

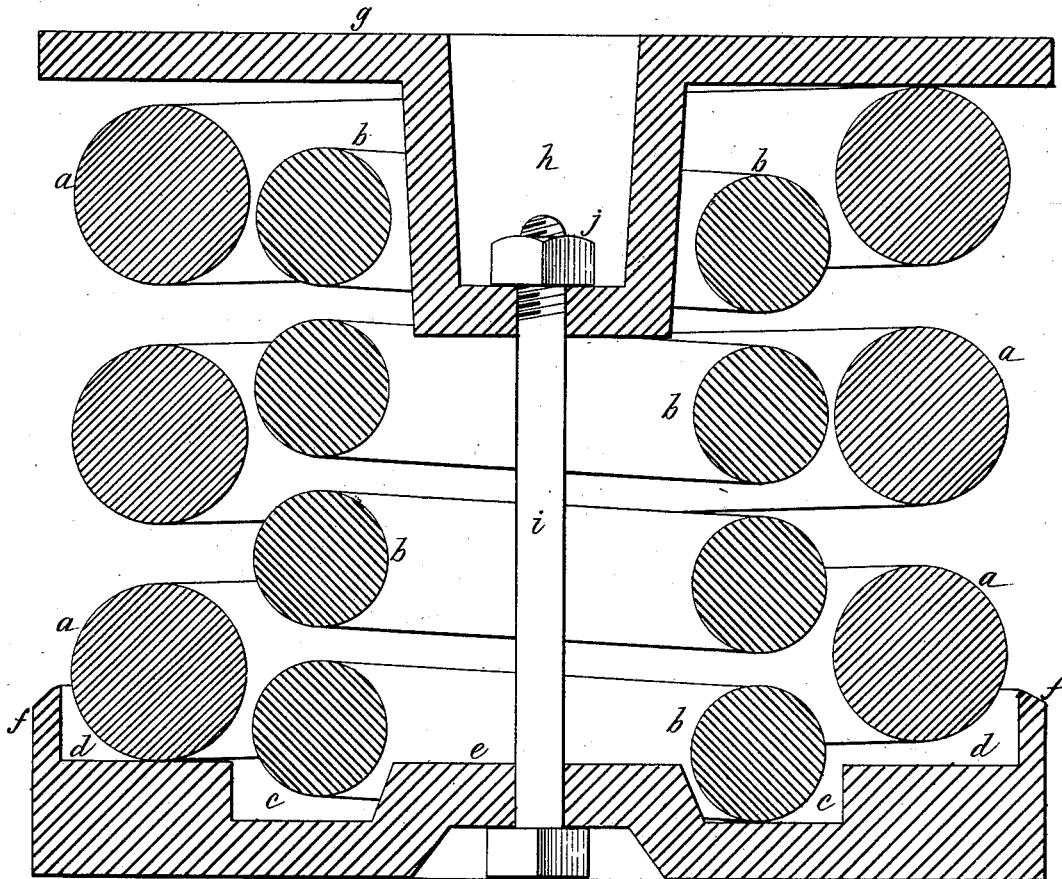
(No Model.)

G. W. MORRIS & G. W. PRESCOTT.

CAR SPRING.

No. 265,852.

Patented Oct. 10, 1882.



Witnesses:

*Edmund Brodhag*  
*H. N. Jenkins*

Inventors:

*Geo. W. Morris,*  
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*Attys.*

# UNITED STATES PATENT OFFICE.

GEORGE W. MORRIS, OF CHICAGO, ILLINOIS, AND GEORGE W. PRESCOTT,  
OF ST. LOUIS, MISSOURI.

## CAR-SPRING.

SPECIFICATION forming part of Letters Patent No. 265,852, dated October 10, 1882.

Application filed August 28, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE W. MORRIS, of Chicago, in the county of Cook and State of Illinois, and GEORGE W. PRESCOTT, of St. Louis, in the county of St. Louis and State of Missouri, have invented new and useful Improvements in Railroad-Car Springs, of which the following is a specification.

Our invention relates to improvements in graduated bolster-springs for railway-cars, in which spirally-coiled springs are placed one within the other and acted on in succession to bring all the spirals into action under a given pressure. In such springs the graduation has been effected by long and short spirally-coiled bars for the purpose of suiting the light and heavy weight of a railroad-car. We effect the graduation with spirally-coiled bars of equal length combined with a seat-plate adapted to allow of the dropping down of the inner spring to bring it below the height of the outer spring, so that the latter will receive the weight of the car-body, and when the car is loaded the inner spring will be brought into action. By having the springs of the same length and graduating them in the seat-plate we avoid the necessity of having to make long and short springs for the purpose, and produce a graduated spring from springs of the same height now sold, such as the French spiral springs. We drop down the inner spring, because it is the lightest and smallest in diameter and more liable to break, so that it is only brought into action under heavy loads.

The accompanying drawing shows a vertical sectional view of a graduated car-spring embracing our improvement.

The springs are of the same length and placed one within the other, the outer one, *a*, being always in action, and the inner one, *b*, dropped down into a recess, *c*, in the seat-plate, so as to bring its upper end about three-eighths of an inch below the upper end of the outer spring,

and only brought into action when the cars are loaded. At all other times the inner spring is at rest. We may use two or more inner springs, and let them down successively in the seat-plate below the level of the outer one; but all must be of the same length, the bottom of the inner spring or springs being always below the bottom of the outer spring and the top of the latter above the top of the inner spring or springs under light loads. The seat-plate has separate seats *c d* for the springs, one below the other, the inner one, *c*, being the deepest, and the difference in their depths being equal to the difference of the height of the outer spring above the inner one. The seat-plate has a raised center, *e*, and a circumferential raised flange, *f*, while a cap-plate, *g*, rests upon the outer spring and has a depressed center, *h*, extending within the inner spring, and is secured to the seat-plate by a screw-bolt, *i*, passing up through the inner spring, and a nut, *j*, screwed upon the bolt within the sunken center of the cap, whereby the seat-plate and the cap form the casing for the springs, upon the cap of which the cross-beam rests.

We claim—

A graduated bolster-spring composed of spirally-coiled bars of equal length placed one within the other, and a seat-plate having recesses of different depths, whereby to let the top of the inner spiral spring down below the top of the outer one, as shown and described.

In testimony that we claim the foregoing as our own we hereunto affix our signatures in the presence of two witnesses.

GEO. W. MORRIS.

GEO. W. PRESCOTT.

Witnesses:

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