

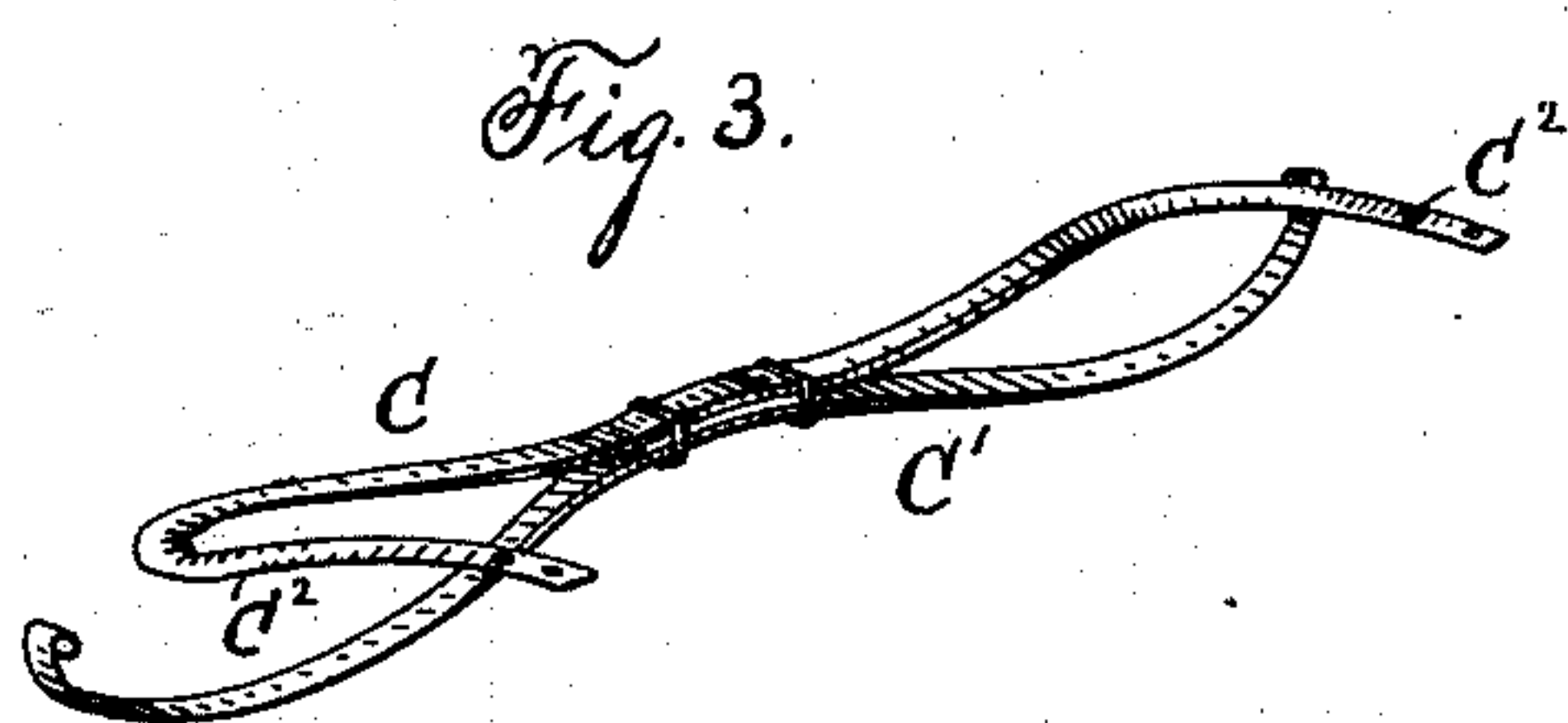
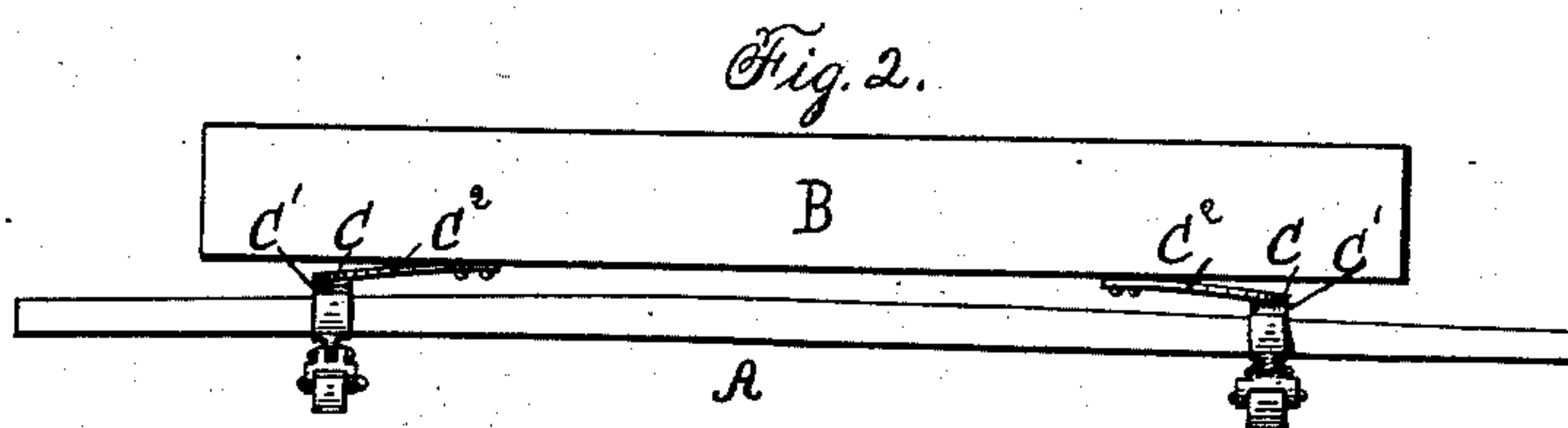
