

E. P. McCARTHY.
Wagon and Car Spring.

No. 90,861.

Patented June 1, 1869.

Fig. 2.

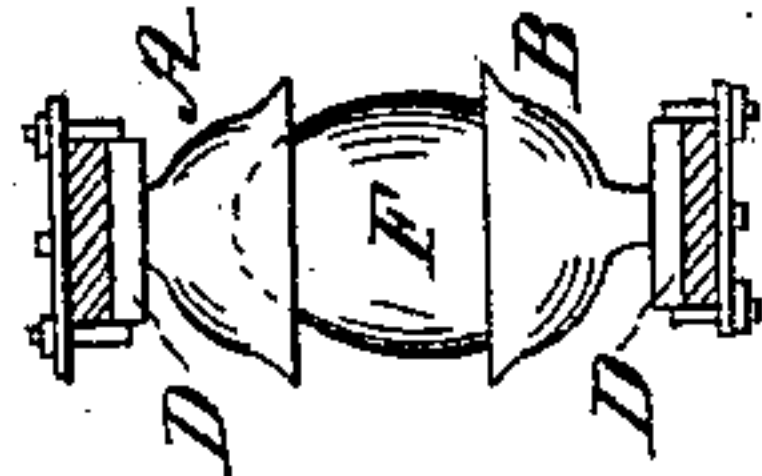
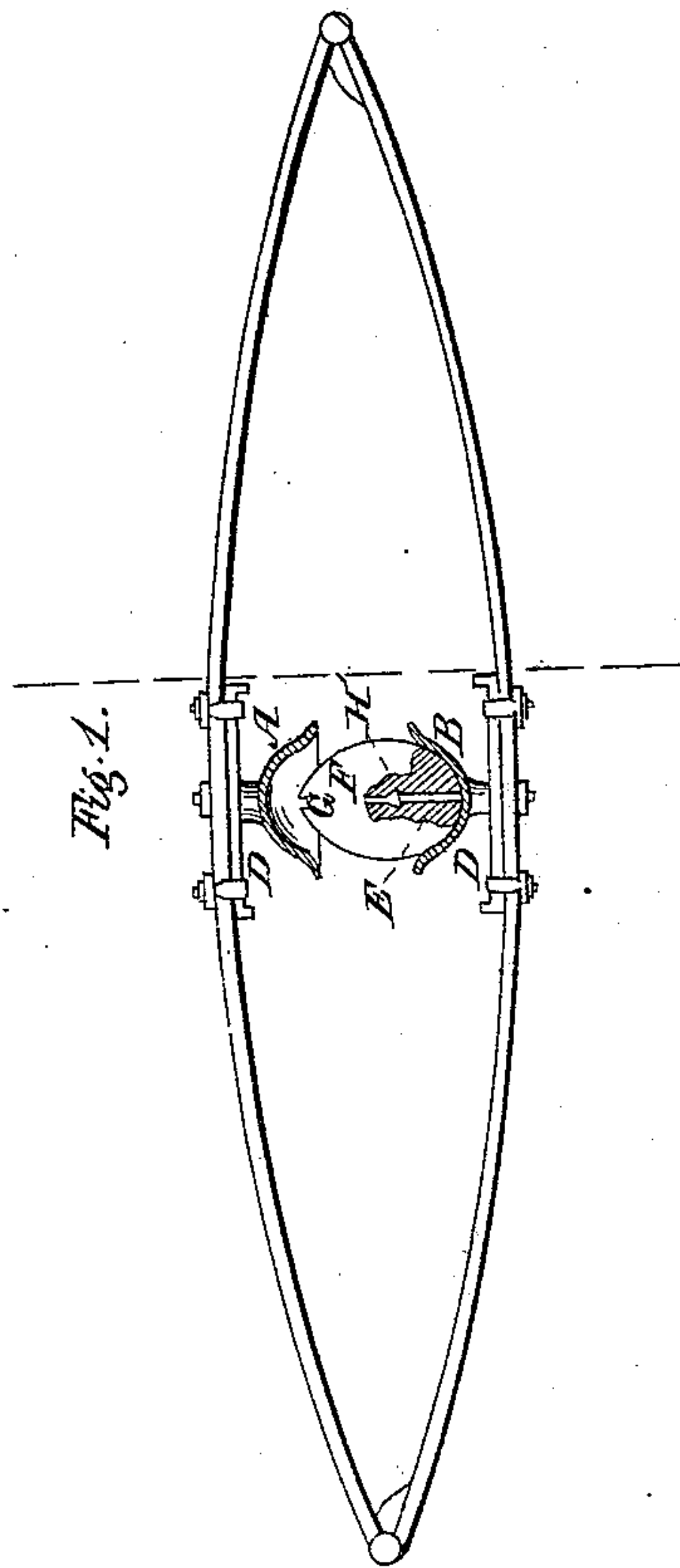


