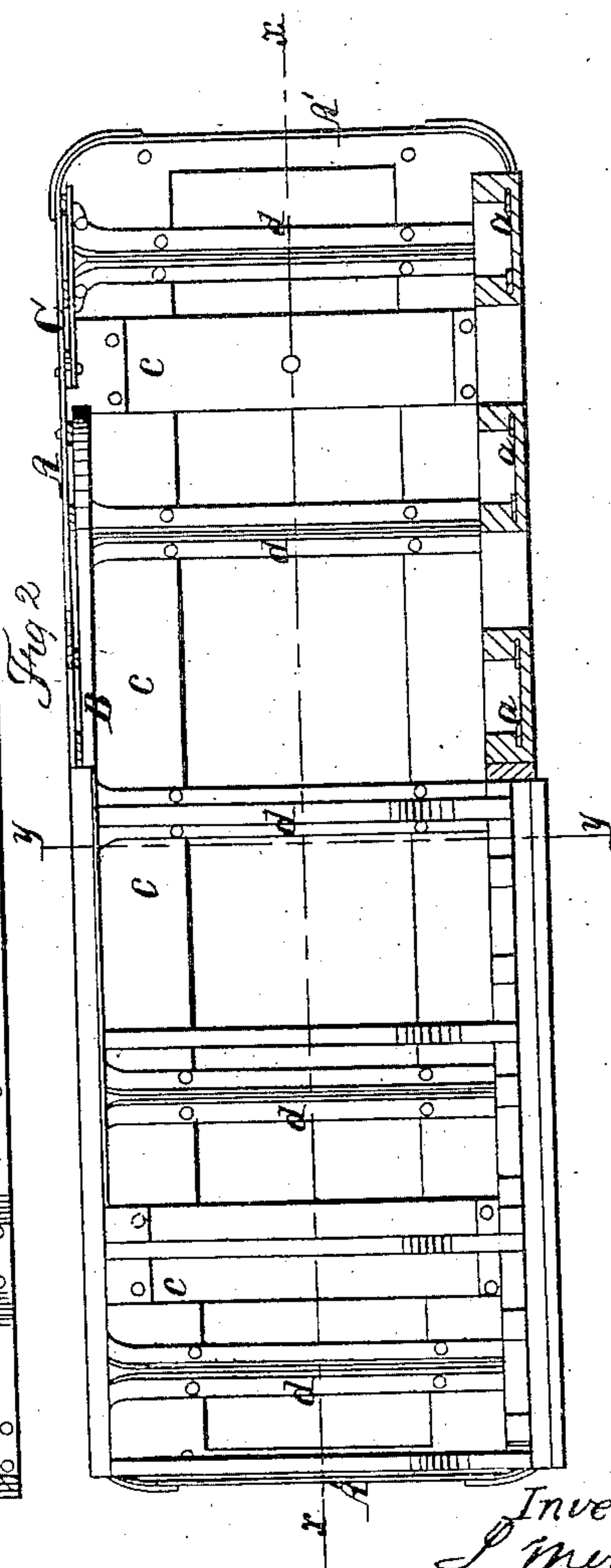
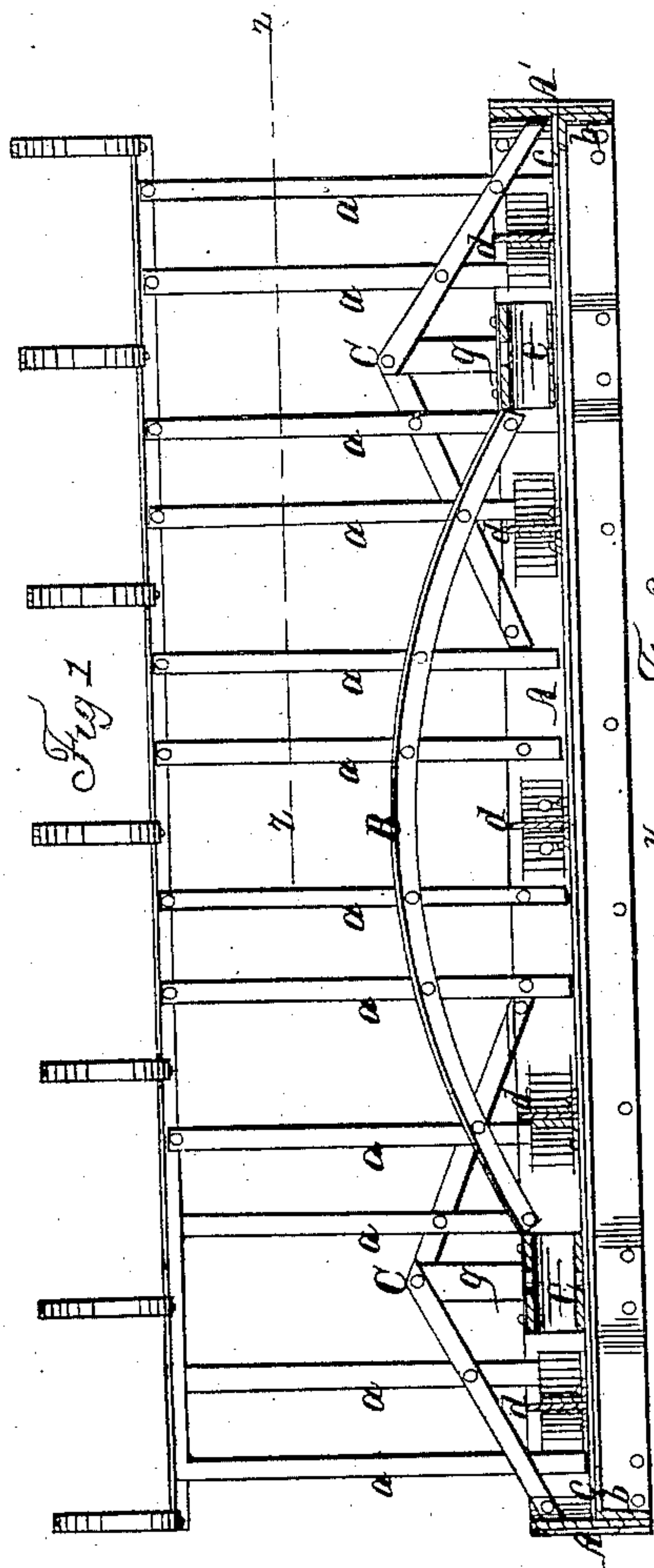
