

M. NEWELL.
Vehicle-Springs.

No.155,666.

Patented Oct, 6, 1874.

fig. 1

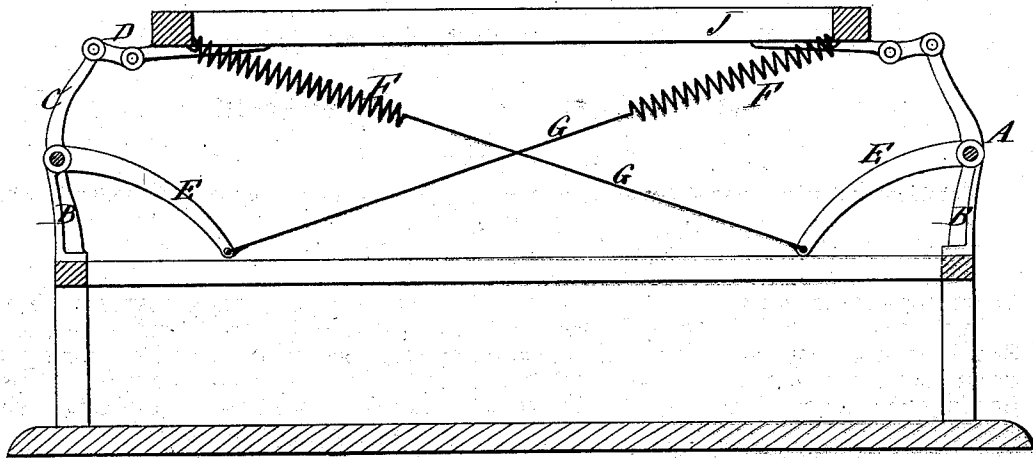
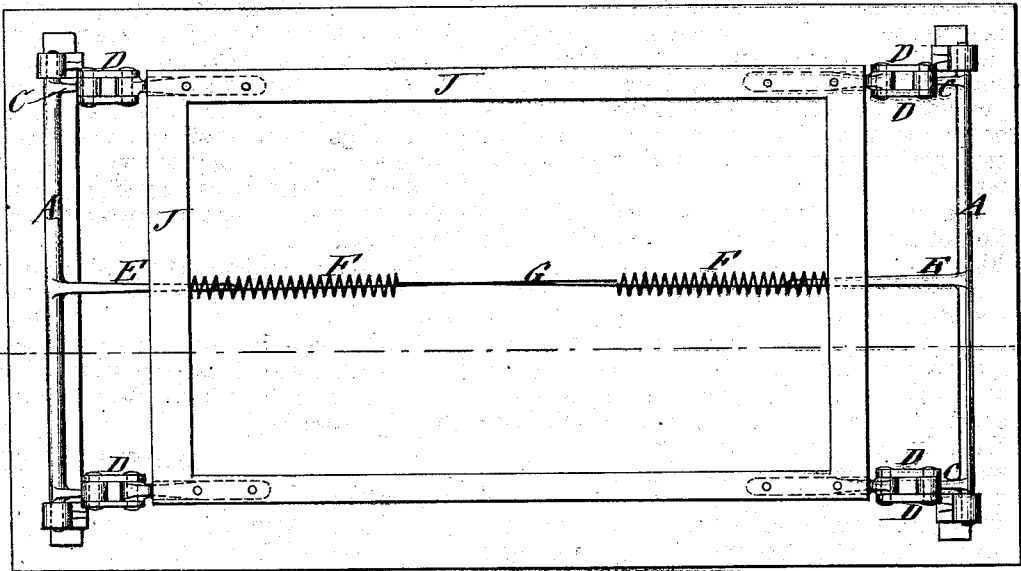


fig. 2



WITNESSES:

C. Newell
Belgwick

INVENTOR,

M. Newell

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

MILTON NEWELL, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **155,666**, dated October 6, 1874; application filed July 11, 1874.

To all whom it may concern:

Be it known that I, MILTON NEWELL, of San Francisco, San Francisco county, California, have invented a new and Improved Carriage-Spring, of which the following is a specification:

My invention consists of the carriage-body jointed at each end to arms of a transverse rock-shaft, and also connected by a rod and spring, or a spring only, with an arm of the rock-shaft at the opposite end in such a manner that the revolving action of the weight of the body on the rock-shaft is opposed by the springs, and an easy up-and-down motion is produced without any forward and backward or side motion whatever, and the apparatus employed is all of a simple and cheap character.

Figure 1 is a longitudinal sectional elevation of my improved spring apparatus; and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

A represents the rock-shafts, which are mounted in standards B above the axles parallel with them, the standards of the hind shaft being mounted directly on the axle, and those for the front being on the bolster. C is an arm at each end of the rock-shafts, rising upward and a little inclined from the vertical line toward the carriage-body J, to which the body is jointed by the links D. E represents

a longer arm projecting downward from each shaft toward the other and connected to the opposite end of the body by a spring, F, and rod G, or it may be by the spring alone.

In this case the spring is of coiled wire, but a rubber spring may be used.

I propose, in practice, to make the rock-shaft of two parts, so contrived that they may be lengthened or shortened to apply to wide or narrow wagons.

The joint of the two parts may be made in the hub of the arm E, in which it could be readily fastened by a key.

It will be seen that a wide range of movement may be obtained by this arrangement of springs, calculated to be more easy than ordinary springs, and at the same time the strain is not severe on any of the parts, which allows of their being constructed of simple and cheap material.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with body J, having links D, of rock-shafts A, having arms C E, rods G, and springs F, all substantially as and for the purpose specified.

MILTON NEWELL.

Witnesses:

S. P. WHITING,
WM. A. MOWRY.