

(No Model.)

W. H. SIMMONS.

SPRING VEHICLE.

No. 358,227.

Patented Feb. 22, 1887.

Fig. 1.

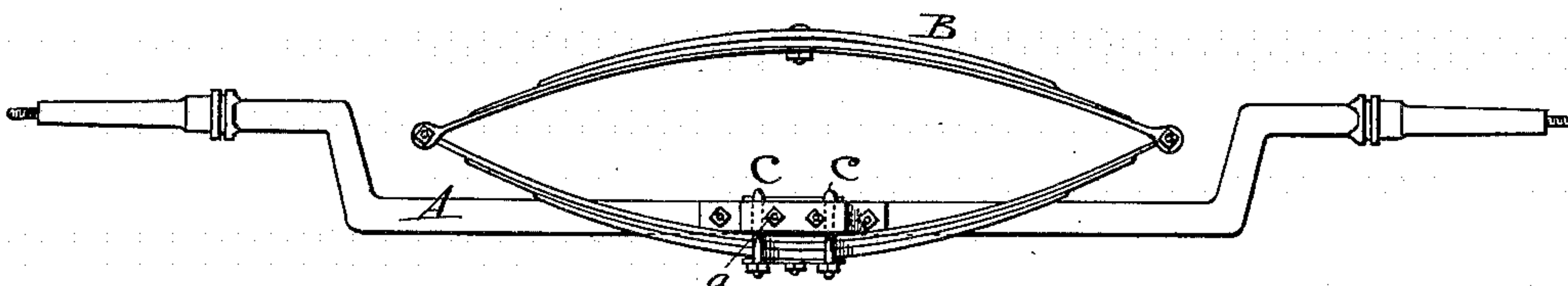


Fig. 2.

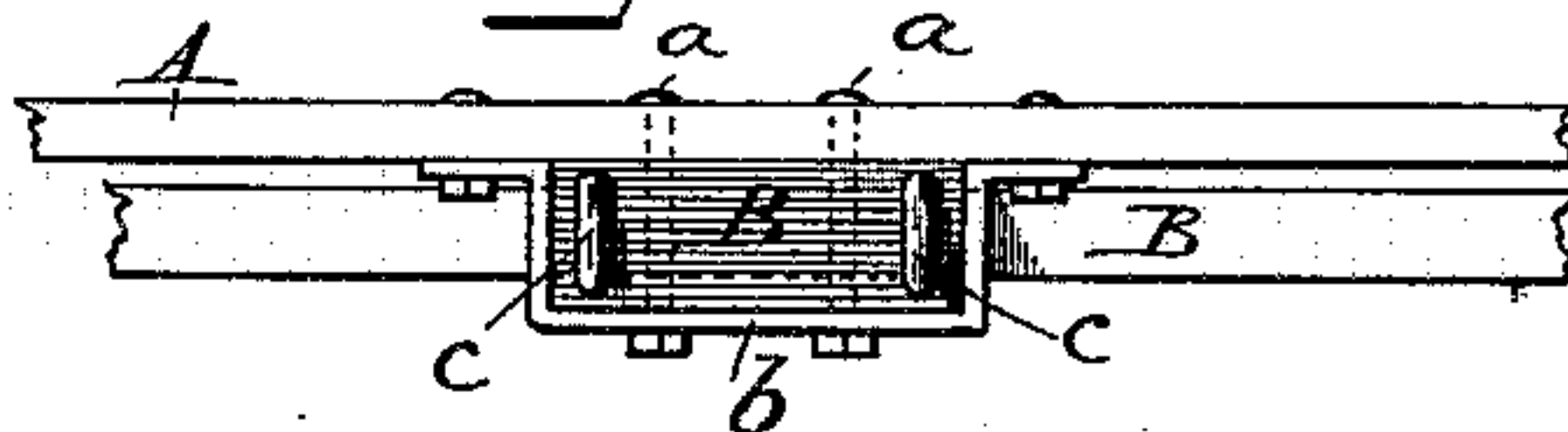


Fig. 3.