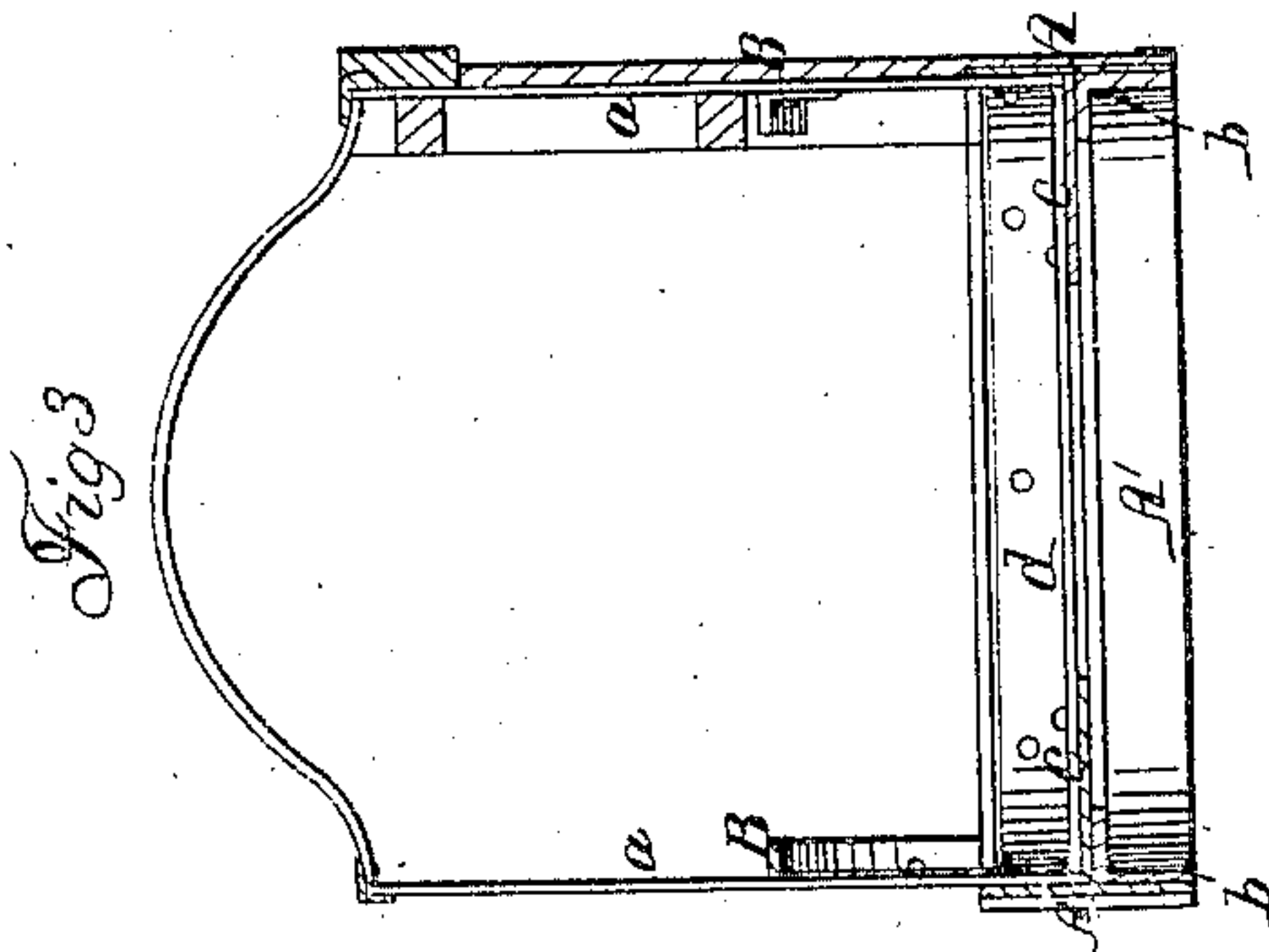


