

(No Model.)

T. S. KING.
VEHICLE SPRING.

No. 467,376.

Patented Jan. 19, 1892.

Fig. 1.

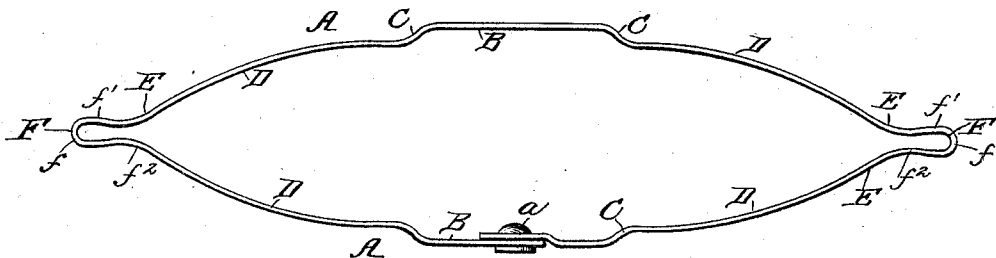


Fig. 2.

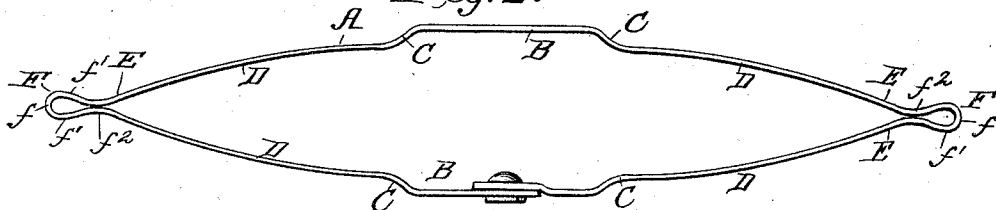
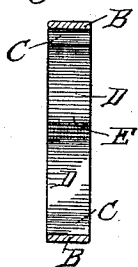


Fig. 3.



WITNESSES:

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THOMAS S. KING, OF CINCINNATI, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 467,376, dated January 19, 1892.

Application filed March 13, 1891. Serial No. 384,894. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. KING, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Vehicle-Springs, of which the following is a specification.

My invention is an improved spring, which may be employed for supporting vehicle bodies or seats, or in other arrangements where such springs are desired; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claim.

In the drawings, Figure 1 is a side view of the spring expanded. Fig. 2 is a side view of the spring, showing the same shortened, as when considerably compressed; and Fig. 3 is a cross-section.

The spring is shown as made from a single strip of metal bent to the desired shape and joined at its ends by riveting or other suitable means of fastening. I bend the strip to form the upper and lower portions A A, which may be called the "side" sections. These side sections are in form and construction alike, except that in one of such sections the ends of the strip are secured at *a* by riveting or in other suitable manner. The sections A are each formed with the flat or straight central portion B, the bends C at the ends of the portion B, such bends C projecting inwardly from the portions B, the outwardly-curving bends D extending from the inner ends of bends C, and the inwardly-curving or reverse bends E extending from the bends D, the ends of such sections A being connected. As shown and preferred, the upper and lower sections are integral, and are connected by the end portions F, which are bent to form the rounded ends *f*, the outwardly-curved bends *f'*, and the drawn-in portions *f*² at the juncture of the end portions and the side sections. These drawn-in portions *f*² come together when the spring is considerably compressed, and so shorten the spring when it is supporting the greatest weight. It will be seen that when a light load is on the spring the entire length of the

sections and the end portions F are in full play. Now when a considerable weight is supported on the spring the latter is compressed and the contact-points are brought together, as shown in Fig. 2, and the spring is consequently shortened, thus adding to its capacity, as will be readily understood. The central flat portions B facilitate the application of the springs to wagon bodies, seats, or other parts, and avoid the necessity of using head-blocks or other bars in securing the springs. The inward bends C, projecting downward from the upper section A and upward from the lower section, increase what may be termed the "height" of the spring and co-operate with the bends D E in providing a strong easy spring. Where desired, the springs may be made of several leaves, additional leaves being provided according to the weight the spring is designed to support, the said additional leaves to be somewhat shorter than either side or half of the spring and properly fitted to the spring, so they will work easily the same as any ordinary leaf-spring. These springs may be attached or secured to seats, spring-bars, body of vehicle, or axle by bolts through holes in the upper and lower portions of spring, or by means of clips, such as are used ordinarily in fastening any flat spring in place.

Having thus described my invention, what I claim as new is—

As a new and improved article of manufacture, the spring herein described, composed of the sections A, having the central flat or straight portions B, the bends C, projecting inwardly from the opposite ends of said flat central portions B, the bends D, curving outwardly from the inner ends of the bends C, the reverse bends E, extending from the ends of the bends D, and the connecting end portions F, connecting the outer ends of the sections A, all substantially as and for the purposes set forth.

THOS. S. KING.

Witnesses:

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