

Richard Yose,

Anti-friction Nest Spiral Car Spring.

No. 119,253.

Patented Sep. 26, 1871.

Fig. 1.

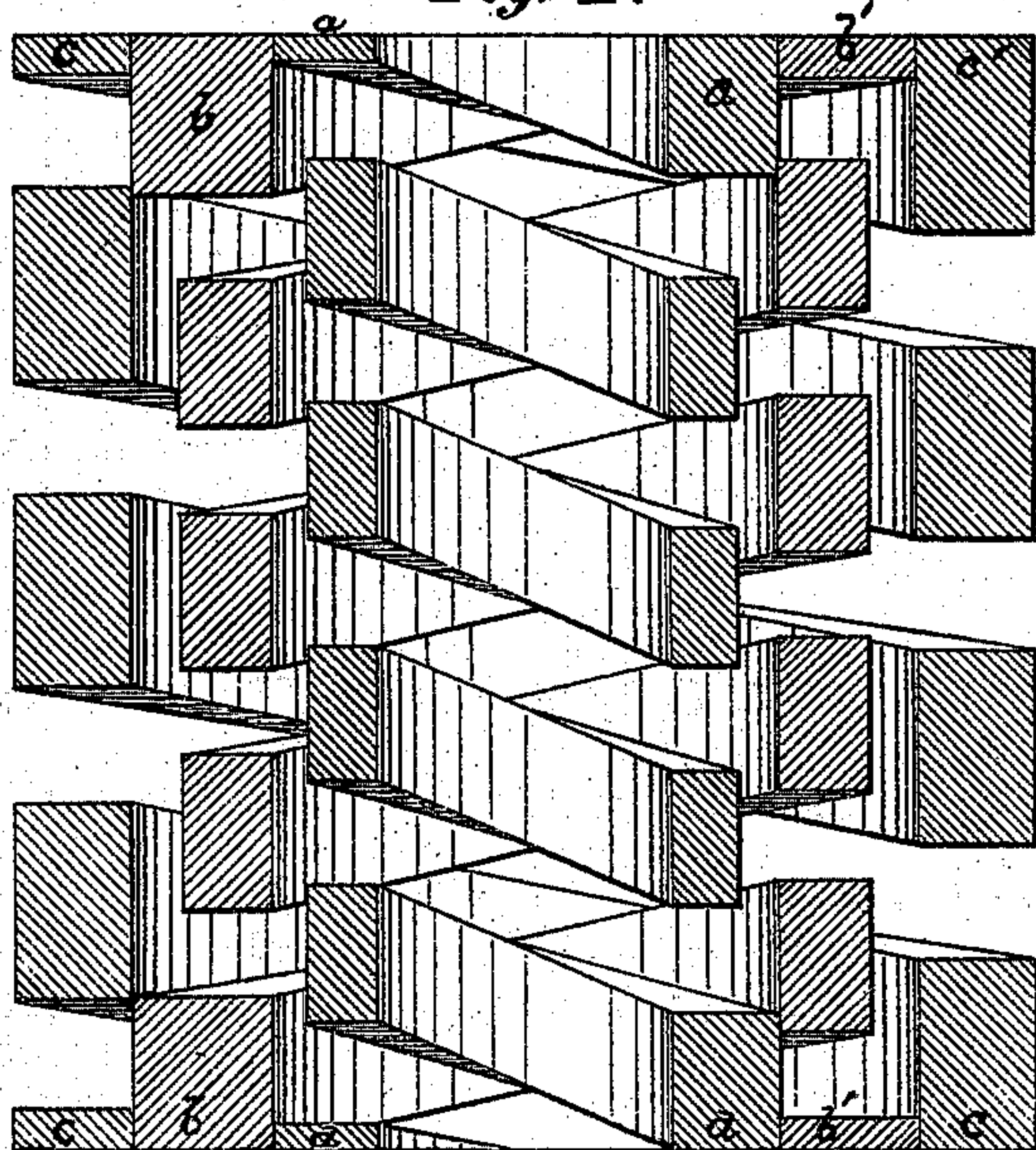
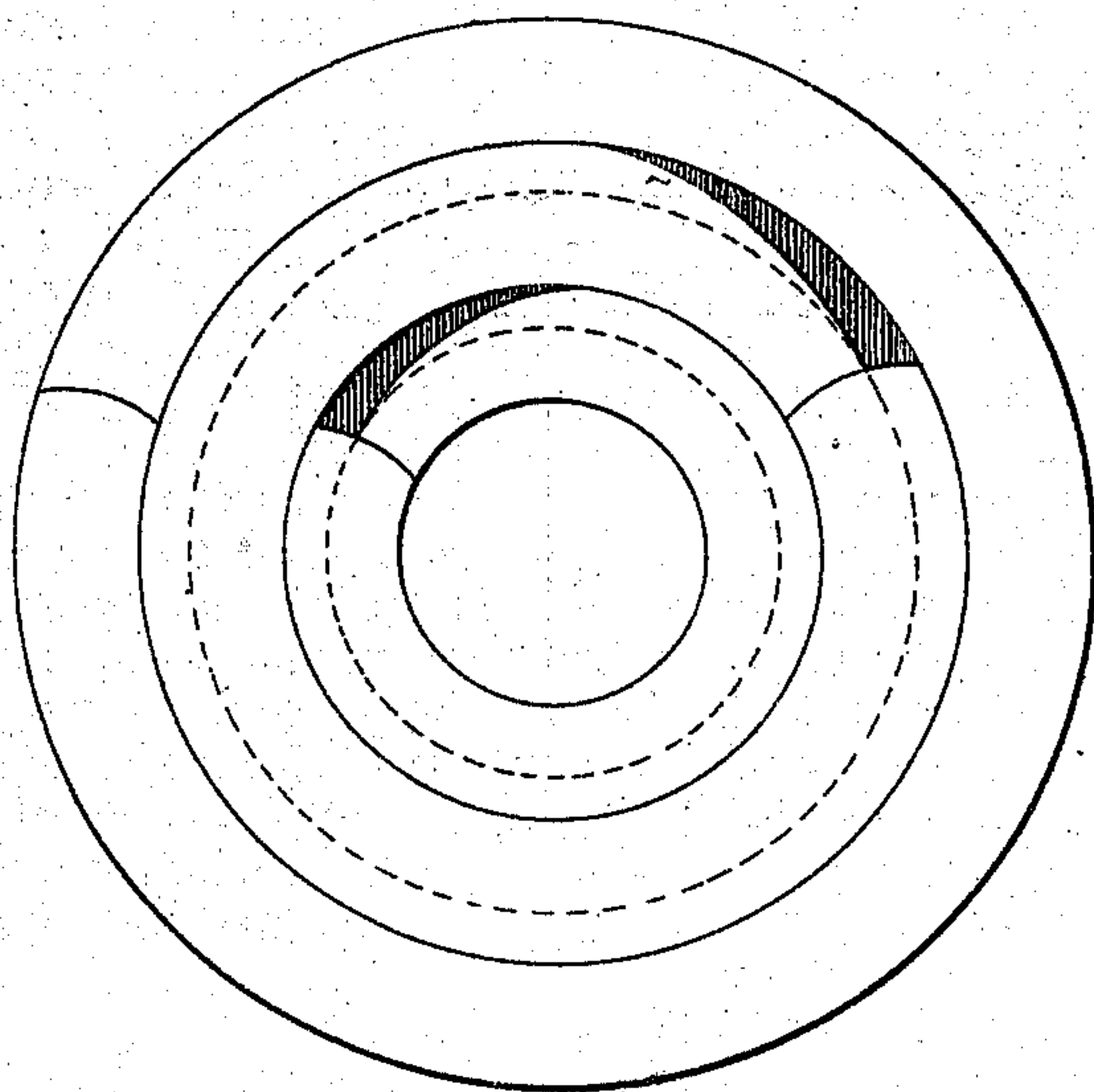


