(No Model.)

G. L. POTTER.

SPRING.

No. 481,971. Patented Sept. 6, 1892.

FIG. 1.

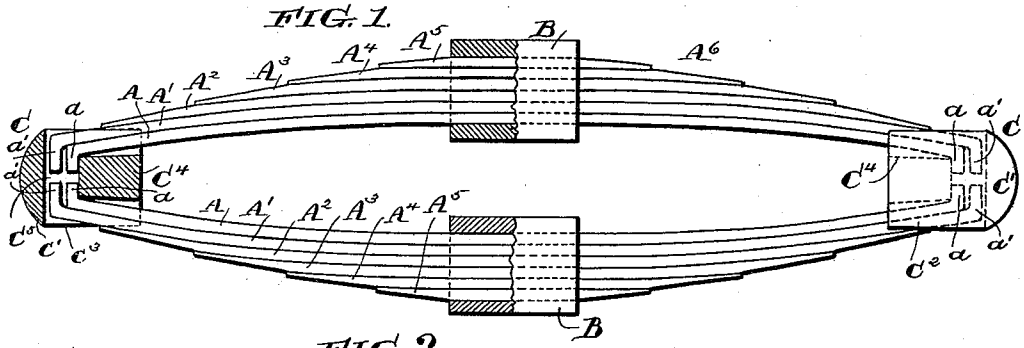


FIG. 2.

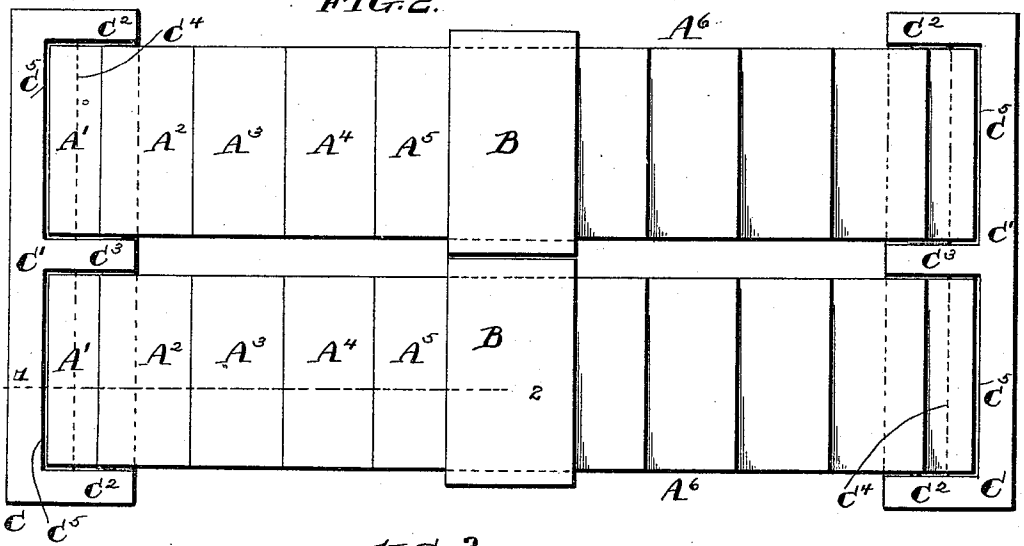


FIG. 3.

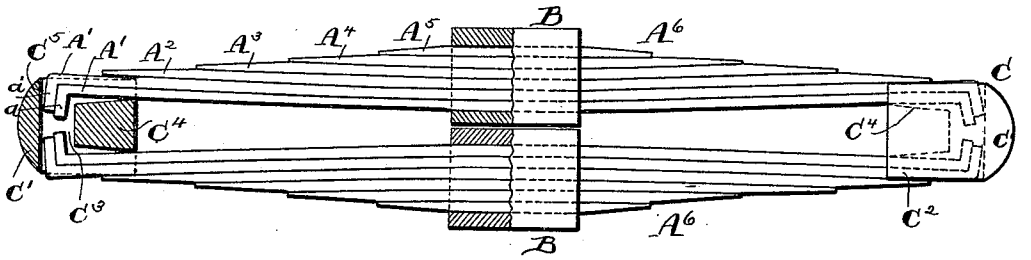
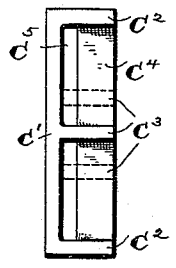


FIG. 4.



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GEORGE L. POTTER, OF FORT WAYNE, INDIANA.

