

C. E. POWERS.  
Car Attachment for Elevated Railways.  
No. 233,016.                      Patented Oct. 5, 1880.

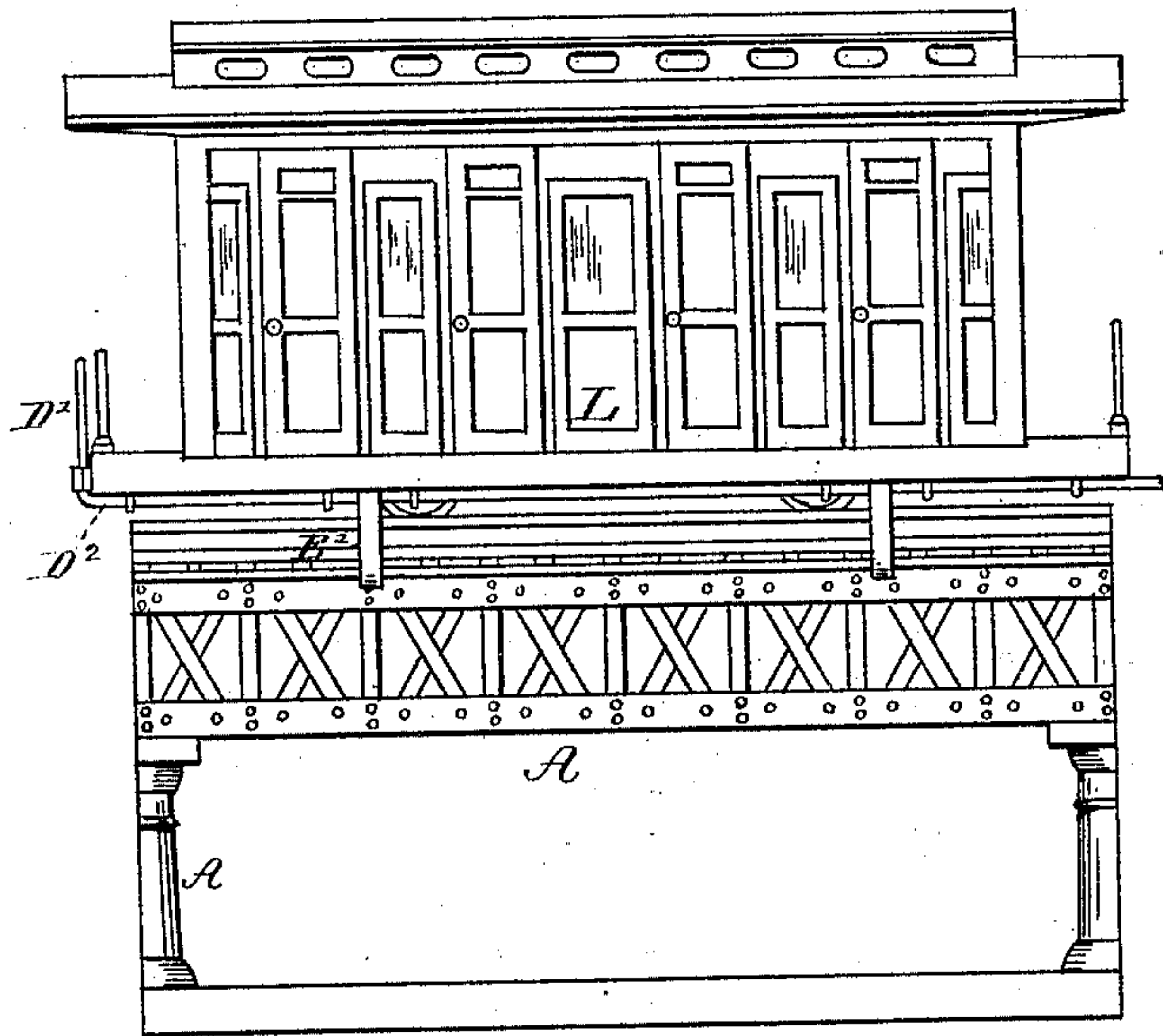


Fig. 1.

