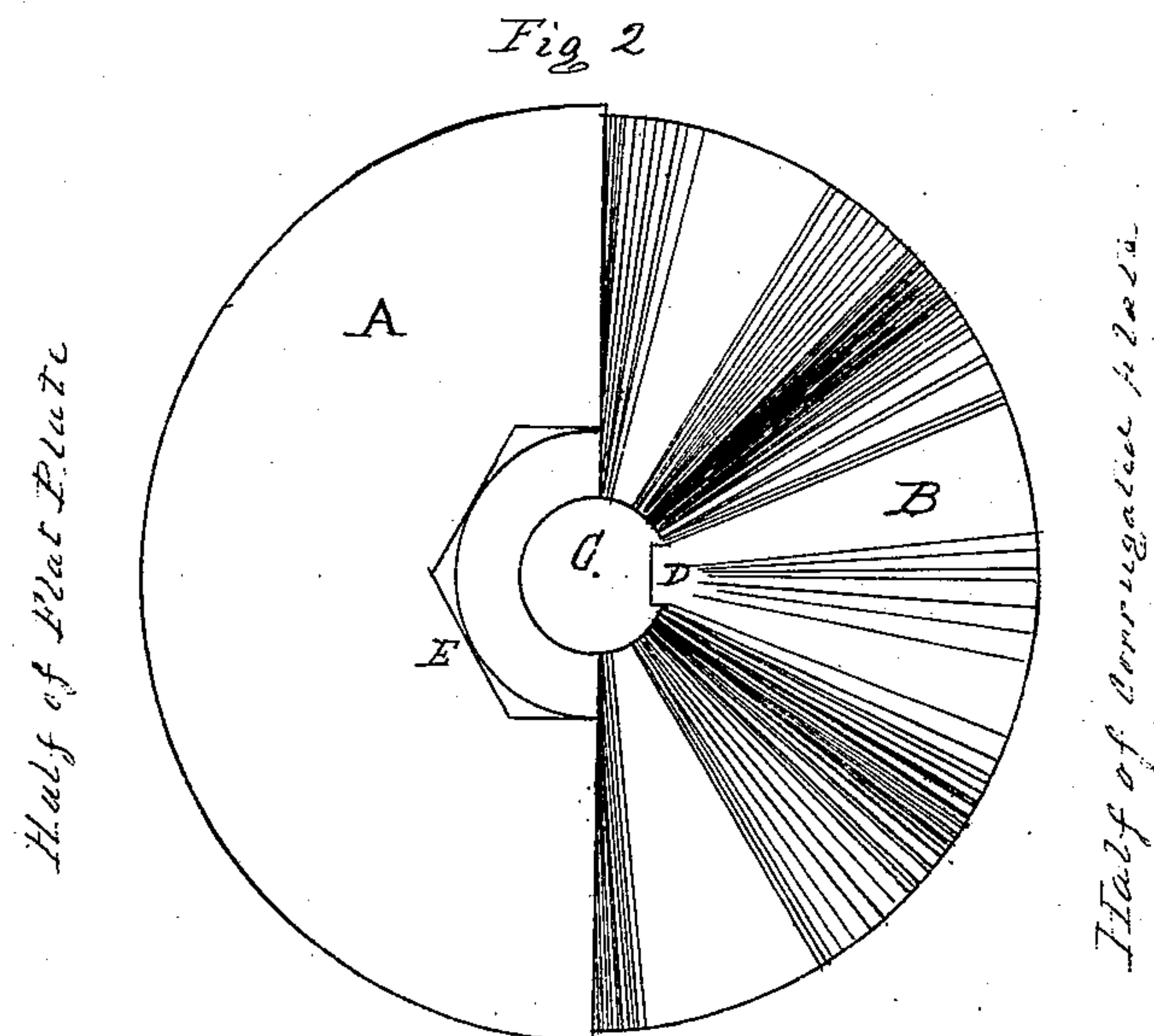
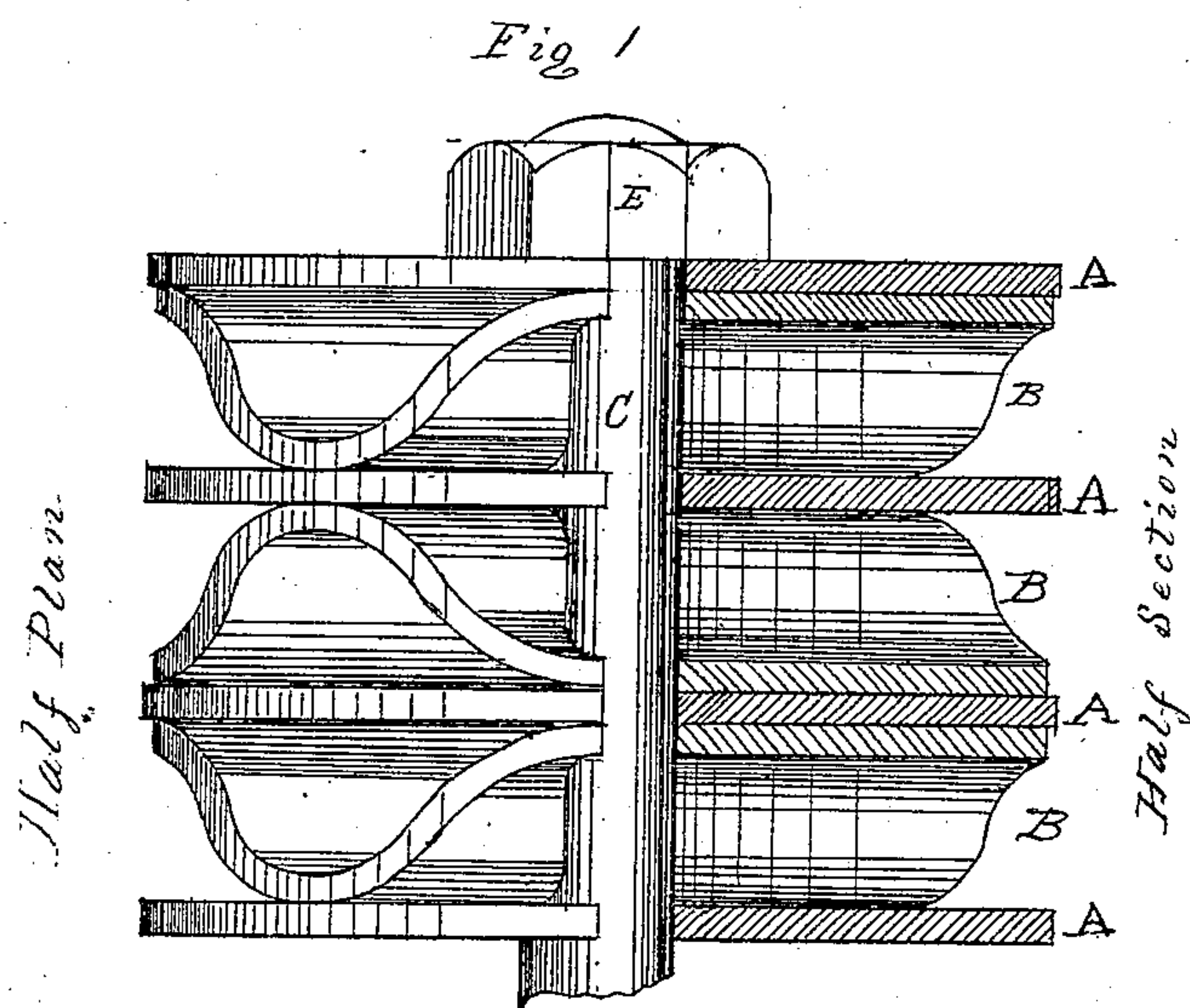


