

J. W. EVANS.

Car-Spring Box.

No. 85,518.

Patented Jan. 5, 1869.

Fig. 1.

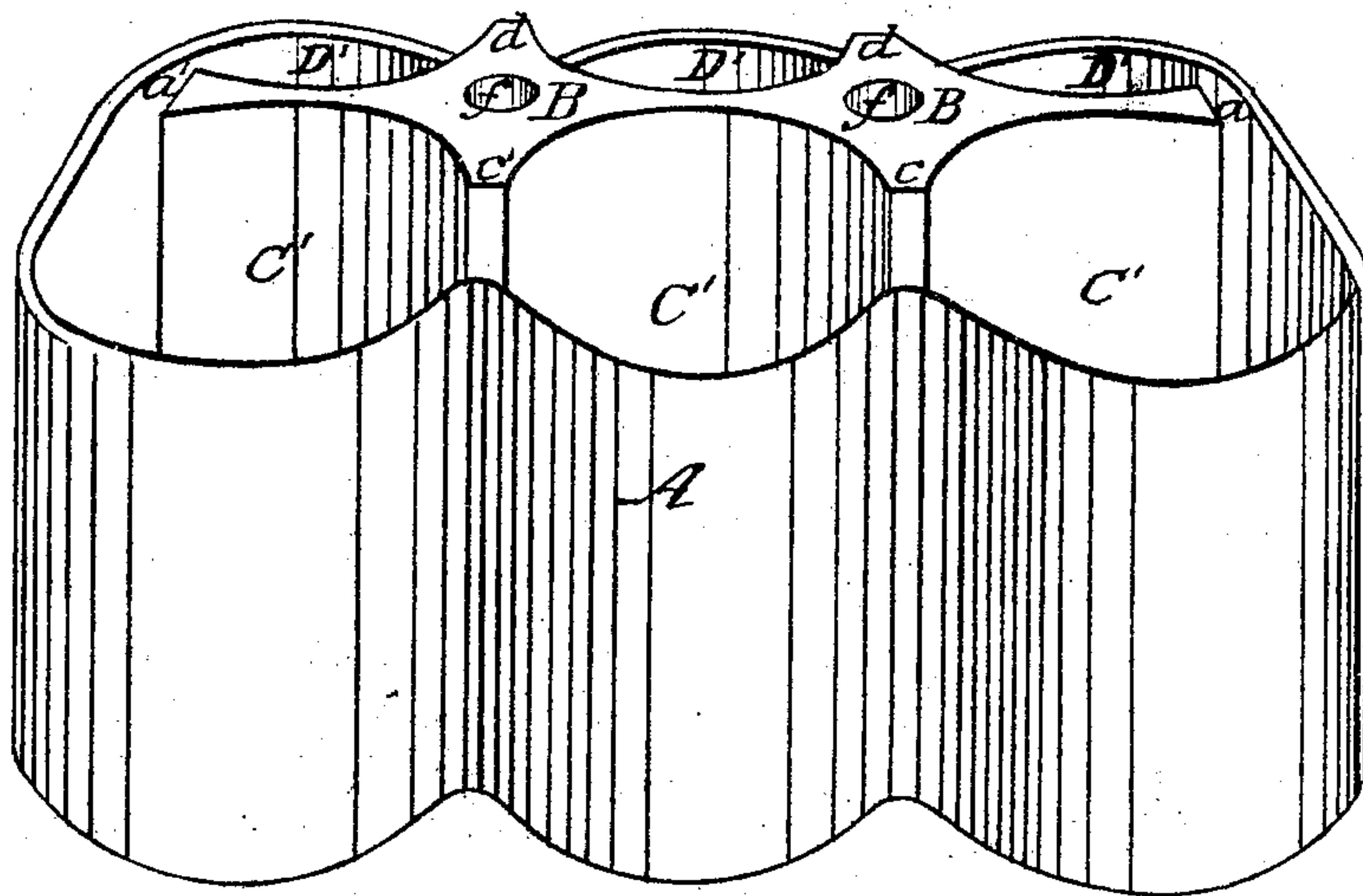
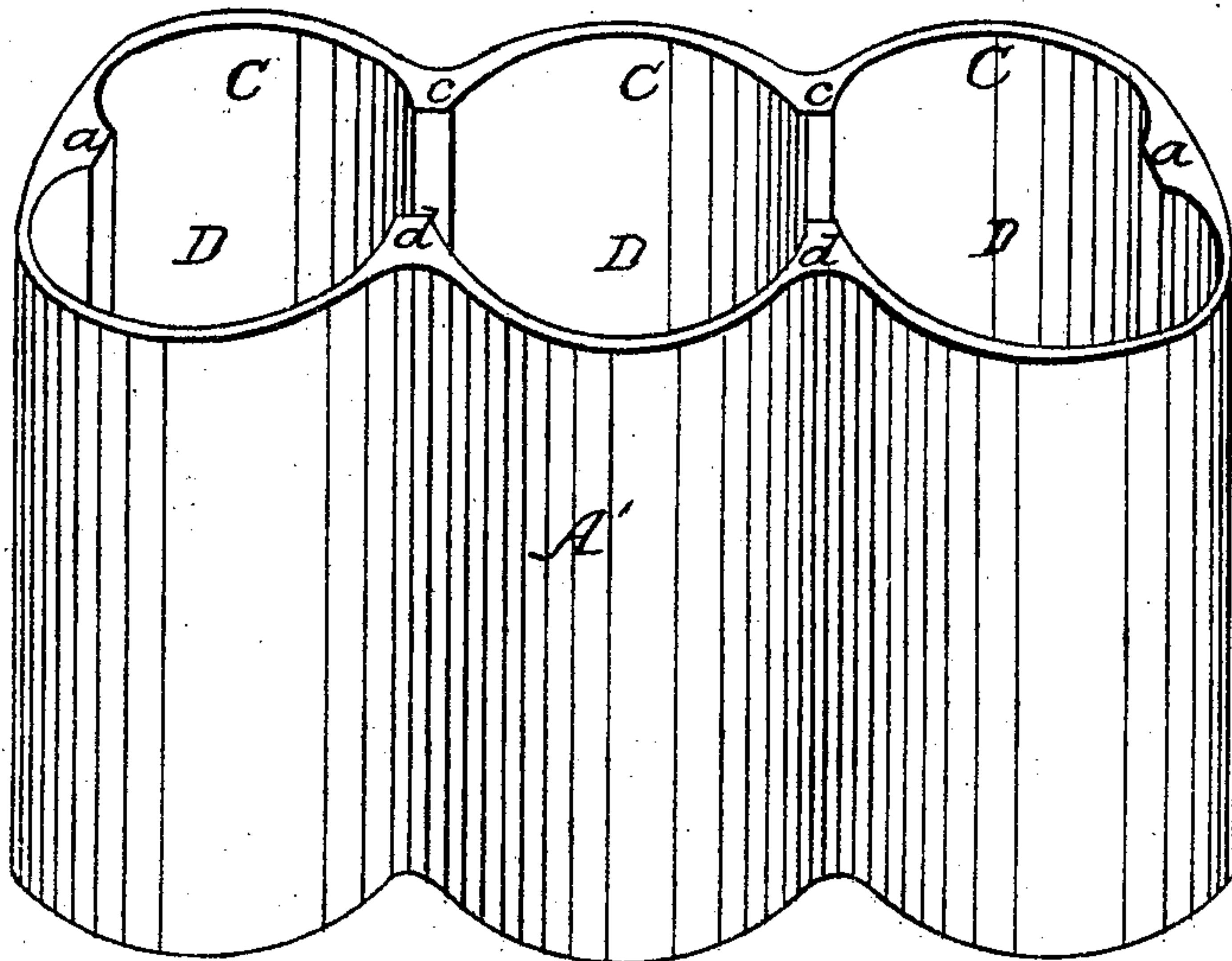


