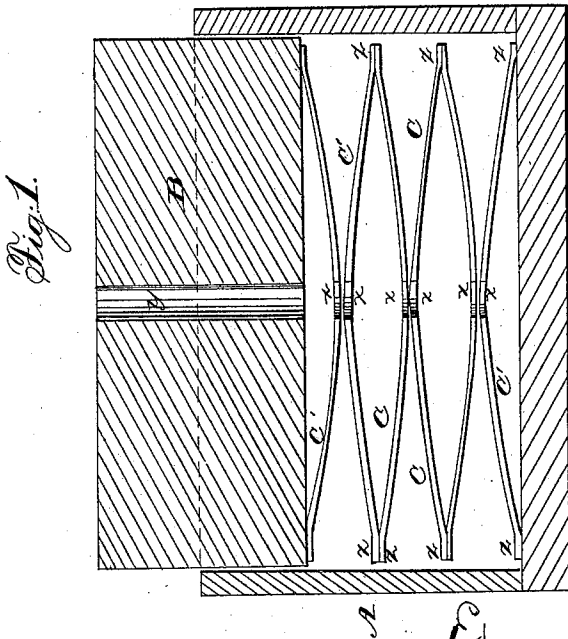
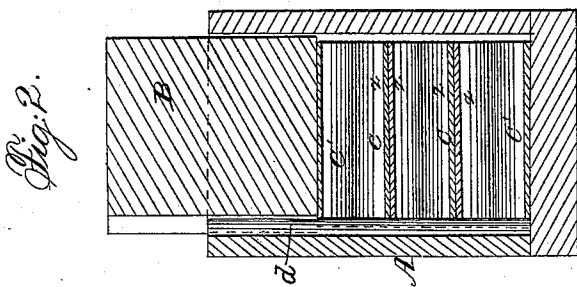
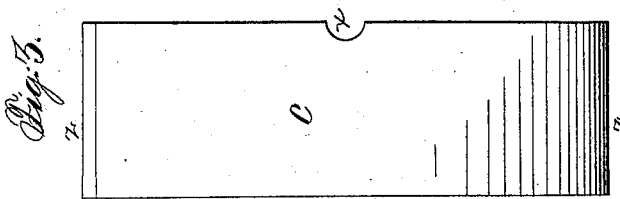


E. J. HORNER.  
Car Spring.

No. 65,574.

Patented June 11, 1867.



*Inventor*

*Edwin J. Horner*

*Alexander Mason  
Attorney*

*Witnesses*

*Charles Alexander  
W.D. Stockdale*

# United States Patent Office.

EDWIN J. HORNER, OF WILMINGTON, DELAWARE.

Letters Patent No. 65,574, dated June 11, 1867.

## IMPROVED CAR-SPRING.

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, EDWIN J. HORNER, of Wilmington, in the county of New Castle, and in the State of Delaware, have invented certain new and useful Improvements in Railroad-Car Springs; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

Figure 1 represents a longitudinal vertical section of the car-spring and box.

Figure 2, a cross-section.

Figure 3, a plan view of one of the plates.

My invention has for its object the formation of a cheap, elastic, and durable spring for the cars.

A represents a metallic case made oblong or of other suitable form. Within this box is placed a series of semi-elliptical shaped metal plates, C. These plates are made of spring steel, and of a length and width to suit the size box they are to be placed in. The ends of said plates are bent straight a short distance, *z z*, so that when two are placed together, forming an elongated ellipsis, the flattened ends fit neatly together. *x* represents a semicircular notch made on one edge of each plate near the centre for the purpose of fitting around a rib, *d*, which is made with the box A, as seen in fig. 2. These plates are not connected together in any manner, and are placed in the box with one plate at the bottom with bulge upwards; then with the plates forming ellipses upon it, and then another plate with bulge downwards upon the uppermost elliptic, as shown in fig. 1. After the several plates are placed in this manner, a block, B, is set upon the uppermost plate, and the whole forming a perfect spring. It will be observed that there is a groove, *y*, in the side of the metal block B, so that it, as well as the springs, are kept in their places by the rib *d*, and can easily be extracted for repair in case of one or more of the plates becoming broken.

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

A series of oblong metallic semi-elliptical plates, each having an opening, *x*, near its centre, arranged together as herein shown, with full elongated ellipses between semi-elongated ellipses, placed within a box, A, having a vertical rib, *d*, whereby they are alone secured in their proper places and held by the pressure of a grooved block, B, in the manner as herein specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 23d day of November, 1866.

EDWIN J. HORNER,

Witnesses:

C. M. ALEXANDER,  
J. M. MASON.