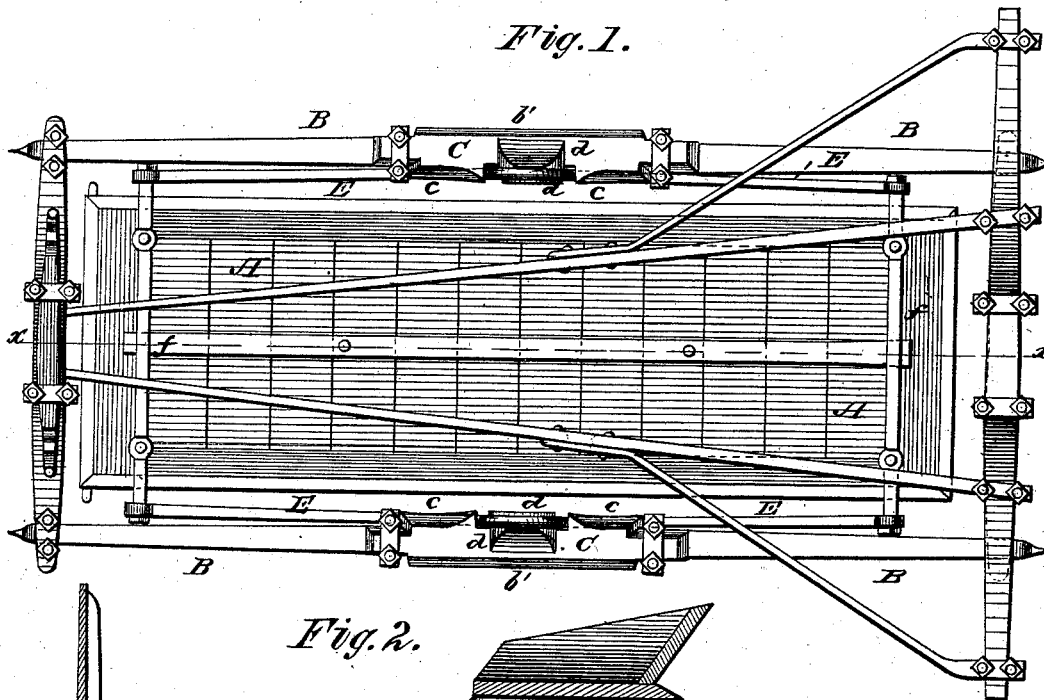


J. MILLER.  
Vehicle-Spring.

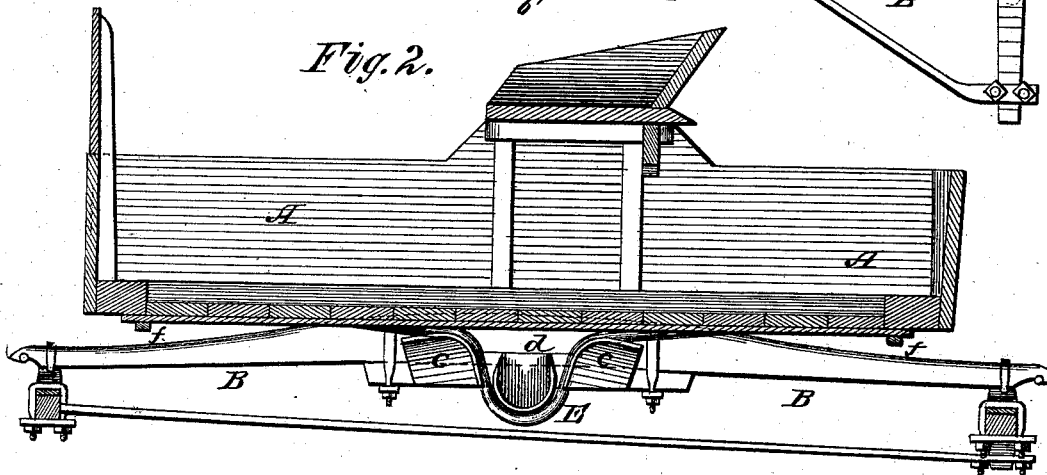
No. 216,626.

Patented June 17, 1879.

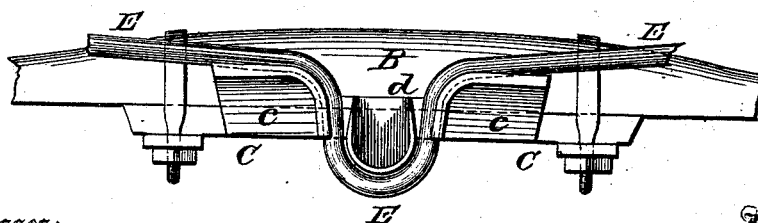
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

*P. C. Dietrich.*  
*Frank H. Duffey.*

Inventor

*Joseph Miller.*  
Per *C. H. Watson & Co.* Attorneys.

# UNITED STATES PATENT OFFICE.

JOSEPH MILLER, OF GREENWICH, NEW YORK.

## IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **216,626**, dated June 17, 1879; application filed May 5, 1879.

*To all whom it may concern:*

Be it known that I, JOSEPH MILLER, of Greenwich, in the county of Washington and State of New York, have invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to springs for buggies and other like vehicles.

My improvement consists in the combination of the spring with a spring-block, constructed as hereinafter set forth, and applied to the side bars of the running-frame, as hereinafter more fully described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a plan view of the under side of the vehicle-body with my improvements applied thereto. Fig. 2 is a sectional view taken on a plane indicated by the line *x x*, Fig. 1. Fig. 3 is a view, upon an enlarged scale, illustrating the spring-block and the manner in which the spring is secured thereto.

Referring by letter to the several figures, in which like letters indicate corresponding parts, A represents the body of a buggy or other like vehicle, and B B the side bars of a spring running-frame, constructed as shown, or in any other suitable or well-known way. C C are the spring-blocks, which constitute one of the elements of my invention. Each block is secured to a side bar, B, by suitable straps or staples, or in any equivalent manner, and is located centrally upon said bar.

The block, which is composed of malleable iron, (or other metal, if preferred,) is formed with a flange, *b'*, upon one side, and two ears or wings, *c c*, upon the other. A space or pas-

sage for the spring which is attached to the block is formed between these wings *c* and a projection, *d*, formed integral with the block.

The flange and wings embrace the sides of the bar, as shown, and hence constitute additional means for maintaining the block in position.

The springs E E have a downward semicircular bend, as clearly illustrated in Figs. 2 and 3, and these bends pass round the projections *d*, and also between the same and the wings *c c*, whereby the springs are attached to the blocks in a durable and effective manner.

In order to guard against lateral displacement of the springs, I either groove or bevel those parts of the wings and projecting portions *d* against which the spring lies. As herein shown, the ends of these springs are connected to or coupled with forward and rear cross-bars *f f*, and these said bars are bolted to the body of the vehicle. Instead of the cross-bar, however, short bars or plates, with projecting parts, having sockets for the springs, might be employed. In such case I prefer to make such fastening devices of malleable iron. Other equivalent means might be employed, not necessary to be here stated.

The springs are round, half-round, or square, as preferred.

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

The blocks C, formed with the wings *c c*, projection *d*, and passage between the two, in combination with the spring bent and attached thereto, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH MILLER.

Witnesses:

FRANK MILLER,  
CYRUS BROOKS.