J. R. MATHEWS.
CAR SPRING.

No. 95,497.

Patented Oct. 5, 1869.



Geo. J. C. Mathew
Alfred Coit
John S. Lyon

Witnesses

James R. Mathews
Inventor

United States Patent Office.

JAMES R. MATHEWS, OF NEW LONDON, CONNECTICUT.

Letters Patent No. 95,497, dated October 5, 1869.

IMPROVED CAR-SPRING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES R. MATHEWS, of the town and county of New London, State of Connecticut, have invented a new and useful Improvement in Car-Springs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical half plan and section.

Figure 2 is a horizontal plan, with half of first plate removed.

Like letters refer to like parts.

My invention relates to that class of springs in which corrugated metal springs are used, and consists of a combination of plain and corrugated plates, arranged and formed as hereinafter described.

In the accompanying drawings—

A A A^x represent any number of plain, flat, circular plates. Between these are interposed radially-corrugated plates, B B B^x; the corrugates being formed so that their top and bottom surfaces of contact are parallel with each other, or so that the entire length of the corrugate is in contact with the interposed plain plate A.

These plates are held from turning by the projection D, in a groove formed in the bolt C. The plain plates are allowed to turn freely on the bolt C.

The spring is formed by a bolt, C, provided with a groove or key-way. On this bolt is placed, first, a

plain plate, A, next, a corrugated plate, B, next, a plain plate A, and so on, until the spring reaches the required thickness, the top of one corrugate being immediately under the one above it, as shown.

I am aware that springs have been made with corrugated plates, and that the same are of various forms, and that India rubber has been interposed between them.

I do not claim any of these features, but rest my claim on the formation of the corrugates, so as to render their use, in combination with plain plates, practicable, my invention requiring the use of corrugated plates, in which the top and bottom surfaces of contact are parallel, and remain so throughout the entire period of compression, and having a plain plate interposed to allow each spring to act independently of the others.

Having thus described my invention,

What I claim, is—

A spring, formed of radially-corrugated plates B B B^x, having their top and bottom surfaces of contact parallel to each other, and arranged alternately with plain, flat plates A A A^x, substantially as herein described.

JAMES R. MATHEWS.

Witnesses:

JNO. P. C. MATHER,

ALFRED COIT,

JOHN J. LYON.