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Car-Springs.

No. 158,248.

Patented Dec. 29, 1874.

Fig: 1

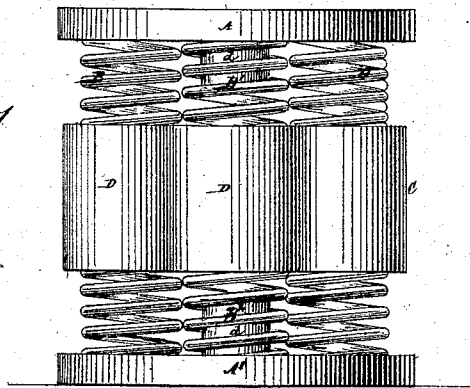


Fig: 2

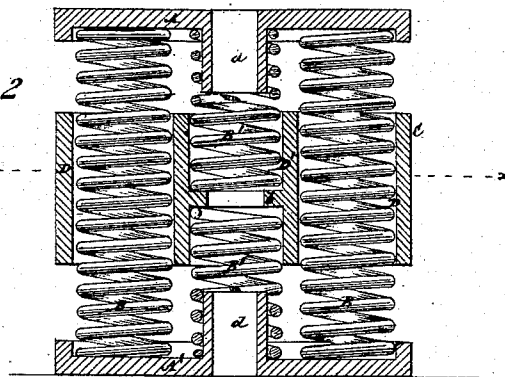
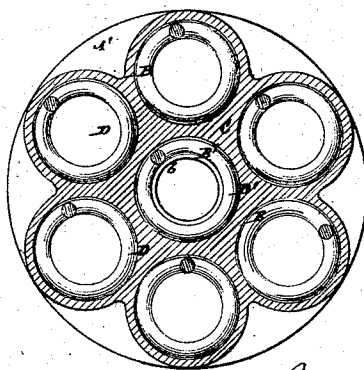


Fig: 3



Witnesses:
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UNITED STATES PATENT OFFICE.

IDA COCHRAN, OF HAMBURG, NEW YORK, EXECUTRIX OF JOHN W.
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IMPROVEMENT IN CAR-SPRINGS.

Specification forming part of Letters Patent No. **158,248**, dated December 29, 1874; application filed
December 1, 1874.

To all whom it may concern:

Be it known that I, JOHN W. COCHRAN, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Springs for Railway-Cars and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a side elevation of a spring constructed in accordance with my invention. Fig. 2 is a longitudinal section of the same, and Fig. 3 a transverse section at the line *x x*.

Similar letters of reference indicate corresponding parts throughout the several figures of the drawing.

My invention relates to that class of springs more especially designed for railway cars, in which a group of independent springs arranged between a cap and base is used, said group consisting of a central elastic core or spring and any desired number of additional springs arranged around it.

These independent springs have been made of various materials, including metal, rubber, and flocculent or other elastic substances, either separately or combined the one with the other, and have been supported both externally and internally by tubular or other projections from the cap or base of the whole spring.

My improvement, however, differs from all previous arrangements, mainly in a combination, with the group of independent springs and cap and base, of an independent case made up of cylinders or chambers, cast or united together, to freely receive through them the springs for a portion of their length, said case being kept in position between the cap and base by a division of the central spring into two separate springs, arranged to bear against opposite sides of an intermediate shoulder or projection within the central chamber of the case.

A railway-car or other spring thus constructed is at once sensitive and firm, and capable of withstanding a heavy load without risk of rupture or buckling, the chambers of the independent and intermediate case steadying the springs, and restraining them from any liability to separately buckle, while the

case, as a whole, operates to prevent the buckling of the springs collectively, yet said case operating much more freely than if it were an attachment to the cap or base.

Referring to the accompanying drawing, A and A' represent the two end plates or cap and base of the whole spring; and B B, a cluster of spiral springs interposed between the cap and base, and arranged around a divided central spiral spring, B' B'.

Instead of metal or spiral springs, rubber springs might be used, or rubber or flocculent cores be combined with the spiral springs.

C is an independent case, of less length than the distance between the cap and base when the whole spring is fully compressed, and composed of tubular chambers D D D', all cast or united together, and corresponding in number and arrangement with the springs B B'. The central chamber, D', is formed with an internal shoulder or projection, *b*, midway, or thereabout, of its length, and the spring within said chamber divided to form two independent springs, B' B', arranged to bear on opposite sides of the shoulder *b*, whereby the case C is retained in intermediate position between the cap and base A A', so that in the closing of the whole spring the several independent springs are free to move from opposite ends of the latter without the independent case C coming in contact with either the base or cap. This leaves said case C perfect freedom with reference to the springs, which it protects against buckling, both separately and collectively.

The cap and base A A' may be provided with internally-projecting stems or tubes *d d*, entering within the center spring or springs, and serving to guide and steady the whole spring.

What is here claimed, and desired to be secured by Letters Patent, is—

The independent case C, composed of a group of tubular chambers, D D', the center one of which is constructed with an internal intermediate projection, *b*, in combination with the divided spring B B', the whole springs B, and the cap and case A A', substantially as specified.

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Witnesses:

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