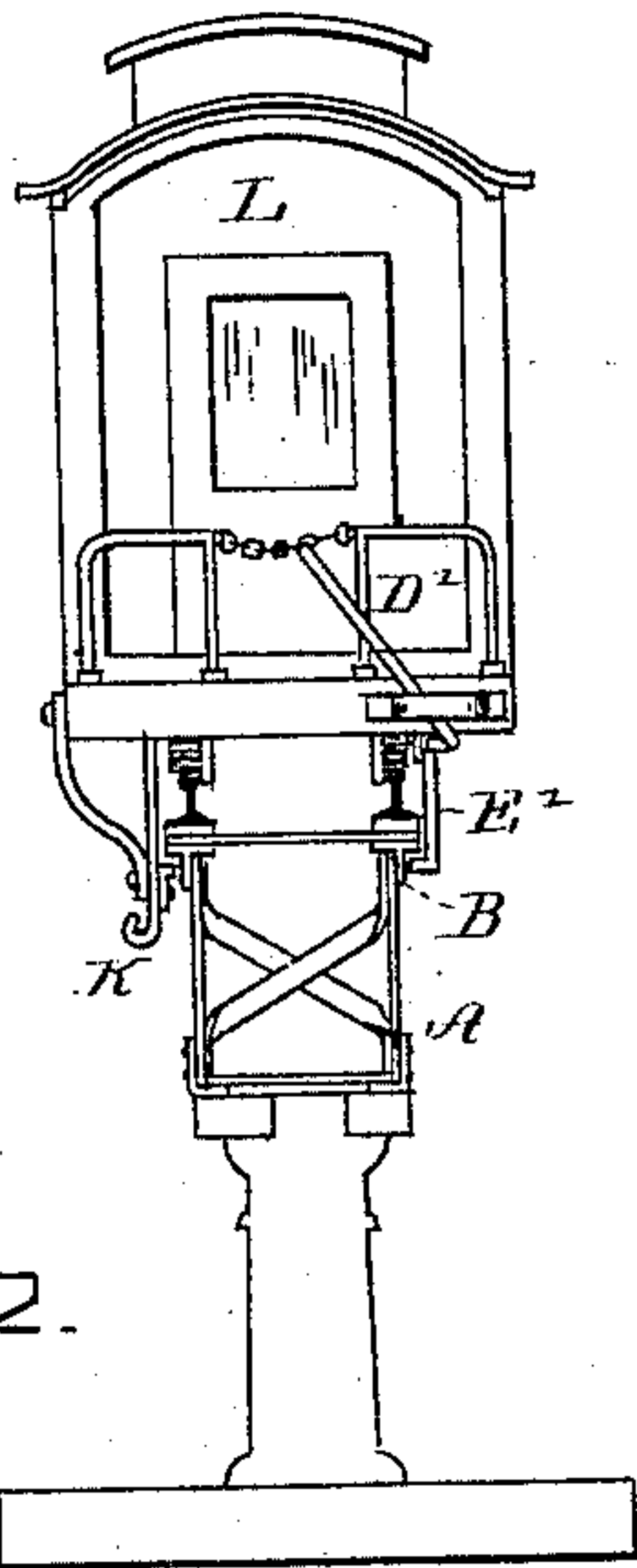


Fig. 2.

