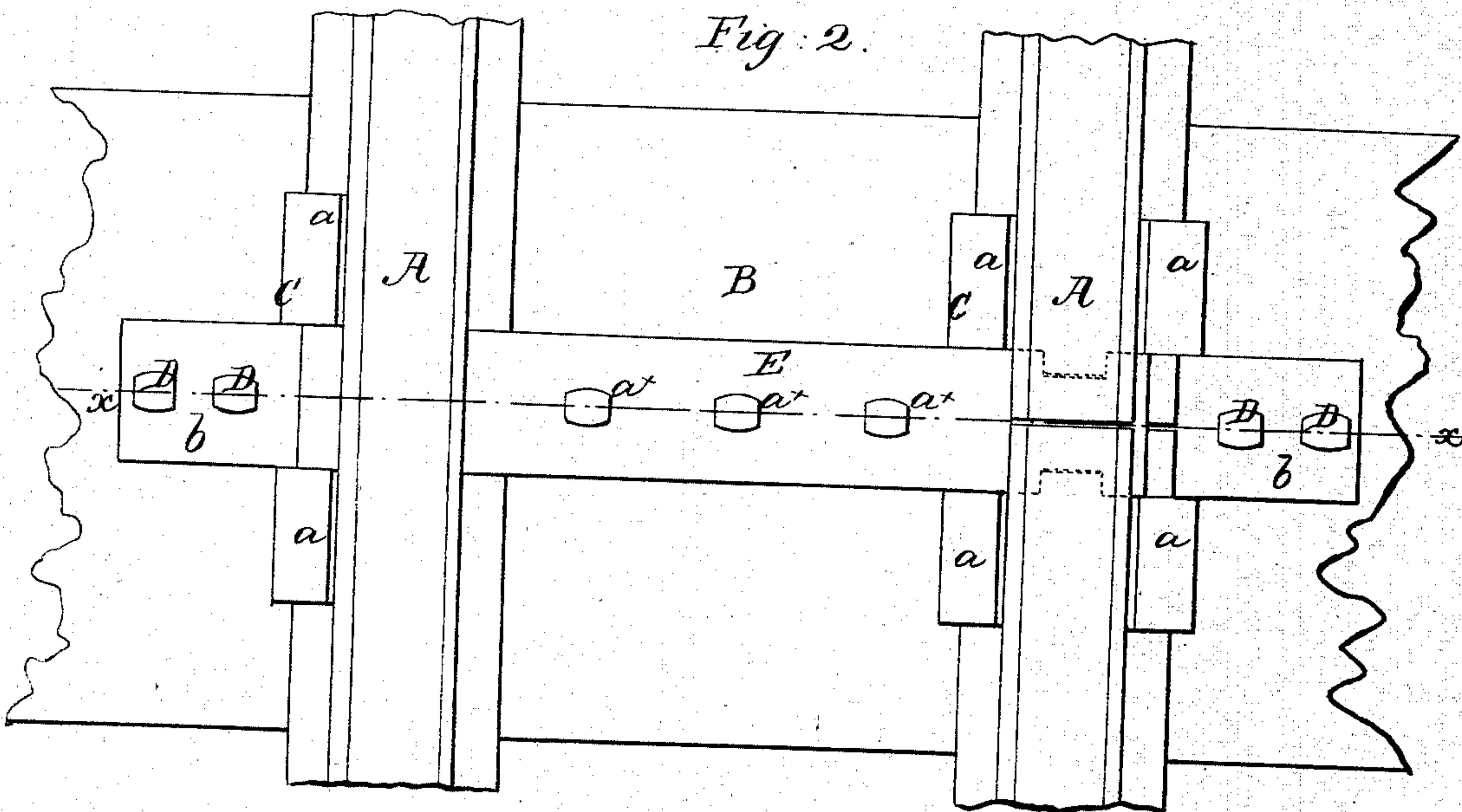
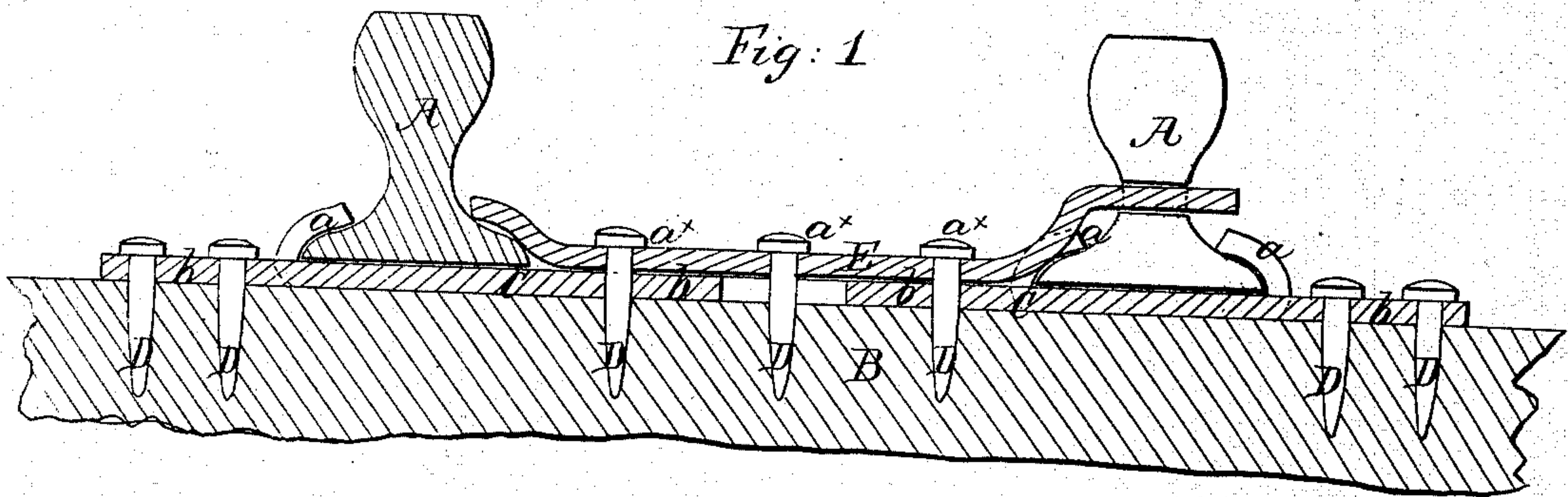


