

(No Model.)

W. H. SIMMONS.

CARRIAGE.

No. 358,226.

Patented Feb. 22, 1887.

Fig. 1.

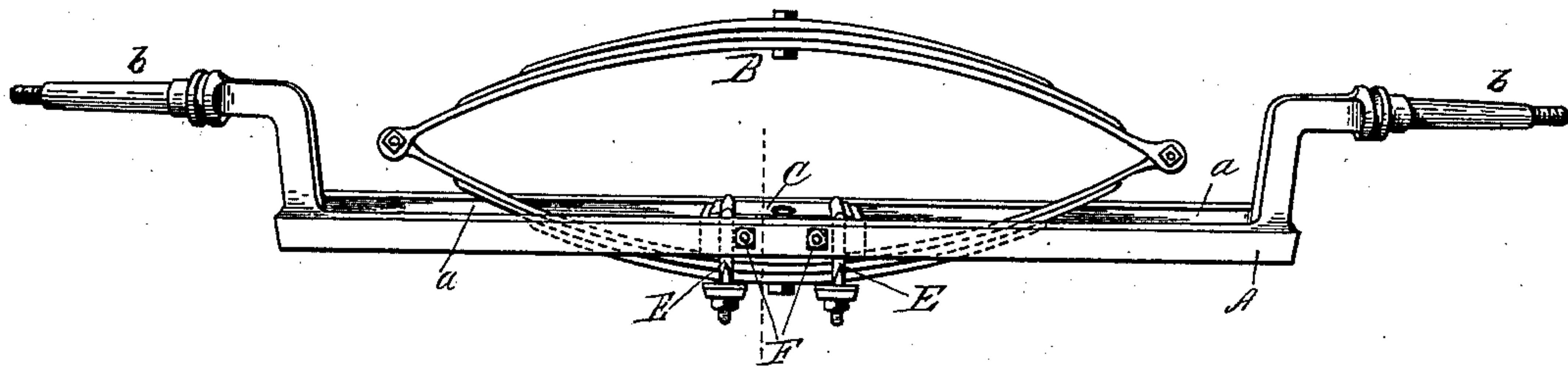
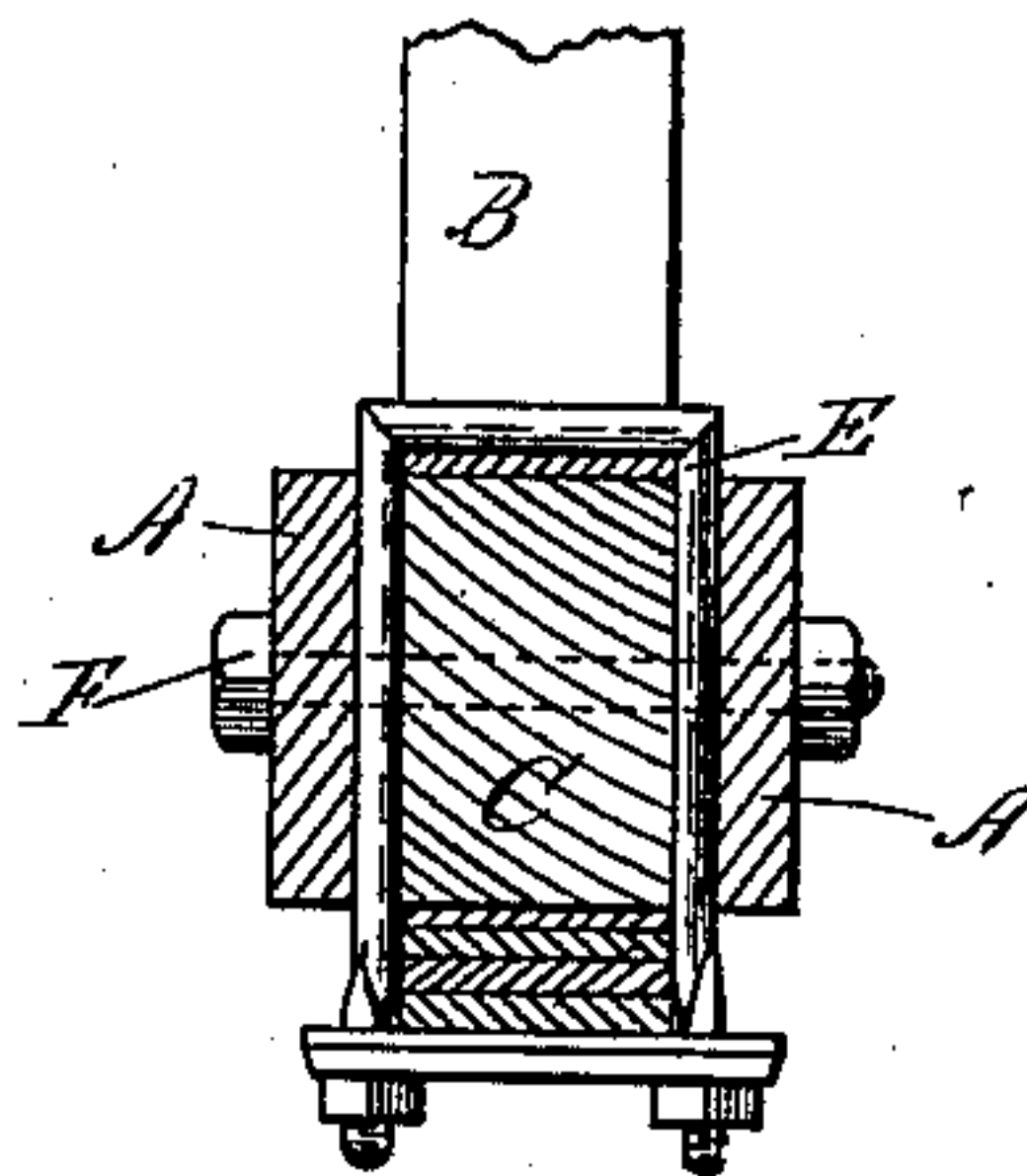


