where it rests on the truck, as best observed on reference to Fig. 4.

In ordinary frames for railway-cars it is usual to make the central longitudinal beam of one solid piece, and to pierce it at the points where it rests on the trucks with holes for the reception of the king-bolts, these holes having the effect of weakening the beam at the points where extra strength is most desirable. By making the beam of the two continuous strips *a* and *a'* sufficient room may be afforded for the passage of the king-bolt

between them and for the admission of the braces and stays above described, which impart additional strength to the frame.

No more material is required for making this central beam of the two strips with packing-pieces than is required for a solid beam, and the fact that the strips are unpierced and otherwise entire throughout their whole length adds to the advantages which my improvement possesses.

In cars of great length the beam may be trussed at intermediate points in a manner similar to that above described, and the same trussing arrangement may be applied with advantage to the whole of the longitudinal beam of the frame.

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

The longitudinal beam C, composed of two strips *a* and *a'*, with intervening packing-pieces *b*, in combination with the diagonal braces *M* and *M'*, the whole being constructed and arranged in respect to the king-bolt, substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS M. MULLEN.

Witnesses:

HENRY HOWSON,

CHARLES D. FREEMAN.