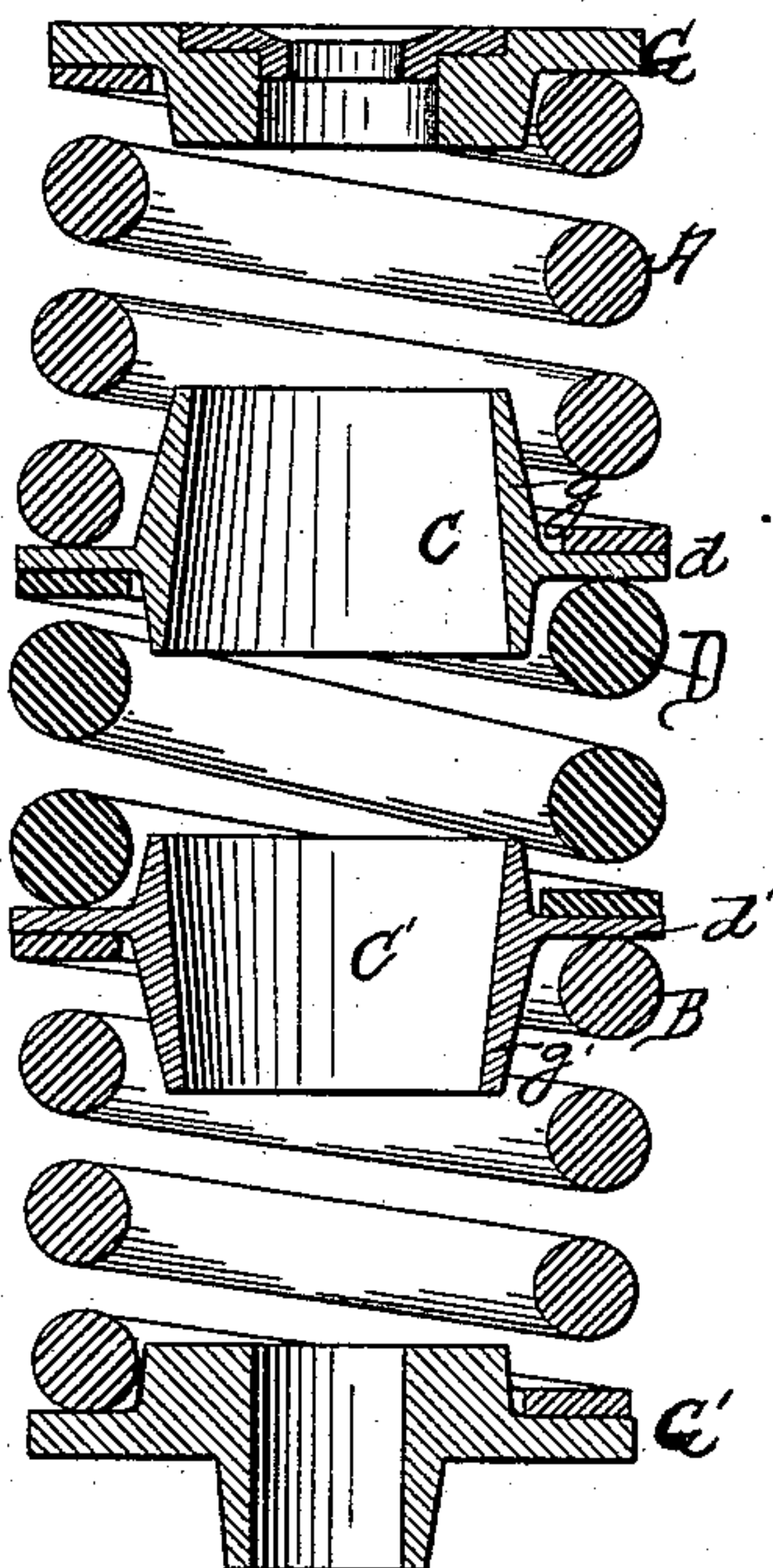


(No Model.)

R. VOSE.
CAR SPRING.

No. 330,446.

Patented Nov. 17, 1885.



WITNESSES:

Henry Eichling
Charles Root-Clark

INVENTOR

Richard Vose
by *W. L. Clark*
his atty.

UNITED STATES PATENT OFFICE.

RICHARD VOSE, OF NEW YORK, N. Y.

CAR-SPRING.

SPECIFICATION forming part of Letters Patent No. 330,446, dated November 17, 1885.

Application filed May 23, 1885. Serial No. 166,439. (No model.)

To all whom it may concern:

Be it known that I, RICHARD VOSE, of the city of New York, county and State of New York, am the inventor of an Improvement in
5 Car-Springs, of which the following is a specification, reference being had to the drawing accompanying the same, and made a part thereof, in which the figure is a sectional side view of one form of my spring when all steel
10 spirals are used.

My invention consists in the combination of end conical spiral springs with a central cylindrical metal spring used as a cushion between said end spiral springs.

15 In the drawings, A and B are two conically-shaped spiral springs, the apices of which are at the upper and lower ends of the spring. C and C' are flanged-lip bearing-cups, and D is a cylindrical spring placed between the two
20 conically-shaped spiral springs, the bases of said conical spirals resting on the flanges of *d* *d'* of C and C'. If deemed necessary and desired, flanges *d* *d'* may have inside lips; but these may be dispensed with. The projecting
25 flanges *g* *g'*, projecting into the bases of the springs A and B, prevent the cups or holders from any lateral motion. G and G' are end caps or pieces commonly used in this class of

combined spiral springs. It will now be seen that weight placed upon the top of cap G first
30 causes the spring A to act. This spring resting in flange *d* of cup C presses the same down onto the cylindrical center spring, D. Spring D is then pressed down onto flange *d'* of cup C', and made to bear upon and press down the
35 conical spiral B, and thus the entire spring is brought into action.

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

1. A car-spring composed of two conical
40 spiral springs, in combination with a cylindrical spring placed between the two, substantially as described, and for the purpose specified.

2. A car-spring composed of two conically-
45 shaped spiral springs, the bases of which rest on a holder which rests on a central cylindrical spring, said cups holding said spirals in position, substantially as described, and for
50 the purpose specified.

Witness my hand this 16th day of May, 1885.

RICHD. VOSE.

Witnesses:

JUNIUS SCHENCK,

JNO. C. N. GUIBERT.