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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

CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 358,226, dated February 22, 1887.

Application filed September 25, 1886. Serial No. 214,517. (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 use of elliptical springs in connection with carriages and wagons as most commonly constructed has heretofore been open to the objection that the body of the vehicle was placed too high, or at too great a distance from the running-gear, thereby subjecting the spring to severe and dangerous strains and rendering the vehicle top-heavy.

The aim of my invention is to so apply an elliptical spring as to utilize all its advantages, and at the same time avoid the ordinary disadvantages; and to this end it consists, essentially, in inserting the elliptical spring within or between the two parts of a longitudinally-divided axle, attaching the same centrally at its under side beneath a block secured in the axle, and bringing the floor of the vehicle at a level, or nearly so, with the axis of the wheels.

In the accompanying drawings, Figure 1 represents a perspective view of my divided axle with a spring secured thereto. Fig. 2 is a cross-section on the line *xx* of the preceding figure.

In carrying my invention into effect I first provide an axle, A, having a longitudinal vertical opening, *a*, therethrough, this opening being of a width as great or greater than that of the spring to be employed. The axle may be constructed in a single piece, or of several parts united in any appropriate manner, provided only that it contains a longitudinal vertical opening through its middle portion, substantially as represented in the drawings.

I prefer to bend or depress the middle slotted portion of the axle below the level of the ends or journals *b*, on which the wheels are carried, this construction being adopted in order

that the top of the spring may be brought as nearly as possible on a level with the axis of the wheels, in order to avoid the tendency of the body to tip the spring forward and backward.

Having provided the axle, I next provide a spring, B, of the ordinary elliptical form, or of any equivalent form, and pass the lower side of the same downward through the axle and attach it centrally thereto in any appropriate manner, the construction represented in the drawings being recommended.

In this construction a block, C, is fastened firmly to the upper surface of the lower leaf of the spring at its middle by clip-bolts E, or other equivalents, and this block secured to the axle by horizontal bolts F.

Having thus described my invention, what I claim is—

1. An axle having a longitudinal vertical opening through its middle, in combination with an elliptic spring passing downward through said opening, and a metallic block or bearing secured centrally within the axle and attached at its under face to the spring.

2. In combination with an axle having the upturned ends and the vertically-slotted central portion, the elliptic spring having its lower member passed downward through and below the axle and secured centrally thereto by connecting devices, substantially as described, whereby the spring is centrally supported on the axle and its top lowered substantially to the level with the journals of the axle.

In testimony whereof I hereunto set my hand, this 17th day of September, 1886, in the presence of two attesting witnesses.

WILLIAM H. SIMMONS.

Witnesses:

AYLON H. LEWIS,
JAMES A. MCFARRON.