Fig. 2.



Witnesses  
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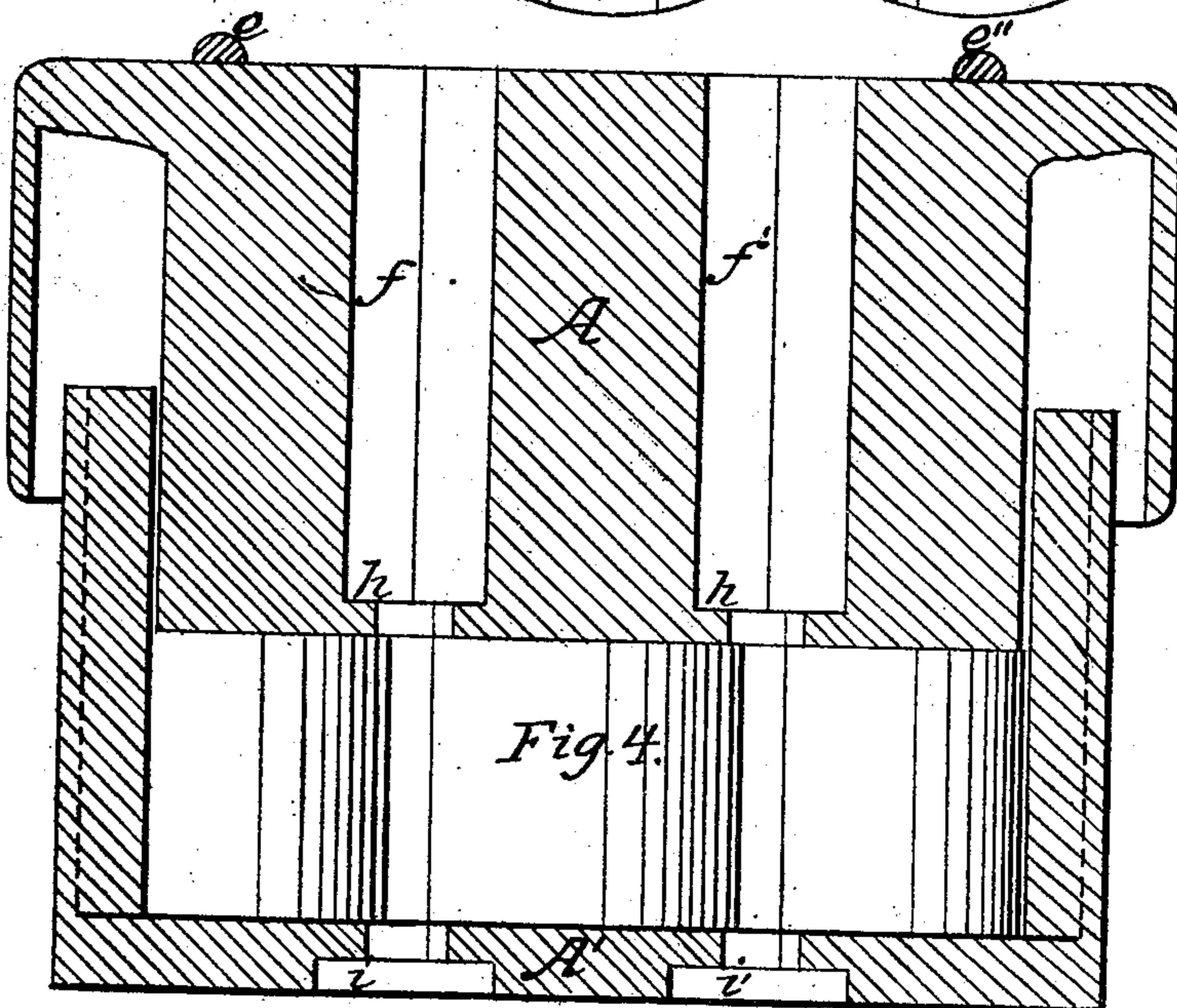