S. MERRICK.

Railway Car.

No. 63,548.

Patented Apr. 2. 1867.



Witnesses;
Thos Truoka
H. Truoka

Inventor;
S. Merrick
Per Munn
Atty

United States Patent Office.

S. MERRICK, OF NEW BRIGHTON, PENNSYLVANIA.

Letters Patent No. 63,548, dated April 2, 1867.

IMPROVED CAR-BODY FRAMES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. MERRICK, of New Brighton, in the county of Beaver, and State of Pennsylvania, have invented a new and useful Improvement in Frames for Railroad Car Bodies; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of my improved car frame, taken in the plane of the line *x x*, fig. 2.

Figure 2 is an inside view of the bottom of the frame, partly in section, taken in the line *z z*, fig. 1.

Figure 3 is a vertical cross-section, taken in the line *y y*, fig. 2.

Similar letters of reference indicate like parts.

This invention relates to improvements in the construction of iron frames of railroad cars, and consists in applying arch-trusses in the centre and ends of the sides, in combination with the main sills and stanchions, and also tying the main and cross-sills with a flat horizontal plate, in such manner that all the parts of the frame shall be firmly secured to each other, and so connected and related as to be self-supporting independently of panels or lining. My improved iron self-sustaining truss frame entirely overcomes the difficulty of settling in the middle, common to ordinary car frames. The stanchions may be of wood or iron, and the covering, panels, and lining may be of light materials; thus greatly diminishing the dangers of splinters in case of collisions, from the absence of the heavy timbers in wooden car frames. The car body with my improvements will be several tons lighter than ordinary car bodies, making a great saving in the dead weight of rolling stock on a railroad.

A A are the main sills of a car frame made of wide plate iron, set up vertically on the sides, lengthwise of the car, and connected with cross-plates, *A' A'*, at each end, firmly bolted at the corners. The stanchions *a a* are made of wood or flat bar iron, bolted at the bottom to the main sills, covered with wood or iron panels, as described in a patent granted to me October 2, 1866. Angle-iron plates, *b b*, are riveted on the inside to the bottom of the main sills *A A*, running around the ends of the frame. Upon the horizontal flanges of the plates *b b* are bolted the plates *c c*, which are as wide as the main sills *A A*, and lie at right angles to them, forming a T-shaped connection, as seen in section, fig. 3. The plates *c c* run from end to end of the frame. The ends of the cross-sills *d d* rest upon and are riveted through their flanges to them; thus immense strength is secured to the bottom of the frame in all directions. In the middle of the frame, on both sides between the transoms *e e*, are placed arched trusses, *B B*, which are bolted at their ends to the main sills *A A*, and to the stanchions *a a* at their several intersections. Flat bar iron may be used, but I prefer angle-iron, and the strength should be sufficient to prevent buckling, according to the size and weight of the car. Over the transoms *e e* are placed angle trusses, *C C*, which are bolted at top to studs *g g*, standing on the transoms, and also to the stanchions *a a* the same as the middle trusses, and to the main sills *A A*, at their ends. They may be made of band iron. By this combination of trusses with the main sills, and of the horizontal side plates *c c* with the cross-sills, the whole structure is braced and mutually supported so completely in every part, both laterally, vertically, and longitudinally, that the car frame is perfectly self-sustaining.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

In the construction of frames of car bodies, the iron arched trusses *B*, the angle trusses *C*, and the horizontal iron plates *c*, in combination with the main sills *A*, the stanchions *a*, and the cross-sills *d*, arranged substantially as and for the purposes herein described.

S. MERRICK.

Witnesses:

E. D. MERRICK,

W. S. MORLAN.