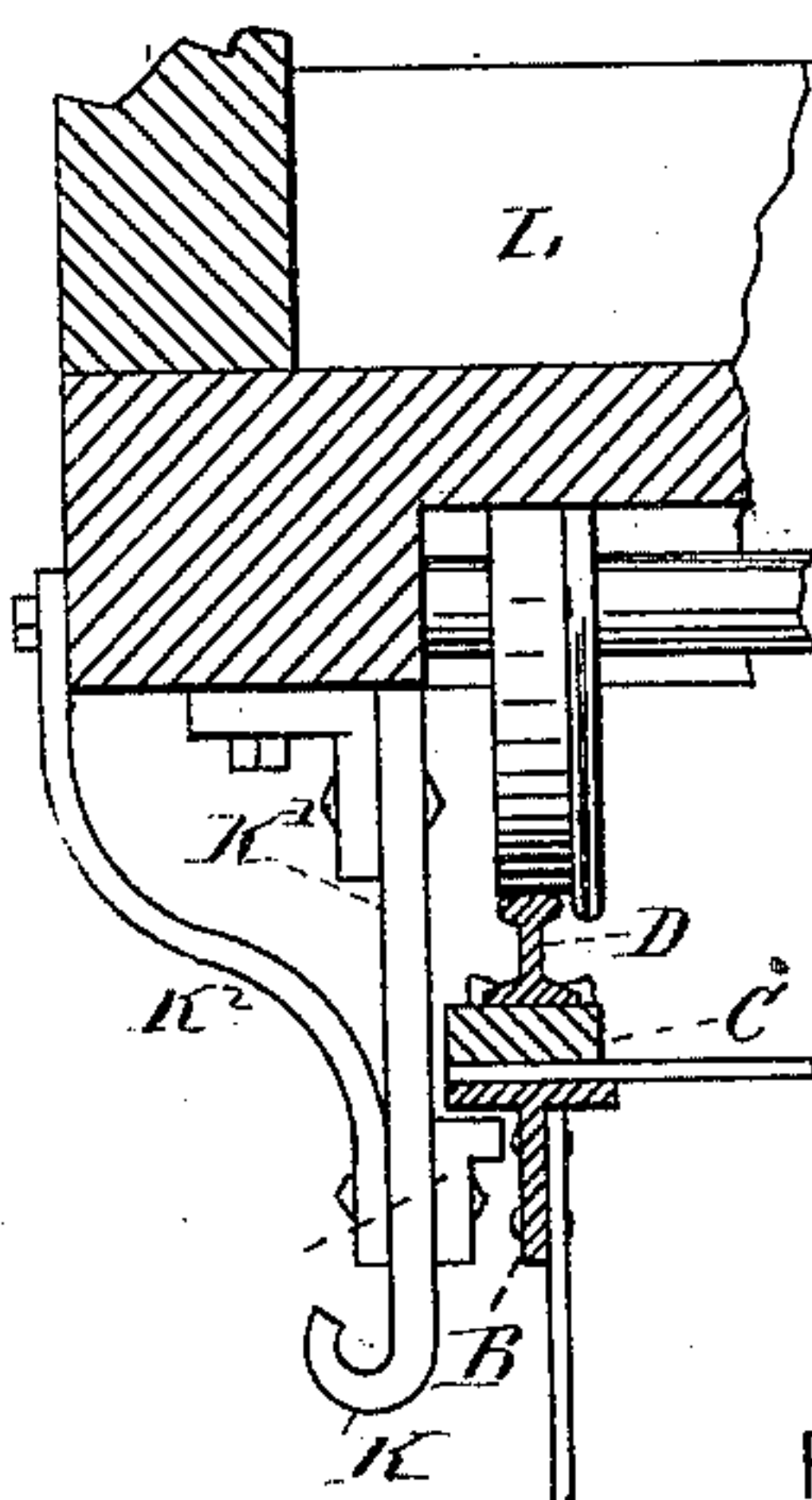
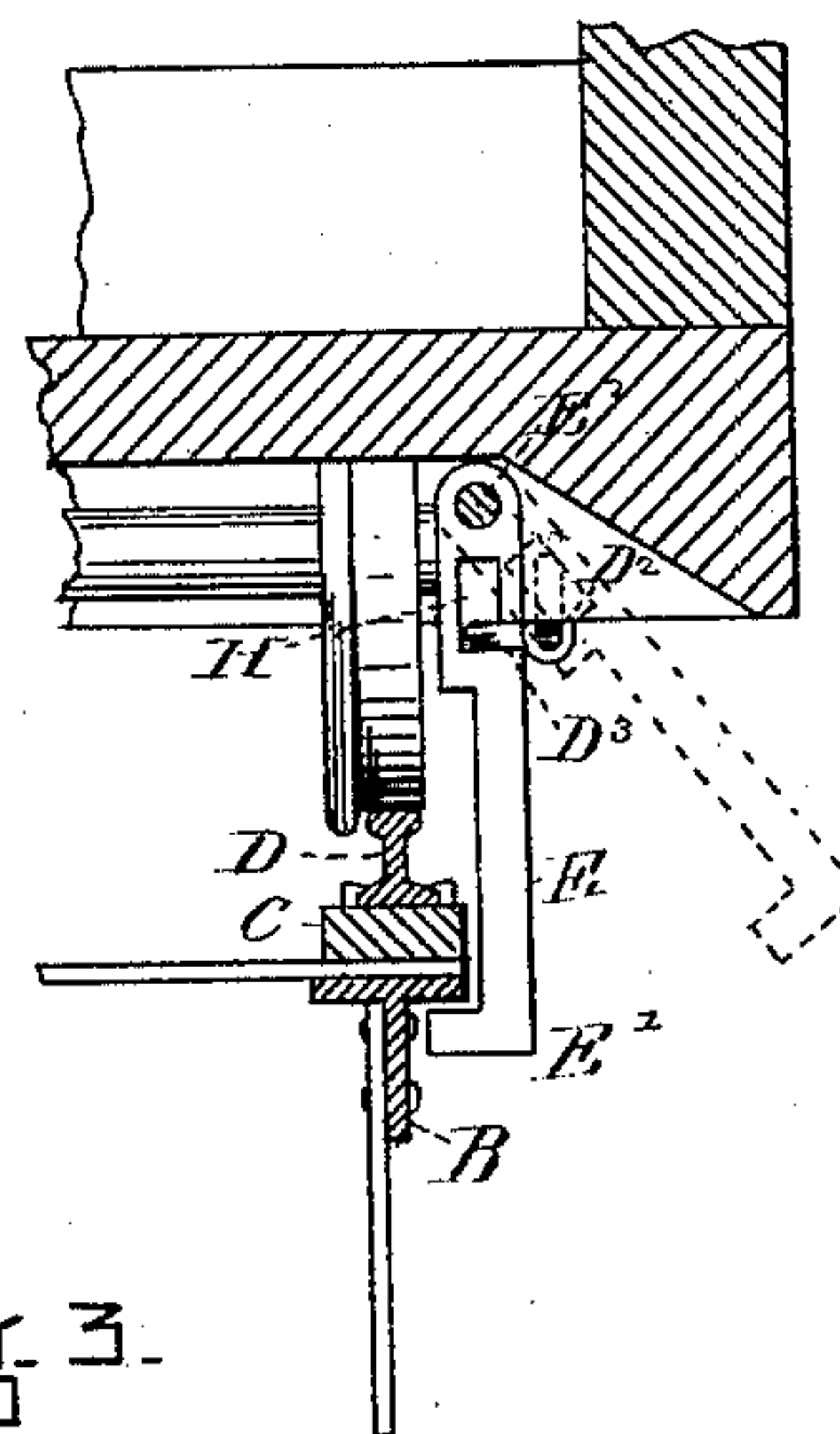


