(No Model.)

P. QUINN.

VEHICLE SPRING.

No. 313,526. Patented Mar. 10, 1885.

Fig. 1.

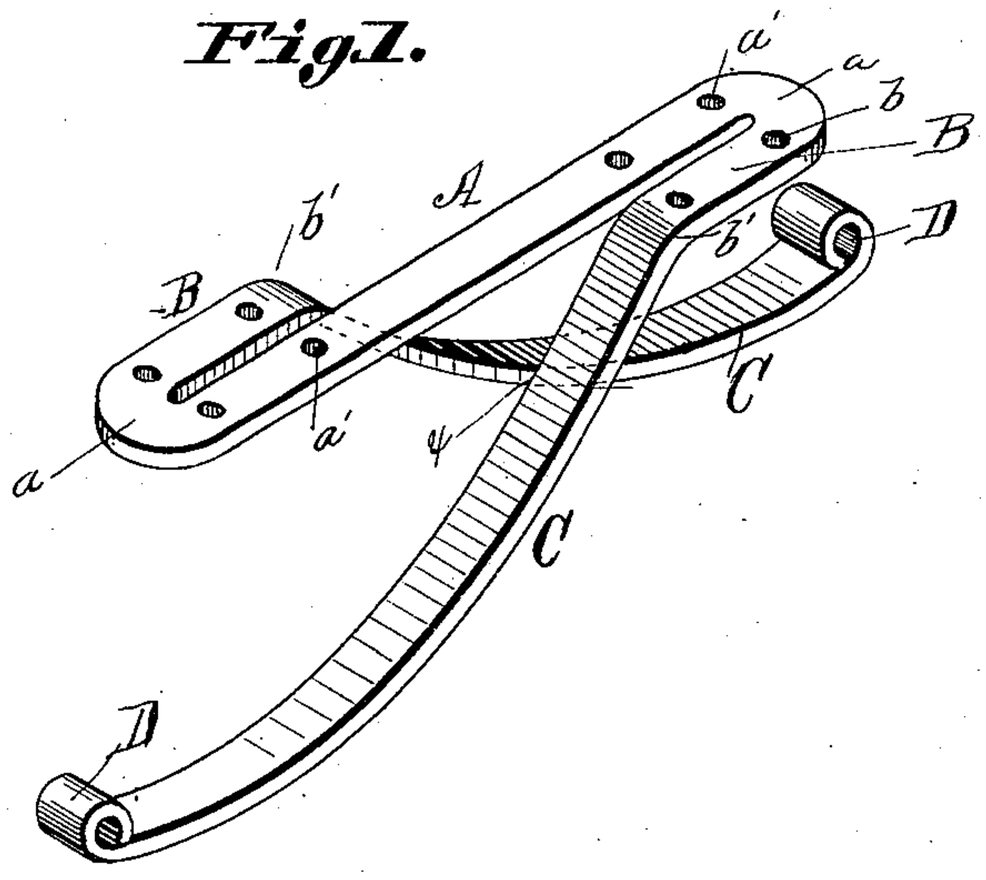
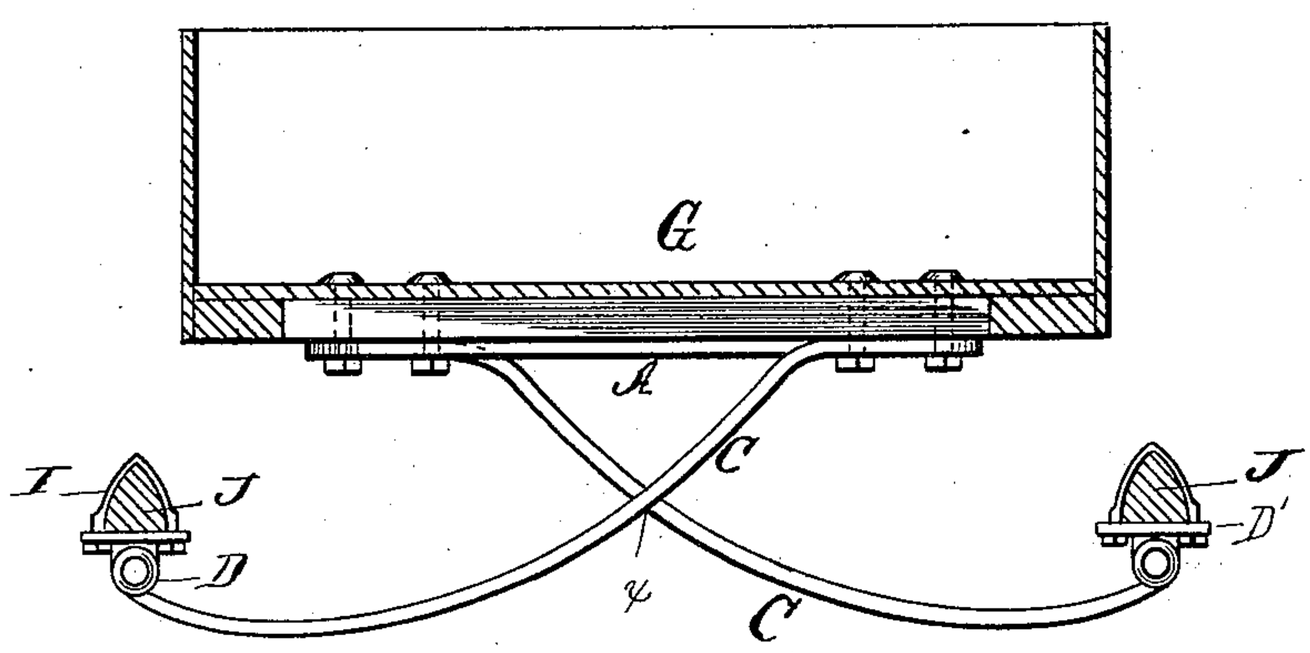