SPRING.

SPECIFICATION forming part of Letters Patent No. 481,971, dated September 6, 1892.

Application filed April 29, 1892. Serial No. 431,120. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. POTTER, of Fort Wayne, county of Allen, State of Indiana, have invented a certain new and useful Improvement in Springs, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to the construction and assembling of leaf-springs, particularly of the variety known as "elliptical" springs.

Its object is to provide improved means for supporting the spring ends and generally to improve the strength and facilitate the replacement of parts.

The nature of my invention will be best understood as described in connection with the drawings in which it is illustrated, and in which—

Figure 1 is an elevation of my improved device, one-half being shown in section on the line 1 2 of Fig. 2. Fig. 2 is a plan view of the improved spring; Fig. 3, an elevation similar to Fig. 1, except that it shows the spring compressed, and also a slight modification. Fig. 4 is a plan view of the spring-supporting device.

A^6 A^6, &c., indicate the leaf-springs, made up of a series of superimposed plates A A′, &c., held together by central clamps or collars B. It will be noticed that in the construction illustrated I form the two longer leaves A and A′ of substantially the same length, the upper leaf A′, indeed, being slightly longer than the lower leaf, and I bend down the ends of both these leaves and form gibs *a a′*. These bent ends or gibs lay close together. Each spring, made up as described is supported by castings C C, the parts of which consist of a back piece C′ and spring-supporting bar C^4, united to the back pieces by webs, as indicated at C^2 C^3, &c., the construction providing a recess C^5 to receive the gib ends *a a′* of the spring, the lower leaf A of which rests upon the bar C^4. Preferably the support C is provided not only with end webs, as indicated at C^2, but with partition-webs C^3, the number of which will depend upon the number of parallel springs to be sustained on the support. As shown in Fig. 2, two such parallel sets of springs are illustrated, each set of leaves being secured together by a separate and independent collar or clamp B and supported on the common supporting devices C, one of which is provided at each end. In Fig. 4 I have indicated by dotted lines a construction adapted for use with three parallel sets of springs, two webs C^3 C^3 being provided.

The supporting-casting C, constructed as above described, not only provides a convenient and satisfactory holding device for the spring ends, but the supporting-bar C^4 also serves, as shown in Fig. 3, as a device for shortening the distance between the supports and thus stiffening the spring as it is compressed. It will also be seen that the supporting device is one from which any individual spring can be removed readily without disturbing the others with which it is connected, and by constructing the two lower or longer leaves as described and providing each with a bent end or gib I not only make the spring stronger at the point where breakage is most likely to occur, but in case of the breaking one gib have still another which is strong enough under ordinary circumstances to support the strains to which this part of the spring is subjected.

My springs are especially adapted for railroad use, and by the construction described I am enabled to remove any broken spring without taking the whole set of springs from under the car or tender.

Preferably the spring-supporting bar C^4 is made with an outward bevel or taper, as shown in Fig. 3, and it will be seen that by increasing either the bevel or the breadth of said bar the motion of the spring can be limited and its capacity to stand excessive strains increased. Obviously my device is applicable to single as well as double elliptic springs, and it will be understood that I do not limit myself to any particular metal for the supports C.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The spring-support C, having a back C′, a supporting-bar C^4, secured to the back by webs, as C^2, and a recess C^5, formed between the back C′ and the bar C^4, to receive the bent ends or gibs of the spring.

2. The spring-support C, having a back C′, an outwardly-tapered supporting-bar C^4, secured to the back by webs, as C^2, and a recess

C^5, formed between the back C′ and the bar C^4, to receive the bent ends or gibs of the spring.

3. The spring-support C, having a back C′, a supporting-bar C^4, secured to the back by end webs, as C^2, and a partition web or webs, as C^3, and a recess C^5, formed between the back C′ and bar C^4, to receive the bent ends or gibs of two or more parallel springs.

4. The combination of a leaf-spring A^6, having its two longest leaves formed with gib ends *a a′*, lying close together, with spring-supports C, having backs C′, and spring-supporting bars C^4, united by webs, as C^2, and a recess C^5, formed between the back and support, to receive the gib ends *a a′*.

5. The combination of two or more sets of parallel leaf-springs, each set being held together by a separate and independent clamp, as B, with supports C, having backs C′, and supporting-bars C^4, united by end and partition webs, as C^2 C^3 C^3, and having recesses C^5 formed between said back and bar to receive gib ends of the spring.

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