J. L. Hills

Railroad Chair

N^o 49,107.

Patented Aug. 1, 1865.



Witnesses;
M. M. Livingston
C. L. Copley

Inventor;
John L. Hills

UNITED STATES PATENT OFFICE.

JOHN L. HILLS, OF NEW YORK, N. Y.

IMPROVEMENT IN RAILWAY-CHAIRS.

Specification forming part of Letters Patent No. **49,107**, dated August 1, 1865; antedated July 21, 1865.

To all whom it may concern:

Be it known that I, JOHN L. HILLS, of the city, county, and State of New York, have invented a new and Improved Chair for Railroad-Rails; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those 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 section of my invention, taken in the line $x x$, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to obtain a chair for railroad-rails which will admit of a vertical working or play of the rails and the ties or sleepers without causing the chairs to be loosened or the rails to get misplaced or out of a proper position, and the invention has further for its object the preventing of the rails from spreading apart laterally, a contingency of frequent occurrence in curves, owing to the lateral pressure of the car-wheels against them.

A A represent the rails at each side of a track, and B a cross-tie to which the chairs are attached. These chairs (designated by C) are constructed of wrought-iron plates, and for ordinary purposes may be about a half an inch thick. These plates are cut so that one side of the cut portion may be turned up over the bases of the rails to form lips a , the portions b of the plates between the lips being secured to the tie B by screws or spikes D. The lips a and portions b may each be about three inches in width. These portions b are of such a length as to admit of a certain degree of vertical play or vibration of the tie or the rails as the cars pass over the latter, and the chairs C are consequently not liable to become loose on the ties, as is the case with the ordinary chairs, where the spikes are driven into the ties and have their heads lapping over rigid parts of the chair. The lips a are bent cold over the bases of the rails, the heating of the lips not being necessary, and this admits of the chairs being ap-

plied to rails previously laid without the trouble of disturbing either the rails or ties, all that is required being simply to pry the rail a trifle upward and slip the plate underneath it, and then bend the lips over the base of the rail.

I propose to use a spike near the outer ends of the portions b of the plates, and a screw near the rails, but two screws or two spikes may be employed.

Thus it will be seen that, besides the advantage of a certain degree of elasticity or yielding of the portions b of the chairs, I obtain the advantage of the ready application of the chairs to rails already laid.

In curves of the road I apply braces E to the chairs. These braces are made of a plate of iron about three inches in width, or equal in width to the portions b of the chairs, and bolted or otherwise secured to the tie B between the rails at the two sides of the track, as shown at a^x . One end of this brace abuts against the rail at one side of the track, and the other end passes through slots made in the ends of the adjoining rails at the opposite side of the track, the rails fitting in notches in the sides of the brace, as shown by the dotted lines in Fig. 2.

Both ends of the brace may, if desired, be made to pass through the rails at both sides of the track in the same way as the end last described.

By the employment or use of this brace the rails at the two sides of the track are effectually prevented from spreading apart, as they are capable of resisting the lateral pressure of the wheels as the cars pass over the curves.

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

In combination with the wrought-iron chairs C $a b$, the brace-bar E, extending from chair to chair and held in notches between the abutting ends of the rails, as herein shown and described.

JOHN L. HILLS.

Witnesses:

M. M. LIVINGSTON,
C. L. TOPLIFF.