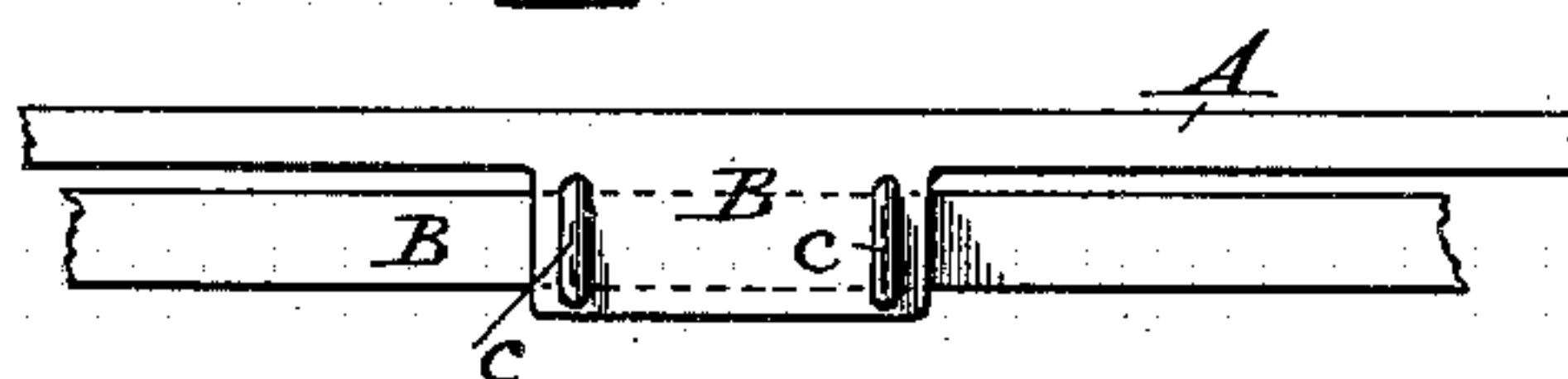


Fig. 4.

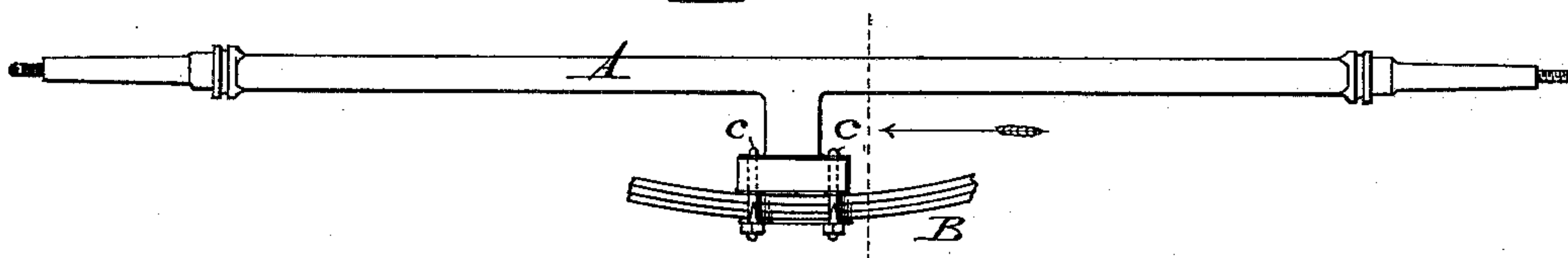
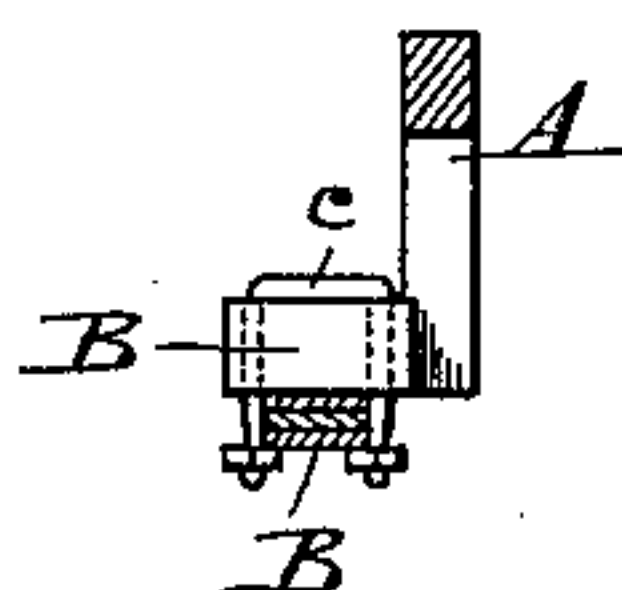


Fig. 5.