Fig. 3.



WITNESSES.

*Ernest N. Boyden*  
*William E. Eason*

INVENTOR.

*Charles E. Powers.*

# UNITED STATES PATENT OFFICE.

CHARLES E. POWERS, OF BOSTON, MASSACHUSETTS.

## CAR ATTACHMENT FOR ELEVATED RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 233,016, dated October 5, 1880.

Application filed August 29, 1879.

*To all whom it may concern:*

Be it known that I, CHARLES E. POWERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Car Attachments for Elevated Railways, of which the following is a specification.

My invention consists in a downwardly-projecting bracket which is suspended from the car and acts both as a side brace to prevent the car from tipping and also as a hook to clasp the stringer beneath the rail, and thus give additional security.

My invention also consists in a device by which the bracket may be turned up so as to allow the car to be switched or to cross an intersecting track.

In the drawings, A represents the main girder of an elevated railway, and L the car. The upper angles of the girder A are formed by T-pieces B, one flange of each extending beyond the side of the girder, as shown in Figure 3, to afford a strong projection, under which the holding-hook E' runs, and with which the hook in case of accident engages and thus prevents the car from leaving the track.

To the T-iron B are firmly attached the cross-ties and the string-pieces C, which forms a bed for the rail D. This part of the structure—viz., the T-iron, the cross-ties, the stringer C, and the rail D—forms a firm resisting stringer to take the strain of the hook E' or the bracket K K' K<sup>2</sup> in case of accident.

The holding-bracket K K' K<sup>2</sup> is firmly attached to the under side of the car, and is braced and bolted, as shown in Fig. 3. This form is to be used on tracks that have turn-

tables or sliding switches. The hook E E' is to be used on tracks that have the ordinary system of switches.

The holding-hook E E' is pivoted at E<sup>2</sup>, Fig. 3, in a strong housing, and is thrown in and out by a crank-shaft, D<sup>2</sup>, Figs. 1 and 3. The crank D<sup>3</sup> passes through a slot, H, in the hook, so that when the shaft is turned, as it may be by the lever D', Figs. 1 and 3, it will operate through the crank D<sup>3</sup> to swing the hook E E' in or out. This crank-shaft is also mounted in a strong housing firmly attached to the car, and the angle of the crank is so adjusted to the hook E E' that the crank will stand at right angles to the hook when the hook is in place, and as both the hook and crank are mounted in a strong housing or housings the whole becomes a very firm device for holding the car to the track.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. On an elevated railway, the car L and the side bracing-hook bracket K K' K<sup>2</sup>, in combination with the girder A, the said bracket descending below the upper part of the main girder, whereby it may serve as a wind-brace and a hook, all substantially as described, and for the purpose set forth.

2. The combination of the swinging hook E E', the crank-shaft D<sup>2</sup>, crank D', and car L with the stringer B of the beam-girder A, substantially as described, and for the purpose set forth.

CHARLES E. POWERS.

Witnesses:

WILLIAM EDSON,  
WILLIAM COGAN.