

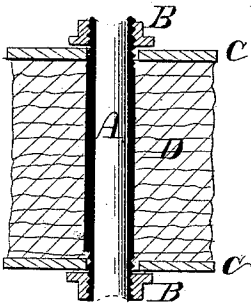
H. M. PAINE.

Car Spring.

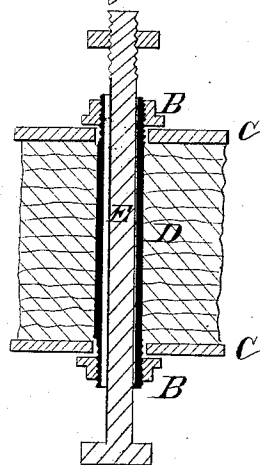
No. 18,515.

Patented Oct. 27, 1857.

*Fig. 1.*



*Fig. 2.*



*Inventor*

*Amos Briggs  
Agent*

*Henry M. Paine*

# UNITED STATES PATENT OFFICE.

HENRY M. PAINE, OF WORCESTER, MASSACHUSETTS.

## RAILROAD-CAR SPRING.

Specification forming part of Letters Patent No. 18,515, dated October 27, 1857; Reissued February 15, 1859, No. 667.

*To all whom it may concern:*

Be it known that I, HENRY M. PAINE, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Car Springs, of which the following is a specification.

The object of my invention is to substitute animal or vegetable fibrous material for the india rubber and metallic spring now in use under railway cars, in such a form as to secure permanence of action and freedom from rebound motion incident to the metals and elastic gums.

The nature of my invention consists in binding disks of fibrous material together in the form of a cylinder, by means of a hollow tie rod and nuts which compress the disks between metallic plates to any required density.

The drawings are a part of this specification.

I make the tie rod A, Figure 1, of iron tubing of the required length and diameter, and cut on either end a screw thread on which is fitted nuts B, B. The nuts B B work against, and draw together two metallic plates *c, c*, which plates condense the fibrous disks D to the required density.

The hollow tie rod A, Fig. 1, receives the spring bolt E, Fig. 2, and thus secures the cylinder of disks firmly in its place without impairing its qualities as a spring.

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

The combination of fibrous disks with the hollow tie bar A, nuts B B and metallic plates C, C substantially as herein specified and set forth.

HENRY M. PAINE.

Witnesses:

ANNA BRIGGS,  
H. H. GILSON.