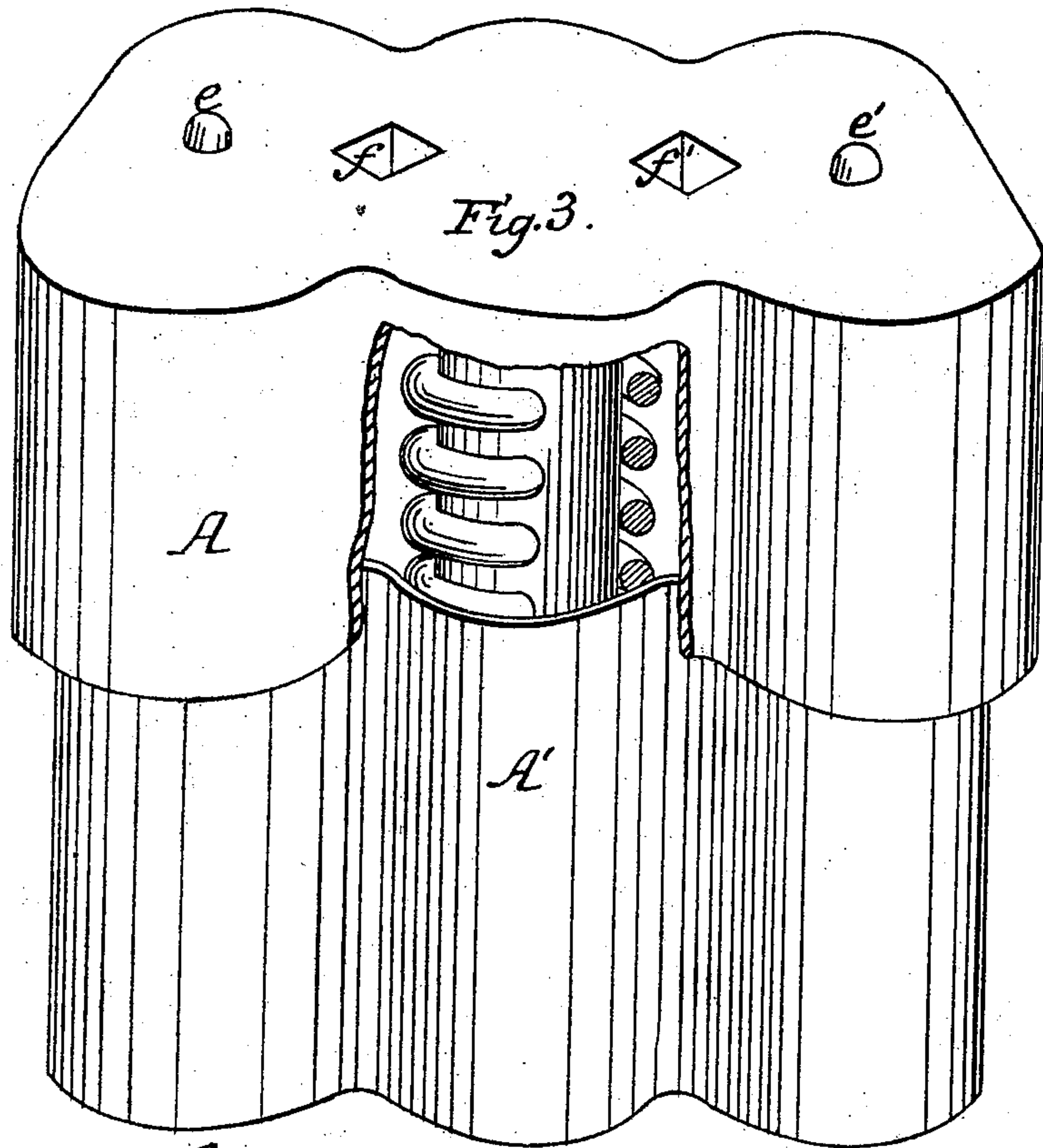
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Car-Spring Box.

