

L. VOTE.

Improvement in Car-Springs.

No. 132,879.

Patented Nov. 5, 1872.

Fig. 1.

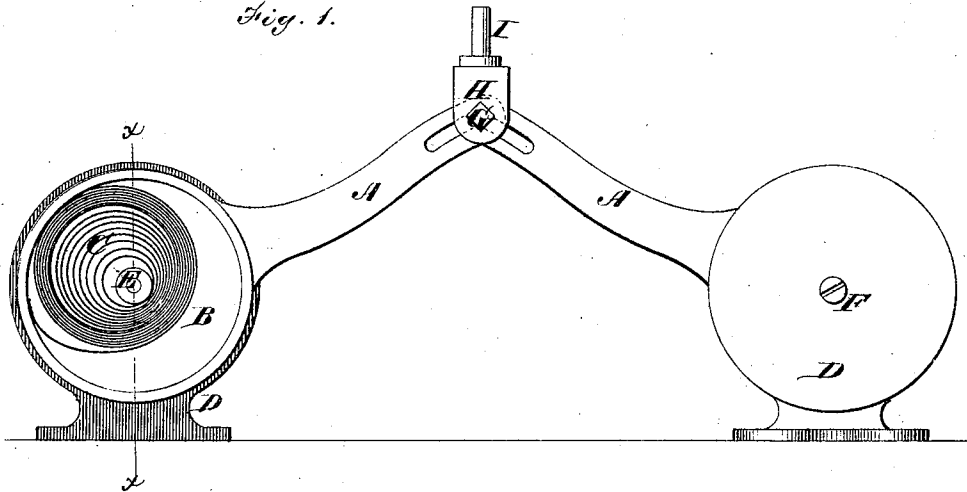


Fig. 2.

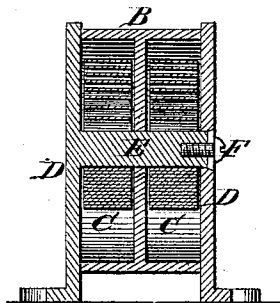
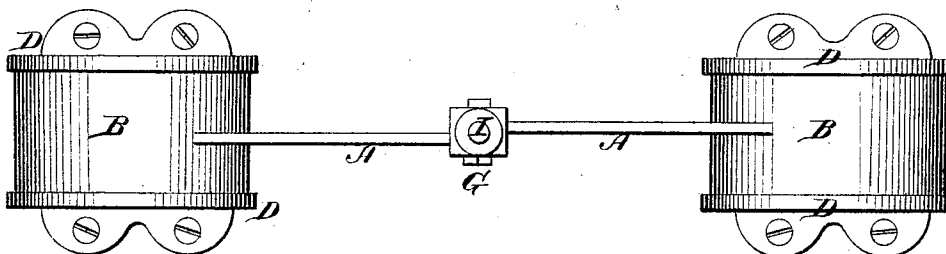


Fig. 3.



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UNITED STATES PATENT OFFICE.

LEWIS VOTE, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-SPRINGS.

Specification forming part of Letters Patent No. 132,879, dated November 5, 1872.

To all whom it may concern:

Be it known that I, LEWIS VOTE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Spring for Cars and other Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation of my improved spring, shown partly in section; Fig. 2 is a vertical section in the line *x x*, Fig. 1; and Fig. 3 is a top-plan view.

Similar letters of reference in the accompanying drawing denote the same parts.

The object of my invention is to provide, for use upon cars and other vehicles, an improved spring which shall be uniform and easy of operation, which shall be protected against any lateral strains or wrenches of the carriage, and which shall cause the body of the carriage as it rises and falls upon the springs to move in a vertical line.

To the accomplishment of these several ends the invention consists in the improved construction which I will now proceed to describe.

In the accompanying drawing, A A are two levers, each constructed with a wide circular head, B, recessed upon opposite sides to receive the coiled springs C. D D are supporting-plates, bolted or otherwise secured to the axle or other suitable part of a vehicle under the body. From one plate of each set a lateral shaft, E, projects, whose outer end is held to the opposite plate by a screw, F. Upon these shafts the heads of the levers are mounted, the inner end of each spring being secured thereto, while the outer end is attached to the interior circumference of the head. By this construction the heads and plates form closed drums, each containing two coiled springs. The inner ends of the levers overlap each other, and are connected by a bolt, G, passing through ears H, projecting downward from a swivel-block, I, upon which the body of the vehicle

rests, the levers being slotted to accommodate the play of the bolt as the vehicle springs up and down. The inclosing-cases, combined with the drum-heads of the levers, cause the ends of the latter to move up and down in a vertical line, and therefore impart an easy motion to the carriage. Sudden strains or wrenches of the carriage in any direction are sustained entirely by the shafts E, and cannot, therefore, effect the springs to injure them, so that their action will at all times be uniform. The inclosing-cases effectually exclude all dirt and dust from the springs, and at the same time render the latter accessible for any purpose.

I do not confine myself to any special arrangement of the springs upon a carriage, as they may be placed in different positions and yet accomplish the same result.

Having thus described my invention, what I claim is—

1. A spring for cars and other vehicles, consisting of two or more coiled springs inclosed between recessed lever-heads B and supporting-plates D, and connected by lever-arms A to the body of the carriage, so that the latter shall rise and fall in a vertical line, substantially as described, for the purpose specified.

2. The springs C and the recessed levers mounted upon the shaft E, between the supporting-plate D, so that sudden strains upon the levers shall be sustained wholly by the shafts, substantially as described, for the purpose specified.

3. The combination of the swivel-blocks H with the recessed spring-levers, substantially as described, for the purpose specified.

4. The coiled springs and the recessed levers, connected by the swivel-block, combined with the supporting-plates and the shafts E, substantially as described, for the purpose specified.

LEWIS VOTE.

Witnesses:

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