Fig. 2.



Witnesses:

A. S. Fitch.

[Signature]

Inventor:

Richard Yose

By Fitch & Co.

His Atty.

UNITED STATES PATENT OFFICE.

RICHARD VOSE, OF NEW YORK, N. Y.

IMPROVEMENT IN NEST SPIRAL CAR-SPRINGS.

Specification forming part of Letters Patent No. 119,253, dated September 26, 1871.

To all whom it may concern:

Be it known that I, RICHARD VOSE, of the city, county, and State of New York, have invented a new and useful Improvement in Spiral Nest-Springs, of which the following is a specification, reference being had to the accompanying drawing forming part thereof.

Figure 1 is a central sectional view of a nest of spiral springs embodying my invention. Fig. 2 is a top view of the same.

Hitherto when spiral springs have been nested, as shown in the drawing, the several spirals have either been made of such relative sizes as to be closely in contact with each other; or, if made of such sizes as to leave spaces between them, they have been left loose without supports or adjustments, to take their chances of coming in contact or not, as accident or the movement of the springs might determine.

My invention relates to a nest of two or more spiral springs placed one within another, the several spirals of which are made of such relative sizes that spaces are left between them when all are centrally adjusted, when such central adjustment is secured by making the wire or bar forming the terminal coils of one or more of the spirals of sufficient width laterally to bring the several terminal coils in contact with each other.

The several spirals are made in the usual way, and preferably of rectangular bars of steel, as shown in the drawing. It is preferable, also, to coil the springs alternately right and left, as shown. The diameters of the several spirals are such that when the springs are nested together there shall be sufficient space between them to prevent contact when all are centrally adjusted and held in position. Thus, this central adjustment is effected by flattening down the portions of the bar forming the terminal coils *a* of the inner spring, whereby they are spread so as to have an outer diameter equal to the inner diameter of the outer adjoining spring. In like manner the parts of the bar forming the terminal coils *b* of the said adjoining or central spiral are

flattened and spread outwardly, so that their outside diameters shall coincide with the inner diameter of the outer spiral *c*.

It is obvious that when thus constructed the terminal coils of the several springs will be concentrically firmly in contact, and the springs being thus securely held in relative adjustment all the live coils will have a free independent motion without contact with or friction against each other.

It is, of course, not important which of the springs has its terminal coils thus flattened or enlarged. The object is to bring these coils of the several springs in contact concentrically with each other, while the live coils are left free to move without contact or friction.

It is well known that such contact and consequent friction in nested springs are objectionable, rendering their action under cars rough and unpleasant, and tending to impair their efficiency and durability. My invention furnishes a cheap, convenient, and perfectly successful method of obviating these objections.

I do not here claim, broadly, holding and securing in relative adjustment with each other the several spirals of a nest of springs so that contact of the live or acting coils of the several springs is prevented, intending here to confine myself to the special method of securing such adjustment and preventing such contact herein described.

What I claim as my invention is—

A nest of two or more spiral springs, placed one within another, with spaces between them, constructed and arranged as described, so that by means of the terminal or dead coils of the several springs being concentrically in contact with each other, contact and consequent friction between the elastic or live parts of the springs are prevented, as specified.

RICHD. VOSE.

Witnesses:

A. S. FITCH,
WM. REDDY.

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