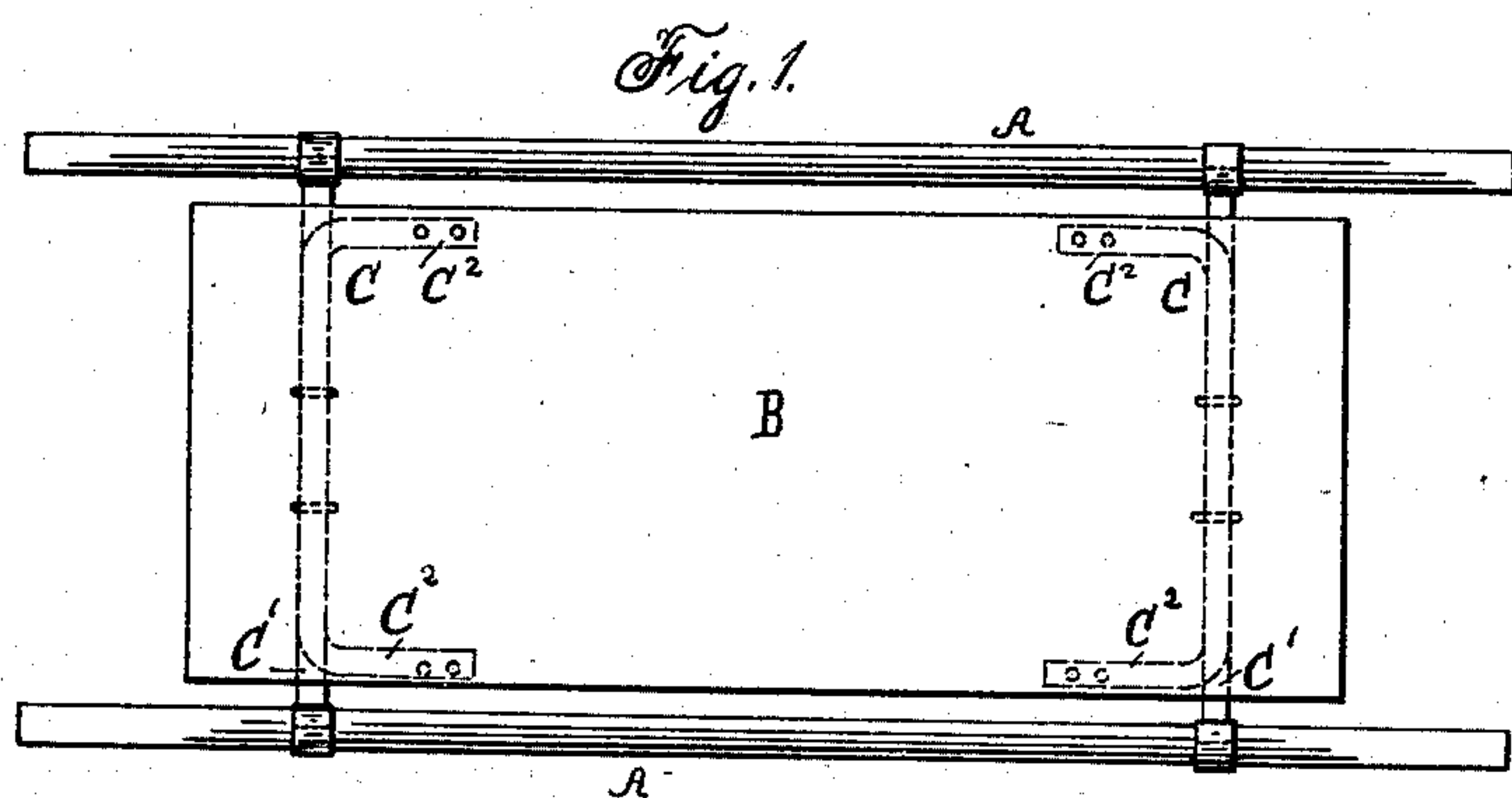
(No Model.)