2 Sheets—Sheet 2.

No. 85,518,

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# United States Patent Office.

JAMES W. EVANS, OF NEW YORK, N. Y.

Letters Patent No. 85,518, dated January 5, 1869.

## IMPROVED CAR-SPRING BOX.

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

Be it known that I, JAMES W. EVANS, of the city of New York, county and State of New York, have invented certain new and useful Improvements in Car-Spring Boxes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, and the letters of reference marked thereon, forming a part of this specification.

My invention relates to that description of car-springs now in common use, consisting of several small spiral coils of steel wire, or cylinders of some elastic material, or both steel wire and such elastic material combined, set together in a nest or cluster, constituting a single car-spring.

To hold these small springs properly in place in such a cluster or nest, an iron box has been used, comprising a number of cylindrical cells, one for each spring. But it is evident that in such a box, if made of a single piece, either the depth of the cells must be less than the length of the springs, or there must be a plunger provided, to press upon the top of the springs, and follow them into the cells. But these modes of constructing the spring-box are both objectionable, the first, because it leaves the springs without lateral support at the upper end, and second, because the plungers increase the height of the box by at least their own length. My invention obviates these objections.

It consists—

First, in making the spring-box in two sections, an upper and a lower section, each containing parts of the several cells, so arranged that when the upper section is placed over and upon the lower one, the portion of each cell in the upper section forms, with its corresponding one in the lower, a complete cell; and

Second, in forming, of one piece of metal, the upper section, and the entire partition constituting the inner walls of the cells, when two or more rows of cells are used, by which device a strong and solid bearing is provided, independent of the walls of the box, limiting the downward motion of the upper section, and consequently limiting also the compression of the springs. This partition also serves to keep the upper section vertically adjusted to the lower.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a perspective view of the upper section of the box, removed from the lower section, and turned upside down.

Figure 2 is a similar view of the lower section of the box, the top section being removed.

Figure 3 is a similar view of the entire box, the two sections being put together, containing spiral springs, in place in the cells, a portion of one side of the upper section, opposite the centre cell, being cut away, exposing to view the spring in said cell.

Figure 4 is a central vertical sectional view of the box, the two sections being put together.

The box here shown is designed for six springs' placed in two rows, of three each. Any number may be used, at the option of the manufacturer.

The partition B, constituting the entire inner walls of the two rows of cells, is cast solid with and forms a part of the upper section.

The sides opposite each cell C are curved outward, forming the outer portion of the walls of the cells. The other portion of the same is formed of the said partition B, which is hollowed out opposite each cell, as represented. This partition is of a greater depth than the section of the box of which it forms a part, so that when the two sections are put together, the said partition extends down into the lower section, thus forming the entire inner walls of the cells.

The projections *a a*, *c c*, *d d*, on the inside of the lower section, (fig. 2,) coincide with the ends *a' a'*, and the projections *c' c'*, *d' d'* of the partition B, thus completing the circle of each cell, C and C', D and D'.

The upper section is a little larger than the lower, allowing it to shut down over it, like the cover of a box, thus permitting it to rise and fall without uncovering the springs.

The vertical length of the partition B is so proportioned to the length of the springs, and to the depth of the two sections of the box, that when the upper section is pressed downward, compressing the springs, the lower end of said partition will strike against the bottom of the lower section, before the coils of the springs are brought together, and before the top of the upper section comes in contact with the upper surface of the rim of the lower section. Both the walls of the box and the springs themselves are thus protected against injury which might result from overloading the springs.

It is evident, also, that the partition B, extending, as it does, into the lower section, and fitting in between the projections *a a*, *c c*, *d d*, will prevent the rim of the upper section from being brought in contact with the sides or ends of the lower, by any lateral pressure to which it may be subjected, by which contact they would be liable to be broken.

The bottom of the lower section and the top of the upper one being solid iron plates, cast whole, with the sides and ends of each, respectively, form suitable seats and bearings of the several springs.

The two sections are held together by bolts, with nuts fitted into the bolt-holes *f f'*, which extend through both sections. In the upper one the holes are made large enough to permit the heads of the bolts to pass down to the shoulders *h h'*, (fig. 4.) On the outer face of the bottom of the lower section the bolt-holes are countersunk, *i i'*, to admit the nuts of the bolts.

It is evident that by this arrangement, while the bolts limit the upward motion of the upper section, and prevent its removal from the lower, they do not interfere with its rising and falling with the play of the springs.



*e e'* are small projections on the top of the box, designed to aid in retaining the box in its place when in use.

I have thus described what I regard as the best method of constructing a spring-box embodying my invention; but I do not intend to be limited to the exact form and arrangement of the several parts described, as, for example, to the number, kind, shape, or position of the bolts and bolt-holes, to the presence or absence of the projections *e e'*, to the comparative depth or size of the two sections, or to the arrangement by which the upper section is made to shut over

the lower section. In these, and other matters of detail, the parts may be varied at the option of the manufacturer.

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

A car-spring box, made in two sections, when each of said sections forms or contains a portion of each cell designed to hold the spring, substantially as described.

JAMES W. EVANS.

Witnesses:

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C. DINSMORE.