Fig. 2.



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UNITED STATES PATENT OFFICE.

PATRICK QUINN, OF ST. LOUIS, MISSOURI.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 313,526, dated March 10, 1885.

Application filed July 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, PATRICK QUINN, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Vehicle-Springs, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to vehicle-springs; and the novelty consists in the construction, arrangement, and adaptation of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claim.

The object of the invention is to provide a vehicle-spring which shall be inexpensive of manufacture, efficient and durable in service, and simple and easy of application. These objects I attain by constructing each spring of a single piece of steel so bent upon itself that its central portion will afford an extended and firm bearing for the body of the vehicle, and its projecting ends, being properly curved, will extend in opposite directions to the side bars or other frame.

The invention is fully illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of one of the springs, and Fig. 2 an elevation of the same in its relation to the body and side bars of a vehicle.

For convenience I will describe and illustrate the invention as applied to a side-bar buggy; but it will be obvious that the peculiar features of the device, which is presented as novel, would serve with equal advantages and efficiency in other relations and conditions.

Referring to the drawings, in which similar letters of reference indicate like parts in both figures, A designates a plate of steel of suitable quality and temper to suit the purpose, which is bent upon itself, as at *a*, to form an extended bearing-surface, as at B. The body of this plate has perforations *a'*, and the bearings B have perforations *b*, by which it is secured to the vehicle-body G. At *b'* the plate is bent downward to form the curved spring-arms C, the ends of which have sockets D, which receive the bars of the blocks D'. These blocks D' are secured to the side bars, J, by clips I, as shown. The parts marked A and B occupy the same horizontal plane when the spring is in use, and give an extended bearing to the body, while the spring-arms C extend in opposite directions, crossing each other at the point marked *x* to give a great spring action to the body. I deem this construction important for the reason that the bearing parts B, located upon either side of the body of the spring, effectually resist strain in the direction of the line of travel of the vehicle, as in sudden jerking ahead or sudden stopping.

I deem it important that the spring-arms C do not lie opposite each other, or in the same transverse line, as in that case the wrenching action of the spring, due to forward and backward strain, would tend to work the bearing loose from the body.

It will be observed that according to my invention the body has all the vertical spring play that is necessary, while the wrenching strain is distributed over a large bearing portion.

The spring is made of a single piece of metal, and the arms C may be thickened or provided with strengthening-leaves, if desired.

I am aware that a spring has been cut from a single sheet of steel and used in connection with a re-enforce, as shown in Patent 284,582, of 1883, and such spring is not sought to be covered in this application.

My improved spring is formed of a single bar of steel bent upon itself so as to leave the longitudinal fiber of the material intact.

I am also aware of Patent No. 279,507, of 1883, in which a spring is made of a single bar of steel, the central portion being bent or jogged laterally to allow the spring-arms to pass each other; but in this construction the spring-arms bend downward directly from the central part, and the feature equivalent to the bearing B in my device is entirely absent. This bearing B, formed by doubling the steel bar upon itself, and having securing means *b*, I deem to be important.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The spring herein described, formed of a single bar of steel, and consisting of the straight central part, A, having bolt-holes *a'*, the bear-

ings B, formed by bending or doubling the bar upon itself, and having bolt-holes *b*, and the curved spring-arms C, extending in opposite directions to cross the plane of each other at *x*, the said curved arms being continuations of the bearings B and lying well under the body, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PATRICK QUINN.

Witnesses:
PATRICK QUINN, Jr.,
JAMES MCDANIELS.