C. R. WILSON.

SIDE SPRING.

No. 283,052.

Patented Aug. 14, 1883.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES R. WILSON, OF DETROIT, MICHIGAN.

## SIDE SPRING.

SPECIFICATION forming part of Letters Patent No. 283,052, dated August 14, 1883.

Application filed November 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES R. WILSON, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Springs for Side-Bar Vehicles; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists in the combinations of devices and appliances hereinafter specified; and more particularly pointed out in the claim.

In the drawings, Figure 1 is a plan view, Fig. 2 a side elevation, and Fig. 3 a perspective view, illustrating my invention.

It is the object of my invention to produce and combine with a side-bar vehicle a spring which shall be composed of the two following elements: A lower section extending across the vehicle and suitably clipped or otherwise secured to the side bars, and an upper section secured along the middle to the lower section and diverging therefrom upward and outward, and with its extremities turned in a direction parallel to the length of the buggy, either backward toward the rear of the buggy or forward toward its front, this portion being firmly secured to the buggy-body, the object being to secure at the outset all the advantages as to space and action that are possessed by the ordinary double spring, in which the upper and lower sections are parallel with each other, and the further advantage of a greater length of spring in the upper section, between the middle and extremity of the spring, and without projecting the end of the upper section beyond the sides of the buggy-body.

In carrying out my invention A represents the side bars of an ordinary side-bar buggy; B, the buggy-body; C, the upper, and C' the lower, section of my improved spring. C<sup>2</sup> represents the end portions of the upper section, which are turned, either forward or backward, beneath the buggy-body in a direction parallel to its length. I prefer to slope these longitudinal portions C<sup>2</sup> so that their extremi-

ties only shall come up beneath the buggy-body, and to secure these extremities firmly to the body. This construction gives a very long, in fact any desired length of spring between the middle of the spring and its point of attachment.

It is apparent that a spring thus constructed will, with a very light load, possess great elasticity, and consequently insure great ease to a person riding. On the other hand, if the load is heavy, the spring, from its point of attachment to the body, will be pressed up against the buggy-body through a corresponding length, and thus render the spring stiffer.

If the spring is at the outset designed for heavy loads, the portions C<sup>2</sup> may be made quite short, and might be so much shortened that the upper section would possess only the elasticity due to its diverging portion and the torsional elasticity of the material at the base of the longitudinal part C<sup>2</sup>.

I do not limit myself to any particular method of uniting the two sections C and C'. They may be made with the lower section bent upward and the upper section bent downward along the middle, and fastened by a bolt or suitable clips at the middle point; or both sections may be bowed upward at the middle point, or both bowed downward at the middle point, and secured in any suitable manner, so as to lap upon and re-enforce each other as the load is increased, or the sections may be separated along the middle part by one or more blocks, thus preventing them from so lapping upon each other; and I would have it understood that in constructing my spring any of the foregoing constructions are contemplated. So, also, I do not limit myself strictly to a construction in which the upper section, C, is brought out to the sides over and parallel to the lower section, for it may be started out in that direction and then brought around, by an easy curve of greater or less radius until the extremities point to the front or rear, while the middle rests upon the lower leaf.

I am aware that it is not new to construct a spring for a vehicle-body of two flexion members or springs arranged one above the other and connected at their centers, the outer ends of the upper member being arranged parallel



with the ends of the lower member and secured to the body of the vehicle, and the ends of the lower member being attached to the side bars or other support.

5 What I claim is—

The combination of the upper transverse spring, having longitudinally-turned end portions, with the bottom spring, secured to the

center of said upper spring, and side bars or other support, as and for the purposes set forth. 10

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES R. WILSON.

Witnesses:

N. S. WRIGHT,

WILLIAM F. FORD.