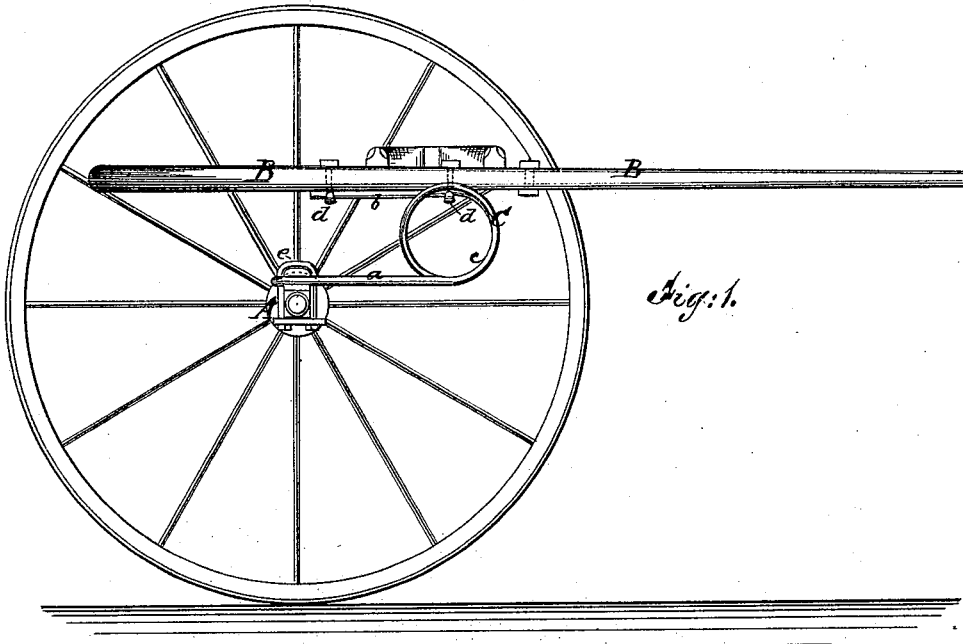


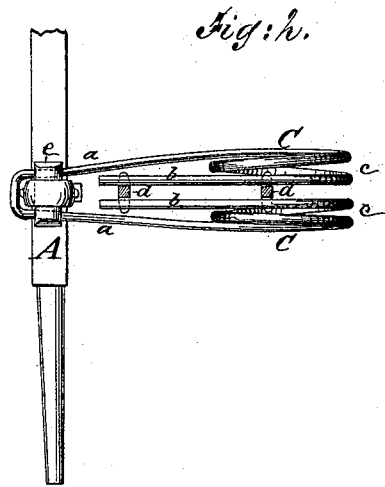
S. GILZINGER.  
Vehicle-Spring.

No. 169,255.

Patented Oct. 26, 1875.



*Fig: 1.*



*Fig: 2.*

*Witnesses:*  
*McNeill*  
*H. Mattenberg*

*Inventor:*  
*Sebastian Gilzinger*  
*per G. M. S. P. S.*  
*Atty*

# UNITED STATES PATENT OFFICE.

SEBASTIAN GILZINGER, OF RONDOUT, NEW YORK, ASSIGNOR TO HIMSELF  
AND ABEL A. CROSBY, OF SAME PLACE.

## IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **169,255**, dated October 26, 1875; application filed  
July 12, 1875.

*To all whom it may concern:*

Be it known that I, SEBASTIAN GILZINGER, of Rondout, in the county of Ulster and State of New York, have invented a new and useful Improvement in Springs for Vehicles; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in springs for vehicles; and the invention consists in springs for vehicles constructed of a piece, strip, or bar of metal looped or bowed at its center, and having two or more coils on each arm of the loop or bow, and the ends of said arms bent backward for use in securing the springs to the vehicle-body, the bowed portion being attached to the axle, and the bent ends attached to the vehicle by clips, as hereinafter specified.

In the accompanying sheet of drawings, Figure 1 represents a side view of my spring; and Fig. 2 a plan or top view of same.

Similar letters of reference indicate like parts in both figures.

A represents the axle of a vehicle, and B the shafts or other body-supporting part of the same, between which are interposed springs C. These springs are made of any suitable kind of metal, and formed by bending the same into a U or V shape, with long arms *a a*, that are each coiled several times, as indicated at *c c*, which coils lie close to, and in line with, each other, and the extremities *b b* are turned back. These springs are secured in position by attaching the looped arms *a* to the axle by clips *e*, and the free ends *b* to the shaft or other part of the vehicle by inverted T-shaped clips *d d*. A double or compound spring is thus formed.

My spring being constructed and secured substantially as described, when a weight is placed upon the vehicle the springs at once yield an agreeable and elastic resistance to the weight or pressure brought upon them, and the heavier the burden placed on the springs the greater will be the resistance offered by the springs to such burden, for it will be observed that, as the burden bears down upon the springs, the coils constituting the spring proper are reduced in diameter to some extent, so that the effect is to increase the resisting force of the springs, since the smaller the diameter of the coils the stiffer they become, and, therefore, better able to support their burden, and at the same time yield a prompt and agreeable elasticity.

A vehicle supported on coiled springs in the manner I have described is not only particularly adapted to carry its burden in the easiest possible manner, but the vehicle will have little or no sidewise motion or swing, and will therefore be less strained when in use, and more agreeable to the user.

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

The herein-described compound spring for vehicles, composed of a piece, bar, rod, or strip of metal, bent into a U or V shape, and having each of its arms *a a* formed with two or more coils, *c c*, in line with, and close to, each other, and the ends *b b* bent back for attachment to the vehicle-body or body-support, in combination with the clips *d* and *e*, substantially as shown.

SEBASTIAN GILZINGER.

Witnesses:

H. L. WATTENBERG,  
G. M. PLYMPTON.