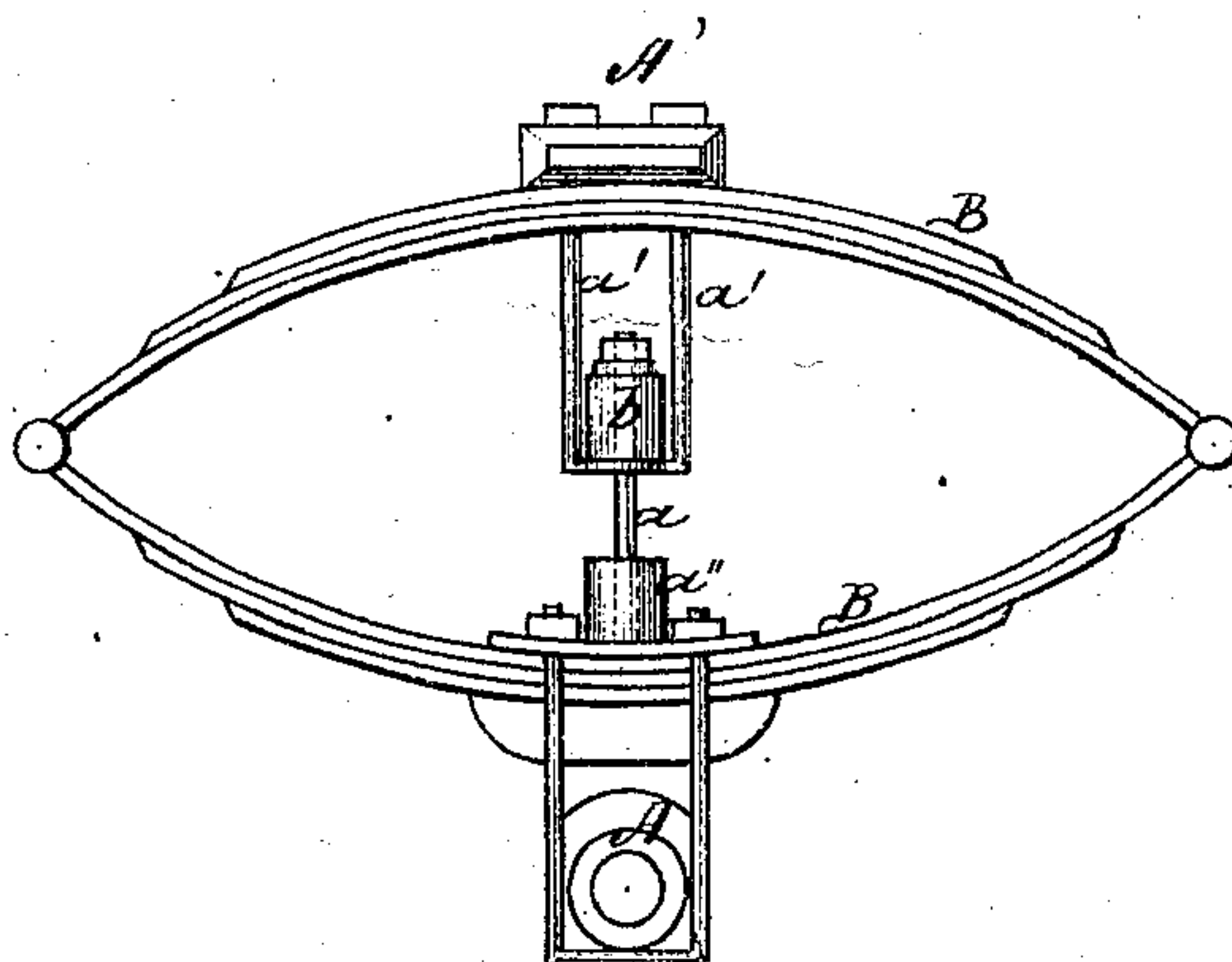


D. SHOCKEY.
Carriage Spring.

No. 98,433.

Patented Dec. 28, 1869.



Witnesses:

Victor Hagmann
Chas. A. Pettit

Inventor:

D. Shockey
per Mann & Co.
Attorneys.

United States Patent Office.

DANIEL SHOCKEY, OF WAYNESBOROUGH, PENNSYLVANIA.

Letters Patent No. 98,433, dated December 28, 1869.

IMPROVEMENT IN CARRIAGE-SPRINGS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that I, DANIEL SHOCKEY, of Waynesborough, in the county of Franklin, and State of Pennsylvania, have invented a new and improved Carriage-Spring; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which the figure is a side elevation.

This invention relates to a spring-apparatus, in which the cross-bars, on which the carriage immediately rests, move on vertical guide-bars projecting from the axles, and springs are interposed to check the downward movements of such cross-bars.

The invention consists in interposing springs to check the upward movements of such guide-bars.

In the drawings—

A is the axle; and A', the cross-bar on which one end of the carriage immediately rests.

Elliptic springs B B are interposed between the axle and cross-bar, and three or more bars *a* project upward from the axle, and from the guides, on which the struts *a'*, projecting downward from the cross-bar, play.

Rubber cushions *a'*, placed on the guide-bars *a*, receive the impact of the struts as they descend. I acknowledge the foregoing to be a common arrangement.

What is especially new in this invention is the interposition of the rubber cushions *b* between the lower ends of the struts and the upper ends of the vertical guide-bars *a*. Such cushions receive the impact of the struts when they are thrown upward, and, by their use in connection with the cushions *a'*, the apparatus is padded at all points where jars may originate.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the guide-bars *a*, struts *a'*, cushions *a'' b*, axle A, and cross-bar A', in the manner and for the purpose specified.

To the above specification of my improvement I have set my hand, this 10th day of November, 1869.

DANIEL SHOCKEY.

Witnesses:

CHAS. A. PETTIT,
SOLON C. KEMON.