

C. M. MURCH.
Vehicle-Springs.

No. 151,999.

Patented June 16, 1874.

FIG. 1.

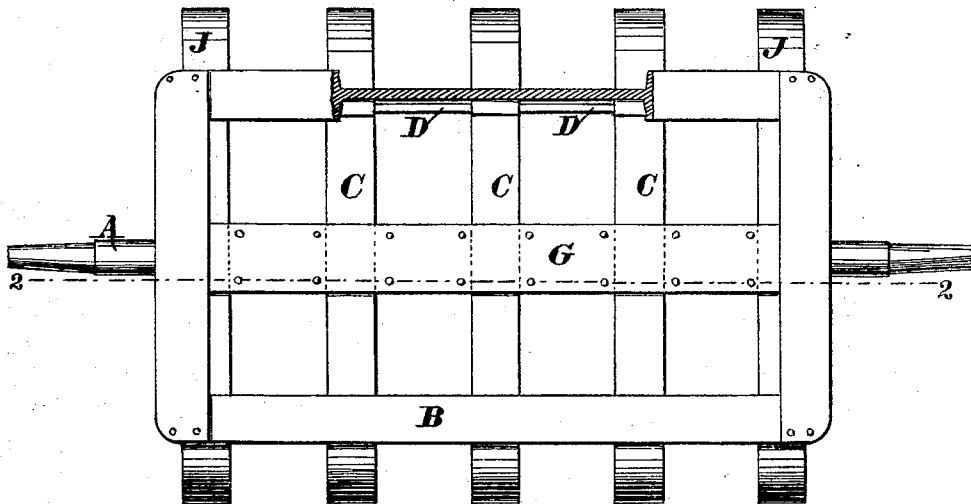


FIG. 2.

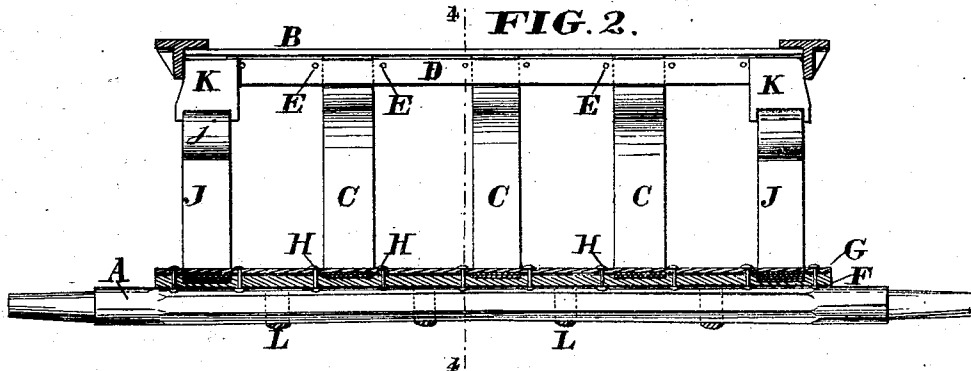


FIG. 3.

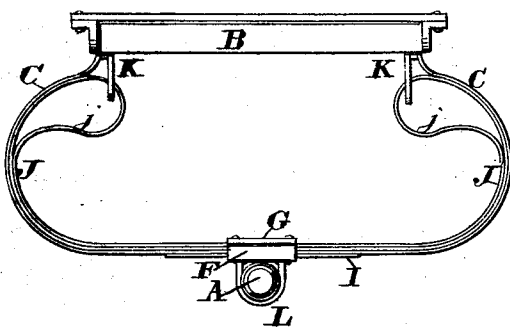
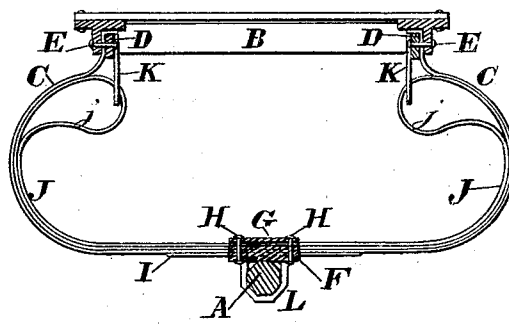


FIG. 4.



WITNESSES

Jas. L. Ewin
Walter Allen

INVENTOR

Chauncey M. Murch.
By *Knight Bros* Attorneys

UNITED STATES PATENT OFFICE.

CHAUNCEY M. MURCH, OF CINCINNATI, OHIO.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **151,999**, dated June 16, 1874; application filed April 23, 1874.

To all whom it may concern:

Be it known that I, CHAUNCEY M. MURCH, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Vehicle-Springs, of which the following is a specification:

My device in its complete form constitutes what I term a platform-spring adapted for sustaining heavy loads with great sensitiveness. It is made up of a series of steel bars bent into suitable bow form, each being rigidly clamped by its two ends to a body-support, and clipped by its center to the axle, or attached in any other analogous or equivalent manner to suit the particular structure of the vehicle in connection with which the spring is used. One or more plates are applied under the center of each spring-bar to equalize the bending.

Figure 1 is a plan of the platform-spring partly in section. Fig. 2 is a longitudinal section of the same on the line 2 2, Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a transverse section on the line 4 4, Fig. 2.

A and B may represent, respectively, an axle and a body-support of any common or suitable construction. C C C are the primary springs consisting each of a steel-bar bent into the bowed form clearly shown in Figs. 3 and 4. The ends are then securely clamped to the body-support B, by means of bars D, and rivets or bolts E, or by other adequate means. By their central portions these springs are clamped between a pair of bars, F G, held together by rivets or bolts H. A short bar or plate of steel, I, is placed beneath the center of each spring C, to equalize or distribute the flexure, the bar F being notched or gained to receive them. The notch or gain at each extremity is made of sufficient depth to receive in addition the center of a double re-enforce-

spring, J, the pyriform-loops *j j* at the extremities of which fit within the bows of the end springs C, to which they are applied. Notched keepers K prevent the escape or displacement of the pyriform ends *j* of the springs J. The bars F G are together secured to the axle A, by clips L, or other means. From an examination of the curvature and attachment of the springs C, as represented in Figs. 3 and 4, it will be seen that the load is applied to the spring at a point within or beyond the point of greatest curvature, so that the weight acts to bear the spring directly downward without end play or the slippage of one part on another. The motion of the spring is thus all within itself, avoiding friction. The use of a series of bows arranged, as shown, gives great sensitiveness, and adapts the combined spring to yield promptly to the slightest movement while supporting a very heavy load. The range or series of springs supporting the body at short intervals, possess great mobility in proportion to strength. The pyriform re-enforce-springs J *j*, give the requisite additional strength and stiffness at the ends to properly equalize and distribute the resistance in proportion to the relative pressure at the different parts.

The combined spring possesses great strength in proportion to the weight of metal, and great mobility and sensitiveness in proportion to its strength.

I claim as new and of my invention—

The series of elastic bows, combined with a vehicle axle and body-support to constitute a platform-spring, substantially as described.

In testimony of which invention I hereunto set my hand.

CHAUNCEY M. MURCH.

Attest:

GEO. H. KNIGHT,
OCTAVIUS KNIGHT.