Witnesses:

W. R. Kennedy

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Inventor:

W. H. Simmons

By his Atty.

Phil. T. Dodge.

UNITED STATES PATENT OFFICE.

WILLIAM H. SIMMONS, OF SYRACUSE, ASSIGNOR OF ONE-HALF TO
PHINEAS S. HADGER, OF AUBURN, NEW YORK.

SPRING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 358,227, dated February 22, 1887.

Application filed November 27, 1886. Serial No. 220,050. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SIMMONS, of Syracuse, in the county of Onondaga and State of New York, have invented certain Improvements in Carriages and Wagons, of which the following is a specification.

The aim of my invention is to provide for the employment of an elliptic spring in combination with an axle in such manner that the top of the spring shall stand at a lower level than when applied in the ordinary manner, the object being to bring the body as nearly as practicable to the level of the axle of the wheel.

To this end the invention consists in providing the axle with an offset or projection on one side, and in securing the lower member of an elliptic spring to the under side of this projection, as hereinafter more fully explained.

In the accompanying drawings, Figure 1 represents a side elevation of the construction in its preferred form, the ends of the axle being cranked or bent upward. Fig. 2 is a plan view showing the manner in which the spring is connected to the axle. Fig. 3 is a top plan view showing a modified form of the same. Fig. 4 is an elevation of a straight axle having the lateral projection. Fig. 5 is a vertical cross-section on the line $x x$ of the preceding figure.

Referring to Fig. 1, A represents a continuous solid metallic axle, having its middle portion bent downward below the level of the journals. At the middle of this axle a block, B, of metal, wood, or other suitable material, is secured firmly to its side by means of through-bolts A' and an encircling clip, b, or other suitable fastening devices. D represents an ordinary elliptic spring having its lower member seated against the under side of the block or projection B, and secured firmly thereto by clip-bolts c. In this manner the spring is supported at its middle and in a vertical plane on the side of the axle at the middle of the latter. Instead of securing the block B to the axle, as in the preceding example, it may be forged solidly upon and integral with the axle, as shown in Fig. 3.

In Fig. 4 I have represented an axle which

is straight—that is to say, without upturned ends—but with a downwardly-extending arm at its middle to support the block B, to which the spring is secured, as shown in Figs. 4 and 5, by clip-bolts, in substantially the same manner in which it is fastened in the preceding form. It will be observed that in this form of the axle, as in the others, the lower bolt of the spring is supported below the ends of the axle, the spring and the axle being connected at the middle, and the spring standing in an erect position at the side of the axle, these details not being of the essence of the invention.

I am aware that an elliptic spring has been secured to the side of an axle by a plate lying against the under side of said axle. It is to be observed that in my construction the spring-supporting block is dropped a considerable distance below the ends or journals of the axle, whereby I am enabled to bring the top of the spring in substantially the same horizontal plane as the journals of the axles, and thus to avoid the severe strains to which the spring is subjected, and its tendency to tip forward and backward, which exists when the spring is carried above the ends of the axle, as usual.

Having thus described my invention, what I claim is—

1. An axle having at its middle a lateral block or projection located materially below the ends of the axle, in combination with an elliptic spring having its lower member secured midway of its length to said block or projection, whereby the top of the spring is brought approximately on a level with the ends of the axle.

2. The axle A, having the depressed middle portion with the lateral block or projection thereon, in combination with the elliptic spring extending lengthwise of the axle at its side, with its lower member secured centrally to the under side of the block.

In testimony whereof I hereunto set my hand, this 16th day of November, 1886, in the presence of two attesting witnesses.

WILLIAM H. SIMMONS.

Witnesses:

C. WM. PHILLIPS,
FRANK MORGAN.