Fig. 1.



Witnesses
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EDMOND P. McCARTHY, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO HIMSELF
AND JOHN GRANT.

Letters Patent No. 90,861, dated June 1, 1869.

IMPROVEMENT IN WAGON-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, EDMOND P. McCARTHY, of San Francisco, in the county of San Francisco, and State of California, have invented certain new and useful Improvements in Wagon and Railroad-Car Springs; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to springs for carriages; and consists in the employment of a bolt, in connection with an elastic cushion and cups. The details of construction will be fully described hereinafter.

In the centre of the lower cup is placed a cushion, of India rubber, in the form of an ellipse, which is held by a bolt that passes through the cup-plates and spring, the head being countersunk in the cushion.

The upper cup is attached to the spring in the same manner; and both the ends of the cup-plates are clipped to the spring, so that the leaves are firmly bound together.

Referring to the drawings—

Figure 1 is a sectional elevation of my device, showing the manner of attachment to the spring, the spring being shown in red.

Figure 2 is an elevation.

A and B are the upper and lower cups, which are made of metal, (I prefer to use brass, because it will not oxidize, yet any other metal might answer,) and provided with base-plates, D D.

An India-rubber, or elastic cushion is placed in the lower cup, where it is held firmly by a bolt, E, with a thread, which passes through the cushion, bottom of the cup, and base-plate, and also through the spring, where it is held by a nut, so that by turning the cushion it can be tightened or loosened, and the end be made to fit the cup more closely.

The cushion, F, is in the form of an ellipse. I prefer this form to that of a sphere, principally on account of the distance that the spring has to descend before it is supported at all by the cushion. It is true the

sphere might be enlarged, but it would then be costly and inconvenient in its application.

In order to support my cushion, or spring, and hold it firmly in the cup, a vertical hole, G, is made through it, and the bolt is drawn through the opening for about two-thirds of the distance, more or less, by the action of the screw in the base of the cup, after which the hole above may be filled up, to prevent the accumulation of dust.

The shape of the bolt-head, H', is such that it forms a double countersink above and below it in the cushion, and holds it in position in the cup when pressed down with weight, as well as when entirely relieved from it. By this means, also, the cushion will be prevented from turning to either side of the spring, or doubling over when it receives the weight of the load, and the upper cup bears down upon the top of it.

Both ends of the upper and lower cup-plates are clipped to the spring, firmly binding the leaves together, and largely relieving the inner leaves from vibration, so incident to elliptic springs, more especially in passing over rough places.

In attaching my device to cars, the same general form of cushion is employed, yet it would be necessary to use a much larger-sized spring, or cushion; and either the bolt and head already mentioned, or the plunger, or rod described in my former specification, will be required to keep the cushion in place.

Having thus described my invention,

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

The bolt E, constructed with the head H', as described, so as to form a countersink above and below it in the cushion, or spring, substantially as specified.

In witness whereof, I have hereunto set my hand and seal.

EDMOND P. McCARTHY. [L. S.]

Witnesses:

C. W. M. SMITH,
F. J. THIBAUT.